

Authorship Patterns and Degree of Collaboration of Authors Cited in Master's Degree Dissertations Submitted to the Faculty of Education, Rivers State University, Port Harcourt

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Abstract. *The study examined the Authorship Patterns and Degree of Collaboration of Authors cited in Masters Degree Dissertations submitted to the Faculty of Education, Rivers State University, Port Harcourt. Two research objectives guided the study. It adopted an ex-post facto research design and documentary analysis methods for the study. The population of the study comprised of a total of 55 masters degree dissertations submitted to the faculty of education, randomly selected from 2016-2023, generating 5,984 articles. Hence, a checklist was designed for data collection. Data was analysed using descriptive statistics (percentages, mean average, chart). Findings indicate that single authors made the highest contribution in the field of Education as they dominated the authorship pattern with 51.67% of the sources cited. The degree of authors' collaboration was 0.483, indicating less collaborative research in the field of Education. The study therefore recommends that; proper awareness/advocacy is needed to enlighten authors/researchers on the significance of collaborative research in the field of Education and other fields of study in order to encourage multidisciplinary approach to knowledge.*

Keywords: *Authorship Pattern, Degree of Collaboration, Authors Cited and Masters, Degree Dissertation.*

Introduction

Publications are very important component of any research institution or profession since knowledge represents the main area of attraction. New areas have to be discovered while existing practices need to be refined and restructured to improve on the system (Ordu, 2018). Authorship pattern represents an important bibliometric measure of reflecting contemporary communication patterns, productivity and collaboration among researchers. Sweileh, Al-Jabi, Zyoud, Sawalha & Al Khalil (2014) their study, used authorship pattern, authors productivity, most prolific authors, as variables of bibliometric analysis. It is a public acknowledgement of scientific or professional contribution to a disseminated piece of information that is associated with the project (APA, 2002). For Library and Information Science (LIS) professionals in Nigeria and Africa in general, research is crucial and fundamental in the development of the profession and the society. In doing this, Information and Communication Technology (ICT) is not left out. Ordu & Emmanuel, (2022) explained that, Libraries can create websites and can use it to harness the resources of the library. Hence, the use of ICT as a marketing tools is useful to create awareness for users by widening their horizon in their choice of available library services.

Considering a research on the authorship patterns and degree of collaborations among authors in a given field provides an opportunity to identify the gaps in the level of academic mentorship and collaboration that is expectant in scholarship. This approach engenders quality of research and expertise among professions and professionals in a particular field of learning. Research is one of the core activities of universities, just as it is the case with similar institutions of higher learning across the world. Despite the responsibilities of teaching and learning, academic staff also engage in community service. Among these activities, research is critical indicator used in performance evaluation of academic staff in Nigeria. Research, innovations, inventions and knowledge are the driving force of modern society. Research activities are supposed to be funded by government as well as private sector of an economy although the level of research funding in Nigeria is relatively low when compared to that of developed countries. However, measuring and examining research activities in any country is crucial; especially, to justify the allocation of funds; draw an appropriate national research policy that meets the available resources and challenges for the country and to obtain information about the current state of research in particular areas and direct researchers to new line of research (De Battisti & Salini, 2013). Research requires carefully analyses of problems by making use of special scientific methods. It is the process of seeking answers to problems through the application of systematic methods. The purpose of any research is to bring novelty in the field towards national development. Thus, research is expected to always be of high quality in order to produce knowledge that is applicable outside the research environment. The importance of research is immeasurable because it is vital in all fields of knowledge. It prepares a researcher in taking essential decisions and brings about consistency in works. Research helps to develop new understandings that are relative to learning and teaching. It improves practice especially on individuals who are ready to improve in their chosen areas. For this study, research into the Authorship Patterns and Degree of Collaboration of Authors cited in Masters Degree Dissertations submitted to the Faculty of Education will help to give insight into the professional collaborations, level of mentorship, and expertise concerns, with the intention of suggesting an approach that may improve the quality of research been undertaken in the system.

This study attempts to investigate the authorship patterns and degree of collaboration of authors cited in a Masters Degree dissertation submitted to the faculty of Education, Rivers State University from 2016 to 2023.

