

CHAPTER 4

SEARCH PRODUCTIVITY AT THE UNIVERSITY OF ZAMBIA SCHOOL OF EDUCATION: A RETROSPECTIVE ASSESSMENT

*Akakandelwa Akakandelwa, Abel M'kulama, Kaoma Laoma Daka and
Chitindu P. Chisunka-Mwila*

Abstract

The study provides a picture of the University of Zambia School of Education faculty's research output to commemorate the University of Zambia's 50th Anniversary. The study aimed at investigating (a) the research output of the academic staff; (b) the types of literature mainly published by the faculty and (c) authorship patterns and research collaboration patterns. The study confined its scope to the publications produced between 1966 and 2015 by the School of Education, published in Zambia as well as abroad. Bibliometric techniques and regression analysis were employed as the measuring instruments. The data was collected from various sources including Google Scholar, annual reports, University of Zambia Library catalogues, personal resumes, and local bibliographies. The results indicate that (a) School of Education scholars prefer to publish in journals (511,48.9%), books and conference papers (474,45.4%); (b) the publication distribution fluctuated over the 50 year period but the moving average depicted a steady incremental trend; (c) a total of 506 authors contributed to 1,045 publications whilst 309 are one-time authors.

Keywords: Research productivity; bibliometrics; scholarly communication; authorship pattern; collaboration coefficient; University of Zambia

Background

The School of Education was opened in April 1966. The school provides both undergraduate and postgraduate programmes. Currently, the School is the biggest in the University with nine academic departments, namely:

- (1) Department of Library and Information Science (LIS);
- (2) Department of Educational Administration and Policy Studies (LAPS);
- (3) Department of Educational Psychology, Sociology and Special Education (EPSSE);
- (4) Department of Language and Social Sciences Education (ESSE);
- (5) Department of Mathematics and Science Education (MSE);
- (6) Department of Adult Education and Extension Studies (AEES);

- (7) Department of Religious Studies.
- (8) Department of Primary Education;and
- (9) Advisory Unit for Colleges of Education (AUCE). The school contributes to the University's research effort in two ways: through research conducted by members of staff and by training postgraduate students to carry out research.

4.2 Study Objectives

The main objective of the study was to establish research productivity of the faculty in the School of Education (SE) from 1966 to 2015. The specific objectives were to:

- (1) To investigate the growth of literature;
- (2) To investigate the types of literature mainly published by the faculty; and
- (3) To investigate authorship patterns and research collaboration patterns.

1.3 Data Source and Methodology

The study is based on the data retrieved from Google Scholar, faculty resumes, annual reports, and local bibliographies. A list of members of staff belonging to School of Education was obtained from the Registrar; and former faculty were also traced from the University calendars of the past years from 1966 to 2015. Publications of the faculty were retrieved from Google Scholar by searching using the faculty's academic staff names, combined with the faculty and institutions names. All the data collected were compiled into one file in the MS Excel spreadsheet. The data later transferred into SPSS version 20 for analysis.

4.4 Limitations of the Study

The present study focuses on faculty publications that could be located from Google Scholar, local bibliographies, annual reports, and collected resumes. Publications in the context of this study, excluded unpublished works such as dissertations and theses and student project reports. As such, citations were collated based on accessible literature only. It is suspected that publications which have not been deposited in libraries may have been missed. It is also possible that some publications of these authors may not have been indexed by the library's online institutional research repository. In addition, some faculty may predominantly publish in local journals which are not internationally indexed.

4.5 Results and Discussions

4.5.1 Growth of Literature

A total of 709 publications were retrieved and collated from the various sources. The publications were grouped into nine 5-year periods (Table 4.1). The publication trend started low at three during the period 1972-1976. The number of publications began to increase in the period 1977-1981 and continued at a steady rate up to 2015. Publication contributions in the School

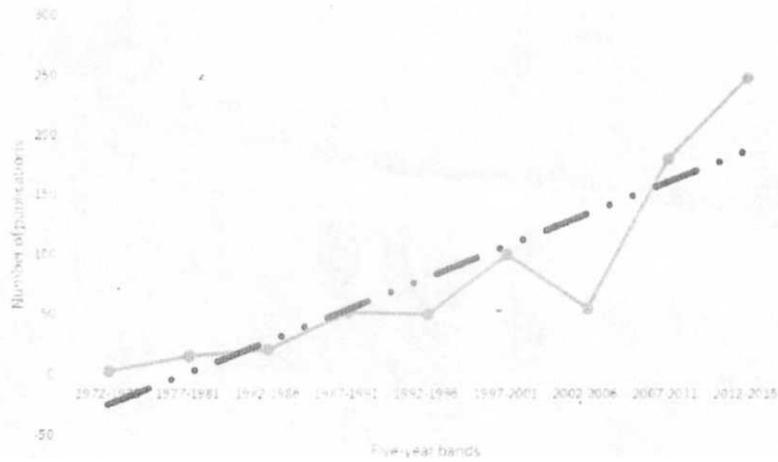
of Education peaked between 2012 and 2015. The average publications produced per year was about 17. When the distribution of publications was plotted graphically with calculated trendline (Figure 4.1), the 43-year period generally indicated a positive upward trend of publication productivity and it is further predicted that this trend could continue in the future. The moving average depicted a stable, upward trendline ($Y = 25.983x - 51,139$;

$= 0.7705$). Cumulatively, the period between 2012 and 2015 was the most productive period for the School of Education contributors (Table 4.1), with an annual average of 63 publications per year.

