Faculty Production of Research Papers: Challenges and Recommendations

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Abstract

Universities and colleges have started focusing on how to encourage their faculty member to write and publish research papers in all different sectors. This study highlights the challenges that faculty members face and which hinder them from conducting scientific research papers at one promising educational college in the region, Bahrain Teachers College, University of Bahrain. The data collected using a questionnaire that was sent to all faculty members across different academic divisions. The sample consisted of 28 faculty members of different academic ranks. The results showed that faculty members have the competence to do and publish research. However, they indicated that they need more time which, they believe, can be gained through reducing the teaching load.

Keywords: Research production, faculty members, teaching load, professional development

1. Introduction

The Kingdom of Bahrainh as recognized the importance of scientific research in creating growth and progress to its people. As a result, Bahraini government has started to embrace the principles of sustainability, competitiveness and fairness to ensure that every Bahraini has the means to live a secure and fulfilled life which resulted in launching Bahrain Economic Vision 2030 in 2008 by His Majesty King Hamad bin Isa Al Khalifa. This comprehensive vision provides a clear direction for the continued development of the Kingdom's economy. Hence, the literature indicates that the country's development depends on research and spends a hefty amount of money on research. Furthermore, Bahrain is trying to encourage faculty members at all universities to write as many good quality research papers as possible and benefit from the results that can serve the society better to boost the economic, social and educational prosperity.

Bahrain Teachers College (BTC) is considered the heart of education in Bahrain as it qualifies teachers who teach younger generations to become valuable figures in the society. Specifically, the current study seeks to investigate BTC faculty scientific research productivity through identifying the problems and difficulties faced in writing and publishing scientific research based on the different perspectives of faculty knowledge of scientific methods for writing research; use of statistical analyses; their perception; personal characteristics; workload and support provided by BTC. The study provides suggestions and recommendations about the increase and sustainability of good quality research in general and in Bahrain Teachers College in particular. The driving force behind the study at hand, therefore, is to address the following questions:

1. What problems/difficulties do faculty members face that prevent them from writing and publishing research papers?
2. What are the suggestions to solve the above-tackled problems?
3. What are faculty members' perceptions of the ideal work distribution among the three academic areas (Teaching, Research, and Community Services)?

4. What kind of support is provided to faculty members by BTC to help them in writing and publishing research papers?

2. *Literature Review*

2.1. Academic research in higher education institution

Globally, in the market of higher education, scientific, qualitative and empirical research writing and publication in refereed journals have always been considered as valuable assets and the most common way to get affiliated. According to Shauman (2003), "…in all academic disciplines, scholarly productivity is a primary marker of career success". Moreover, research productivity is known as being one of the measures of the quality of the institution and career success among faculty members, interest in institutional rankings, and prestige seeking. "Publish or Perish" have always been used as a method to assess the performance of faculty members especially in terms of promotion, salary raising and contract renewal. McGrail, Richard & Jones (2006). Besides, in "ranking universities' departments, one of the most important measures is the aggregate number of publications and citations of their faculty" (Gonzalez-Brambila and Veloso, 2007).

A plethora of studies investigated the important role which academic research plays in higher education institutions (Al-Hattami and Al-Ahdal, 2015; Jenkins, 2004; Jenkins, et al, 2003; Karloak, 2012; Zaman, 2004, Woodhouse, 2001). In the process of detecting a more in-depth knowledge of the faculty research productivity, it is crucial to analyze a set of factors that may appear to have significant adverse effect on BTC faculty research productivity.

2.2. Factors that affect faculty research productivity

There are a number of reasons identified why academics do not write for publication (McGrail, Richard & Jones (2006). An overwhelming amount of research has explored the dimensions of factors that contribute to and/or affect faculty research productivity. According to Abouchedid and Abdelnour (2015), "faculty research output in the Arab world is relatively low". After analyzing original data from a sample of higher education institutions in six Arab countries, they pointed out that factors need to be considered in explaining faculty low research productivity consist of "overall satisfaction levels of academic staff, socialization of faculty staff members into a research climate, and university mission vis-à-vis academic research" (Abouchedid & Abdelnour, 2015).