The Rivers State University (RSU) formerly known as Rivers State University of Science and Technology (RSUST) Port Harcourt was established in October, 1980 from the Rivers State College of Science and Technology which was itself established in 1972. It is located at Nkpolu-Oroworukwo in Port Harcourt, the capital of Rivers State, Nigeria. It is the first Technological University in Nigeria and the first state owned State University in the Niger Delta region of Nigeria. The motto of the University is “Excellence and Creativity”. The University has a staff strength of 1,870 and a student population of 29,939 15000. The University is ranked as the 16th 12th among 80 other Universities in Nigeria. The language of instruction in the institution is English.

Its mandate was to Produce scientific and technical manpower of various levels needed for essential development; Produce technical and science teachers for developmental programmes; Assist in the industrial and other developmental programmes through consultancy services, special project centres and related activities; Encourage the advancement of learning to all persons without distinction or race, creed, sex or political conviction the opportunity of acquiring a higher and liberal education; Provide courses of instruction and other facilities for the pursuit of learning in all the faculties and institutes, and to make facilities available on proper terms of such persons as are equipped to benefit from them; Encourage and promote scholarship and conduct research in all fields of learning and human endeavour; Relate its activities to the social, cultural and economic needs of the people of Nigeria; and Undertake any other activities appropriate for a University of the highest standard.

The University has the following faculties; Agriculture, Engineering, Environmental Sciences, Law, Management Sciences, Science, Humanities, Social Sciences, Medical sciences, Communication and media studies Education; and a Postgraduate School. It also has Institutes such as; Institute of

Foundation Studies, Pollution Studies, Education, RIART, Geosciences and Space Technology. In addition, It has three Centres: Centre for Continuing Education, Centre for Special projects, Information and Communications Technology Centre. The University runs 37 programmes at the undergraduate level and 86 at the postgraduate level among others.

Faculty of education (formerly, faculty of Technical and Science Education) was established as an uncommon faculty of Education deriving its essence from the Rivers State University of science and Technology as it was previously named. The university was set up to address the peculiar environmental challenges of Rivers State and indeed, the Niger Delta Region. Thus, such a university is under a charter to demonstrate expertise in addressing such challenges through its academic programmes and research activities. This could only find expression through the reliance on science and technology-related programmes. In view of the growing nature and diversity of the field of education, faculty members began the agitation for a change of the name of the faculty to the conventional 'Faculty of Education'. After several attempts and following the change of the name of the University from Rivers State University of Science and Technology to Rivers State University, Senate in its meeting on March 29th, 2018 approved the change of the name of the faculty to Faculty of Education. The number of departments and programmes run in the faculty of education since the change of name has significantly increased to reflect a more conventional Faculty of Education.

1. Statement of the Problem

Related literatures have shown that a number of studies have been carried out on authorship patterns and degrees of collaboration in the field of social sciences, humanities and library and information sciences in developing countries like Nigeria, India and Philippines. Studies conducted by Zainab & Umar (2019) in Nigeria and Singh & Bebi (2013) in India among others affirm to this testament. However, none of these studies are carried out in the field of Education in Nigeria. Hence this development creates a gap that needs to be filled. It was on this premise that this study intends to investigate the authorship patterns and degree of collaboration of authors cited in Masters Degree Dissertations Submitted to the faculty of Education, Rivers State University.

2. Objective of the Study

Here are the objectives of the study as thus;

- i. To find out the authorship pattern of the works cited in masters degree dissertation submitted to the faculty of education, Rivers State University.
- ii. To determine the extent of collaboration of the authors cited on the dissertations submitted to the faculty under investigation.

4. Review of related Literatures

4.1. Authorship pattern and degree of collaboration

Swain (2014) examined the publication patterns of International Information and Library Review(IILR) from 2004 to 2013 and to predict the impact and influence of this established journal in the field of LIS. He found that, IILR has published majority of papers in single authorship pattern followed by two authorship mode, while contributions in three authorship and more than three-authorship mode were less. The degree of collaboration in IILR publications is found to be 0.45, indicating less intensity of collaborative trend of research. Jafrunisha (2012), studied the authorship pattern of citations and did covered that, single authors were cited frequently in books(76.77%) whereas in journals multi authors were cited more in numbers at (55.57%). Salisu and Gama (2019), examined the authorship patterns and degree of collaboration of authors cited in Masters Degree dissertation submitted to the Faculty of Law, Bayero University , Kano, and discovered that, single authors made the highest contribution in the field of Law as they dominated the authorship pattern with 2,987 (80.03%) and an average mean of 39.8 per dissertation.

