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**DETERMINANTS OF RESEARCH INTEGRATION INTO TEACHING AND ADMINISTRATIVE PRACTICES IN HIGHER EDUCATION: THE TALES OF BUSINESS EDUCATION FACULTY MEMBERS**

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**ABSTRACT**

All over the world, there are growing concerns about the significant impact played by faculty members in their quest to actively involve their students in the teaching and learning process coupled with administrative processes. Relating to universities in Ghana and in most of the world's universities, the major criteria for faculty promotion are the quantity and quality of research papers in reputable journals. This has triggered the popular dictum "publish or perish". Therefore, most faculty members, desirous not to perish (stagnate in their career) and in their quest to be elevated higher on the academic ladder, spend substantial amount of their time working on their research interests to the neglect of integrating these researches into their teaching and administrative practices. This has been attributed to several confounding factors of which this study seeks to unearth. Using the sequential explanatory research design of the mixed methods, the study sought to espouse the determinants of faculty's ability to effectively integrate research into teaching and administrative practices for purposes of corroboration and expansion. By adopting the census method, all 162 Business Education faculty members were engaged from the public universities in Ghana that offered Business Education. Questionnaires and interview protocols were used for data collection. The questionnaires were validated through the conduct of Principal Component Analysis (PCA). It was therefore, concluded that the determinants of the research-teaching nexus are more curriculum-related. Thus, the nexus highly affects the curriculum than any other aspect of university processes and administrative

practices. Nevertheless, it is worthy of note to acknowledge that it does not mean that any research-active faculty member would automatically integrate their research experience into teaching and administrative practices because such activities require conscious, intentional and intensive efforts. It emanated from the study that the determinants of the research-teaching integration include research productivity stimulation factor, empirically-based teaching factor, research active curriculum factor, time-oriented factor, and responsive curriculum factors. Responsive curriculum is the dominant factor among all the factors affecting the compatibility between research and teaching. It is therefore recommended that universities should draft discipline-specific research-teaching nexus policy documents to cater for subject-specific differences in terms of implementing the nexus. Faculty members should also be sensitised on how to balance their limited time between research and teaching in order to optimise the benefits associated with the research-teaching-administrative nexus to inform both their teaching and administrative practices.

**KEYWORDS:** Research-teaching-administrative nexus, faculty members, business education, responsive curriculum, research productivity, empirically-based teaching

## INTRODUCTION

The extant literature has indicated that in order to create a meaningful and logical knowledge, there must be a harmonious connection between research and teaching (Magi & Beerkens, 2016). However, these studies have revealed that the fundamental impediment has been that faculty members are expected to undertake both research and teaching, at various occasions and in various circumstances disjointedly, rather than simultaneously, while making the conscious efforts of integrating this research into their teaching and administrative practices. But this has not materialized leading to so many impediments for faculty members. These impediments are as a result of several confounding factors militating against the connection between research and teaching. Other studies have, nevertheless, seemingly displayed a stronger relationship, moderate relationship, as well as, zero relationship between research and teaching (Marsh & Hattie, 2002) attributed to the numerous and complex confounding and manifest factors surrounding the effective integration of research into teaching within the higher education landscape.

One of the main problems concerning the research-teaching-administrative nexus is that the thought is intricate, disciplinary-based and university circumstantial. The complexity is due to the competencies from both faculty and students, coupled with other factors in order to enhance the link leading to different interpretations and conceptualisation of the link. Also, different interpretations add to the complexity (Brew, 2007; Healey, 2005; Schapper & Mayson, 2010). Discipline-based, because some discipline easily lend themselves to integrating research to teaching than others. Hence, the choice of one's discipline affect the extent to which faculty members integrate research into teaching. For instance, according to Barnett (2005), as far as subject content is concerned, it is relatively easier to integrate research into teaching in the Natural Sciences than in the Humanities.

Contributing to the debate, Healey (2000) claims that integrating research into teaching ought to be viewed as a major aspect of the scholarship of teaching and learning. This scholarship is manifested through the effective link between research and teaching activities in universities and other institutions of higher learning. This, in his view, has the tendency to make students ready for life-long learning. Hence, the need to investigate how faculty members can explore the possibility of integrating research into teaching as well as their administrative practices.

A plethora of studies have revealed a number of benefits inherent in the research-teaching-administrative nexus when implemented effectively by faculty members. Prominent among these benefits are that faculty members and learners can be collaborators and work together in partnership as co-creators of knowledge within the context of the knowledge creation process in order to offer learners a chance to molding and upgrading their own learning encounters (Healey, Flint, & Harrington, 2014). In such a partnership, faculty members and learners enthusiastically engage in, and remain to pick up from the way toward getting the opportunity of working through collaborative partnerships. This pre-supposes that the effective engagement of students and faculty as partners in academia, is arguably, perhaps the most basic achievement factors for the advancement of higher education in the 21st century.

