# Conceptualising the Scholarship of Teaching and Learning within the Context of the Research--Teaching Nexus in Higher Education

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**Abstract**
Conceptualising the research-teaching nexus within the context of the scholarship of teaching and learning is really intriguing. This is attributed to the different notions held by several scholars and stakeholders within the higher educational landscape. Though, previous studies have attempted to espouse how several stakeholders have thought about the link between research and teaching, however, these attempts have not materialised. Therefore, the purpose of this paper is to espouse how lecturers conceptualise the research-teaching nexus, especially, within the context of the scholarship of teaching and learning and to further establish whether their conceptualisation differ across their ranks. Using the descriptive cross-sectional survey design, and through a questionnaire, 732 lecturers were selected using the stratified proportionate technique to respond to the survey. In order to ensure the construct validity of the self-developed questionnaire, a Principal Component Analysis (PCA) was conducted. An oblique, specifically, promax rotation was used, where the eigenvalue-greater-than-one rule was used to determine an appropriate number of factors to retain. In terms of data analysis, after a thorough check, the closed-ended questionnaire items were analysed statistically using descriptive statistics (i.e. frequency counts, percentages, means, and standard deviations) and inferential statistics (MANOVA) was also used to examine the statistical effects and differences between lecturers' rank and their conceptualisation. It emanated from the study that lecturers conceptualise the research-teaching nexus as knowledge currency, as well as, scholarship and curriculum orientations. And that a statistically significant difference existed between the levels of lecturers' rank and their conceptualisation of the link between research and teaching. It was therefore, concluded that several stakeholders and scholars have different connotations and representations of the research-teaching nexus, especially, within the context of the research-teaching nexus. It is therefore, recommended that University authorities should encourage their faculty to embrace and apply research-based teaching in their teaching and learning expedition. Lecturers must also ensure that pedagogical practices must be thoroughly prepared, constantly reviewed, and explicitly linked to the topic they teach by way of promoting scholarship at the highest level.
**Keywords:**Research-teaching nexus, scholarship of teaching and learning, knowledge currency conceptualisation, scholarship-oriented conceptualisation, curriculum-oriented conceptualisation
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## 1. Introduction

While the Scholarship of Teaching and Learning (SoTL) remains a contentious issue in the higher education landscape, literature remain scanty on the extent to which this integration of research into teaching is placed within the context of the Research-teaching nexus (RTN). In an era where the focus is on developing creative thinkers and problem solvers, it is crucial to develop new forms of learning that challenges students to adapt and be successful in a convoluted world of knowledge economy with the quest to developing lifelong learners.

Prosser (2008), in describing the Scholarship of Teaching and learning, intimated that there is the necessity to systematically reflect upon evidence of our own students' learning outcomes within the context of the scholarship of teaching and learning alongside the research-teaching nexus. In this direction, the scholarship of teaching and learning from this perspective is not research in the traditional sense. It is a practically oriented activity, conducted collegially, and increasingly being conducted alongside traditional research within the disciplines.

In spite of a wide range of research-focused programmes developed by universities to generate knowledge within the teaching and learning landscape, several stakeholders in academia argue that the role of research evidence in teaching remains limited, insignificant and blur (Goldacre, 2013). This is attributed to the contradictory empirical evidences found on the research-teaching nexus arising out of the different connotations

and (mis)representations ascribed to the connection between research and teaching, especially, within the context of the scholarship and teaching.

While the requirements of the knowledge economy support a symbiotic connection among research and teaching, counter-pressures as globalisation, competition and marketisation of advanced education, rather set research and teaching apart (Arimoto, 2015; Beerkens, 2013). This is as a result of the worldwide competition among universities as reported in university rankings and promotions of faculty members. This has placed the individual academic in a serious dilemma as whether to advance teaching at the expense of research or the other way round. This has led to the creation of research havens through different activities at the national level (Shin & Kehm, 2013) in order to fill the research and teaching gap. This could be attributed to the several conceptualisations ascribed to the nexus.

However, these havens appear to further set research and teaching apart. This could be alluded to the fact that the created research havens ensure conducive and stimulating research environments such as travel allowances, funding for attending conferences, office space, summer remunerations, workshops and academic writing trainings. However, due to scanty resources, most faculty members tend to compete for these provisions by focusing on research at the detriment of teaching.  Bettinger and Long (2010) conclude in favour of this argument that the conflicts surrounding the mixture of tasks in research and teaching influence not just the reputation of institutions, but also the portfolio of duties of specific faculty members. There is however a growing trend in several nations to utilize research funds to "buy out" teaching activities (Bak & Kim, 2015; Smith & Smith, 2012) because of the higher emphasis imposed by many universities on research at the cost of teaching.

A cursory analysis of the job specification of faculty members showed that they must possess both research and teaching skills. If indeed, faculty members possess these skills, the effective integration of these skills to augment the research-teaching nexus is likely to be problematic for most of these faculty members (Shin & Kehm, 2013). A plethora of researches (Bazeley, 2003; Star, 2004; Griffiths, 2004; Baldwin, 2005; Healey, 2005 Weert and Beerkens, 2009; Brew, 2010, Ellis, 2010; Wright, 2010; Borg, 2011; 2013; Nassaji, 2012; Arimoto, 2015) have indicated the significant role played by research in the teaching and learning process. For instance, Baldwin (2005), Nassaji, (2012) and Wright (2010) reveal that the active engagement of learners in academic activities, other than mere transmission of content knowledge such as the engagement in inquiry-based teaching and learning would develop in learners, a sense of creativity and innovation that would enable them embark on critical thinking to confront challenges in their daily lives and at the world of work.

Contrary to the latter assertions, and in support of the widened gap, an anecdotal observation of the Ghanaian economy reveals that we are in an era where stakeholders complain about a mismatch between academia and industry. The implication is that university graduates are not able to demonstrate problem-solving skills and a sense of creativity, innovation, as well as, critical thinking skills to meet the challenges at the workplace to the satisfaction of their employers. Prior studies (Dill & Soo, 2005; Marginson & van der Wende, 2007; Beerkens, 2013; Shin & Kehm, 2013; Arimoto, 2015) have indicated that there is a grievous disconnection amongst research and teaching attributed to the evidence that most tertiary institutions have increasingly placed too much emphasis on research at the detriment of teaching (Nassaji, 2012).

Through the scholarship of teaching and learning, faculty members are offered the opportunity to test hypotheses about their own classroom practices by subjecting their practices to intense scrutiny, reflecting on the results, sharing them with colleagues, and then making modifications to improve their practices (Cambridge, 2004 as cited by Gillespie et al., 2010; Slapcoff & Harris, 2014). According to the model, in order to become a true scholar as a faculty member, one needs to navigate through the scholarships of discovery, application, teaching, and integration in order to be recognised as a scholarly academic (Boyer, 1990). It is very worthy of note that people's exposure to existing knowledge informs their conceptualisation. This is evident when Marsh and Hattie (2002) made an observation that the research-teaching bondage was intense for lecturers who spent higher proportion of their time teaching, and almost zero for those who spend moderate amounts of time teaching, and negative for those who spend the lowest proportion of their time teaching. This level of exposure has the tendency to influence the conceptualisation of lecturers regarding the research-teaching nexus, hence, their level of implementation. The same authors also indicated that one's subject discipline may also influence their conceptualisation.

Within the Ghanaian higher education, for instance, the major criteria for faculty promotion are the quantity and quality of research publications leading to the popular dictum ***"publish or perish".*** This implies that faculty members who do not strive to publish more will not progress in their career as academics. Therefore, most faculty members, desirous not to perish (stagnate in career) and wish to be promoted, spend substantial amount of their time working on their research interests, but they seem not to integrate these researches into their teaching, and that is likely to create a disconnection between research and teaching. Therefore, being research active and sharing those research outcomes in class take the learning experience to the next higher level (Brew, 2010).

Stemming from this discourse, the questions left unanswered are whether, it is possible to bring university research and teaching into a closer and more symbiotic relationship. If that is likely, is it possible to create better spaces for critical dialogue within and across disciplinary spaces? Also, can building on the relationship between research productivity and teaching effectiveness become a catalyst for building better connections between and among faculty members, students and 'real world' communities? It is therefore, often difficult to strike a correct balance between teaching and research and to integrate the two effectively to promote effective learning outcomes. That notwithstanding, it is possible because it is likely that one's research can be affected by one's teaching and vice versa. Illustratively, it is often true that having to teach a concept force one to understand it better than before as it is at this point that research plays a critical role in enhancing the effectiveness of the teaching and learning process.