While some studies addressed "individual-level variables" (Jung, 2012) by grouping them under individual factors such as age; gender, experience, academic rank, time, teaching load, research competency and interest in doing research; others(Zhou, 2015; Salazar-Clemeña, &Almonte-Acosta 2007) looked into institutional factors as to be considered with other variations.

2.3. Individual factors

Much of the available literature on research productivity deals with individual obstacles that hinder faculty research productivity. In many studies, lack of time has been reported as one of the major individual factors that believed to be influencing faculty research productivity(Angaiz,2015; Kaya & Weber, 2003; Hoffmann & Koufogiannakis, 2014; Alghanim, & Alhamali, 2011; Williams, 2013; Webber, 2011; Salazar-Clemeña & Almonte-Acosta, 2008; Stafford, 2011; Angaiz,2015). In contrast, Kendagor, et al (2012) and Shin & Cummings (2010) have attempted to draw fine distinctions between time allocated for research and conducting research; reporting that time negatively influenced research output; adding that timespent on teaching seemed not to have a conflicting effect on faculty research.

Additionally, whereas some authors (Webber, 2011; Santo et al., 2009) found no significant effect on research productivity based on marital status, and gender, others (Usang, et al, 2007; Webber, 2011; Kaya and Weber, 2003; Creamer, 1998) confirmed that the married and single academic stafftogether with male and female academic staff differed significantly in their research productivity.

Otherobstacles that were reported to prevent faculty members from conducting academic research in higher education institutions revolve around cultural barriers (Alzahrani, 2011); rank (Webber,2011; Stafford, 2011; Bland et al., 2005; Hedjazi and Behravan, 2011; Jung, 2012); lack of interest in conducting research (Williams, 2013); lack of confidence (Kasetsart, 2009; McGrail, Richard & Jones, 2006) and lack of research competence and scholarly academic skills (Kendagor, et al, 2012; Heinrich et al. 2004).

2.4. Institutional factors

Drawing on the types of the institutional factors, the findings of Salazar-Clemeña, & Almonte-Acosta (2008) showed that faculty members did not consider any of the aspects of institutional research culture in their institutions as being strong. Contrary to this view, Kendagor, et al (2012) consider that the environmental features of the workplace are considered powerful factors in increasing faculty research productivity- the more facilitating the work culture, the more research productive faculty will be (Bland et al., (2002).The most cited institutional factors that constrain research productivity are identified as: lack of institutional research support (Hoffmann & Koufogiannakis, 2014); teaching load (Webber, 2011; Alghanim, & Alhamali, 2011; Jung, 2012); lack of library resources (Hoffmann & Koufogiannakis, 2014); colleague collaboration on research productivity (Shin & Cummings, 2010;); and faculty preferences (Shin & Cummings, 2010; Kaya and Weber, 2003; Mamiseishvili & Rosser, 2011).

3. *Methods*

This study used a qualitative research method to answer the research questions. It sought to examine the problems and difficulties faced by BTC faculty members in writing and publishing scientific research. The data sources of this research were based on a questionnaire with faculty members across the different academic divisions at BTC.

3.1. Sample

All faculty members who work at Bahrain Teachers College were sent an online questionnaire through their university email so that they have an opportunity to participate in this study. There are 69 faculty members (professors, associate professors, assistant professors, and lecturers). Twenty-eight faculty members responded to the questionnaire with a response rate of 40%. The sample consisted of 16 males and 12 females. The majority of which are assistant professors aged 45 to 54. Their teaching experience ranges from one year to more than 30 years.

3.2. Instrument

A 24 items questionnaire was sent online to all faculty members currently teaching at BTC. Content and face validity were examined by two experts in the field of research and one psychometric an. The questionnaire consisted of six parts. The first part included 10 questions about participants' personality and academic experience. The second part included five questions about the role of Bahrain Teachers College in supporting faculty members to produce research papers. The third part had some items about faculty's knowledge of research methodology and statistical analyses. The forth part included 18 items about the factors that faculty members' research productivity at BTC. The forth part was followed by a question about their ideal percentage distribution of teaching load, research, and community service. The last question solicited their suggestions or advice for BTC decision makers on how it can improve faculty member's research productivity.