It is noteworthy that several universities' vision and mission statements underscore the premium placed on research at the detriment of teaching and administrative practices. In order to buttress this point, and by perusal through the various mission and vision statements by the universities, it could be inferred that implicitly or explicitly, each of the universities, in one way, or the other, places much emphasis on the role of research in education than teaching as well as administrative practices. Validating this assertion, Anderson (2012) noted the availability of scanty literature on the effective integration of research into teaching coupled with administrative practices. That notwithstanding, there is enough evidence on the fact that faculty tend to focus more on research relative to teaching and administration practices (Brew, 2007; Healey, 2005; Schapper & Mayson, 2010), and that countless universities put growing emphasis on research success metrics for the purposes of advancement, tenure, pay and performance assessment. (Gerschwind & Brostrom 2015; Taylor, 2007, 2008). For example, observable data in the United States shows that research is given much premium than teaching and administrative practices as this assertion is reflected by most university's pay schemes. For instance, Taylor (2007) showed that perhaps the key determinant of faculty compensation was the sum of publications in top-tier journals in the USA. They also suggest, in particular, that teaching efficiency is a predictor of faculty income and offer observational evidence of a more favourable link between teaching efficiency and pay. While this influence applies only for the faculty members with excellent academic results, where a certain research output threshold is achieved, superior teaching success is only expressed in a higher wage.

The question now begging for answers is to what extent is faculty able to integrate research (their own and that of others) into their administrative and teaching practice with recourse to the likely factors

affecting this level integration. In a nutshell, the effective integration of research into teaching and administrative practices is a conscious effort by faculty because recent researches (Borg & Liu, 2013; Ellis, 2010; Kumaravadivelu, 2011, Biesta, 2007; Vanderlinde & van Braak, 2010) have shown that a positive nexus exist among research, teaching and administrative practices contingent on individuals, subject groups, institutions and national systems (Jenkins, 2000).

While the requirements of the knowledge economy support a synergetic relationship existing among research, teaching and administrative practices, counter-pressures including globalisation, competition and marketisation of cutting-edge education, rather set research, administration and teaching apart (Arimoto, 2015; Beerkens, 2013). This is as a result of the worldwide competition in higher education as reported in university rankings and promotions of faculty members. These rankings and promotion of faculty members seem to place premium on a solitary model for a university as either, a teaching university or research one: a model that to a higher extent, can focus on research to the detriment of both teaching and administrative practices (Dill & Soo, 2005; Marginson & van der Wende, 2007). This has led to the creation of research havens through different activities at the national level (Shin & Kehm, 2013) in order to fill the gap existing among research, teaching and administrative practices.

That notwithstanding, these havens appear to further set research, administration and teaching apart. This could be attributed to certain factors affecting the effective integration of the three educational components and 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), in supporting the above assertion, indicated that the tensions surrounding the effective integration of research, administration 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 as well as administrative activities (Bak & Kim, 2015; Smith & Smith, 2012) because of the higher emphasis placed by many universities on research at the detriment of teaching and administrative practices.

Arguing further, in Ghanaian universities, the major criteria for faculty promotion are the quantity and quality of research papers in reputable journals. This has triggered the popular dictum "publish or perish". This dictum means 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. This seemingly disconnection amongst research and teaching activities in the universities in light of research for promotion has the tendency to lead to inequity in striking a balance among these three crucial activities of the faculty member. The overall consequence is that this seemingly disconnection between research and teaching coupled with

administrative practices is likely to adversely affect students' learning outcomes, exposure and experiences. Thus, the effective integration of research into teaching and administrative practices is likely to augment students' learning experiences and outcomes (Shin & Kehm, 2013).

Stemming from this discourse, the questions left unanswered are whether, it is conceivable to effectively integrate research into teaching harmoniously. If that is likely, is it possible to create better spaces for the nexus across disciplinary spaces without regard for the factors affecting the effective integration of the three components? Also, can building on the connection between research productivity and teaching effectiveness become a catalyst for building better synergistic relationships among these significant activities of faculty members in the light of their determinants? It is on the basis of this contradiction that this study is warranted focusing on the confounding variables militating against or facilitating the smooth implementation of the research-teaching-administrative nexus by faculty within the higher education context.

The rest of this article is organised as follows: An extensive review of literature followed by the methods as well as the results dichotomized into quantitative and qualitative results. After which a comprehensive discussion was followed by drawing implications on the findings by way of conclusion and was climaxed by recommendations.

## **LITERATURE REVIEW**

### **Factors Affecting Effective Integration of Research into Teaching and Administrative Practices**

A survey among research universities in the USA in 2001 revealed that only a few campuses systematically collect data about how many of their undergraduates are involved in research (Boyer Commission, 2002). Two studies report about perceptions of faculty members and students of a research-intensive university of the level of research participation by students. In the first report, it is written that "students indicate that they, on the average, relatively little participated in research, have not come to know much about the own research of their teachers and did not feel included in the research community" (Van der Rijst, et al., 2009, p. 223). The second report concludes that authentic research conducted by students in curricula of three bachelor degree programs happens 'only sporadically' (Van der Rijst & Jacobi, 2009, p. 33; Van der Rijst, 2016). Note that these publications are already a number of years old and can be expected that the situation has been improved following the publication of these reports. Indeed, report a lot of universities in the USA and Europe in 2015 that they offer opportunities for undergraduate research (Hensley, 2015). But whether research-based teaching occurs in all, many or few courses is not known. Whether all students or only the most talented enjoy this kind of education, we also do not know. These warrant an investigation.