Theoretically, the Scholarship of Teaching and Learning model (SoTL) demonstrates that research, teaching, and service are intertwined into a comprehensive, dynamic relationship, continuously influencing and overlapping with each other (Boyer, 1990) expected to be undertaken by every faculty member in most universities. The proposition is, however, that good teaching is a scholarly, dynamic activity executed by faculty members as learners, highlighting the four keys to scholarship including discovery (research), integration (moving outside the disciplinary silos), application (bringing knowledge to bear on consequential problems), and teaching (initiating students into the best values of the academy).

After a rigorous review of the extant literature, there were several gaps identified that warrant this study. These gaps are that most studies (Borg; 2010; De Vries & Pieters, 2007; Korthagen, 2007; McIntyre, 2005) focused on the Natural Sciences including Physical Sciences and Mathematics to the neglect of the Humanities. These studies have also focused on a one-way process, thus, how teaching informs or influences research to the neglect of how research informs teaching, all geared towards ensuring meaningful and effective learning outcomes. In addition, an intensive scout through the extant literature failed to identify studies (Borg, 2011; Ellis, 2010; Kumaravadivelu, 2011; Vanderlinde & van Braak, 2010) that compared lecturers across their ranks based on their conceptualisation of the research-teaching nexus. And more importantly, as far as, the search is concerned, no study has investigated the scholarship of teaching and learning within the context of the research-teaching nexus. In view of the above discourse, this paper sought to first of all, espouse how lecturers conceptualise the research-teaching nexus and further establish whether their conceptualisation differ across their ranks. Therefore, the following hypotheses are tested:

$H_0$: There is no statistically significant difference in the conceptualisation of the research-teaching nexus across the ranks of faculty.

$H_1$: There is a statistically significant difference in the conceptualisation of the research-teaching nexus across the ranks of faculty.

The rest of the write-up is organised as follows: An extensive review of literature followed by the methods as well as the results. After which a comprehensive discussion was followed by drawing implications on the findings by way of conclusion and was climaxed by recommendations.

**2.0 Literature Review**

**2.1 Research-Teaching Nexus (RTN) Model (Main theoretical framework)**

The model of the research-teaching nexus, technically, known as the *four modes of the research teaching nexus* (adopted from Healey, 2005, p. 70) is the main model underpinning this study. The model is relevant to this current study because faculty members' and students' understanding, perceptions, conceptualisation and the extent to which they integrate research into teaching would be reflected by any or a combination of the concepts in the four quadrants (research-led, research-oriented, research-based or research-tutored) as depicted by the model. The implication is that faculty members' act of linking research to teaching in the quest to promoting effecting learning could either be research-led, research-oriented, research-based or research-tutored based on their responses about the nexus which is informed by the extent and way of exposing students to research in the teaching and learning process.

Healey (2005) developed a model that differentiates two major components dichotomised on a quadrant reflecting the relationship between research and teaching. The first emphasises either research product or process, while the second explains students as either participant (student-centered) or students as audience (teacher-centered) in the learning process. Figure 1 shows four quadrants that depict the levels of integration of research into teaching.
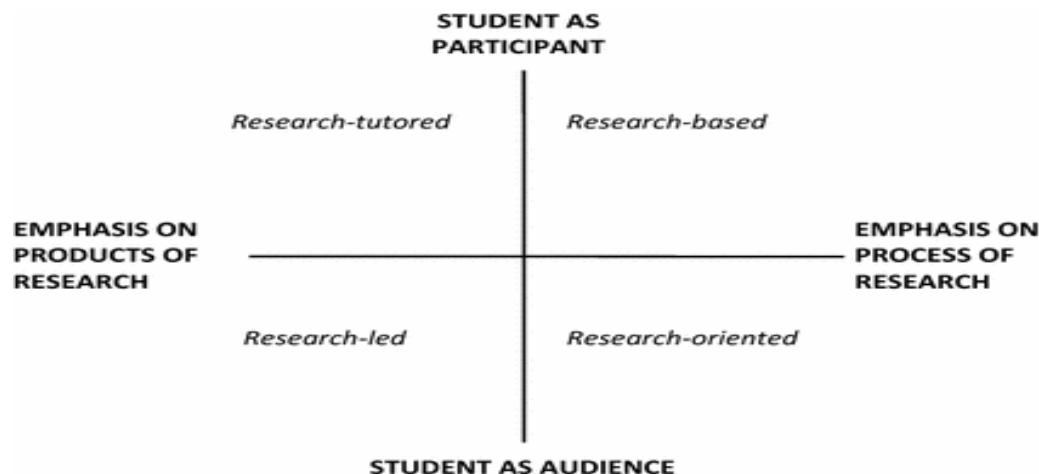
*Figure 1*- Four modes of the research–teaching nexus

**Source**: *Four modes of the research–teaching nexus (adopted from Healey, 2005, p.70)*

Four quadrants from Figure 1 can be clearly differentiated in the definition of the model, which are translated as four separate methods of incorporating research into teaching within the curricula of the university that reflect the level of integration of research into teaching. They include research-led teaching, which may be defined as teaching that focuses on research outcomes or findings without students engaged in research or research practices. Students still have no direct engagement in research in research-oriented education, but the educational targets are based on research issues and procedures rather than research products, so students concentrate on learning research methods in this quadrant in the sense of their discipline.

Students regularly engage in study or investigation in research-based teaching, with concentration on research methods and topics. Students often play an instrumental role in research-tutored education by factually examining and debating the findings of empirical research, while, teaching is primarily centered on research-related activities. On this basis, it is possible to discern four distinct ways of forming the research-teaching nexus: research-led (research data against students as audiences), research-tutored (research data versus students as respondents), research-based (research procedures against students as respondents) and research-oriented (research processes against students as audience).

While this model offers a framework for faculty's integration of research into teaching, it is not clear as to the extent to which students respond to research within the teaching and learning process. Therefore, the framework served as a blueprint in establishing the conceptualisation, levels of integration, students' experience of research that capture the expectations of research integration of students in their university learning and teaching. Hence, the basis of involving the students' points of view in this study.

It is imperative to indicate that the major contribution of this model to this study is the determination of the level of integration of research into teaching. These levels are espoused as follows:

**Level 1**: *Research‑led teaching*: Emphasises a scenario where students hear about research discoveries in which the curriculum material is governed by faculty research priorities, and knowledge delivery is the main teaching method.

**Level 2**: *Research‑oriented teaching*: Emphasises a circumstance wherein students learn about research processes in which the program emphasises the processes through which information is created and faculty attempts by their teaching to develop research ethos.

**Level 3**: *Research‑based teaching*: Emphasises a situation where learners study as researchers in which the educational plan is to a great extent planned around inquiry‑based exercises, and the detachment of parts between the teacher and learners is limited or invisible.

**Level 4:** *Research tutored*: Emphasises a scenario where students hear about research outcomes and criticism through small group conversations with an instructor (Healey, 2005). These levels were used to measure the extent to which faculty integrated research into teaching within the context of Business Education in this study.

**2.2 Scholarship of Teaching and Learning (SoTL) Model**

Scholarships of Teaching and Learning comprises the scholarships of *Discovery, Integration, Application and Teaching*. Boyer (1997) as found in Nibert (2011), proposes an extended meaning of "scholarship" inside the professoriate dependent on four capacities that underlie the Profile of a Quality Faculty Member including disclosure, coordination, application, and teaching. He believes that a wide range of scholarship ought to be accepted and compensated within this system, and that this would contribute to more individualised and versatile standards for academic tenure. He further suggests that faculty members quite often deal with

competing responsibilities that leave no time for them to reflect on their position in teaching. Boyer, however, proposes using "creativity contracts" that emphasise excellence in teaching and individualised professional development. He advises that this model should be focused on both the individual and professional life of the academic.

