

Distance Education Research in South Africa: A Longitudinal Study into the Research Levels of ODL Journal Articles

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Abstract

The measure of an academic field lies in the richness and depth of its published research, especially within the ever-developing field of distance education, which is relatively new. The University of South Africa is one of the oldest open distance learning (ODL) higher education institutes globally, which has given rise to its status internationally as a leader of distance education. It is prudent to analyse and reflect on the research outputs published by South African academics, particularly regarding the levels of research that are conducted. This article follows the research published by Roberts, which analysed South African distance learning research levels and sublevels from articles published between 2011 and 2015. This longitudinal study applied a thematic content analysis of the titles and abstracts of all ODL-related papers published by South African authors. The findings compare ODL trends for the five-year periods from 2010 to 2014 and 2015 to 2019. The data were obtained from the Scopus and SABINET databases, using the same search criteria employed by Roberts. The levels of research publications were analysed according to the open distance learning research framework of Zawacki-Richter presented through descriptive statistics. The results indicate that although the number of published open distance learning research articles has more than doubled, the research levels have not shown any significant change from the previous five years. The South African ODL publications should give attention to meso- and macro-level research to enhance the ODL development within Southern Africa and create local trends fit for purpose.

Keywords: distance education; ODL; online learning; research trends; South Africa

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Introduction

Research and development are critical components of an academic environment since they contribute to a country's overall advancement and development. The results of research lead to a country's advancement and development. Research antecedents are focusing on meeting changing needs in social, cultural, environmental, economic, industrial, technical, and scientific life conditions (Sultana 2019).

As a relatively new academic field, distance education (DE) research has grown substantially since the early 1980s. Initially, the field attracted a fair amount of criticism owing to its lack of theoretical frameworks and poor research methodologies (Bernard et al. 2004; Perraton 2000). To deal with these concerns and provide a framework to analyse the levels of open distance learning (ODL) research, Zawacki-Richter (2009) developed a framework to classify three significant levels of ODL research and their respective 15 sublevels. A comprehensive literature review and an international Delphi study were used to develop this framework. It is widely regarded as a sound basis for classifying the levels and sublevels of DE research. The three levels of research classification are the macro, meso and micro levels. The macro level refers to research carried out on DE systems and theories; the meso level refers to institutional research on management, organisation and technology, and the micro level focuses on teaching and learning in DE (Zawacki-Richter 2009).

Roberts (2016) found that South African authors contributed very little at the macro level, particularly concerning developing theoretical approaches to DE relevant to developing countries. However, South African research was disproportionately high at the micro level, with many articles revolving around the themes of learner characteristics and perceptions of lecturers and students on the various aspects of DE.

In 2013, the South African Department of Higher Education and Training (DHET) approved the White Paper on post-school education (DHET 2017). Before 2013, DE was provided solely by the University of South Africa (Unisa), but a provision in the White Paper was made for all higher education institutions (HEIs) to offer DE. This resulted in new DE programmes developed by as many of the 26 public and private universities in South Africa catching up with DE offerings for their students. Furthermore, in the light of the expansion of DE beyond the confines of Unisa, ODL researchers from other HEIs started contributing more extensively to the ODL research platform.

For this reason, it is significant to reassess the ODL research publication levels and sublevels since the publication of Roberts (2016), and to assess whether any significant changes were deemed contextually relevant, mainly as a result of the more substantial move towards online education. The findings enabled the conceptualisation and design of a local ODL publication trendline to compare with related trendlines in the United Kingdom (Zawacki-Richter 2009). However, this process acts as a starting point for local ODL researchers to develop ODL-specific publications that might ultimately

result in South African ODL publication trends fit for its context. Hence, the following research question is dealt with in this article:

- How have the research levels and sublevels in South African ODL research publications developed according to the ODL research framework of Zawacki-Richter (2009) from the five-year period 2010–2014 to the five-year period 2015–2019?

Literature Review: Research Areas in Distance Education

Because of the criticism of early ODL research, as referred to by Perraton (2000) and Bernard et al. (2004), Zawacki-Richter (2009) developed a categorisation of DE research into three levels and 15 research areas (sublevels) within these three levels. Table 1 summarises the Zawacki-Richter (2009) ODL research framework.

Table 1: Trends in distance education research

| Research level | Scope | Sublevel |
|----------------|---|---|
| Macro | DE systems and theories | 1. Access, equity and ethics |
| | | 2. Globalisation of education and cross-cultural aspects |
| | | 3. DE teaching systems and institutions |
| | | 4. Theories and models |
| | | 5. Research methods in DE and knowledge transfer |
| Meso | Management, organisation and technology | 6. Management and organization |
| | | 7. Costs and benefits |
| | | 8. Educational technology |
| | | 9. Innovation and change |
| | | 10. Professional development and faculty support |
| | | 11. Learner support services |
| | | 12. Quality assurance |
| Micro | Teaching and learning in DE | 13 Instructional design |
| | | 14. Interaction and communication in learning communities |
| | | 15. Learner characteristics |

Source: Zawacki-Richter (2009)