There are several factors that affect the integration of research into teaching and administrative practices as espoused by literature. The first factor, according to faculty is that it is not very rational to invest extra time in teaching because in practice, research, and not teaching is at the core in many universities and research productivity and not teaching quality is the main element in tenure and promotion (Elen, et al., 2007). This view is confirmed in the Trends 2015 study of the European



University Association: a majority agrees with the statement that “Research plays a more important role than teaching for the career development of young academics” (‘yes’: 54%). Most notably – more than 75% - was the answer ‘yes’ in Norway (91%), France (83%), Portugal (79%), Spain (78%) and Switzerland (78%). On the other hand, a majority of the respondents also agrees with the statement that ‘There is a growing recognition of the importance of teaching’ (59%). Most notably is the answer positive in the Netherlands (89%), the United Kingdom (87%), Denmark (86%), Turkey (76%), Belgium (75%), and Finland (75%). The importance of teaching seems unrelated to the institutional profile: also, respondents in the institutions which define themselves as ‘primarily research based’ report that the importance of teaching is growing (European University Association, Surssock, 2015, p. 80/81; Zhang, 2016).

A second factor is that research-based teaching places high disciplinary-related and pedagogical demands on teachers as experienced researcher, being now engaged in research, a positive attitude toward student research, and competent to assist students in research (Gresty, et al., 2013). Faculty members themselves think that it is a great breakthrough that university teachers are also researchers because they have more insights into the evolution in their domain, are experienced in research methodologies, know the success factors and pitfalls of doing research, are aware of the impact of changes in society on research and of the impact of research on society, and when they discuss their own research they become more enthusiastic (Elen, et al., 2007). Students appreciate that their teachers are also researchers and “believe that academics’ engagement in research deepens student understanding, increases enthusiasm for learning and teaching, encourages postgraduate study, develops skills useful for employment and enhances undergraduate research activities” (Hajdarasic et al., 2015, p. 644). That notwithstanding, it is by no means certain that good researchers are also good teachers. For good teaching other knowledge, attitudes and skills are needed than for good research.

To further extend the discussion on disciplinary variations, the discipline is an important contextual factor to understand the integration. For example, engaging students in the research process may be easier in natural sciences where it is more common to work within research groups and with different levels of researchers. In contrast, in humanities the dominant mode of research is highly individual and engaging students is significantly harder. On the other hand, opportunities to share research results with students may be easier in humanities than in natural sciences. The linear, cumulative nature of knowledge in natural sciences creates a challenge for integrating the latest research findings into undergraduate classes (Healey, 2005). Linking research to teaching is applicable in all disciplines because of its generic academic orientation (Ozay, 2012), but the form of the linkage is likely to differ across disciplines. Furthermore, disciplinary differences in terms of collaboration, networking and publishing patterns have decreased over time. Many work forms that were originally characteristic to natural sciences have been quickly spreading to social sciences and other fields: research is increasingly conducted in groups, joint authorship of articles is increasingly common, and networking processes, including conference attendance, have become more similar across fields (Kyvik, 2013).

Prior researches (Borg & Liu, 2013; Ellis, 2010; Kumaravadivelu, 2011, Biesta, 2007; Vanderlinde & van Braak, 2010) suggest many factors that influence whether and how teachers use research-related teaching practices to inform their teaching and administrative practices. One set of factors concerns teachers' attitude and self-identity: their conceptualisation of the research and teaching activities (Brew, 2007; Griffiths, 2004; Robertson and Bond, 2005), their attitude and beliefs regarding teaching, the subject matter, and students. However, teachers' experience in being a teacher and expectations to the role of a teacher (A° kerlind, 2004). The other set of factors includes external aspects. The discipline determines the culture of knowledge production and the mode of knowledge dissemination, and this influences the types of commonly used teaching activities, expected outcomes and the emphases in teaching (Brew, 2003; Griffiths, 2004; Healey, 2005; Schapper & Mayson, 2010). The seniority of students (e.g. first year undergraduate vs. master level) also influences the opportunities for linking research to teaching (Brew, 2007; Healey, 2005; Robertson & Bond, 2005).

It is important to reiterate the fact that the link between teachers' own research and their teaching is not straightforward. This is attributed to the fact that research activities indeed seem to inform teaching, more so than teaching informs research, but usually the link is limited to transmitting the content of research. A qualitative study in Scottish universities attempted to map how teachers incorporate their research (Grant & Wakelin, 2009). The most common examples from that study show the effect of personal academic articles and conference papers on the content of teaching and the effect of bibliography lists in the articles informing the reading list in the class. Teachers themselves say that their research tends to service only a small fraction of their teaching practice. The main link is thus in the form of transmitting knowledge and the practice rarely goes into engaging students in the research process and making students co-creators of their learning outcomes. Furthermore, researchers differ in how they see their own research. They vary in their intentions and in their approach to the research process, to the questions they pose, and to the outcomes they seek. All in all, researchers have diverse frames of incentives for doing research informed by certain determinants (A° kerlind, 2008).