4. *Results*

As regards to the production of research papers, the results showed that the number of their research papers published was higher before faculty joined BTC. Before joining BTC, faculty published 17 research papers while 11 papers after they joined BTC, as shown in Table 1.

Table 1: The number of research papers faculty published before and after joined BTC

No. of publications	Before joining BTC		After joining BTC	
	Frequency	Percentage	Frequency	Percentage
None	11	39.3%	17	60.7%
1-3	6	21.4%	10	35.7%
4-6	9	32.1%	1	3.6%
7-9	1	3.6%	0	0
10 and more	1	3.6%	0	0
Total	17	61%	11	39%

It is pertinent to ask participants about the importance of conducting research. In this study, almost all faculty members agree that scientific research significantly contributes to solving societal problems (*Mean* = 4.63, *SD* = 1.84). When they were asked about the college role in promoting research agenda, the respondents were divided between disagree (11) and agree (12), *Mean* = 2.96, *SD* = 1.26.

Faculty members who participated in this study were also asked about whether they have necessary competencies needed to write and publish research in terms of knowledge of research methodology and statistical analyses. They indicated that they have sufficient knowledge about the concepts and foundations of research methodology and academic research writing (finding a good topic for research, identification of a research problem, searching databases for comprehensive literature search, conceptual work, etc.), (*Mean* = 4.21, *SD* = .686).Many of them have had practical training/session in how to prepare and design various quantitative and qualitative data collection methods, (*Mean* = 3.64, *SD*= 1.193).Although many of them have sufficient knowledge and ability to prepare and design various quantitative and qualitative data collection methods, (*Mean* = 3.93, *SD* = .900), some have few problems when it comes to the knowledge and ability to statistically analyze the data using any statistical programs/software (Minitab - SPSS - SAS - STATA - R - Excel), (*Mean* = 2.89, *SD* = 1.257). Overall, they seem to have no real problems on whether they have necessary competencies needed to write and publish research in terms of knowledge of research methodology and statistical analyses, (*Mean* = 3.4345, *SD* = .655).

If faculty members have necessary competencies of research methodology and statistical analyses) needed to write and publish research, the question is why they do not write and publish research papers much, especially after joining BTC. Faculty members specified three main factors that affect their research productivity at BTC; workload pressure (*Mean* = 4.15, *SD* = 1.134), lack of time (*Mean* = 3.56, *SD* = 1.251), administrative work pressure (*Mean* = 3.44, *SD* = 1.502). All other factors, indicated in Table (2), do not seem to be a reason to hold them from writing and publishing research papers. The factors are arranged in a descending order according to the means responses.

Table 2: Reasons for not writing and publishing much research papers

Items	Mean	SD
Workload pressure	4.15	1.134
Lack of time	3.56	1.251
Administrative work pressure	3.44	1.502
Lack of research networking amongst colleagues	2.93	1.385
Lack of research oriented culture in BTC	2.74	1.509
Lack of research funding	2.70	1.436
Lack of mentoring/guidance with respect to methods and techniques for doing research	2.56	1.672
Family obligations pressure	2.33	1.109
Lack of knowledge of publication criteria for different referred journals	2.22	1.281
Lack of knowledge of statistical analysis and/or using statistical software	2.19	1.570
Lack of motivation	2.15	1.199
Lack of research resources	2.11	1.340
Lack of attending academic research writing workshops/seminars to develop my research skills.	2.07	1.207
Frustration during research writing	1.96	1.224
Lack of library resources	1.85	1.167
Lack of competence in how to conduct an academic research	1.74	1.289
Lack of confidence in writing and publishing academic research	1.70	1.068
Age factor	1.37	.742

The support provided to faculty members by BTC

The participants were asked some questions about the support they get from BTC to help them in writing and publishing research papers. Their responses were neutral, (*Mean* = 2.814, *SD* = .774). They were almost neutral for all the items in this part as seen in Table (3).