According to Roberts (2016), just over 67% of South African authors, up to the year 2014, carried out research at the micro level. Just under 30% of the articles were classified at the meso level, and only 3% focused on macro-level research topics. The top research areas for South African authors were instructional design, learner characteristics, and interaction and communication in learning communities. As shown in Table 1, these three research areas fall under the micro level of research. Although

the authors of this article agree that research at this level is necessary and valuable, they suggest that consideration be given to including more research at other levels. South African authors must establish themselves as important players in the international field, particularly regarding the elevation of DE in developing countries. According to the World Bank, over 50% of all DE students worldwide hail from developing countries, and South Africa is classified as a developing country (Gauthier 2018). Developing countries have specific challenges that differ from first-world countries, particularly regarding access to technology, digital literacy skills, broadband availability, and a regular electricity supply. This emphasises the importance of the contextual situations and the infrastructure issues DE practitioners and students face, especially in developing countries where key information and communications technology (ICT) infrastructural issues are prominent. Furthermore, this gives particular interest in designing a local South African ODL research framework to act as a basis for conducting research within the DE field.

Methodology and Research Design

The research design for this article is a content analysis of all South African-authored ODL articles published between 2010 and 2014 and between 2015 and 2019. Lee, Driscoll, and Nelson (2006) proposed that understanding specific trends and issues of topics and methods in a particular field of study is crucial to advancing research. Thematic content analysis is a practical approach to examining particular patterns and trends in textual data embedded within documentation under investigation (Elo et al. 2014; Krippendorff 2013).

The authors of this article agreed that it would be essential to delve into the trends of ODL research within the South African context to project the state of ODL research and publication for the last five years (2015–2019) and to make a comparison with the research data for the previous five-year period (2010–2014). Data were collected using published journal articles from the Scopus database of academic literature and the South African Bibliographic and Information Network (SABINET).

The criteria used for classifying an ODL article were that the following terms must appear in the article title, keywords, or abstract: ODL, Open Distance and e-Learning (ODeL), DE, online learning, e-learning or m-learning. This is in line with the same inclusion criteria that were used by Roberts's (2016) research analysing comparable pre-and post-2015 analyses. The data were extrapolated from the databases mentioned above, filtered and cleaned by the two authors of this article. The researchers deemed that this approach is appropriate for the intent of this study. The authors relied on a priori codes for the data set for analytical purposes derived from the major research trends within DE as reported by Zawacki-Richter (2009) (also see Table 1). The researchers applied a set of inclusion and exclusion criteria to sort and select published papers from 2015 to 2019 purposefully. This follows the same criteria Roberts (2016) used for the 2010–2014 database compilation.

Study Sample

The data retrieved, cleaned and analysed for this study included published academic articles in accredited journals retrieved from the Scopus and the SABINET journal databases. During the data collection process, the researchers requested assistance from the Unisa library service to extrapolate relevant ODL papers for this article. The researchers sent a list of inclusion criteria and specific search terms that the librarian applied to the SABINET and Scopus databases. These criteria included terms that must appear in either the title, keywords or abstract of the article: ODL, ODeL, distance education, online learning, e-learning or m-learning. In addition, the authors took notice that all major national and international DE journals were listed in these two information networks and therefore deemed these two databases credible for use in the current research process. Once again, this is comparable to the research carried out by Roberts (2016) and allows for a comparison between the pre-and post-2014 research results.

The selection of relevant academic articles from these databases was based on search terms pertinent to the ODL context already mentioned. Initially, the researchers managed to extrapolate a total number of 454 articles from these journal databases. After that, the researchers used a set of inclusion and exclusion criteria to filter out papers that would be fit for the purpose by adhering to the following list:

- only published journal articles (excluding editorials, books, book reviews, dissertations and theses) were used;
- articles were published in English only;
- only South African authors were included (inclusive of collaborative articles from other countries);
- articles had to be set within the context of an HEI in South Africa;
- articles had to be published between 2010 and 2014 (period 1) and between 2015 and 2019 (period 2); and
- the specific focus of the articles was on DE and online learning.

Following the process mentioned above, the researchers selected 352 journal articles coded independently by the two researchers. Five duplicated journal articles reflected in the SABINET and Scopus databases were removed from the data set. In addition, 31 articles were removed as the authors did not deem them to be ODL-related articles fitting the context of the inclusion criteria. After this process, the researchers selected 316 articles that applied to the analytical process.

Reliability

For intercoder reliability, the two researchers, both with similar backgrounds in ODL research, participated in coding the data. The researchers familiarised themselves with the various papers related to the research areas and trends within DE according to

Zawacki-Richter’s framework (Zawacki-Richter, Bäcker, and Vogt 2009; Zawacki-Richter and Naidu 2016). Both researchers received the same data set and were responsible for their subjective blind-coding process. The coding structure was divided into a two-level coding structure to initially indicate where the paper fits within the major categories (i.e., macro, meso and micro), followed by their respective sublevels (i.e., theories and models, management and organisation, and learner characteristics).