Brew (2007) explains the variation in research orientation and practice by distinguishing two dimensions of how research is experienced among academics: researcher's awareness (researcher is present in or absent from research) and orientation of research (an external product with the intention to produce an outcome or internal processes with the intention to understand). Researchers' intentions and their interest in doing research are likely also to influence their orientation in incorporating research into teaching. In addition to the attitude towards research, the attitude towards teaching is also highly important in establishing the link. Moving on the continuum from weakly embedded research to strongly integrated research also means a shift in teaching from a teacher-centred to a more student-centred pedagogy.

Research-related teaching may also require that teachers transform their conception of teaching, administrative and research activities as strictly distinct activities (Brew & Boud, 1995; Griffiths 2004; Robertson & Bond, 2005). Faculty members' experience of teaching should be viewed as part of their

larger experience of being a teacher, especially in terms of his/her underlying intentions in approaching professional development as a teacher, views of the nature of teaching in their discipline and their role as teachers (A° kerlind, 2004). When teachers perceive that the teaching process is potentially extending their own understanding of content, it is likely that time spent on teaching is perceived to benefit research. On the other hand, going beyond the weak link of transmitting research content to the class and trying to engage students in doing research may mean exiting the comfort zone. The risks involved in adapting a research-related teaching practice, such as the uncertainty and unpredictability of the process (Badley, 2002; Gresty et al., 2013) and having to ‘benefit from opportunities as they rise’ (Grant & Wakelin, 2009), may lead teachers to stick to the traditional approaches they are prepared for and used to and that are familiar to students.

Research-related teaching practice encourages teachers to approach teaching from an orthodox point of view. This implies allowing opportunities for dialogue and co-creation rather than operating in a strictly planned environment and following a predetermined teaching plan. This therefore, suggests that in addition to external factors that influence the organisational culture in which academic staff members work, personal preferences and attitudes strongly shape the nature of their teaching practice. In this paper we wish to explore the link between teachers’ own research activities and their use of research-related teaching by taking into consideration specific factors that influence the integration. It is expected that faculty members who are actively engaged in research are also more likely to practice research-related teaching because researchers then teach from personal experience rather than from second-hand knowledge (Robertson & Bond, 2001). Active researchers are probably more inclined to value the research process as such as well as the norms and values incorporated in the process. However, different research activities as an indication of different research orientations are likely to lead to different teaching practices.

## **METHODS**

In seeking to unravel how faculty members integrate research into their teaching and administrative practices, the present study adopted the sequential explanatory mixed methods design for purposes of comparison to ensure cross-validation, corroboration, expansion, complementarity and triangulation (Creswell, 2014). The sequential explanatory mixed methods design as employed in this study consisted of two distinct phases. The quantitative (numeric) data was gathered during the first phase. The objective of the quantitative stage was to recognize potential predictive power of designated items converged to explain a particular variable on the research-teaching nexus and to allow for the selection of participants for the interview. Using a questionnaire and semi-structured interview, the study solicited information from 162 faculty members.

A qualitative methodology was used during the second phase to gather text data from individual semi-structured interviews which help illuminate important analysis and teaching nexus. The rationale for adopting this approach to this current study was that the quantitative information and results provided an overall image of the interplay between research and teaching, while the qualitative information and



their examination would refine, explain constantly those statistical outcomes by investigating members' perspectives in more profundity, making room for thick description regarding the link between research and teaching.

It is worthy of note that there are two variations of sequential explanatory mixed methods design: these discrepancies were due to the relation between the use of qualitative approaches and the previous quantitative findings. If researchers are focused in using quantitative knowledge to screen and involve subjects in a more comprehensive qualitative analysis, the sample selection model is being used. In my study, the selection of the participants for the interview was based on some critical findings from the quantitative results. The justification for applying the mixed method in this study is for purposes of corroboration and expansion. This is to enable me interpret the quantitative data, supported by the qualitative results in order to enhance, expand, illustrate, or clarify findings derived from the quantitative strand regarding the teaching-research nexus.

The census technique was used to include the respondents for the quantitative data while, the sampling of the cases for the qualitative aspect was done in such a way to document diverse variations which helped in the identification of common patterns that cut across the diverse groups within the population to ensure maximum variation (Creswell, 2011). The selection of participants for the interview depended on the collective outcomes that emanated from the quantitative phase of the study since the study was a sequential explanatory design-based. Regarding the qualitative sampling technique, the study adopted criterion (typical case) sampling technique in which the use of quantitative techniques preceded the use of qualitative techniques. In criterion sampling, the results on the quantitative portion of the study were used to initiate a criterion sampling strategy.