Boyer (1997) further explicates the four unique elements underpinning the scholarship of teaching and learning as follows:

## 2.3 The Four Modes of the SoTL Model

Boyer (1997), as cited in Hofmeyer, Newton and Scott (2007) propose that in the milestone publication titled, "Scholarship Reconsidered", Boyer disputed the research and teaching arguments by upholding for scholarship of discovery, teaching, integration, and application. The scholarship of discovery regards publications and research as the benchmark in the scheme of legitimacy, advancement and tenure worldwide. That notwithstanding, this limited portrayal of the scholarship does not adequately embrace universities' commitments to serve global. Figure 2 therefore, demonstrates how these four modes of scholarships of teaching and learning are connected to inform teaching and learning in higher education.
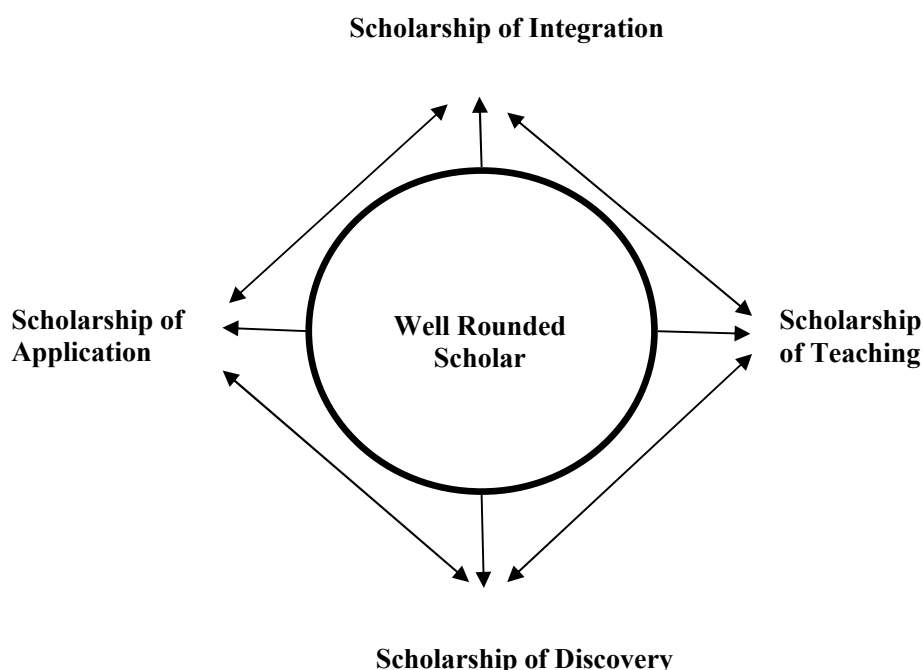
**Scholarship of Integration**



**Scholarship of Application**          **Well Rounded Scholar**          **Scholarship of Teaching**

**Scholarship of Discovery**

*Figure 2*- Four modes of the scholarship of teaching and learning (SOTL).
**Source:** *Four modes of the scholarship of teaching and learning (Adapted from Boyer, 1997)*

The components of Figure 2 are elaborated as follows.

## 2.4 Explanation to the SOTL Model

The SOTL model implies that in order for an academic to become a well-rounded scholar, he/she must practice the scholarships of discovery, integration, application and teaching. By *scholarship of discovery* (SoD), it is the maiden encounter/discovery or re-encounter/re-discovery of knowledge. The implication created here is that through the scholarship of discovery, faculty members are likely to transform, rather than just inform their students. Once a person has encountered or discovered knowledge, that is not the end, they must go beyond to look at its possible integration into the teaching and learning process. The *scholarship of integration* (SoI) is about innovative interconnectivity, knowledge perception and synthesis. It is also about being able to incorporate expertise from various fields to generate unique and diverse viewpoints on critical concepts and theories, researchers engaging in integration need creative thought. After establishing a possible integration of the discovered knowledge, the academic who claims to be a scholar should be able to apply the knowledge and experiences gained leading to the *scholarship of application* (SoA). By the scholarship of application, we mean the dynamic commitment and the interpretation of new knowledge that take care of issues or improve the challenges experienced by people and society. This creates the impression that researchers engaged in applied scholarship look to see how knowledge can capably and morally be applied to real life situations as problem-solving mechanisms. Having undergone all these processes, the last step is to ensure that our students imbibe all the necessary competences through the *scholarship of teaching* (SoT). The scholarship of teaching (SoT), which

is the penultimate step of the SOTL Model goes beyond merely distributing knowledge to a mechanism that is both shaping and expanding the learning of students and scholars. In this way, the teaching scholarship requires the encouragement of constructive learning, critical thought and a dedication to continuous learning. This, therefore, pre-supposes that pedagogical practices must be thoroughly prepared, constantly reviewed, and explicitly linked to the topic taught as part of embarking on the scholarship of teaching in order to promote effective learning outcomes.

### 2.5 Marriage Between SOTL and RTN

Synchronising the two models underpinning this study, all these theories have four typologies or modes underlining them in the form of a continuum. Coincidentally, all these typologies under each theory are organised according to four levels and they are cyclical in nature. For instance, under the Scholarship of Teaching and Learning, the first typology is the scholarship of *discovery* described as original research that advances knowledge or searching for knowledge with the quest to disseminating such knowledge. The corresponding first element under the four modes of the research-teaching nexus is research-led teaching which emphasises the dissemination of research findings: either lecturers' own research or that of other scholars. It is important to draw your attention that these first two elements emanating from these two theories have some commonalities or similarities among them forming the first level of research integration into teaching (i.e *Research-led = Discovery scholarship*).

On the second element, the scholarship of *integration* that involves synthesis of information across disciplines, across topics within a discipline, or across time. It therefore, involves how the discovery of knowledge would be utilised within the context of the field of study. Research-oriented teaching is the second level of the research-teaching nexus model which emphasises exposing students to the knowledge development process by integrating the "how" and rationale behind certain models, theories and concepts within their field of study. These second two elements emanating from these two theories have some commonalities or similarities among them forming the second level of research integration into teaching (i.e *Research-oriented = Integration scholarship*).

The scholarship of *application* also, known as the scholarship of engagement goes beyond the service duties of a faculty member to those within or outside the university and involves the rigor and application of disciplinary expertise with results that can be shared with and/or evaluated by peers. This scholarship of engagement relates to research-based teaching where students are actively involved in the knowledge creation process. This level of students' active engagement is validated by abstract conceptualisation as a tenet of the experiential learning theory. These third elements emanating from these two theories have some commonalities or similarities among them forming the third level of research integration into teaching (i.e *Research-based = Application scholarship*).

Last, but not least, is the scholarship of teaching (SoTL) which empasises the systematic study of teaching and learning processes through reflective teaching practices. This highest form of scholarship is related to research-tutored teaching which forms the highest level of integrating research into teaching (i.e *Research-tutored = Teaching scholarship*). These levels are congruent to the active experimentation phase of the experiential learning theory that explains the phase at which the knowledge experienced has been reflected upon and properly integrated within the context of the discipline. Conclusively, it is my strong conviction that all the two theories underpinning this study: scholarship of teaching and learning (Boyer, 1990) and the four modes of the research-teaching nexus (Healey, 2005, p.70) are highly connected and can be integrated to inform the knowledge creation process. These models/theories may inform the level at which faculty members integrate research into their teaching with the quest to promoting an effective scholarship of teaching and learning.

### 2.6 Conceptual Review
### Different Conceptualisations of Research-teaching Nexus (RTN)

University research and teaching has been conceptualised by faculty members in several ways (Robertson & Bond, 2001). Healey (2000) and Brew (2003) state that the way that faculty members interpret the terms research, scholarship and teaching can influence on the research-teaching nexus. Therefore, illustratively, some scholars view research as outcome-oriented (external), while others view it as learning-oriented (internal). Brew (2010) states that most faculty members view scholarship as the way they value their professionalism. Teaching is equally valued as a scholarship after Boyer (1990). Healey (2000) argues that research into teaching should be included as a key element of the scholarship of teaching.

Badley (2002) synthesises the relations between research and teaching based on these different conceptualisations and interpretations: including, 'an impending divorce'; 'a marital relationship'; 'a holy alliance; 'a scholarly relationship'; and, 'a really useful link'). In an impending divorce, separate institutions exist for research and teaching. As an illustration, in USA, the existence of research institutions and teaching-

only or all-teaching institutions; and, in UK, identification of research-led and teaching-led departments. In a marital relationship, research is viewed as the male partner and teaching as the female partner. In a holy alliance view, research is seen as a generator of uncertainty; and, teaching needs to address this uncertainty. In a scholarly relationship, research and teaching are separate, but overlapping scholarly activities. Illustratively, Boyer (1990) includes research and teaching in his typology of scholarship: the scholarship of knowledge discovery and integration; and, the scholarship of knowledge application. Badley (2002) adds a 'really useful link' by seeing the nexus as an interactive relationship. Thus, the nexus is seen from different viewpoints based on the different interpretations of the terms research, teaching and scholarship.