After applying a deductive form of coding, the researchers combined their scores into one document to evaluate the intercoder reliability using the Cohen’s kappa (K) statistical measure (Cohen 1960). Cohen’s kappa coefficient is a statistical measure that concerns the inter-rater agreement between two coders regarding a data set that is qualitative and categorical in nature. Altman (1991) suggested that the level of agreement can be viewed as poor (< 0.20), fair (0.21 to 0.40), moderate (0.41 to 0.60), good (0.61 to 0.80) and very good (0.81 to 1.00). Tables 2 and 3 indicate the Cohen’s kappa value for the intercoder reliability for coding the main research levels and the sublevels.

Table 2: Cohen’s kappa values for intercoder reliability for main research levels

| Symmetric Measures | | | | | |
|----------------------|-------|-------|---------------------------|---------------|--------------------------|
| | | Value | Asymptotic Standard Error | Approximate T | Approximate Significance |
| Measure of agreement | Kappa | .862 | .029 | 17.455 | .000 |
| N of valid cases | | 316 | | | |

Table 3: Cohen’s kappa values for intercoder reliability for sublevels

| Symmetric Measures | | | | | |
|----------------------|-------|-------|---------------------------|---------------|--------------------------|
| | | Value | Asymptotic Standard Error | Approximate T | Approximate Significance |
| Measure of agreement | Kappa | .876 | .021 | 35.997 | .000 |
| N of valid cases | | 315 | | | |

As shown in Tables 2 and 3, the reliability of raters A and B can be considered acceptable and a very good standard, as the inter-rater agreement between the two coders was $K = 0.862$ for the main levels and $K = 0.876$ for the sublevels. In case of disagreements between the two coders, this was discussed and debated until a consensus was reached. This final form of the data set was used for the descriptive analysis of the data in this paper.

Delimitations

Data derived from secondary sources involving journal databases consisted of credible, accurate and updated information drawn from the Scopus and SABINET electronic databases. It should be noted that the researchers are aware that not all articles published within the South African context may be present within these sets.

Although the researchers ensured that the articles examined through the coding process were representative of the discipline of DE, it should be noted that there is always the possibility that other researchers could have a different interpretation of the criteria implemented in this study. One of the authors was a coder for both the data sets used for this study. The second author was not a coder for the data set for the period 2010–2014; therefore, deliberations about the coding process were discussed extensively between the two authors. The other co-coder from the first data set (2010–2014) acted as the third coder in the 2015–2019 data set in case there were disputes.

An additional note concerns the reward and policy of the DHET (2017) accreditation of published papers. This process allows for the payment of research output rewards to the authors of these papers; therefore, academics are prone to publish their articles in only the journals that appear in the DHET accredited list of journals. It should be noted that there is a possibility that some potential papers concerning the aim and objective of this research process were not included owing to papers being published in non-DHET accredited journals.

Data Analysis

The secondary data that were obtained through the methodology as mentioned above were consolidated into one database consisting of 316 articles for the period 2015 to 2019. In addition, for comparative purposes, the database used in Roberts's (2016) analysis of ODL research by South African authors was also used for the articles from 2010 to 2014, consisting of 142 articles.

The Statistical Package for Social Sciences (SPSS) was used to analyse the descriptive statistics related to the main research levels and sublevels according to the Zawacki-Richter (2009) framework. The results are presented in the form of frequency tables and graphs. Furthermore, additional descriptive analyses have been provided regarding the number of South African-authored ODL journal articles from each of the HEIs in South Africa and a presentation of the most famous journals for publication.

Results

Figure 1 shows the total number of ODL articles that were published in the specified databases over the two time periods, 2010 to 2014 and 2015 to 2019. These periods will be called period 1 (2010–2014) and period 2 (2015–2019) for ease of reference.

From Figure 1, it can be established that a total of 142 ODL articles written by South African authors were published in the period from 2010 to 2014. This number increased to 316 in the subsequent five-year period from 2015 to 2019. This is in line with the maturation of the academic field of ODL in South Africa and the exponential growth in research articles in this field. Figure 2 shows the growth of ODL research articles over the entire period of 1988 to 2019.

The increase in the number of published articles can be attributed to various factors. Firstly, as indicated earlier, the White Paper on post-school education in 2014 allowed all HEIs in South Africa to offer DE programmes. In contrast, before this date, Unisa was the sole provider of DE. In addition, many institutions started including ODL publications as part of their research mandate and staff were encouraged to publish in this field. Furthermore, Unisa expanded their Searchlight programme, which provides mentorship and training to academic and administrative staff to assist them with ODL publications. Finally, in 2015, the International Council for Open and Distance Education's biannual international conference was hosted by Unisa at the Sun City resort in South Africa. This created a new sense of enthusiasm for ODL publications. These factors may have contributed to the increase in ODL-related research papers authored by South African academic staff.