In order to establish the construct validity of the items, a principal component analysis (PCA) was conducted. Construct validity demands consensus between a theoretical definition and a particular device or method for measuring. An oblique, specifically, the promax rotation was used, where the eigenvalue-greater-than-one rule was utilised to decide a fitting number of variables to hold. Thus, just variables with a value of 1.0 or greater are maintained for further study (Kaiser, 1958). In order to better illustrate, a factor's own value reflects the sum of the overall variation described by that factor. For instance, a factor analysis was conducted on all the survey items in order to identify the underlying phenomenon in each of the research questions. The least Kaiser-Meyer-Olkin (KMO) measure of sampling capability was .64, which is deemed adequate as established by the criteria. Also, Bartlett's Test of Sphericity indicated that the correlations between variables are different from each other,  $p < .001$ . And that several factors emerged, which cumulatively explained an average amount 70% of the variance measured by the items. The components of the factor analysis were restricted to 0.4. Based on the analyses, the following components were extracted to represent the factors affecting the research-teaching-administrative nexus as depicted in Table 1 as follows:

**Table 1: AVEs of Factors affecting the Research-Teaching-Administrative Nexus**

Component	1	2	3	4	5	6	7
Reliability	.855	.850	.851	.738	.683	.534	.345
AVE	.78	.68	.79	.63	.66	.64	.78

*Overall Reliability ( $\alpha$ ) = .780 (22 items)*

Note:

- 1 - Research Productivity Stimulation
- 2 - Research Teaching Tension
- 3 - Empirically Based Learning
- 4 - Research Premium Factor
- 5 - Research Active Curriculum
- 6 - Time Oriented Factor
- 7 - Responsive Curriculum Factor

In order to explore the underlying constructs of the items underpinning the factors affecting the link between research and teaching stemming from literature through a principal component analysis (PCA), the KMO value (.640) and Bartlett test result (Approximate  $\chi^2$  (df = 300) = 1385.273, sig. = 0.000) showed that the test was valid and significant. Seven factors sprang from the principal component analysis representing 72% variance extracted. Table 1, then reveals a clear seven factor structure including research productivity stimulation, empirically-based learning, research-active curriculum, time-oriented factor, responsive curriculum factor, research-teaching tension and research premium factor. Though, it appears the last two components are not factors as revealed by their mean values. Their mean scores were below 3 per the set criteria.

## RESULTS

### Quantitative Results

#### Determinants of Faculty's Integration of Research into Teaching

Scientific research of this nature warrants a justification. The justification for espousing the determinants of the research-teaching-administrative nexus is that just like any other educational endeavor, there are some critical success factors that either enhance or militate against the successful implementation of the research-teaching nexus. Setting aside these factors or determinants has the tendency to adversely affect the positive impact the research-teaching nexus has on teaching and learning. It would be a great deception to measure any other aspect of the research-teaching-administrative nexus without looking out for the factors that either enhances or militates against the

effective integration of research into teaching. In addition, empirical evidence on the nexus have intimated that several factors or determinants affect the link between research and teaching. However, there has been no agreement on these factors. Therefore, to find out these factors affecting the link, means and standard deviations were used to analyse the data collected. Based on a five-point likert-type scale used (Strongly Agree-5, Agree-4, Uncertain-3, Disagree-2, Strongly Disagree-1), a mid-point of 3 was used as the baseline for comparison, implying that, a mean value above 3 indicated that most of the respondents were in agreement to the statement. Conversely, a mean value less than 3 showed that most of the respondents were in disagreement to the statement. Based on the results, most of the respondents were in agreement to the factors affecting the compatibility of the link between research and teaching. Table 2, therefore, presents these factors as follows:

**Table 2: Factors Affecting Research -Teaching-Administrative Integration**

		Descriptive Statistics		
Nature of respondents		N	Mean	SD
Lecturers	Research Productivity Stimulation	162	3.87	.60
	Research Teaching Tension	162	2.72	.69
	Empirically Based Learning	162	4.32	.42
	Research Premium Factor	162	2.56	.98
	Research Active Curriculum	162	4.05	.36
	Time Oriented Factor	162	3.70	.77
	Responsive Curriculum Factor	162	4.35	.64

Source: Field Data (2021)

Table 2 espouses the factors that affect the compatibility between research and teaching. Prominent among the factors affecting the research-teaching nexus responsive curriculum factor ( $M=4.35$ ,  $SD=.64$ ). Under the responsive curriculum factor, the respondents believed that research activity is a contributing factor to updating the curriculum within a particular discipline. Research productivity stimulation ( $M=4.19$ ,  $SD=.49$ ) is another critical factor that affects the link between research and teaching. Based on this factor, it is believed that the art and science of teaching stimulates and influences research, thereby enhancing research productivity. In addition to this factor, it was indicated that some of the best research ideas have emanated from the course of teaching in a specific discipline, hence, have the tendency to affect the link between research and teaching. Therefore, subject discipline cannot be overlooked when talking about the research-teaching nexus.

Empirically-based learning ( $M=4.16$ ,  $SD=.66$ ) also intensively affect the research-teaching nexus. This is attributed to the fact that it is important for a lecturer to engage in research as the world is constantly changing. And that, students enjoy learning activities based on real-world examples from practice,

research and creativity, thereby, creating meaningful teaching that promotes lifelong learning. Also, the research-active curriculum ( $M=4.03$ ,  $SD=.56$ ) is one of the compatibility factors affecting the link between research and teaching. Under the research-active curriculum factor, it was revealed that teaching and research are mutually beneficial to each other, and that lecturers who are research-active are likely to up-to-date in their professionalism which enables them to be more enthusiastic. The research-teaching nexus cannot be mentioned of without time-oriented factor ( $M=3.70$ ,  $SD=.77$ ). Time factor comes in due to the trade-off between the time spent on research being antagonistic or competing with time spent teaching.