Table 3: The support provided to faculty members by BTC

Items	Mean	SD
BTC encourages faculty members to conduct academic research.	2.96	1.261
There is a specialized center at BTC that helps faculty members in conducting and/or publishing academic research	2.21	.957
BTC offers professional development workshops/seminars/programs that target enhancing faculty research skills.	2.29	1.084
BTC helps faculty members in academic research funding.	2.68	1.056

The ideal work distribution of teaching load, research, and community services

The authors thought that it would be helpful to ask the participants about their ideal distribution of teaching load, doing research, and serving the community. For the teaching load, their responses ranged from 40% to 70%; for research, it ranged from 30% to 40%, and 10% of their time is for serving the community. Based on their responses, the ideal distribution would be as presented in Table 4.

Table 4: Preferred distribution of teaching load, research, and community services

No.	Academic Areas	Response Rate	Ideal distribution
1.	Teaching	40% – 70%	55%
2.	Research	30% – 40%	35%
3.	Community Service	10%	10%

What are the suggestions to solve the above tackled problems?

Faculty members participating in the study were asked about their suggestions that may help them increase their writing and publication of research papers. Almost all of them asked for less teaching load, less administrative work, and appreciation and encouragement. They also need workshops on how to do research, more collaboration among faculty on different research topics, and looking for more opportunities to disseminate findings in international conferences. Some of them suggested that faculty members should identify more funding bodies (not only Bahrain University). One mentioned that the "Culture of research must be encouraged among faculty, taking into consideration the results of previous research conducted by some BTC faculties." He/she added that "Certain hours should be devoted to research. All educational problems in academic/educational institutions must be solved by BTC staff". Another participant suggested that "BTC should recruit people who are actual researchers, people who have published in academic journals, not those who only claim to do it". Some of them mentioned that workshops and seminars can be helpful for sharing research ideas and interests. On the other hand, one participant indicated that "I am a teacher. My focus is on teaching. I use my time to learn about better teaching methods in higher education. I also use my time to improve classroom learning activities".

5. *Discussion*

The University of Bahrain encourages all faculty members to write and publish research papers and it funds those researches. In fact, there are annual awards for researchers, departments, colleges that produce the highest number of research papers. In the Bahrain Teachers College, there is a Research and Development Department that reviews faculty research proposals and works as a mediator between BTC faculty members and the Deanship of Scientific Research. The department has a research committee that receives the proposals and decides on its quality and illegibility for the fund. The committee also provides suggestions for improving the proposals. The results of this study showed that almost all faculty members value the importance of conducting research studies in higher education. The findings agree with many types of research in literature (Jenkins, 2004; Jenkins, et al, 2003; Karloak, 2012; Zaman, 2004, Woodhouse, 2001) and, most importantly, to Santo et al (2009) and Jung (2012) who heightened the fact that faculty acknowledged the importance of research, but "did not translate it into practice".

This also goes in line with the conclusion made by Shauman (2003) who indicated that "in all academic disciplines, scholarly productivity is a primary marker of career success", and with Gonzalez-Brambila and Veloso (2007) who stated that in "ranking universities' departments, one of the most important measures is the aggregate number of publications and citations of their faculty". However, when participants were asked about the support they get from BTC to help them in writing and publishing research papers, their responses were neutral. That is might be because of the heavy load and administrative work they are asked to do, leaving less time to do research. They specified that the three main factors that affect their research productivity at BTC are workload pressure, lack of time, and administrative work pressure. In accordance with this result, previous studies (Alghanim & Alhamalim 2011; Willimas, 2013; Zhou, 2014) have identified barriers as resources, time, and skills. Taken together, these results suggest that if institutions provide help in those three factors, faculty members will have no excuse for not writing and publishing significant research papers. Furthermore, participants indicated that they have sufficient knowledge about the concepts and foundations of research methodology and academic research writing, but conducting workshop and seminars about topics related to research methodology and data analyses will be beneficial.