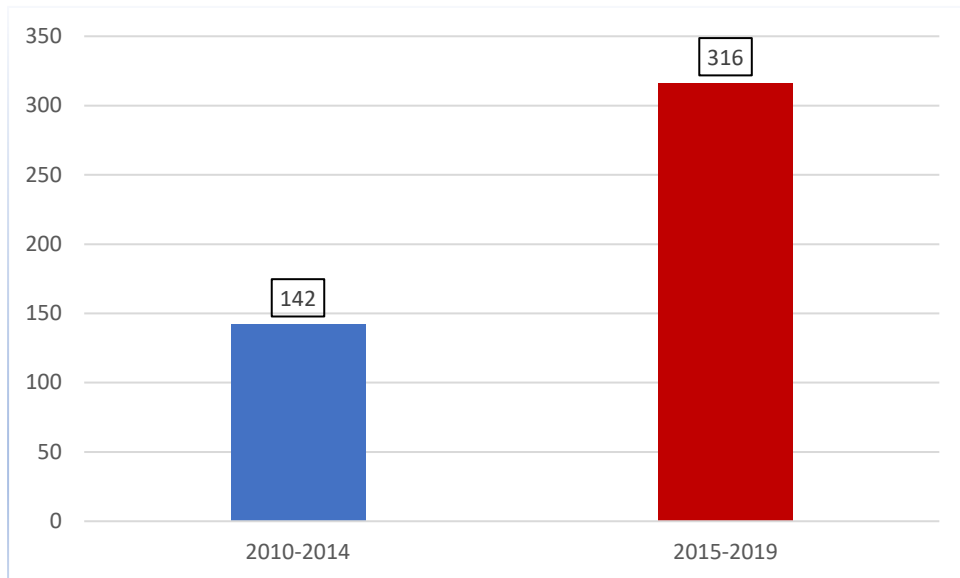


Figure 1: Total number of ODL articles published in period 1 and period 2

The research question for this article relates to the main research levels and sublevels of these ODL publications by South African authors. Table 4 shows the ranking of the South African articles according to Zawacki-Richter's framework for period 2.

Table 4: Ranking of main research levels and sublevels according to Zawacki-Richter's (2009) framework for period 2

| Rank | Research area | Level | Frequency | % | Cum % |
|------|---|-------|-----------|------|-------|
| 1 | Instructional design | 13 | 93 | 29.4 | 29.4 |
| 2 | Learner characteristics | 15 | 79 | 25.0 | 54.4 |
| 3 | Interaction and communication in learning communities | 14 | 35 | 11.1 | 65.5 |
| 4 | Professional development and faculty support | 10 | 33 | 10.4 | 75.9 |
| 5 | Learner support services | 11 | 18 | 5.7 | 81.6 |
| 6 | Management and organisation | 6 | 17 | 5.4 | 87.0 |
| 7 | Innovation and change | 9 | 13 | 4.1 | 91.1 |
| 8 | Educational technology | 8 | 11 | 3.5 | 94.6 |
| 9 | Quality assurance | 12 | 5 | 1.6 | 96.2 |
| 10 | Access, equity and ethics | 1 | 4 | 1.3 | 97.5 |
| 11 | Distance teaching systems and institutions | 3 | 4 | 1.3 | 98.8 |
| 12 | Costs and benefits | 7 | 2 | 0.6 | 99.4 |
| 13 | Theories and models | 4 | 1 | 0.3 | 99.7 |
| 14 | Research methods in DE and knowledge transfer | 5 | 1 | 0.3 | 100.0 |
| 15 | Globalisation of education and cross-cultural aspects | 2 | 0 | 0.0 | 100.0 |

Table 4 shows that the most popular level of ODL research in period 2 in South Africa remains the micro level, with 66% of articles published falling into this category. This is consistent with Roberts's (2016) finding that 67% of published articles in period 1 targeted this research level. During period 2, ODL published research at the meso level increased slightly from 30% to 31%, and macro-level research remained consistent at just over 3%. This indicates that there has been little change in the level of ODL research from South African authors from period 1 to period 2. These findings indicate that the research field of ODL in South Africa remains focused at the contextual level of teaching and learning in a developing country. The authors believe that this is important and necessary, although not always of interest to academic staff in the so-called "developed" countries. Staff at HEIs in South Africa are encouraged to publish in international journals and therefore many of the South African contextually specific research articles offer little interest to the international community.

Figure 2 indicates the frequencies of each research sublevel for both periods 1 and 2. In addition, Figure 3 shows the actual number of articles published in each of these periods.

The most published sublevel in period 2 is sublevel 13, instructional design (29.4%), followed by sublevel 15, learner characteristics (25%), and sublevel 14, interaction and

communication in learning communities (11.1%). This follows the same trend as the publications in period 1, although sublevel 14 has recorded a definite drop in the number of publications. This could be because there were different coders for each period, and their interpretations of the scope of the sublevel might differ slightly.

A noticeable increase in publication at sublevel six can be observed. In period 1, only 2.1% of the articles were published on management and organisation, whereas this has increased to 5.4% in period 2. This translates to an increase of 14 actual articles, from three articles in period 1 to 17 articles in period 2 (see Figure 3). This trend indicates that all staff in HEIS in South Africa are being encouraged to engage in research, and that research does not only remain the domain of the academic staff.