That notwithstanding, the least among the factors indicated by the respondents is research-teaching tension ( $M=2.72$ ,  $SD=.69$ ) factor. Under this factor, it was portrayed that the profession's influence on the curriculum creates tension if linking research to teaching. Therefore, the act of including an academic's research activities worsens an already overloaded curriculum. By implication, researchers can distort the curriculum with their own research at the expense of subject coverage.

Conclusively, the factors affecting the compatibility between research and teaching integration among faculty are research productivity stimulation factor, empirically-based teaching factor, research active curriculum factor, time-oriented factor, and responsive curriculum factors. Responsive curriculum is the dominant factor among all the factors affecting the compatibility between research and teaching.

### Qualitative results

Insightfully, the faculty members, through the interview, indicated several factors they believed hindered the integration of research into teaching. these factors are couched under the following themes:

#### *Inadequate time*

The integration of research into teaching seems constraint by time on the part of lecturers. Some of the lecturers indicated that,

*time for teaching and research can also not be overlooked. We are likely to spend more time on one activity than the other. At times, my sleep suffers (Akurugu).*

*Some of our colleagues who are research-conscious lecturers do not have time for their students. When students are able to book an appointment with them to go and discuss something, they rush them so much that they forget what they went to ask them about (Kaka).*

In an event where time is created to assist in the integration of research into teaching, then that must be done at the expense of the health of the lecturer. To the extent that they have to compromise sleep, eating habits and other critical life events that can lead to health-related and other social problems. In the words of one lecturer,

*... they expect us to publish, if not, we "perish". They also expect us to teach, meanwhile, we have fixed time at our disposal. What do they expect us to do? (Kofai).*

### ***Research supersedes teaching***

It also emanated from the study that faculty members prioritise research to teaching since they believe research is more rewarding in their institutions than teaching as reflected by credits allocated to both activities. Stemming from this, one of the faculty members postulated that

*the factors are so many. Institutional rewards preserved for both research and teaching can be a contributing factor. You know the extent to which promotional criteria place too much emphasis on research relative to teaching. Unless an equal balance is placed on both important activities of an academic, lecturers are likely to focus more on publishing than teaching since publishing is key, if one does not want to perish as an academic (Scopio).*

To further buttress the argument raised, one of the lecturers revealed that,

*I believe departmental research culture is a critical factor. The reason is that if the department is able to institutionalise regular research seminars, it's likely to bring both lecturers and students together to enhance their research knowledge and skills (Ali).*

### ***Integration easily respects some disciplines***

Referent to discipline (field of study) as a factor affecting the compatibility between research and teaching, some of the disciplines are more easily susceptible to engaging students in research-based teaching than other subject disciplines. For instance, *the nature of the discipline is likely to affect the link. More practically-oriented disciplines are likely to promote the link and vice versa (Chemu).*

### ***Research influences administrative practices***

It emanated from the study that research does not only influence teaching. It also influences the administrative practices in higher education. This is manifested in the attestations given some participants as they indicated that:

*As an HOD, extensive researches have really influenced my administrative practices. This is because, anytime I encounter any challenge in my administrative practices, I make reference to existing literature about such practices to clarify all my doubts without having to consult any person (Nana).*

In contrast to the above, one of the participants indicated that research distorts or creates confusion in administrative practices in that:

*Whenever I resort to literature for my administrative practices, I get confused. This is attributed to the fact that several literatures are saying something different, so I'm not able to make a headway due to the contrasting views stemming from literature (Efe).*

*There is a clear dichotomy between theory and practice and so trying to integrate one's or other's research into their administrative practices becomes quite problematic since the world of work is changing day-in-day-out. So, I will say that research informs administrative practices in principle, but in practice, it cannot be applicable under all circumstances (Gattuso).*

## **DISCUSSION**



Several factors are likely to militate against or facilitate the compatibility between research and teaching as well as administrative practices in higher education. Put differently, there are some critical success factors that affect lecturers' integration of research into teaching and administrative practices. These include time for both research and teaching, research and teaching abilities of lecturers, institutional arrangements such as research becoming a part of departmental culture, students' abilities and the conceptions held by lecturers about the link between research and teaching. It is interesting to point out that regardless of the teaching and research capabilities of an academic, there should be that intentional effort in linking these important roles of academics to promote effective teaching that leads to meaningful learning. The lecturers, in trying to connect research and teaching, should not lose sight of the potential factors likely to enhance the link or impede the progress of the link. Rather, an academic should be aware of all these factors and devise strategies to escape, if not possible, manage them to enhance the nexus (Magi & Beerkens, 2016).

Fortunately, the lecturers, through the interview, corroborated the results from the survey conducted by indicating that most of their colleagues are research-conscious to the detriment of teaching and administrative practices. This, they indicated could be attributed to the reward mechanisms instituted by universities that place premium on research than the other core mandates of faculty members. And that same faculty time is competing for research as well as teaching coupled with administrative work for office holders such as HODs, Deans, Provosts, and Directors. These responses confirm the time-oriented factor that portrays time for teaching being antagonistic or competing with time for research. Therefore, Elen (2007) confirms that, it is not very rational to invest extra time in teaching because in practice research and not teaching or administration is at the core in many universities and research productivity and not teaching quality is the main element in tenure and promotion. This made Boyer (1997) to argue that, within the context of the Scholarship of Teaching and Learning (SoTL) framework, all forms of scholarship should be recognized and rewarded, and that this will lead to more personalised and flexible criteria for gaining tenure.

