



Mapping the field of research on African higher education: a review of 6483 publications from 1980 to 2019

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Abstract

Following a global trend, higher education (HE) in Africa has also become a complex enterprise, potentially demanding specific expertise in higher education research. However, despite this, there is a dearth of analysis into the state of research on African HE. This paper seeks to fill this gap by mapping and analysing African HE research. We undertake a systematic review of 6483 articles and books focusing on African HE published from 1980 to 2019 in indexed and non-indexed journals and book-publishers. We particularly examine the evolution of publications, the journals and book publishers, the authors' affiliations, the researched countries, the publications' thematic classification, the most prolific authors, and the most influential publications. Based on this analysis, we draw four main conclusions. First, research on African HE is a rather recent phenomenon or has witnessed a recent rise or renewal. Second, a few selected journals and book-publishers, particularly those with a strong regional or international reputation, dominate the field. Third, four communities of researchers are more represented: the community researching teaching and learning issues, the community focusing on structural transformation of HE, the community focusing on the internal organisation of HE and the community focusing on societal engagement of HE. Four, South Africa dominates the field both as home to most of the authors (including the most prolific) and the empirical field of most publications (including the most influential). If South Africa is excluded, African HE research is weak, but some communities are emerging, particularly in West, East and Southern Africa.

Keywords Africa · Higher education research · Systematic review · Mapping the field

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Introduction

Following a global trend of massification, higher education (HE) in Africa has expanded considerably. Higher education institutions (HEIs) have diversified in typologies and increased in number: from about 30 HEIs at independence in the 1960s to over 600 HEIs by the 2000s (Zezeza 2016). Student enrollments have also increased, from less than 200 thousand in the 1970s to over 5 million in the 2000s (Mohamedbhai 2014). Borrowing Altbach's (2014, 2002) terms, HE in Africa has also become a complex enterprise. Most African countries have several diverse HEIs within their national borders, with an increasingly large number of students and (non-)academic staff, complex administrative structures and various academic programs. In order to meet the double challenge of linking Africa to global science and addressing local socio-economic problems (Cloete et al. 2015), this complex enterprise demands considerable resources and sophisticated managerial settings.

As Altbach (2002: 153) pointed out, the complexification of HE worldwide implied “a great need for expertise and data about all aspects of HE”, resulting in the emergence of the field of HE research. As often happens with emerging scientific domains, the literature has mapped the field of HE research. Some scholars have addressed the features of the field through disciplinary or non-disciplinary debate (Teichler 1996, 2005; Tight 2004, 2020). Others have focused on the development of the field in specific regions (Altbach 2014 for a global portrait; Teichler 2015 for Europe). Drawing from the observation that “the maturity of higher education research differs between regions and countries” (Jung et al. 2018: 2)—with North America and Western Europe dominating the field—mapping efforts have recently focused on the developing world, particularly Asia (Horta and Jung 2014; Jung and Horta 2013; Jung et al. 2018).

In Africa, although HE is also becoming a complex enterprise, there is a lack of analysis of the state of the field. The scanty available literature often targets South Africa (Strydom and Fourie 1999; Wilkinson and Van Jaarsveldt 2009) and is frequently based on projects and postgraduate dissertations, i.e. not exclusively on peer-reviewed publications (Muller, 1998 and Wilkinson and Van Jaarsveldt 2009, both quoted by Bitzer and Wilkinson 2009: 389; McKenna et al. 2018). Wolhuter (2014) conducted one of the rare studies that examined HE research targeting South Africa through peer-reviewed articles, but the study only focused on one South African journal and five specialised international journals, and was limited to 2001–2010. In other words, there is lack of systematic analyses of the state of HE research targeting all of Africa. In this paper, we seek to fill this gap, by mapping and analysing HE research targeting Africa. We undertake a systematic review of publications focusing on African HE published in specialised and non-specialised journals and books, for the period of 1980 to 2019. We examine the evolution of publications and journal/book publishers, the most influential publications, the publications' thematic classification, the most prolific authors, the countries of institutional affiliation of authors, and the researched countries.