Sublevel 10, professional development and faculty support, remains a consistently significant level for South African ODL publications. According to Figure 3, the actual number of articles published has increased from 15 in period 1 to 33 in period 2. Since the introduction of the White Paper on post-school education in 2014, all HEIs are now able to offer distance education programmes, and many are providing staff development support for publication in this field. An example is Unisa, where a research niche area of professional development has been identified in the School of Human Resource Management (HRM), as well as staff and professional capacity development being one of the four research thrust areas in the Open Distance Learning Research Unit (ODLRU).

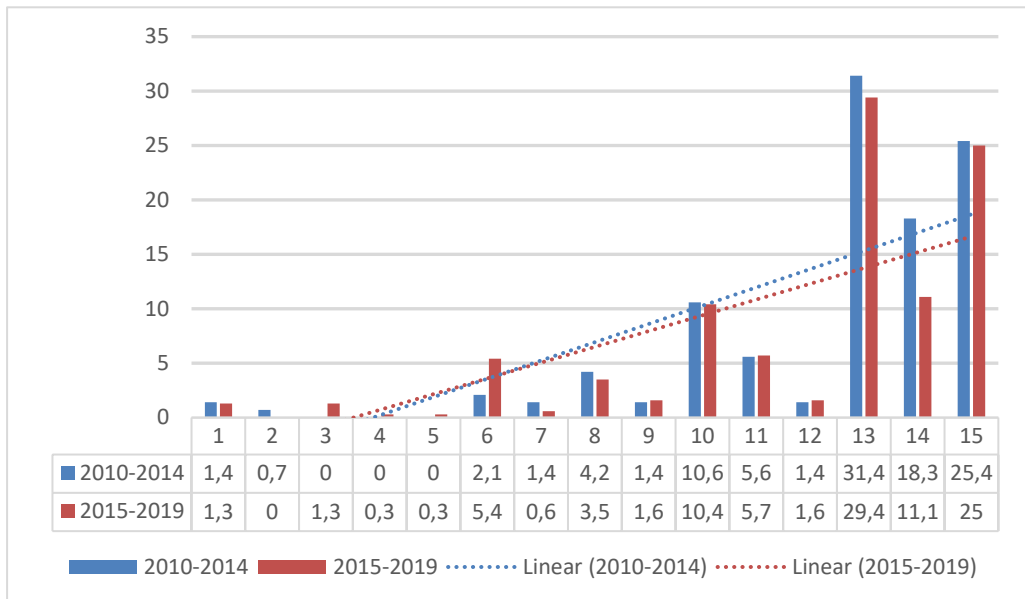


Figure 2: Comparison of period 1 and period 2 framework results by frequency

Learner support services (sublevel 11) have also remained a substantial area for ODL publication in South Africa. There were 18 articles published in period 2 on this

sublevel, compared to eight articles in the previous period. However, it is concerning to note that the sublevels of technology and innovation have decreased from period 1 to period 2. With the advancements of online learning and the development of information and communications technology-enhanced tools for learning, it would be prudent to ensure that research at these sublevels is prioritised.

Following the international trends (Zawacki-Richter, Bäcker, and Vogt 2009), the macro level of research displays the least number of ODL publications (see Figure 3). During period 1 there were only three published articles from the macro level, which increased to 12 articles in period 2. Four articles on ODL theories and models (sublevel 3) were published in period 2 while there were no articles in the previous period. For the first time, South African articles were published on the sublevels of quality assurance (sublevel 4) and access, equity and ethics (sublevel 5). Various UNESCO chairs on distance education, multimodal learning and open educational resources have been housed at HEIs in South Africa, and it is anticipated that these will lead to an increase in macro-level research within the next few years.