This finding contradicts Heinrich et al. (2004) where he identified the lack of skills in scholarly writing as an obstacle. However, Zhou (2014) contended that the problems faced by faculty members when doing research were teachers misunderstand of research; lack of time, theoretical guidance and knowledge of research methodology; adequate library resources, pressure and frustration during the research.

Iqbal and Azhar(2011) concluded that extra teaching load, performance of administrative duties along with academic duties, lack of funds, nonexistence of research leave, negative attitude of the faculty towards research, lack of research skills, non-availability of latest books, absence of professional journals, less number of university own journals, are the major causes of low productivity which reduced the research productivity of university faculty members. Nevertheless, the University of Bahrain provides most of what Iqbal and Azhar (2011) mentioned, which, in turn, resulted in eliminating all these causes that lead to lowering faculty research productivity. What is left is to release some time of faculty teaching loads and provide training on research methodology and data analyses. Not surprisingly, age and academic rank were not found to be barriers when it comes to writing and publishing research papers. This finding supports Webber (2011), Santo et al., 2009and Hedjazi & Behravan (2011) studies which also concluded that there was no significant effect on research productivity based on race, marital status, and gender.

As a standard, the workload for full-time faculty is 40 hours a week. The regular full-time teaching load is 12 per week. Faculty teaching loads have been and will continue to affect research productivity. Therefore, releasing some time for scholarly activities is linked with an expectation of greater research productivity. In this study, for the teaching load, participants' responses indicated that the ideal teaching load should be between 40% and 70% of the overall workload time.

6. *Conclusion and Recommendations*

The main goal of the current study was to determine the problems and difficulties faced by BTC faculty members in conducting and publishing scientific research. One of the significant findings to emerge from this study is that even though BTC faculties have the sufficient knowledge and competencies needed to conduct and publish research papers, they do not put this knowledge into practice. Moreover, the results indicate that, among all individual and institutional characteristics, the most prevalent factors which hinder faculty research productivity are teaching workload and administrative work, which all amount to the lack of time to dedicate to research. Other characteristics such as age and academic rank were not associated with faculty research productivity.

Based on the findings of this research, the authors recommend considering the implementation of the ideal work distribution suggested by BTC faculty; 55% teaching, 35% researching and 10% for community services. This would help in reducing both administrative work and teaching load, besides devoting more time to scientific research writing. Furthermore, to promote BTC faculty research productivity, it is highly recommended that a research center is established to provide training sessions on enhancing research skills - research methodology and data analysis – as well as general professional development on ensuring high scientific standards are maintained before selecting the right journal for publishing, and lastly, knowing about more opportunities to disseminate findings in international conferences. In this manner, faculty would have the opportunity to translate the research support they got from BTC into productive research and publishable papers.

In addition to the funds and support offered by the University of Bahrain, it is extremely recommended to encourage other funding channels from external sources for academic research. Taken together, the authors suggest that creating a research culture in BTC that appreciates research must be encouraged to achieve research productivity. This can be enhanced by various ways such as devoting extra hours to research and recruiting staff who actually have the experience, skills and knowledge in writing and publishing scientific research papers. Finally, the results of this study suggest that it would be useful to study the determinants of BTC faculty research productivity in other colleges in Bahrain, especially in the University of Bahrain, to determine whether faculty members in other specializations and different areas of knowledge have the same factors that play major roles in contributing to faculty research productivity.

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References

Al-Hattami, A. A.,& Al-Ahdal, A. M. (2015). The relationship between statistical analysis abilities and the production of research among Saudi faculty. In Hamdan, A (2015). *Teaching and Learning in Saudi Arabia: Perspectives from Higher Education* (121-128). Rotterdam: Sense Publications Press. Retrieved from https://www.sensepublishers.com/catalogs/bookseries/other-books/teaching-and- learning-in-saudi-arabia/.

Alzahrani, J. (2011). Overcoming Barriers to improve research productivity in Saudi Arabia. *International Journal of Business and Social Science,* 2(19), 50-57.Retrieved from http://ijbssnet.com/journals/Vol_2_No_19_Special_Issue_October_2011/5.pdf.