Based on this development, he strongly intimated that, too often faculty members wrestle with conflicting obligations (i.e research, teaching and administration) that leave little time to focus on their teaching role. Boyer proposes using what he referred to as "creativity contracts" that emphasise quality teaching and individualized professional development. Thus, negotiating among these core activities of the individual academic. He, therefore, recommended that academics should reflect on the Scholarship of Teaching and Learning (SoTL) model to guide the practices and life patterns of the individual academic and their passions and aspirations. Concurring with these findings, Lindsay (2002) indicated that increased lecturers' research will result in reduced contact time, teaching time and curriculum distortion. Thus, balancing the faculty member's research, administrative and teaching activities is needed to get them engaged in research and, thereby, stimulate research-informed teaching as well as research-informed administrative practices.

Referent to discipline as a factor affecting the effective integration of research into teaching and administrative practices, some of the disciplines are more susceptible to integrate than others. Illustratively, researches have indicated that engaging students in the research process may be easier in the natural sciences where it is more common to work within research groups and with different levels of researchers (Schapper & Mayson, 2010). On the contrary, in the humanities and the social sciences, the dominant mode of research is highly individualistic and engaging students is relatively difficult. On the other hand, opportunities to share research results with students may be easier in the social sciences humanities comparable to the natural sciences. This is attributed to the fact that the linear, cumulative nature of knowledge in the natural sciences creates a challenge for integrating the latest research findings into undergraduate classes (Healey, 2005). It is therefore, worthy of note that integrating research into teaching is applicable in all disciplines because of its generic academic orientation (Ozay, 2012), but the form of the integration is likely to differ across disciplines. Furthermore, disciplinary differences in terms of collaboration, networking and publishing patterns have decreased over time. Many work forms that were originally characteristic to natural sciences have been quickly spreading to social sciences and other fields: research is increasingly conducted in groups, joint authorship of articles is increasingly common, and networking processes, including conference attendance, have become more similar across fields (Kyvik, 2013).

Regarding time, as a factor affecting the research-teaching-administrative nexus, some of the lecturers indicated is one of the most critical resources in realising the nexus objectives. Time is an issue here because an academic will have to balance family, career (teaching, research and community service) and other social activities as an individual. Therefore, the possibility of a trade-off of time between research and teaching is likely. It is also possible that an academic who is able to balance the two activities is likely to compromise sleep, eating habits and other critical life events that can lead to health-related and other social problems. Commenting on the time-oriented factor, one of the lecturers intimated that: “Here is the case they expect us to publish, if not, we perish. They also expect us to teaching, meanwhile, we have fixed time at our disposal. What do they expect us to do?” (Safiatu). To further demonstrate how pervasive the time issue is, another lecturer commented that: “Time for teaching and research can also not be overlooked. We are likely to spend more time on one activity than the other. At times, my sleep suffers” (Chamoo). In line with this finding, a study by Elen (2007) espoused that there are several obstacles for more research-based education reported in the literature. The first obstacle according to faculty is that it is not very rational to invest extra time in teaching because in practice research and not teaching is at the core in many universities and research productivity and not teaching quality is the main element in tenure and promotion. This clearly, suggests that faculty will need to balance the two core activities of the university. The repercussion is that until the university takes a closer look and review its position on its perception about research and teaching and a possible link, academics are likely to focus on the one they believe is more rewarding than the other, which is likely to affect teaching and learning in higher education.

Corroborating the above assertion, research shows that among faculty members, the first priority is research, followed by teaching, and service (Chen, 2015). Chen (2015) pointed out that one of the reasons for this is that the reward system for these faculty members in higher education is always based on the products of research. So even though, research training starts before doctoral students enter the field of education, academic departments and centers within institutions of higher education have been established to produce research, and support faculty that are engaged in scholarly research at their universities (Rumbley, Stanfield, & Gayardon, 2014). On departmental culture, there is the likelihood that the milieu and modus operandi of a department influence teaching effectiveness, research productivity, and the relation between the two. In Neumann's (1992) study, he indicated that the teaching-research nexus operated at the departmental level as well as at the level of the individual faculty member. Therefore, departmental characteristics may also influence the motivation to pursue teaching and research activities. A departmental culture could lead academics in the department to place greater emphasis on research, on teaching, or on the combination of the two activities. If colleague lecturers are particularly, committed to research and/or teaching then it is more likely that there would be intrinsic rewards and recognition from colleagues for excellence in that activity (Borg & Liu, 2013). Vanderlinde & van Braak (2010), therefore, suggested that highly productive departments are populated by staff who are on average less effective teachers.