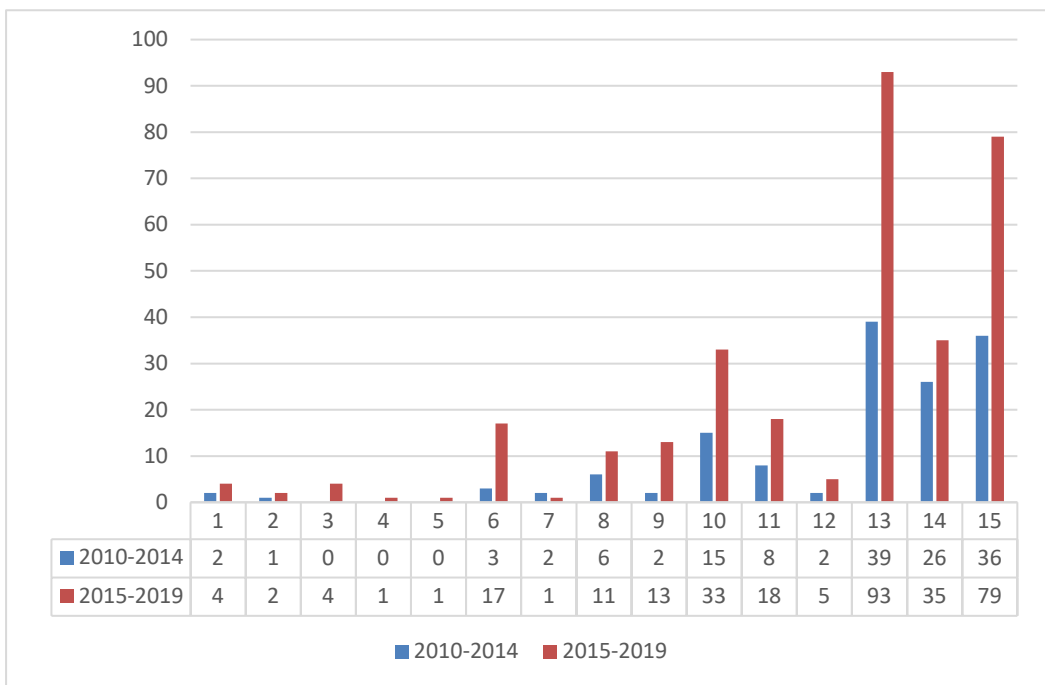


Figure 3: Number of ODL publications in period 1 and period 2

The following section investigates the journals in which the South African articles were published in both period 1 and period 2. Table 5 presents the acronyms for each of the journals in which the South African authors published their articles, and Figure 4 shows the number of ODL articles published in each of these journals. In addition, Table 5 presents the countries in which these journals are published.

Table 5: Acronyms for journals

| Acronym | Journal | Country of publication |
|----------------------|--|------------------------|
| AER | Africa Educational Review | South Africa |
| BJET | British Journal of Educational Technology | United Kingdom |
| DE | Distance Education | Australia |
| EJEL | Electronic Journal of e-Learning | United Kingdom |
| Gender and Behaviour | Gender and Behaviour | South Africa |
| HTS | Hervormde Teologiese Studies | South Africa |
| IRRODL | International Review of Research in Open and Distance Learning | Canada |
| Mousaion | Mousaion | South Africa |
| NGS | Journal for New Generation Sciences | South Africa |
| Progressio | South African Journal for Open and Distance Learning Practice | South Africa |
| SACJ | South African Computer Journal | South Africa |
| AJHPE | African Journal of Health Professions Education | South Africa |
| SAJE | South African Journal of Education | South Africa |
| SAJHE | South African Journal of Higher Education | South Africa |
| SAJIM | South African Journal of Information Management | South Africa |
| TOJDE | Turkish Online Journal of Distance Education | Turkey |

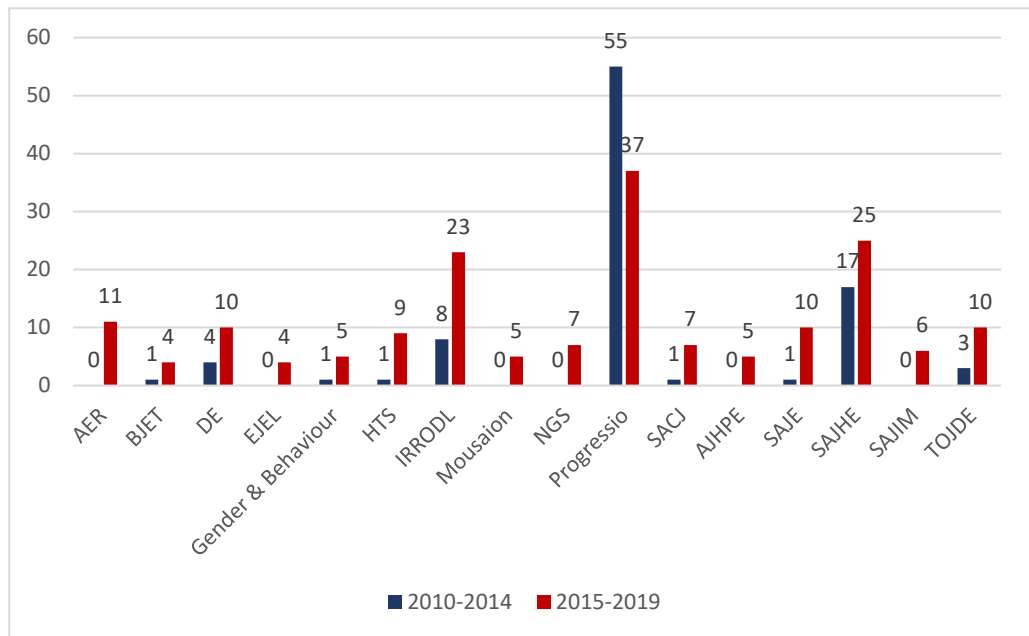


Figure 4: Number of highest publications per journal for periods 1 and 2

Figure 4 shows the journals that have published the highest number of articles authored by South African academics. It only lists those journals with four or more publications in period 2 and accounts for 187 of the 316 articles that were published in period 2. Only 51 out of these 187 (27%) articles from period 2 were published in international journals.