Mukherjee (2009) examined the distribution of articles in terms of authorship patterns and nature of collaboration, and geographic distribution of papers. Findings of the study revealed that the authors

from the US and the UK dominated publication of papers published in the journal, though Nigeria was also listed among the 47 countries that published articles in the journal. It was revealed that the highest number of articles were by single authors (35.59%) followed with 2 authors (33.64%), 3 authors (16.10%) and 4 or more authors (14.68%) respectively. The study finally asserted that, trend of authorship pattern of the articles in the journal is toward collaboration as 64.41% articles were published by joint authors (2 or more authors). Swain (2011) studied the nature and patterns of research in the journal *Library Philosophy and Practices (LPP)* and noted that, “the authorship productivity pattern of LPP had a partial compliance with Lotka’s Law (1926)”. Similarly, Ocholla and Ocholla (2007) in a study of the overall research output in LIS in South Africa based on publication count and analysis of peer refereed articles indexed in the LISA and Web of Science Databases between 1993 and 2006, using journal, subject and author indicators for the analysis; presented the leading journals that ventilated the thought contents of African authors. Isiakpona (2012) revealed the low level of collaboration among authors of the articles published in the LIBRES, research electronic journal and the degree of collaboration was discovered to be 0.279. Singh (2013) examined 179 articles published in the journal collection building from 2005 to 2012 and found that the majority of articles were contributed by single authors. In terms of authorship collaboration, the most common pattern of collaboration, represented in 350 papers showed that (36 percent) was between the three authors, followed by 285 papers representing (29 percent) with two authors and 183 papers representing (19 percent) by four authors. This represents a high level of collaboration in their publications, with 77 percent of their publications being produced collaboratively (Kumar & Naqvi, 2010). Olanlokun (1988) in Ani & Okwueze (2017) conducted a bibliometric study that analyzed the authorship patterns in the *Nigerian Libraries* from 1977-1985. The study examined the geographical distribution of authors, their genders, and nature of employment. The findings showed that most authors (80%) that published in the journal were from the western zone of Nigeria. The paper concluded that the journal remains one of the authentic links among librarians in Nigeria.

Swain (2014) examined publication patterns of *International Information and Library Review (IILR)* from 2004 to 2013 to predict the impact and influence of this established journal over the last decade, discovered that *International Information and Library Review* has published majority of papers in single authorship mode followed by two authorship mode, contribution in three authorship and more than three authorship mode are found less. The degree of collaboration in IILR publication is found to be 0.45 indicating less intensity of collaborating trend of research. Moreover, the 2013 impact factor (IF) or IILR based on records of Scopus citation is 0.588 and immediacy index is 0.09. Ordu (2018) in a study bibliometric study of publication outputs in library and information science in Nigeria from 2000-2016 in the Web of Science. The study examined the authorship patterns/collaboration among LIS researchers in Nigeria from the Web of Science database. The findings of this study revealed that multiple authors dominated the published papers with 64 papers (23.7%) whereas single authors have a total of 46 papers (17.03%). Interestingly, looking at the pattern of authored papers individually according to how they were published, it was revealed that, single authored papers topped the list with 46 papers (17.03%) followed by two authored papers with articles 40 (14.8%) and four/more authored papers with 19 articles (7.03%) and four/more authored papers with 5 articles (1.9%).

Bansal (2013) conducted a study of *DESIDOC* journal of library and information technology from 2001 to 2012 and found that the journal published the greatest number of articles in 2012 and joint contributions to the journal were found to be at the top in comparison to other modes of authorship patterns. Aina and Mooko (1999) studied research and publication Patterns in LIS; out of the 294 papers identified, 79.6 percent were by single authors while 14.6 percent were by two authors. Bhedekar & Sonawane (2014) investigated the authorship patterns in *Library and Information Science Literature in LISA* 2008-2012. 4621 articles were studied, out of which 3101(67.24%) were single authors while 835(18.10%) are two authors, 426(0.23%) were three authors and four authors contributed 71(0.54%) respectively.