It should be noted here that whilst the term 'research-based teaching' was used at the commencement of this study, significant amount of this research and subsequent comments from interviewees during this study imply the term 'evidence-informed teaching'. This term emphasises that teaching, as a complex, situated professional practice, draws on a range of evidence and professional judgment, rather than being based on a particular form of evidence (Healey, Flint, & Harrington, 2014). An analysis and synthesis of several prior researches undertaken as part of the evidence review indicates that the research-teaching-administrative nexus is contingent on teachers' needs, experience and skills, coupled with the characteristics of the school contexts in which teachers work, as well as the wider policy context stemming from the national level. The implication of this conjecture emanating from the extensive review of literature on the nexus attributed the unsuccessful implementation of research-based teaching to either systemic failure or the levels (individual, departmental, university-wide and the national level) of implementation of the research-teaching-administrative nexus. And that most faculty members who are also administrators find it cumbersome to effectively integrate research into their practices as both teachers and administrators.

In arguing further, Jenkins (2004) reports that students tend to vary in their attitudes to staff research depending on their academic orientation to their studies, noting that disciplinary variations tend to occur in teaching-research relations which are shaped by how disciplinary communities conceive the nature of knowledge, research and teaching, the forms of pedagogy and curricula in different disciplines, and for some disciplines, the impact of professional organisations and student interests on the content and practices of the disciplines. It was within this complex pedagogic research landscape that motivated me to examine the factors affecting the effective integration of research into teaching.

**Contributions of this Paper**

This paper has a significant number of contributions in terms of informing theory, policy, practice (teaching and administration) as well as knowledge-base. Theoretically, this study informs how theoretical and conceptual issues can be applied in other contexts for the benefit of institutions. Thus, how research findings can be applied in several context (teaching and administration). Regarding policy, the outcome of this study has informed policy makers of higher education to include research integration component into the curriculum of their respective institutions to ensure its implementation. Practice-wise, the outcome of the study has informed both faculty and administrative to find innovative ways to integrate their personal, as well as, others' researches into their teaching and administrative practices. Knowledge-wise, this study has sensitised all stakeholders (especially, faculty members and administrators) about the determinants of integrating research into teaching and administrative practices. This will enable them to manage the integration in light of these factors that normally impede the process.

**CONCLUSION**

By inference, the factors affecting the compatibility between research and teaching is more curriculum-related. Thus, the research-teaching-administrative nexus highly affects the curriculum than any other aspect university processes and practices. Nevertheless, it is worthy of note that it does not mean that any research-active faculty member would automatically integrate their research experience into his or her teaching activities, and it is perhaps, not necessary to be research-active in order to effectively integrate research into teaching. It is therefore, an intentional and conscious effort on the part of each of these faculty members to create a link between research and teaching to promote meaningful learning outcomes without losing sight of the potential factors likely to affect the effective integration of research and teaching.

It is worthy of note that the research-teaching-administrative nexus is influenced by the university context coupled with the systemic factors from the wider educational context with influences from certain critical success factors that are more curriculum-related in nature. The implication is that the link between research and teaching coupled with administration is predominantly influenced by factors more related to the curriculum than any other factor in the context of higher education. Such factors include research quality and accessibility; school processes, cultures and leadership; teachers' skills, motivations and knowledge; and the wider policy environment. The importance of the role of university authorities as crucial drivers of change was a central message from both faculty members and students in order to realise the nexus benefits. Conclusively, it is worthy of note that regardless of the level of study of students, the highest level of integration of the research-teaching nexus could be achieved.

It could be inferred from this study that the research-teaching-administrative nexus is also valued by the study's participants because the nexus allows for better connections to be made that do not only

rely on the exchange of research ideas, but a dialogue that in turn leads to the development of the requisite skills which are not only needed to undertake complex analysis of given problems, but to also solve them through critical evaluation, synthesis and reflection. Given the priceless nature of the research-teaching-administrative nexus to higher education across regional, national and international levels of higher education as indicated by the various authors, the development and training of faculty members in research-based teaching is reasonably imperative with the ultimate goal to offering students a more insightful opportunities to learn not only from research and about research, but also, through research.

**Implications for Policy and Practice**

- Faculty members and administrators should be sensitised on the need to effectively and innovatively integrate their research into their teaching as well as their administrative practices.
- Universities should create the enabling context for faculty to effectively link research to teaching and their administrative practices. This enabling environment should be created in order to prevent certain confounding factors affecting the effective integration.
- The university and its faculty should create the platform in order to encourage their students to attend research experience platforms and events such as research conferences, seminars, exhibitions and encourage their students to attend to enrich their research experience and exposure to serve as preparatory grounds to achieve the research-teaching-administrative nexus goals.
- Universities should draft discipline-specific research-teaching-administrative nexus policy documents in order to cater for subject-specific differences in terms of implementing the research-teaching-administrative nexus.
- Universities should also place equal emphasis on both research and teaching coupled with administrative practices in order to deter faculty members from focusing their attention and time on one activity and neglecting the other, since none of the activities (either, teaching or research) will take precedence over the other.
- Faculty members should embark on reflective teaching practices as suggested by the Scholarship of Teaching Learning (SoTL) model in order to subject their research-based teaching practices to scrutiny in order to ensure improvement of practicing research-based teaching.
- Faculty members and administrative should be sensitised on how to strike a balance between research and teaching regarding the limited time constraint.

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