There has been an increase in the number of articles for all these journals, except for *Progressio*, a South African journal curated by Unisa. This is owing to the number of journal issues of *Progressio* decreasing from period 1 to period 2. The largest increase in published journal articles has been in the *International Review of Research in Open and Distributed Learning* (IRRODL), which is a dedicated ODL journal curated by the University of Athabasca in Canada. There has been a 65% increase in journal articles by South African authors between period 1 and period 2, and after *Progressio*, IRRODL has the most significant number of published articles by South African authors.

During period 1 there were 19 publications in the *Mediterranean Journal of Social Sciences* (Roberts 2016). The DHET in South Africa removed this journal from their accredited list in 2016, which is the reason why there are no publications in period 2.

A notable increase can be seen in the new journals that have published South African ODL articles, many of which are in health, information science, engineering and computing. This shows that in addition to the traditional ODL journals, South African authors are now expanding their publication vehicles also to include other academic fields.

Figures 5 and 6 show the number of publications by South African authors from the various HEIs in South Africa and Table 6 provides a list of the acronyms used in the graphs for each of the HEIs in South Africa.

Table 6: Acronyms for South African HEIs

| Acronym | Higher Education Institution |
|-------------|---|
| CUT | Central University of Technology |
| CPUT | Cape Peninsula University of Technology |
| DUT | Durban University of Technology |
| Fort Hare | University of Fort Hare |
| NMMU | Nelson Mandela Metropolitan University |
| North-West | North-West University |
| Sol Plaatje | Sol Plaatje University |
| SUN | Stellenbosch University |
| TUT | Tshwane University of Technology |
| Venda | University of Venda |
| Zululand | University of Zululand |
| UCT | University of Cape Town |
| UFS | University of the Free State |
| UJ | University of Johannesburg |
| UKZN | University of KwaZulu-Natal |
| Unisa | University of South Africa |
| UP | University of Pretoria |
| VUT | Vaal University of Technology |
| WSU | Walter Sisulu University |
| UWC | University of the Western Cape |
| Wits | University of Witwatersrand |
| Other | Other HEIs |

Figure 5 includes the articles authored by Unisa academics (39%) and Figure 6 excludes the Unisa articles. It indicates the increase in articles published by other HEIs.

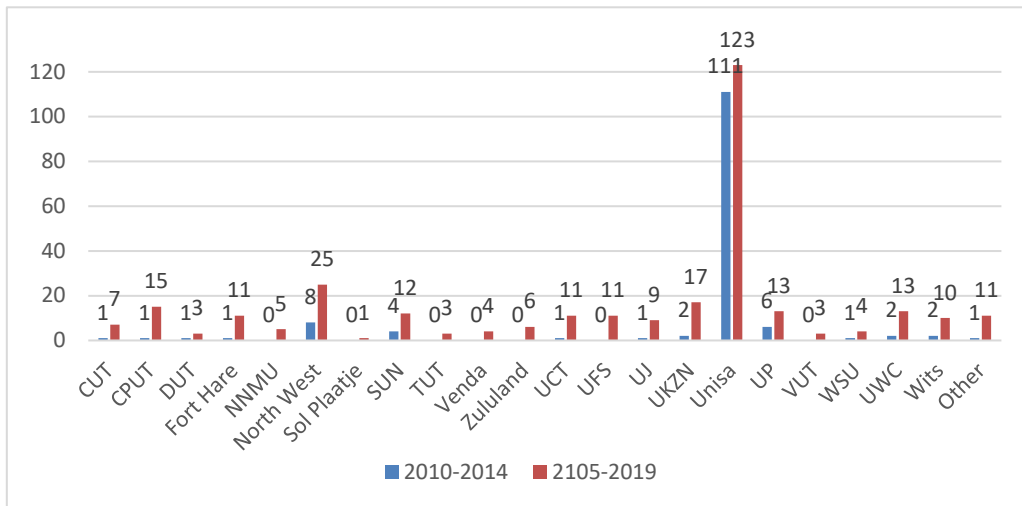


Figure 5: Total number of ODL articles published by South African authors

As shown in Figure 5, the HEI with the highest number of published articles in both period 1 and period 2 is Unisa. Unisa contributed 77% of the articles in period 1 and 39% in period 2. This can be explained by the opening of DE to all HEIs in 2014 and the move to online learning in many of these HEIs, resulting in ODL research publications increasing from HEIs other than Unisa. Figure 6 excludes Unisa publications.