A study which examined articles published in journal of documentation for authorship pattern, degree of collaboration, geographical distribution of papers and citation analysis discovered that, articles

published in this journal are multi-authored, the degree of collaboration is found to be 0.51, geographical distribution reveals that United Kingdom is highest in contribution while the average citation per paper is 48 (Roy & Basak, 2013). Only 8.1 percent of the papers were authored by three or more authors. These results perhaps reflect the trend in LIS where collaboration among authors in research investigations is limited. Swain, Swain and Rautaray (2014) investigated patterns of publications in the Journal of Educational Media and Library Science from 2008 – 2012, and discovered that, the two-author papers led the authorship pattern in the journal, followed by single author papers and three-author papers. Singh and Bebi (2013) examined the citation analysis of PhD theses submitted to the department of Sociology of the University of Delhi from 1995-2010. 5766 citations from 25 PhD Theses were studied. The study revealed single authors as highest cited with (83.94%).

5. Methodology

The study adopted an ex-post facto research design and documentary analysis methods for the study. Ex- post facto research is used to conduct social research because it does not give room for manipulation of the characteristics of human variables. It is a substitute for true experimental research and can be used to test hypotheses about cause and effect relationships...(Simon & Goes, 2013). Documentary analysis is a social research method that refers to the various procedures involved in analyzing and interpreting data generated from examination of documents and records relevant to a particular study (Heffernan, 2001).

The population of the study was a total of 55 masters degree dissertations submitted to the faculty of education, randomly selected from 2016-2023 generating 5,984 articles used for the study. Hence, a checklist was designed for data collection. Data was analysed using descriptive statistics.

6. Data Presentation, analysis and Discussion of findings

This section showcases the analysis of data collected using the data collection checklist. Meanwhile, it will also discuss the findings of the study.

6.1. Authorship Pattern

The Authorship pattern is been analyzed to determine the percentage of single and multiple authors.

Table 1: Authorship Patterns

S/N	Authorship patterns	Numbers of Articles	Percentage %	Mean Score of Articles
1	Single Author	3,092	51.67	56.2
2	Two Authors	1,435	23.98	26.9
3	Three Authors	635	10.61	11.6
4	Four/more Authors	450	7.52	8.2
5	Corporate Authors	372	6.22	6.8
	Total	5984	100%	