Abouchedid, K. &Abdelnour, G. (2015). Faculty research productivity in six Arab countries. *International Review of Education, 61*(5), 673–690. DOI: 10.1007/s11159-015-9518-5.

Alghanim, S. A., &Alhamali, R. M. (2011). Research productivity among faculty members at medical and health schools in Saudi Arabia: Presence, obstacles, and associated factors. *Saudi Medical Journal, 32(12),* 1297-1303.Retrieved fromhttps://www.ncbi.nlm.nih.gov/pubmed/22159387.

Angaiz, D. (2015). An investigation of teachers' education faculty research productivity in public sector universities of Pakistan. Unpublished doctoral dissertation, Dowling College, New York, USA. Retrieved fromwww.ccsenet.org/journal/index.php/ass/article/download/9138/6697.

Bland, C. J., Weber-Main, A. M., Lund, S. M., & Finstad, D. A. (2005). *The research productive departments: Strategies from departments that excel*. New York: Anker Publishing Company.

Bland, C. J., Center, B. A., Finstad, D. A., Risbey, K. R., & Staples, J. G. (2005). A theoretical, practical, predictive model of faculty and department research productivity. *Academic Medicine*, 8(3), 225–237. Retrieved fromhttp://www.ncbi.nlm.nih.gov/pubmed/15734804.

Creamer, Elizabeth G. (1998). Assessing faculty publication Productivity: Issues of Equity. ASHE- *Higher Education*, 26(2). Retrieved from http://files.eric.ed.gov/fulltext/ED420243.pdf.

Gonzalez-Brambila, C. and F. Veloso (2007). The determinants of research productivity: A study of Mexican researchers. *Research Policy*, 36(7) 1035-1051. Retrieved from http://repository.cmu.edu/cgi/viewcontent.cgi?article=1132&context=epp.

Hedjazi, Y., and J. Behravan, (2011). Factors influencing research productivity of agriculture faculty members in Iran, *Higher Education,* 62 (5) 635–647.DOI 10.1007/s10734-011-9410-6.

Heinrich, KT., Neese R, Rogers D., Facente, AC.(2004). Turn accusations into affirmations: Transform nurses into published authors. *Nursing Education Perspectives*, 25(3), 139-145.

Hoffmann, K., Berg, S., &Koufogiannakis, D. (2014). Success in research: Factors that contribute to increased research productivity across librarianship and other disciplines. Paper presented at the 42nd*Annual Conference of CAIS, Canadian Association for Information Science,* Brock University - St. Cathartines, Ontario, May 28- 30, 2014. Retrieved from http://www.lirgjournal.org.uk/lir/ojs/index.php/lir/article/viewFile/639/659.

Iqbal, M. Z. and Azhar M. (2011). Factors Related to Low Research Productivity at Higher Education Level. *Asian Social Science*, 7(2). DOI:10.5539/assv7n2p188.

Jenkins, A. (2004). A Guide to the research evidence on teaching-research relations. *The Higher Education Academy,* 20-24.

Jenkins, A., Breene, R., Lindsay, R. & Brew, A. (2003). *Reshaping teaching in higher education: Linking teaching with research*. London: SEDA and Routledge.

Jung, J. (2012). Faculty research productivity in Hong Kong across academic discipline. *Higher Education Studies,* 2 (4), 1-13. DOI:10.5539/hes.v2n4p1.

Karloak, M. (2012). Bahrain's tertiary education reform: a step towards sustainable economic development. *Revue des mondesmusulmans et de la Méditerranée* [English], 131(3),

163-181. Retrieved fromhttp://remmm.revues.org/7665.

Kasetsart, J. (2009). Factors Affecting Research Productivity of Faculty Members in Government Universities: Lisrel and Neural Network Analyses. *Social Sciences,* 30, 67 -78. Retrieved from http://kasetsartjournal.ku.ac.th/kuj_files/2009/A0906251543307343.pdf.

Kaya, N.,Weber, M.(2003). Faculty Research Productivity: Gender and Discipline Differences. Journal of Family and Consumer Sciences, 95(4), 46-52.