To approach 'a really useful link' (Badley, 2002) or 'a symbiotic relationship' (Robertson & Bond, 2001) most faculty members believe in research-informed teaching, in particular, that good research is necessary for good teaching. Brew (2010) states that professors generally find their own teaching and research activities 'merging in a seamless blend.' According to Lindsay et al (2002), academics believe that research and teaching is one of 'symbiosis'; 'mutuality'; and, 'synergy', especially when lecturer's research activity increased in quantity and quality. They reveal that lecturer's research activity enhances knowledge currency; credibility; competence in supervision; motivation; and, salience. According to Jenkins (2000), an effective way to link research and teaching is managing staff research to benefit student learning through curriculum improvement, which will benefit both students and staff; and, also, will improve knowledge development and learning within universities. However, increased faculty research has the tendency to result in reduced contact time, teaching time and curriculum distortion (Lindsay et al, 2002). Thus, balancing individual staff's research and teaching activities is needed to get academics engaged in research and, thereby, stimulate research-informed teaching.

Teaching informed by faculty's own research should not be the only way to link research to teaching. However, faculty should endeavour to go the extra mile to embark on reflective practices by reviewing their own teaching. In fact, Brew (2003) argues that all faculty members need not be good researchers, however, recommended the sharing of faculty knowledge among colleagues. Barnett (1992) also offers similar views and questions the need for every academic to engage in research. As mentioned above, Badley (2002) introduces an effective way to link research to teaching which was referred to as 'a really useful' link that has the tendency to promote research-based teaching that fosters dialogical and dialectical processes and relationships between faculty and their students.

As most studies confirm, research and teaching are loosely coupled activities which may not have an automatic link; and, therefore, it is necessary to create this link to achieve a productive relationship (Jenkins & Zetter, 2003). Elton (2001) describes the strategies for linking research to teaching and indicates that it depends on various factors such as the unit of assessment (individual, departmental, institutional); level of competence (teaching or research); perspectives of stakeholders (faculty, students, administrators, funding bodies); and, cultural factors (different countries, international dimension). Prominent among these factors are the type of department, discipline and level of study.

## 2.7 Different Conceptualisations of the Scholarship of Teaching and Learning
## 2.8 Scholarship of discovery (SoD)

In the context of a field like Business education, the discovery scholarship is understood as original study that extends or contradicts existing awareness. Boyer (1997) describes discovery as the development of knowledge for knowledge, and its aim is to add not only to knowledge, but also to the intellectual environment of academic institutions. Some questions posed by discovery scholars constitute: What can be understood? And what is still to be discovered? Nibert (2011) argues that discovery adds not only to the human stock, but also to higher education's academic climate. He emphasises that the vitality of the learning community is essential to new scientific contributions, and that his model does not minimise the importance of the scholarship of discovery.

In addition, McCarthy and Higgs (2005) suggest that once the scope of knowledge and original scholarship have to be taught, the scholarship of invention is correlated with so many more pedagogical and realistic discoveries. The scholarship of discovery must become interactive and competitive until the student joins the scene. The implication created here is that through this scholarship, faculty members are likely to transform, rather than just inform their students.

## 2.9 Scholarship of integration (SoI)

Integration scholarship is strongly linked to inter-professional debates. It includes making interdisciplinary ties and forming a more cohesive and integrated application of knowledge (Hofmeyer, et al., 2007). Integration scholarship is about innovative interconnectivity, knowledge perception and synthesis. It is also closely related to discovery scholarship, although, in terms of context and effect, it raises very different questions. According to them this method of scholarship describes significance of isolated information and provides different insights that can address questions that could not be answered initially. To be able to incorporate expertise from various fields to generate unique and diverse viewpoints on critical concepts and theories, researchers engaging in

integration need creative thought. These scholars seek information that need careful thinking and explanation, such as asking what the research outcomes indicate and whether it is possible to explain what has been found in ways that offer a wider, more detailed understanding (Hofmeyer, et al., 2007).

The integration scholarship is now key, recently found on the periphery of academic effort, since it is certainly ideally positioned to respond to current challenges at both individual and societal levels. Moreover, as a means of creating awareness and innovative approaches, funding agencies are gradually promoting strategic, interconnected collaborations and teams. Integration depends on connecting through fields (Nibert, 2011). Therefore, a faculty member may contextualise his/her own research in order to contribute to knowledge in the broader spectrum. Hence, McCarthy and Higgs (2005) assert that the integration scholarship is a significant practice in education that aims to analyse, pull together and add new knowledge to the existing one. The implication is that both formal and informal platforms should be created to enable faculty share their expertise among themselves.

### 2.10 Scholarship of application (SoA)

In the scholarship of application, Hofmeyer, Newton and Scott (2007) state that scholars in one discipline build connections and synergistic connections across different disciplines and draw implications about real life situations. The scholarship of application straightforwardly, connects different types of scholarship with training. This cycle includes the dynamic commitment and the interpretation of new knowledge that take care of issues or improve the challenges experienced by people and society. They further express that this academic activity considers dynamic imagination in overcoming any issues between theory and practice. This creates the impression that researchers engaged in applied scholarship look to see how knowledge can capably and morally be applied to important issues and how it tends to be useful at the micro (individual), meso and macro levels (society, government, institutions). The scholarly implication is that the scholarship of application centres around utilising research discoveries and advancements to cure cultural issues. It has therefore, been advocated that regular seminars and workshops should be organised in order to create the enabling environment for shared knowledge among faculty members, as well as, students.

### 2.11 Scholarship of Teaching (SoT)

The scholarship of teaching goes beyond merely distributing knowledge to a mechanism that is both shaping and expanding the learning of students and scholars. In this way, the teaching scholarship requires the encouragement of constructive learning, critical thought and a dedication to continuous learning (Hofmeyer, Newton & Scott, 2007). It is important to remember that the academic community tends to prioritise the role of faculty members in tasks other than teaching (Royeen, 1999). According to McCarthy and Higgs (2005), teaching is also a complex endeavour, which includes all the analogies, symbols, and pictures that construct bridges between the comprehension of the teacher and the learning of the student.

Pedagogical practices must be thoroughly prepared, constantly reviewed, and explicitly linked to the topic taught as part of undertaking on a teaching scholarship. This, therefore, enables the faculty member to create a common ground for intellectual commitment and knowledge sharing. They promote active, not passive, learning and motivate students to be analytical, innovative thinkers with the opportunity to pursue learning at the conclusion of their college days. In addition, McCarthy and Higgs (2005) propose that effective teaching suggests that as scholars, faculty are also learners. This creates the impression that faculty's act of transmitting knowledge does not suffice, but transforming and extending knowledge with the quest to keeping scholarship alive.

### 2.12 Empirical Review

This sub-section is organised based chronologically by year as follows:

### 2.13 Conceptualising the research-teaching nexus

Investigating the traditional conceptions of the research-teaching nexus from the view of academics within the area of Accounting from two universities in South Africa undertaking by Lubbe (2015). The study highlighted different kinds of attitude to research, as new knowledge in the field of accounting (applied science) is assumed to be constructed and renewed primarily more outside than inside the university. The findings indicate tensions of an existing difficulty in combining two 'contradicting' logics, that of the university requiring to be active researchers, and that of the accounting profession. Contrary to the views of academics from other disciplines, accounting academics appear to spend "most of their time and energy on teaching and the development of pedagogy, instead of research. Time spent on research is also not perceived as informing teaching, rather, research is undertaken for its own benefits, such as the promotion of further studies." (Lubbe, 2015, p. 1104).

Chastising the traditional thought of a dichotomy of research and teaching, the author suggests that the idea of thinking of academics in professional programs in their role of "knowledge agents" with a concern about

academics and students' learning and possibilities in which the learning of one group can inform the other. Thus, she suggests the possibility to engage in the "scholarship of integration, application and teaching" to enhance the "understanding of new and existing knowledge, its transformation and transmission into pedagogy" (Lubbe, 2015, p. 1104) to highlight the idea of the complex role of the academic in the profession.