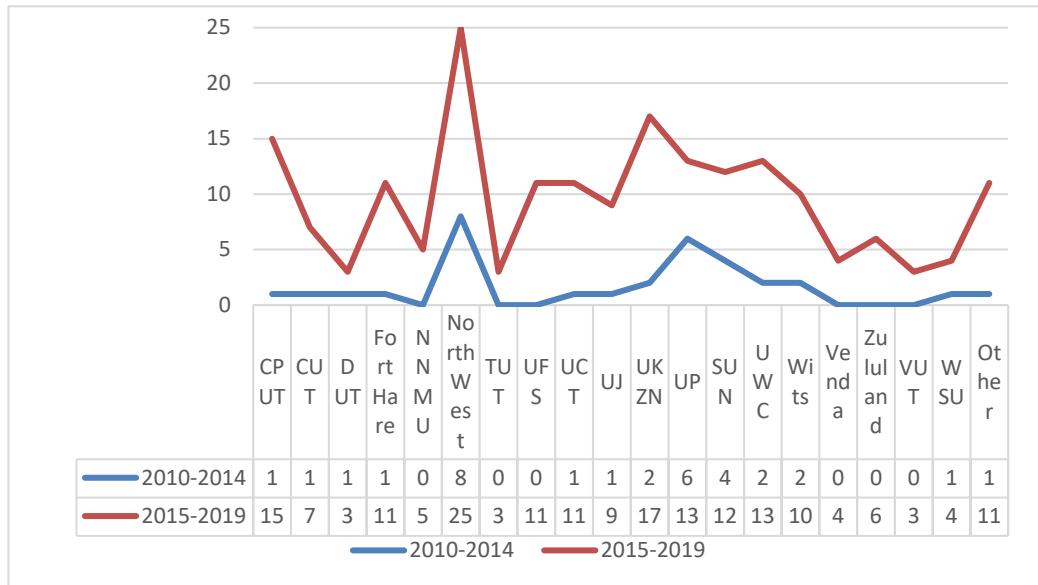


Figure 6: Number of articles by South African HEIs (excluding Unisa)

Figure 6 excludes the number of Unisa articles and indicates that all the other HEIs showed a marked uptake in ODL research publications. Although Unisa is seen as the leading ODL institution within South Africa, it is important to observe which other HEIs are also publishing within the ODL space. It can be noted that North-West (25 publications), UKZN (17 publications) and CPUT (15 publications) follow on from Unisa in the total number of published ODL articles. Some HEIs published ODL articles for the first time in period 2 (NNMU, TUT, UFS, Fort Hare, Venda, Zululand and VUT), which is an indication of the growing interest and investment in DE by other South African HEIs.

Unisa is still the largest producer of ODL research in South Africa in terms of the number of articles, but their growth from period 1 to period 2 is far lower than the other HEIs. During the 2nd period, Unisa increased their article publications by just under 10% (from 111 articles to 123 articles). Many other HEIs who have entered the research field of distance education since the changes in the 2014 White Paper have shown a larger percentage increase in their publications. North-West University grew their distance education research publications by 68% (from 8 to 25 articles), which is not only a larger percentage increase than Unisa, but also a greater absolute number of

articles. Although the other HEIs have published fewer articles, the upward trajectory in research outputs on distance education shows a similar trend.

Conclusion

Considering that a five-year period has passed since the previous study on research levels and trends in ODL publications (Roberts 2016), the most recent data found that within the following five-year period (2015–2019) there seems to have been no significant shift towards the exploration and increased publication on the major overarching themes as identified in Zawacki-Richter's (2009) framework. The authors were perhaps expecting that, due to the increased focus on ODL research in South Africa since the field of distance education was expanded to include universities other than Unisa, the field would have matured in terms of research publication levels, according to the Zawacki-Richter framework. The small variance in ODL levels of publication from period 1 to period 2 could be explained by the influx of new researchers into this field. The expectation is that changes in research levels will occur in the next five-year period. This will be due to the addition of UNESCO chairs in the field of distance education, multimodal learning and open educational resources, as well as the development of researchers in this relatively new field.

The data presented indicate that South African authors are prone to focus on micro-level publication processes and do not contribute extensively towards the meso and macro research levels. This is consistent with the findings of Roberts (2016). Although some authors do contribute towards meso-level publication, it seems that some sublevels are falling behind. One such sublevel involves focusing on cost and benefit procedures within the DE context.

Data in this study indicated that there still seems to be a lack of macro-level publication outputs within the recent five-year period. However, there has been a marked increase in the number of these publications. This might be because macro-level research outputs are strongly related to higher overarching DE factors and are usually published by academics with great insight and experience within the DE context. Research processes at this level are seen as longitudinal and labour intensive in nature. Therefore, DE authors must focus on these research levels and areas to define the macro level within their own contextually relevant African perspective. South Africa still needs to develop more specialists in the field and the introduction of UNESCO chairs in this field should contribute significantly to this in the future.

The study highlights that other HEIs besides Unisa are increasingly focusing on ODL research. This allows for the application, implementation, growth and research opportunities from various institutional perspectives when it comes to ODL research.

The research also highlights other areas that are noteworthy to South African academics. Only 27% of the articles analysed in this study during period 2 were published in international journals. This is in line with the proliferation of articles published at the

micro level, which, although important in the South African context, could be perceived as irrelevant to the international community. South Africa forms part of the developing countries in the world, and as such, our ODL research must have a broader impact than just locally. The authors believe that publications in both South African and international journals are equally essential, and prospective ODL authors should consider targeting some international journals.

It is recommended that further research be carried out that includes published conference proceedings and book chapters to expand the database for analysing South African published ODL research. Further analyses of the data could include an analysis of the research designs, methodologies and depth of analysis used by the South African ODL researchers. In addition, consideration should be given to developing a context-specific ODL research framework for South Africa and other developing countries.

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