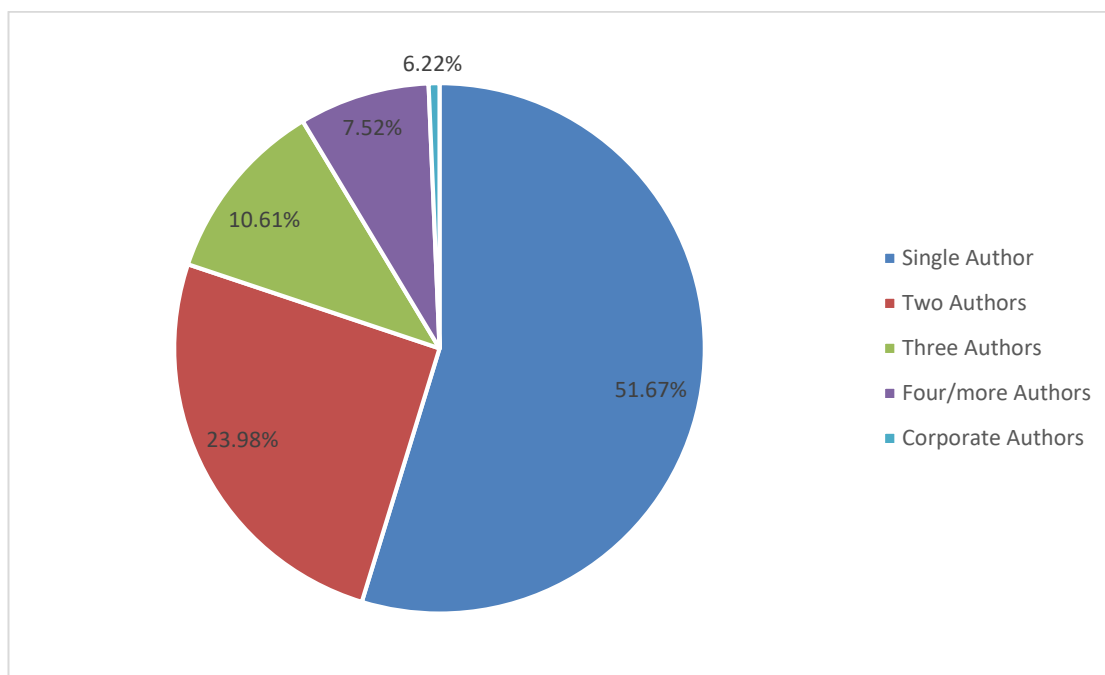


Figure 1: Authorship Patterns

Table 1 and Figure 1 showcased the authorship patterns of all the cited authors in the 55 dissertations. A total of 5,984 articles were analyzed, out of which 3,092 (51.67%) were contributed by single authors with an average mean of 56.2 per dissertation, 1,435 (23.98%) were contributions by two authors with an average mean of 26.0 per dissertation, 635 (10.61%) were contributions by three authors with an average mean of 11.6 per dissertation. 450 (7.52%) were contributed by four authors with an average mean of 8.2 per dissertation while corporate authors contributed 372 (6.22%) with an average mean of 6.8 per dissertation which is the lowest number of contribution for this study.

Findings indicate that single authors made the highest contribution in the field of Education as they dominated the authorship pattern in the study. Also followed was two authors, three authors, four authors and the least which was the corporate authors' contribution. The findings of this study are in agreement with Salisu and Gama (2019), Singh and Bebi (2013), as they found single authors to be the most prominent and highest contributions in their studies. Similarly, two authors ranked second in this study, which also agrees with the previous studies of Bhedekar and Sonawane (2014), Mukherjee (2009), and Swain (2014). Single authors with (51.67%) outweighed all the other types of authorship patterns. This could be attributed to most authors wanting to take credit for a particular paper or the assumption that, single authors score highest in most appraisal assessments in most institutions; meanwhile funding of research may pose a challenge and the expertise insight from senior colleagues may be missing in the quality of the research.

6.2. Degree of Authorship Collaboration

The degree of authorship collaboration is measured using the Subramanyam's formula, which is thus:

$$DC = \frac{NM}{NM + NS}$$

$$NM = 1435 + 635 + 450 + 372 = 2892$$

$$NS = 3,092$$

$$DC = \frac{2,892}{2892 + 3092} = \frac{2892}{5984}$$

$$DC = 0.483$$

Key:

DC= Degree of Collaboration

NM= Number of Multiple Authors

NS= Number of Single Authors

In this study, the degree of collaboration (DC) is 0.483. The authorship pattern in the study indicates that, faculty of Education Masters Dissertations are in favour of single authors, researchers in the field of Education therefore undertake less collaborative research. This findings are in agreement with Mukherjee (2009), Singh and Bebi (2013), Salisu and Gama(2019) and Bhedekar and Sonawane (2014), where single authored studies ranked the highest or dominated the studies, hence meaning that, there were less collaboration of authors.

However, this finding is contrary to that of Ordu, (2018), Bansal (2013), and Roy and Basak(2013), where multiple authorships were found to be dominant, which significantly showcased the highest level of collaboration among authors or researchers alike.

It is pertinent to buttress here that, in this study, the degree of authors' collaboration was 0.483. This indicates that, there was less collaborative research in the field of Education, in the faculty. This development explains that in a situation where single authors dominate research in a field, automatically, the degree of collaboration will definitely be less among the researchers.

7. Conclusion

Authorship pattern and degree of collaborations among authors is an academic exercise that underscores the relevance and importance of collaborative research, the advantages of academic mentorship and the quality of research through the instrumentality of expertise contributions in research. For this study, single authorship patterns dominated the field of Education; hence the degree of collaboration in the field of Education was found to be low.

8. Recommendation

The study therefore recommends that; proper awareness/advocacy is needed to enlighten authors/researchers on the significance of collaborative research in the field of Education and other fields of study in order to encourage multidisciplinary approach to knowledge; also, collaboration among authors should be encouraged to enhance quality of research and value to knowledge; collaborative research approach is recommended to promote mentorship and encourage expertise contribution to knowledge and discourage mediocrity in research output.

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