Blomster, Venn, and Virtanen (2014) investigated if teachers and researchers in the area of biosciences at a research-intensive university had consistent ideas about research-based teaching and the teaching of research methods. Using qualitative content analyses of a sample of 58 teacher surveys, the study authors found three different categories of ideas; either focusing on the teacher (*teacher-centred*), on the student (*student-centred*) or on the pedagogical research. Second, the authors ended up with five categories related to the way teachers regarded student involvement in research. The study showed a positive relationship for teachers with a more student-centred view on teaching, who would more likely involve students in research.

Aiming to unravel the complexity and variation associated with the conceptualisation of the research-teaching nexus, Zimbardi and Myatt (2014) constructed a typology for various forms of undergraduate research after having examined 68 research undergraduate research programmes in 26 discipline-based schools in Australia. They proposed five distinct typologies: *apprenticeship*, where students work under direct supervision of an academic on a project close to the interests of that person; *industry project*, where students focus on a complex problem from "real life" professional practice; *inquiry project,* where students construct the whole research project to both learn about content and construct new knowledge; *methods course,* where students only focus on elements of the research process relevant in the discipline; and *mixed models,* where two or more of others have been combined. They also examined these various models for undergraduate research in light of the hard-pure, soft-applied categorisation, and found that in general, the various types are applied across various disciplinary categorisations, with the exception of industry-based type that was not used in pure disciplines. This suggests that a possible indicator examining student involvement in research needs to be sufficiently broad to take into account these variations.

The ART-nexus is another example of disciplines-specific dimensions for the link between research and teaching Bennett (2010) have explored the thinking and action of academics in arts (e.g., music, media, visual art, theatre and ceramics), drawing on interview data of 14 arts practitioners, who were all active teachers and researchers, the authors make the point that such an ART-nexus might address limitations of traditional modes of research by unpacking innovative processes, as traditional modes of research do not seem to provide an adequate model for all kinds of research, and in particular artistic practice.

Neumann (1994) where interviews were conducted with 28 students to ascertain their perception of the presence of the teaching–research nexus. Most students in this study were able to identify the teaching–research relationship at work in academic staff, however, no mention was made as to the effect this had on learning. It is noteworthy that not all active researchers were identified as good teachers by the students involved in this study. This study identified several influencing factors on the perceived benefit of the teaching-research nexus such as the nature of the discipline, the type and purpose of the course, the ability and motivation of the student and opportunity for research interaction. The academic level of the students, for example, was found to be positively correlated to their perception and awareness of the teaching–research nexus. The study by Jenkins et al. (1998) noted perceived student disadvantages from teaching staff involvement in research and cited as a central conclusion that students did not consider themselves stakeholders in the research conducted by academics.

In Australia, Neumann (1992) conducted a qualitative study to explore the perception of the relationship between the research and teaching through semi-structured interviews with senior academic administrators including vice-chancellors, deputy and pro-vice-chancellors, chairs of the academic board or senate, deans, heads of school and heads of department from different disciplines. The findings revealed a three-level nexus between teaching and research: the tangible nexus, the intangible nexus and, the global nexus. The tangible nexus refers to the transmission of the knowledge which is from the outcomes of the academic's research to the students. The intangible nexus refers to the development in students of an approach and attitude towards knowledge. The global nexus refers to the connection between teaching and research at the department level.

## 3.0 Research Methods
### 3.1 Population
The study employed the cross-sectional descriptive survey research design. This was selected because this design seeks to describe the phenomenon as it appears without any variable manipulation, while data is collected quantitatively at one point in time in order to establish a clearer link between research and teaching within the context of the scholarship between teaching and learning as practiced by faculty members in the Humanities. The population for this study comprises all Humanities faculty members drawn from public universities across Ghana consisting of 2196 lecturers.

Bearing in mind the population in mind, based on the Krejcie and Morgan (1970) sampling table, a sample of 732 Humanities faculty members were selected using the stratified proportionate technique to engage them in

the study. Since the faculty population is made up of different members across ranks, and in order to ensure a fair representation of the population, the selection was done proportionately according to the number of faculty members in each rank. The proportionate stratified sampling technique was therefore, used to sample the faculty members from across the ranks. Afterwards, the simple random lottery technique was used to complete the selection process in order to ensure that each faculty member was given an equal chance to participate in the study. The sampling of the cases was done in such a way to reflect the different perspectives from the participants in order to have enriched and deeper insights into the issue under investigation (Creswell, 2013). In all, 732 faculty members participated in the study.

## 3.2 Research Instrument

Using the stratified proportionate sampling technique, 732 faculty members drawn from the Humanities of Public Universities in Ghana were drawn to respond to the Levels of Research Integration (LRIQ). The questionnaires were validated through the Principal Component Analysis (PCA) method. The data were then analysed inferentially (one-way MANOVA), and descriptively (means and standard deviation).

In order to ensure the face validity of the items on the questionnaire, the items were strictly crafted to conform to the literature. To also ensure content validity, the questionnaires was given to experts and other colleagues who went through and offered their suggestions.   In order to ensure the construct validity of the self-developed questionnaire, a Principal Component Analysis (PCA) was conducted. An oblique, specifically, *promax rotation* was used, where the eigenvalue-greater-than-one rule was used to determine an appropriate number of factors to retain. Thus, only factors with an eigenvalue of 1.0 or more were retained for further investigation (Kaiser, 1958).

To clarify further, the eigenvalue of a factor represents the amount of the total variance explained by that factor. It is worthy of note that, what Thurstone (1947) refers to as 'simple structure' was experienced through the factor analytic process. This involved each of the variables loading strongly on only one component, and each component being represented by a number of strongly loading variables, making the measurement scales stronger. The least Kaiser-Meyer-Olkin measure of sampling adequacy was .64, which is acceptable. Bartlett's Test of Sphericity indicates that the correlations between variables are different enough from zero, $p < .001$. Several factors emerged, which cumulatively explained an average amount of 70% of the variance measured by the items.

Before the data collection exercise commenced, the researcher explained to the faculty members, the purpose of the study and the nature of the items on the questionnaire as recommended by Creswell (2013). However, it was made clear to the respondents that their participation in the study was voluntary and thus, they were encouraged to provide accurate and honest information if they were willing to participate. We pointed out to the participants, that they had the right to withdraw from the study at any point in time as suggested by Creswell (2013), but this right ended after their instrument has been submitted to the researchers. This was because of the difficulty of tracing back their questionnaire for it to be taken out of the analysis. Respondents were made aware that the study was free from any psychological or physical harm. They were also assured of confidentiality.

The respondents were told that they were not required to provide names or index numbers. The questionnaires were collected in a random manner such that responses provided could not be traced to any specific individual. This ensured anonymity (Koshy, 2010). We further sought the consent of the participants by signing the consent declaration section of the questionnaire.

## 3.3 Data Analysis Procedure

The data gathered was checked one after the other to ensure its completeness. Respondents who did not respond to more than 10% of the items on the questionnaire were eliminated (Koshy, 2010). The questionnaires were then numbered from one to the last number based on each category of respondents. The data were coded and entered into the Statistical Product for Service Solution (SPSS, version 23) computer software. The data were screened for entry errors and outliers. Inferential analysis was done using a confidence interval of 95% and an alpha level of .05.  For inferential analysis, the researcher checked for the normality assumptions together with other significant assumptions depending on the type of statistical analysis employed.

In testing for the normality, multiple indicators were used since only one could not be relied on. The Shapiro-Wilk test did not provide enough evidence, an inspection of the graphs was necessary. In some cases, the mean and the median were also compared. This was necessary because Pallant (2010) argues that data with large samples are likely to yield a significant result using the Shapiro-Wilk test. After testing for statistical significance, the practical significance (effect sizes) was also computed to find out the magnitude of the differences.

Overall, the closed-ended questionnaire items were analysed statistically using descriptive statistics (means, and standard deviations) and inferential statistics (MANOVA) was also used to examine the statistical effects

and differences between and among variables. The .05 was used as the criterion for establishing statistical significance for all the inferential statistical procedures in the study. Effect sizes were calculated to establish the practical significance of the results.

### 3.4 Results
### 3.5 How Lecturers Conceptualise the Link Between Research and Teaching in Public Universities

This sub-section sought to assess how lecturers conceptualise the link between research and teaching. The justification for this research question stems from the numerous and divergent meanings ascribed to the link between research and teaching by several scholars and the fact that previous studies demonstrated and prescribed different interpretations attributed to the research-teaching nexus by faculty members, students and other stakeholders in academia. This has led to varied interpretations and representations of the link between research and teaching, especially, within the scholarship of teaching and learning context.