Table 4.1: Distribution of Research Output in the School of Education in Five-year Bands

<i>Years</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative Percent</i>
1972-1976	3	4	4
1977-1981	15	2.1	2.5
1982-1986	20	2.8	5.4
1987-1991	51	7.2-	12.6
1992-1996	49	6.9	19.5
1997-2001	98	13.8	33.3
2002-2006	53	7.5	40.8
2007-2011	177	25.0	65.7
2012-2015	' 2 4 3	34.3	100.0
Total	709	100.0	

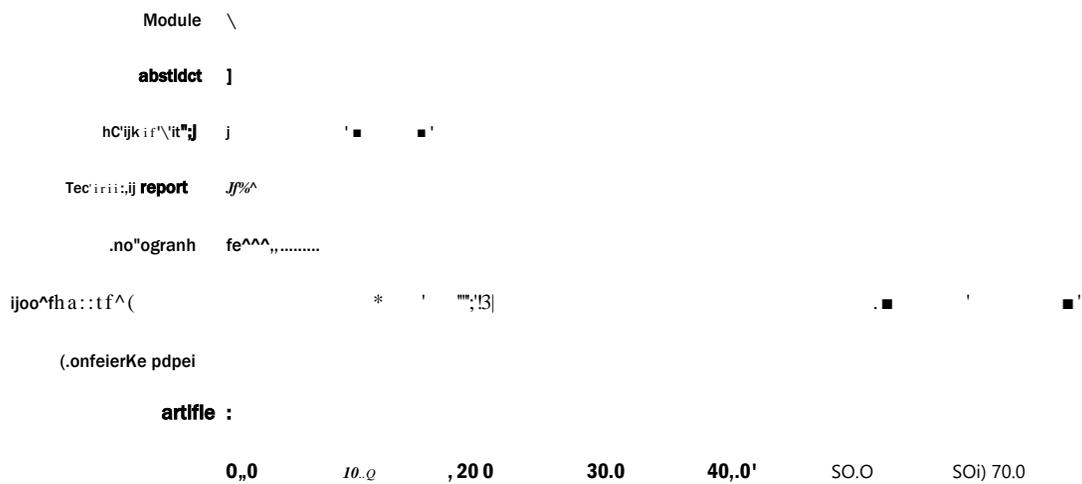
Figure 4.1 presents a linear trendline of the School of Education research output during the period 1972-2015. In this figure, the year y refers to the average number of publications during the period $y - y+4$. Figure 4.1 clearly shows a very slow growth in the earlier years, followed by a decline ending around 2006. From then on, the School recorded a steady growth rate with an average of 44 publications a year. The most productive period cumulatively, is the period 2011-2015 with an average annual research output of 63.



4.6 Type of Publications

Figure 4.2 reveals that scholarly journal articles (61.2%) were the most popular channel for communication amongst School of Education authors, followed by conference papers (14.8%), book chapters (11.2%), and monographs (9.2%). Other types of publications include; technical reports (2.6%), book reviews (0.17%), abstracts (0.1%) and modules (0.1%).

Figure 4.2: Types of Publications Preferred by Researchers in the School of Education



4.7 Authorship Patterns and Degree of Author Collaboration

Table 4.2 shows that most of the published works were multi-authored work-(429; 79.3%); only 20.7% (112) of publications were single-authored. Ninety-five (17.6%) publications were two-authored, 133 (24.6%) were three-authored, 81 (16.1%) were four-authored, 55 (10.2%) were five-authored and 59 (10.9%) were authored by more than five authors each.

Table 4.2: Number of Authors per Publication

	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative Percent</i>
1	402	56.7	56.7
2	143	20.2	76.9
3	82	11.6	88.4
4	51	7.2	95.6
5+	31	4.4	100.0
Total	709	100.0	

When the authorship pattern was crossed tabulated against five-year bands for the 44-year period, the overwhelming predominance of single-authored works was clearly indicated (Table 4.3). However, the study reveals that the number of joint authored works increased from 2012 to 2015, and this trend is expected to increase in future. Further analysis was conducted to establish the degree of collaboration (collaboration coefficient) among the School of Education researchers, using the formula:

$$C = \frac{N_m}{N_s + N_m}$$

Where C= collaboration coefficient, N_m = number of multi-authored publications, and N_s = number of single-authored publications.

The result was 0.43. This result reveals that there is a relative low degree of collaboration among faculty in the School of Education. Table 4.3 also shows the collaboration coefficient of the School of Education faculty over the 44 years under review. The degree of collaboration in different five-year bands was calculated using the equation above and the results are presented in Table 4.3. In the first two five-year periods (1972-1976 and 1977-1981), there was no collaboration (CC = 0.00). The collaboration coefficient over the years, 1972-2015, varied from 0.00 to 0.85, with a mean value of 0.43.

Table 4.3: Five-year Research Production Bands * Degree of Authorship

<i>Five-year bands</i>	<i>Degree of authorship</i>		<i>Total</i>	<i>cc</i>
	<i>single-authored publications</i>	<i>multi-authored publications</i>		
1972-1976	3	0	3	0.00
1977-1981	15	0	15	0.00
1982-1986	18	2	20	0.10
1987-1991	47	4	51	0.08
1992-1996	37	12	49	0.25
1997-2001	63	35	98	0.37
2002-2006	36	17	53	0.32
2007-2011	91	86	177	0.49
2012-2015	92	151	243	0.85
Total	402	307	709	0.43

4.8 Conclusion

This paper has reviewed the School of Education research output from 1972 to 2015. The research output has increased over the years from three publications in 1972 to 151 publications in 2015 and productivity is expected to continue increasing at an exponential rate of 0.7 per annual. The researchers prefer to communicate their research as journal articles. Nearly 56.7% of the published works were single-authored with a collaboration coefficient of 0.43.

4.9 Reference

University of Zambia (2012), *The University of Zambia Calendar 2011-2012*: Lusaka: UNZA Press.