Kendagor, S. T, Kosgei D, Tuitoek D., and Chelangat S. (2012). Factors affecting research productivity in public universities of Kenya: The case of Moi University, Eldoret. *Journal of Emerging Trends in Economics and Management Sciences*, 3(5),475-484. Retrieved from http://jetems.scholarlinkresearch.com/articles/Factors%20Affecting%20Research.pdf.

Mamiseishvili, K., Rosser, V. (2011). Examining the relationship between faculty productivity and job satisfaction. *Journal of the Professoriate*, 5(2), 100-132.

McGrail, M. R., C. M. Rickard and R. Jones. (2006). Publish or perish: A systematic review of interventions to increase academic publication rates. *Higher Education Research and Development* 25(1): 19–35. DOI:10.1080/07294360500453053.

Quimbo, M. T. &Sulabo, E.C. (2014). Research productivity and its policy implications in higher education institutions. *Studies in Higher Education.* 39 (10), 1955-1971. DOI:10.1080/03075079.2013.818639.

Santo, S., M. E. Engstrom, L.Reetz, W. E. Schweinle & K. Reed (2009). Faculty Productivity Barriers and Supports at a School of Education, *Innovative High Education*, 34(2) 117–129. DOI 10.1007/s10755-009-9098-z.

Shin, J. C., & Cummings, W. K. (2010). Multi-level analysis of academic publishing across discipline: Research performance, collaboration, and time on research. *Scientometrics*, *85*(2), 582-594. http://dx.doi.org/10.1007/s11192-010-0236-2.

Salazar-Clemeña, R.M., &Almonte-Acosta, S.A. (2007). Developing Research Culture in Philippine Higher Education Institutions: Perspectives of University Faculty. Paper presented at the Competition, Cooperation and Change in the Academic Profession: Shaping Higher Education's Contribution to Knowledge and Research.

Stafford, M. T. (2011). Faculty research productivity at Addis Ababa University. Unpublished M.A Dissertation, University of Northern Texas, USA. http://digital.library.unt.edu/ark:/67531/metadc67945/m2/1/high_res_d/dissertation.pdf.

Usang, B., Akuegwu B., Udida L. & U. Franca. (2007). Academic staff research productivity: a study of Universities in South-South Zone of Nigeria. *Educational Research and Review,* 2(5), 103-108. Retrieved fromhttp://www.academicjournals.org/ERR.

Webber, K. L. (2011). Factors related to faculty research productivity and implications for academic planners, *Planning for Higher Education*, 39(4), 32-43.

Webber, K. L. (2010). Measuring faculty productivity. In: Shin, et al [Eds], *University Rankings: Theoretical Basis, Methodology and Impacts on Global Higher Education*, 105-121, New York: Springer.

Williams, H. A. (2003). A Mediated Hierarchical Regression Analysis of Factors Related to

Research Productivity of Human Resource Development Postsecondary Faculty. Unpublished PhD thesis, Louisiana State University, USA. Retrieved fromhttp://etd.lsu.edu/docs/available/etd-0326103-212409/.

Woodhouse, D. (2001) The teaching/research nexus: lessons from New Zealand audits. Presentation at the VC Symposium: The Teaching-Research Nexus: Enhancing the Links, University of Wollongong. Retrieved fromhttp://www.heqco.ca/SiteCollectionDocuments/The%20Nexus%20of%20Teaching%20and%20Research.pdf.Zaman, M. Q. (2004). Review of the academic evidence on the relationship between teaching and research in higher education. Research report PR506, Department for Education and Skills, Nottingham.33-48.

Zhang, X. (2011). Factors that motivate academic staff to conduct research and influence research productivity in Chinese universities. Unpublished PhD thesis, University of Canberra, Australian Capital Territory, Australia. Retrieved from http://www.canberra.edu.au/researchrepository/file/0814ee30-680b-401e-b059-3905b0b686cc/1/full_text.pdf.

Zhou, J. (2014) Problems teachers face when doing action research and finding possible solutions. Chinese Education & Society, 45(4), 68-80. doi.org/10.2753/CED1061-1932450405.