In order to find out the conceptualisation of the link between research and teaching, means and standard deviations were used to analyse the data collected, after a principal component analysis had been performed and three components extracted to symbolise the conceptualisation (knowledge currency, scholarship oriented and curriculum-oriented conceptualisations). Table 1, therefore, shows the results for the conceptualisation of the research-teaching nexus from the perspectives of lecturers.

**Table 1: Students' and Lecturers' Conceptualisation of the Link between Research and Teaching**

| Conceptualisation | Lecturers | |
| --- | --- | --- |
| | Mean | SD |
| Knowledge Currency | 3.96 | .87 |
| Scholarship Oriented | 3.82 | .77 |
| Curriculum Oriented | 4.22 | .55 |
| Mean of Means | 3.98 | .59 |

*Source: Field Data (2020)*

From Table 1, the lecturers ($M$=4.22, $SD$=.55) had high curriculum-oriented conceptualisation of the link between research and teaching. This is manifested when these lecturers indicated that they understood the link between research and teaching as promoting lifelong learning in students through research to improve practice.

Also, the lecturers ($M$=3.96, $SD$=.87) had strong knowledge currency conceptualisation of the link between research and teaching. Under knowledge currency conceptualisation, they described the research-teaching nexus as lecturers being updated and conducting research to remain abreast of current disciplinary knowledge.

As shown in Table 1, lecturers ($M$=3.82, $SD$=.77) described the connection between research and teaching to be scholarship oriented. Based on this conceptualisation, these lecturers described the nexus as encouraging and motivating students to do research. This, they indicated will have the tendency to promoting lifelong learning in students through the scholarship of teaching and learning within the higher education landscape.

### 3.5 Difference in Conceptualisation of the Research-teaching Nexus across the Ranks of Faculty

This sub-section also sought to determine the statistical differences in the conceptualisation of the research-teaching nexus with regard to the ranks of faculty. To test for this hypothesis, a one-way between groups MANOVA was performed to compare the mean scores of the conceptualisation of the teaching-research nexus regarding the ranks of faculty. The predictor variable was ranks of faculty while the criterion variable was conceptualisation comprising knowledge currency conceptualisation, scholarship-oriented conceptualisation and curriculum-oriented conceptualisation.

A preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no violations noted. For instance, visual examination of the normal Q-Q plot for the conceptualisation suggests that the data was normally distributed. Based on these results, it can be concluded that the data on conceptualisation were normally distributed. In addition to the normality assumption, homogeneity of variance-covariance matrices was also tested. The result of Box's M test of equality of covariance violated the variance-covariance matrices assumption, $F$ (12, 1500.54) = 6.07, $p$ < .001, M = 84.94. Because of this violation, Pillai's Trace multivariate test was performed. The results are presented in Table 2.

**Table 2: Multivariate Tests for Differences in Conceptualisation among Ranks of Faculty**

| | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |
| --- | --- | --- | --- | --- | --- | --- |
| Pillai's Trace | .375 | 2.284 | 9.000 | 144.000 | .020* | .125 |
| Wilks' Lambda | .631 | 2.598 | 9.000 | 112.103 | .009 | .142 |
| Hotelling's Trace | .577 | 2.864 | 9.000 | 134.000 | .004 | .161 |
| Roy's Largest Root | .562 | 8.988[c] | 3.000 | 48.000 | .000 | .360 |

*Significant, $p$ < .05
*Source: Field Data (2020)*

The results from Table 2 show that there is a statistically significant difference in the linear combination of the conceptualisations of the research-teaching nexus among the ranks of faculty, $F (9, 144) = 2.28$, $p = .020$; partial eta squared $= .125$; Pillai's Trace $V = .38$. The statistically significant results imply that 12.5% of the variance in the combined criterion variable (conceptualisations) was explained by the ranks of faculty.

**Table 3: Univaraite Tests for Differences in Conceptualisation among Ranks of Faculty**

| Source | Dependent Variable | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Corrected Model | Knowledge Currency | 3 | .325 | .552 | .650 | .033 |
| | Scholarship Oriented | 3 | 1.823 | 5.170 | .004 | .244 |
| | Curriculum Oriented | 3 | .265 | 1.392 | .257 | .080 |
| Intercept | Knowledge Currency | 1 | 336.332 | 571.669 | .000 | .923 |
| | Scholarship Oriented | 1 | 285.861 | 810.637 | .000 | .944 |
| | Curriculum Oriented | 1 | 364.322 | 1912.737 | .000 | .976 |
| Ranks | Knowledge Currency | 3 | .325 | .552 | .650 | .033 |
| | Scholarship Oriented | 3 | 1.823 | 5.170 | .004* | .244 |
| | Curriculum Oriented | 3 | .265 | 1.392 | .257 | .080 |
| Error | Knowledge Currency | 48 | .588 | | | |
| | Scholarship Oriented | 48 | .353 | | | |
| | Curriculum Oriented | 48 | .190 | | | |

*Significant, $p < .017$ (Bonferroni's alpha)

*Source: Field Data (2020)*

Separate univariate ANOVAs were performed on each of criterion variables using Bonferroni's adjusted alpha level of .017 and the results are presented in Table 3. As presented in Table 3, the univariate test showed a statistically significant difference in scholarship-oriented conceptualisation in terms of ranks of faculty, $F (3, 48) = 5.17$, $p = .004$, partial eta squared $= .244$. Drawing from the partial eta squared, the rank of faculty explained 24.4% of the variance in scholarship-oriented conceptualisation. The results also revealed no statistically significant difference in curriculum-oriented conceptualisation regarding ranks of faculty, $F (3, 48) = 1.39$, $p = .257$, partial eta squared $= .080$. Despite the non-statistically significance, the result implies that the rank of faculty explained 8% of the variance in curriculum-oriented conceptualisation of the research-teaching nexus. In furtherance, the results revealed that there is no statistically significant difference in the knowledge currency conceptualisation among the ranks of faculty, $F (3, 48) = .55$, $p = .650$, partial eta squared $= .033$. The result implies that the rank of faculty explained 3.3% of the variance in knowledge currency conceptualisation of the research-teaching nexus.

A post hoc analysis performed to determine differences in scholarship-oriented conceptualisation regarding ranks of faculty. Table 4 presents the results of the post hoc analysis. From Table 4 which demonstrated the post hoc analysis, there is a statistically significant difference between the mean scores of the scholarship-oriented conceptualisation between lecturers and senior lecturers, $p = .002$. However, there is no statistically significant difference between the mean scores of scholarship-oriented conceptualisations among the other ranks of lecturers.

**Table 4: Multiple Comparisons on Scholarship-oriented Conceptualisation (Games-Howell)**

| (I) Rank | (J) Rank | Mean Difference (I-J) | Std. Error | Sig. |
|---|---|---|---|---|
| Assistant lecturer | Lecturer | -.2047 | .25286 | 1.000 |
| | Senior lecturer | .5161 | .26668 | .353 |
| | Professor | .2857 | .47613 | 1.000 |
| Lecturer | Assistant lecturer | .2047 | .25286 | 1.000 |
| | Senior lecturer | .7208* | .18522 | .002 |
| | Professor | .4904 | .43575 | 1.000 |
| Senior lecturer | Assistant lecturer | -.5161 | .26668 | .353 |
| | Lecturer | -.7208* | .18522 | .002 |
| | Professor | -.2304 | .44392 | 1.000 |
| Professor | Assistant lecturer | -.2857 | .47613 | 1.000 |
| | Lecturer | -.4904 | .43575 | 1.000 |
| | Senior lecturer | .2304 | .44392 | 1.000 |

*Significant, $p < .017$ (Bonferroni's alpha)

*Source: Field Data (2020)*

**Table 5: Descriptive Statistics on Conceptualisation in terms Rank of Faculty**

|  | Rank | Mean | Std. Deviation | N |
|---|---|---|---|---|
| Knowledge Currency | Assistant lecturer | 3.7143 | .98936 | 7 |
|  | Lecturer | 3.7692 | .90808 | 26 |
|  | Senior lecturer | 3.9608 | .33087 | 17 |
|  | Professor | 4.3333 | .00000 | 2 |
|  | Total | 3.8462 | .75685 | 52 |
| Scholarship Oriented | Assistant lecturer | 3.7857 | .26726 | 7 |
|  | Lecturer | 3.9904 | .54535 | 26 |
|  | Senior lecturer | 3.2696 | .66440 | 17 |
|  | Professor | 3.5000 | 1.41421 | 2 |
|  | Total | 3.7083 | .66267 | 52 |
| Curriculum Oriented | Assistant lecturer | 4.0952 | .25198 | 7 |
|  | Lecturer | 4.2179 | .41034 | 26 |
|  | Senior lecturer | 3.9412 | .53014 | 17 |
|  | Professor | 4.1667 | .23570 | 2 |
|  | Total | 4.1090 | .44143 | 52 |

*Source: Field Data (2020)*

The descriptive statistics is presented in Table 5. As reflected by Table 5 based on the results, it can be concluded that lecturers ($M = 3.99$, $SD = .55$) conceptualised the link between research and teaching to be more of scholarly-oriented relative to their colleague senior lecturers ($M = 3.27$, $SD = .66$).

**3.6 Discussion**

The first sub-section of this write-up sought to assess how lecturers conceptualise the link between research and teaching within the context of the scholarship of teaching and learning. The key finding from this research regarding the conceptualisation of the link between research and teaching is that lecturers conceptualise the research-teaching nexus as knowledge currency, as well as, scholarship and curriculum orientations. Regarding curriculum-oriented conceptualisation of the link between research and teaching, lecturers refer to this conceptualisation when they believe that the link between research and teaching is about promoting lifelong learning in students through research to improve practice. Also, the curriculum orientation in terms of conceptualisation connotes a situation whereby faculty members conduct research about teaching and learning that informs and evaluate curriculum development, coupled with making explicit the nature of research for knowledge development. It can, therefore, be inferred from the findings that faculty members' efforts of linking research to teaching focuses more on addressing issues related to the curriculum than any other educational matter since they had a stronger agreement on curriculum-oriented conceptualisation.

In describing the knowledge currency as a dimension of the link between research and teaching within the scholarship of teaching and learning**,** lecturers describe the link between research and teaching as a situation where faculty members update and conduct research in order to remain abreast with current disciplinary knowledge. It also implies that the nexus is deemed a situation where lecturers integrate their research into teaching to give currency to knowledge, as well as, a practice whereby lecturers' research interest informs the development of resource materials for teaching and learning. This high knowledge currency conceptualisation stems from the description given by stakeholders about the research-teaching nexus from the perspective of lecturers indicate that the nexus ensures the update of existing knowledge since research findings augment the development of new knowledge.

Another description of the research-teaching nexus is scholarship- oriented conceptualisation. Based on this conceptualisation, they described the nexus as encouraging and motivating students so as to inculcate into students lifelong learning through research with the view to improving practice. Under the scholarship-oriented conceptualisation, the nexus is seen as the scholarship of teaching integrated into research supervision coupled with visiting scholars within the community of practice acting as resource persons. It can be inferred that the research-teaching nexus is also conceptualised as promoting reflective practices in teaching to promote meaningful and lifelong learning.

Referent to the above discourse, the nexus is about researching into teaching and learning that augment the development of the curriculum, as well as, the development of relevant teaching and learning resources to facilitate lessons. Buckley (2011), in support of knowledge currency conceptualisation indicates that conducting research can both augment faculty member's competency within the context of their subject discipline and keep them updated on the knowledge they are imparting on the students. Therefore, he recommended that faculty members should make good use of available researches for the benefit of their students' learning, as well as, themselves as learners. By way of doing this they would be promoting the scholarship of teaching and learning.

It is therefore, insightful to indicate that this scholarly-oriented conceptualisation can be explained within the context of the Scholarship of Teaching and Learning (SoTL) model underpinning this study, which emphasises that faculty members have the opportunity to test hypotheses about their own classroom practices by subjecting their practices to intense scrutiny, reflecting on the results, sharing them with colleagues, and then making modifications to improve their practices (Cambridge, 2004 as cited by Gillespie et al., 2010; Slapcoff & Harris, 2014). According to the model, to become a true scholar as a faculty member, one needs to navigate through the scholarships of discovery, application, teaching, and integration in order to be recognised as a scholarly academic (Boyer, 1990).

The impression created from the discourse so far is that faculty members who have a relatively stronger conceptualisation have the conviction that any effort made by them to effectively integrate research into teaching is likely to influence teaching and learning outcomes positively. For instance, if faculty members believe research helps them to enrich their lecture notes and teaching resources, this strong knowledge currency conceptualisation is likely to compel these faculty members to commit to and spend time to enhance their teaching with the view to optimising students' learning outcomes.

It is very worthy of note that people's exposure to existing knowledge informs their conceptualisation. This is evident when Marsh and Hattie (2002) made an observation that the research-teaching bondage was intense for lecturers who spent higher proportion of their time teaching, and almost zero for those who spend moderate amounts of time teaching, and negative for those who spend the lowest proportion of their time teaching. This level of exposure has the tendency to influence the conceptualisation of lecturers regarding the research-teaching nexus, hence, their level of implementation. The same authors also indicated that one's subject discipline may also influence their conceptualisation. This seems to suggest that faculty members in certain subject areas are more likely to inculcate research into teaching than others attributed to the nature of the subject discipline they find themselves in and how they have conceptualised the research-teaching nexus over the years.

In support of this Ozay (2012) indicated that differences in educational experiences is likely to lead to variations in belief systems, perceptions, attitude and practices among key players in teaching and learning. Therefore, it appears the tendency for younger lecturers to overlook certain things in the teaching and learning process is highly probable. This could be attributed to the high level of experience of senior lecturers compared to lecturers, there is the possibility for them to be complacent and take certain practices for granted. In support of this, Elen (2007) revealed that most faculty members aspire to at least, reach the status of Senior lecturer in their career which is likely to serve as the first level of fulfilment in their career level of aspiration. This tends to describe the behaviour of faculty members as they progress through the ranks in their academic career. Thus, "the higher you go, the more negligent and complacent one becomes at the workplace" (Cadez, Dimovski, and Zaman Groff, 2015, p. 26). This explains why senior lecturers are likely to take things for granted regarding reflective teaching practices relative to their counterparts at the lecturer rank who are more likely to be cautions and meticulous in their operations.

In support of the above, Healey and Jenkins (2011) reported that stakeholders from the same environment or context are likely to have similar or "think-alike" conceptualisation of the link between research and teaching influenced by the same environmental context factors. This could be attributed to the extent to which context is likely to influence the way things are done. By implication, the level at which a student has attained is likely to influence his or her level of thinking and hence, informs how the person conceptualises issues. Therefore, since postgraduate students are taught differently from undergraduates, context comes in to play to make a difference. This propelled Elen (2007) to indicate that faculty members engage students in research with the hope that the students can better develop highly valued competencies that would inculcate lifelong learning in them.

Though, statistically significant differences were found between the conceptualisation of lecturers and their ranks, however, the interview indicated that lecturers, regardless of their rank believe that the research-teaching nexus contributes to knowledge update. This, they indicated that research informs content, methods, and even resources for teaching whereby most of them reiterated that they constantly update their lecture notes through researches in my subject discipline. This could be alluded to the fact that research forms the basis of the content of teaching. Therefore, faculty members who are active researchers are more likely to be on the cutting edge of their discipline and aware of international perspectives in their field. Since textbooks may not be current in many rapidly developing areas, lectures may be the first point of contact with the latest developments. It is also important to indicate that faculty members who are involved in research are more likely to be at the forefront of their discipline. Thus, results from one's research can be used to clarify, update, and amend the teaching of a topic. Research enhances teaching through the introduction of new topics and methodologies. Faculty members discussing their own research provide a sense of excitement about the results and how they fit into a larger picture. Active researchers are more effective at instilling an actively critical approach to understanding complex research findings rather a passive acceptance of facts.

In a rational juxtaposition, the above notion seems to suggest that faculty members who spend a amount of their time devoted to teaching are able to devise strategies from their teaching efforts to contribute to their

research productivity. Putting the assumptions underpinning this study into perspective, it is my strongest conviction that faculty members who believe teaching and research are less related are less likely to integrate their research into teaching (Bennett, 2010). Therefore, the successful implementation of the research-teaching nexus is contingent on the beliefs, assumptions and conceptualisation held by individual faculty members, as well as, students. This is likely to determine and influence the extent to which these faculty members would integrate research into their teaching to improve students' learning outcomes.

Reiterating how the link between research and teaching are conceptualised, Becher and Trowler (2001) describe the link between research and teaching as distinct 'academic tribes', while, Wenger (1998) saw the link as 'communities of practice'. These diverse conceptualisations go a long way to affect the various understanding and conceptualisation of stakeholders about the research-teaching nexus in relation to the scholarship of teaching and learning.

As already established in the introductory aspect of this write-up, many stakeholders, including students, teachers, lecturers, and scholars ascribe different connotations, descriptions and definitions to the link between research and teaching. This, from my perspective, has led to the complexity in understanding, designing, implementing and integrating research into teaching among faculty members in universities. It is, therefore, not surprising when Robertson and Bond (2001) indicate that the connection existing between university research and teaching has been viewed by faculty members from several perspectives. This goes a long way to confirm the different conceptualisations held by lecturers as established by the findings of this study. Also, Healey (2000) and Brew (2003) intimates that the way faculty members interpret the terms scholarship, teaching and research is surrounded by a lot of controversies due to diverse perspectives informed by their belief systems and their level of exposure in academia. For instance, Brew views research as outcome-oriented (external), while Robertson and Bond view it as learning-oriented (internal). Brew further stated that most faculty members view scholarship as the way they value their professionalism from their own perspective. Hence, influencing their conceptualisation of the research-teaching nexus.

It is therefore, argued that some of the complexities and contested nature of the linkages between research and teaching reflect differences in the way that the teaching, research and learning are conceptualised; as well as, the field of study within which the linkages are contextualised (Brew, 2010). The impression created is that several stakeholders have different connotations and representations when it comes to conceptualising the link between research and teaching. In validating the findings, Badley (2002) analysed and synthesised the research-teaching nexus based on different interpretations by several scholars. According to these scholars, the nexus could be described as either 'an impending divorce'; 'a marital relationship'; 'a holy alliance; 'a scholarly relationship'; and, 'a really useful link' (p.13).

The description of the research-teaching nexus as an impending divorce connotes that there exist separate institutions for research and teaching. For instance, in the USA, there exists research institutions separate from that of teaching institutions; while, in the UK, one could easily identify research-led and teaching-led departments separately. With the metaphor of a marital relationship, research is regarded as the "male partner" and teaching as the "female partner". The holy alliance description sees research as a generator of uncertainty; and teaching as a solution to that uncertainty. In the scholarly relationship, research and teaching are separate, but overlapping scholarly activities. Therefore, based on one's disposition, orientation, experiences and level of exposure on the research-teaching nexus, the individual's belief system and conceptualisation about the nexus is likely to be influenced. After this exposure, the likelihood that one's conceptualisation of the link between research and teaching would be influenced is highly probablistic.

Contextualising the finding within theories underpinning the study, Boyer (1990), through the lenses of the scholarship of teaching and learning (SoTL) includes research and teaching in his typology of scholarship that comprises the scholarships of knowledge discovery and integration; and, the scholarship of knowledge application. These different connotations of the SoTL informs the several conceptualisations held by stakeholders in academia such as faculty members and students about the research-teaching nexus.

To add to the several conceptualisations of the link between research and teaching, Pocklington and Tupper (2002) intimates that persons vary widely in their opinions about the nature of the research-teaching nexus. Some strongly believe that university research often distorts the quality of teaching, while others argue that courses taught by those at the cutting edge of research would impact positively on teaching. It is my strongest conviction that whatever be the case, if the nexus is managed efficiently, the benefits are likely to outweigh the cost depending on the management strategy. Henkel (2000), therefore, concludes that these several conceptualisations, in part, reflect the importance of linking research and teaching in policy frameworks of universities and their faculties.

In spite of the different conceptualisations among the various sakeholders, the lesson learnt from this study is that stakeholders from the same environment or context are likely to have the same conceptualisation of the link between research and teaching which is influenced by the same environmental context (Levy & Petrulis, 2012). This implies that conceptual tensions arise within the research-teaching nexus when attempting a

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description by faculty members regarding their professional conceptualisation of the link between research and teaching.

To further expatiate on the different conceptualisation held by faculty members across ranks, Robertson and Bond (2001) indicated that university research and teaching has been viewed by faculty members in different ways. This could be attributed to different level of exposure and experiences informed by the length of time served in the university. Under normal circumstances, the tendency that senior lecturers have served more years than that of faculty members at the lecturer rank is the reality, except in exceptional cases. Therefore, there is the probability for senior lecturers to be more exposed in terms of how research connects to teaching compared to their colleagues at the lecturer rank. Hence, this explains the differences in conceptualisation across the ranks of faculty.

It is interesting to draw an attention to the fact that, the value placed on the professionalism of faculty members is likely to influence their respective conceptualisation about the research-teaching nexus (Ozay, 2012). Therefore, Brew (2003) posit that a majority of faculty members conceptualise scholarship as the way these faculty members value their professionalism from their own disposition. It can therefore, be inferred that the background in terms of disciplinary disposition of a faculty member is likely to influence the way the faculty members perceive and conceptualise the link between research and teaching. Hence, contributing to the differences in conceptualisation of the link between research and teaching.

In order to further extend the discussion on the differences in conceptualisation across ranks of lecturers, many stakeholders, including students, teachers, lecturers, and scholars describe the research-teaching nexus in diverse ways. This has led to the complexity in the implementation of integrating research into teaching among faculty members in universities. Therefore, Robertson and Bond (2001) indicated that university research and teaching has been conceptualised by different faculty members in several ways. Therefore, these stakeholders in education are likely to be influenced by how useful they believe the nexus is to education, depending on whether they are direct or indirect beneficiaries of the outcome of the effective implementation of the research-teaching nexus. Brew (2010) further stated that most academics view scholarship as the way academics value their professionalism from their own perspective. Hence, depending on the values one places on the nexus would inform how one conceptualises it. This confirms this hypothesis that there exists a statistical difference in the conceptualisation in terms of ranks of faculty.

### 3.7 Conclusion

Generally, there is no clear-cut establishment of the link between research and teaching. Indeed, even where such a link exists, it could even be conceptualised in different, dynamic and complex ways. In spite of the controversial and highly contested nature of the research-teaching nexus, a stronger link between research and teaching is still beneficial to both faculty members and students, as well as, other stakeholders in education. This explains why faculty members seem to value and appreciate the connection between research and teaching. Inspite of the different conceptualisations among the various stakeholders, the lesson learnt from this study is that stakeholders from the same environment or context are likely to have the same conceptualisation of the link between research and teaching which is influenced by the same environmental context. That notwithstanding, it is worthy to recognise that not every research-active faculty member would automatically integrate their research experience into their teaching activities, regardless of their rank. One does not need to be an active researcher to viably coordinate research into teaching. It is therefore, an intentional and conscious effort on the part of each faculty member to create a connection among research and teaching to promote meaningful learning outcomes. It is also insightful to indicate that faculty members in certain subject areas are more likely to inculcate research into teaching than others attributed to the nature of the subject discipline they find themselves in and how they have conceptualised the research-teaching nexus over the years. Therefore, in order to become a true scholar as a faculty member, one needs to navigate through the scholarships of discovery, application, teaching, and integration in order to be recognised as a scholarly academic. By so doing, they are practicing the research-teaching nexus as a way of promoting effective and meaningful learning outcomes.

### 3.8 Recommendations

1. University authorities should encourage their faculty to embrace and apply research-based teaching in their teaching and learning expedition.
2. Faculty members, irrespective of their rank, must move beyond just disseminating research findings and actively involve students in advanced form of the research-teaching nexus (research-based and research-tutored teaching). For instance, students should be encouraged to undertake independent mini projects as a part or whole of a course. This will go a long way to encourage meaningful learning outcomes and promote lifelong learning. Teaching should be student-centered.
3. Universities, through their respective faculties/schools and departments should develop a policy for the research-teaching nexus. The policy should be supported by a policy document to serve as a guideline

    to enable faculty members practice research-based teaching. This can be facilitated by drafting disciplinary-specific research-teaching nexus policy documents to cater for the uniqueness of each field of study.

4. Faculty members, irrespective of their rank, should make the effort to balance time dedicated to teaching and time dedicated for research in order to optimize the benefits derived from the research-teaching nexus.

5. There should be intensive continuous professional development programmes for faculty members on how to effectively integrate research into teaching. This is likely to influence students since lecturers have influence on their students directly or indirectly.

6. Lecturers must ensure that pedagogical practices must be thoroughly prepared, constantly reviewed, and explicitly linked to the topic they teach by way of promoting scholarship at the highest level.

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