Methodology

Higher education as field of study

Before presenting the methodology, and in order to clarify the meaning of African HE research, this paper provides a conceptual account of the nature of HE research. Literature examining the development of HE research often points out three main features (Altbach 2014; Teichler 2015; Tight 2004). First, HE research is not considered a discipline but an interdisciplinary field of study drawing mainly from social science methods and theory. Second, HE research is heterogeneous field. Scholars often specialise in a specific segment of the complex HE enterprise (Daenekindt and Huisman 2020). In addition, as noted by Teichler (2005), the applied focus on HEIs blurs the boundaries between research, consultancy and evaluation. Third, HE research is not a single community of practice, but rather a series of somewhat overlapping communities of practice (Tight 2004). These communities can be defined by themes, venues of publication, disciplinary backgrounds, orientation to theory or practice, institutional affiliations and frequency of researching HE (Tight 2004, 2012; Teichler 2005, 2015). These features highlight the fact that, despite the emergence of specific institutional settings (e.g. specialised HE journals, academic programs and research centres) what qualifies a piece of research as “HE research” is not necessarily the use of a specific analytical framework or publication in a specialised HE outlet, but a focus on the study of the reality of HE. Therefore, in this paper, African HE research refers to any kind of research targeting any phenomenon of African HE, published through conventional scientific venues.

Phase 1: search of publications

The review targeted all peer-reviewed articles and books published between 1980 and September 2019 which focus on Africa as an empirical field of research, and which were authored by scholars affiliated to African and non-African institutions. The search was undertaken in three sub-phases.

In the first sub-phase, articles published in the Web of Science (WoS) and Scopus-indexed journals were targeted. We began by targeting articles published in specialised HE journals, i.e. journals established to publish research only on HE (Tight 2018, Table 3; Table S1, supplementary materials). “Africa” and the individual names of all African countries (e.g. Kenya, South Africa) were used as search keywords in each indexed journal. As HE research is also published by non-specialised journals—HE is the occasional theme or even core of a variety of disciplines, particularly humanities and social sciences (Horta and Jung 2014; Teichler 2015)—a search was also made targeting non-specialised journals (Table 4; Table S2) in order to draw a more comprehensive picture of HE research focusing on Africa. For non-specialised journals, a Boolean search was made in WoS and Scopus combining the following keywords: “higher education”, “tertiary education”, “universities” and “Africa” and the individual names of all African countries. Three additional methods were used to ensure that all possible articles were traced: firstly, both in WoS and Scopus, articles published in each journal were searched by African country/institution. Secondly, as some articles—particularly older and newer ones—are not traced by WoS and Scopus, a search in all volumes and issues of each journal was made. Thirdly, if a journal was systematic in publishing research on Africa, an individualised search, including of the

journal's webpage, was made. During the search, titles and abstracts, and whenever necessary, full texts, were read to see if an article fitted the inclusion criterion: a focus on Africa as the site of research, i.e. examining any aspect of HE in single, two or several African countries, or the whole continent, including articles comparing African with non-African countries. After eliminating short commentaries, book reviews, introductions to (special) issues, editorials, letters to editors, as well as situations where HE appeared only in the name of the publisher, or HE and Africa were mentioned in an article but the research was not on HE, we identified 1389 valid articles published in specialised journals and 2856 published in non-specialised journals.

In the second sub-phase, articles published in African non-indexed journals were targeted. This was done because, as scientometric studies have demonstrated, African science is underrepresented in international statistics on science (Tijssen 2007). Most of Africa's science is "hidden", i.e. it is published in internationally non-indexed and therefore less visible outlets. While some African journals are relevant for domestic and regional purposes and have quality control mechanisms, concerns have been voiced regarding predatory publishing practices, and a lack of regularity combined with the high mortality of African-based journals (Smart 2005; Mouton and Valentine 2017). Given this situation, the review strived to include journals with minimum quality standards. Two databases were used for this purpose: first, journals indexed in the *African Journal Online*¹ (AJO), which includes African-based journals in disciplines likely to publish HE research (e.g. social sciences, humanities, science and technology); second, journals catalogued in the *African Education Research Database*,² an online platform established by the University of Cambridge. Given Africa's linguistic diversity, two additional non-African databases were consulted to find journals published in French (*cairn.info*³) and Portuguese (*SciELO*⁴), which are not Scopus or WoS-indexed. The inclusion criteria described above for indexed journals were also used to search articles in non-indexed journals. After due eliminations, we identified 493 articles (Table S4) published in African-based HE specialised journals, and 1288 articles (Table S3) published in non-specialised journals.

The third sub-phase consisted of searching books, book-chapters and edited books (hereafter referred to as "books") on African HE published by Scopus- and WoS-indexed and non-indexed book publishers. Indexed books were searched using similar methods and criteria to those used for indexed journals, except that only records indexed as books, book-chapters or edited books were counted. For non-indexed books, two sources were used: first, keywords were used to search in *Google books* and *Google scholar*; second, the websites of active African book publishers, such as *Codesria*, *African Minds* and *Academic Presses* (e.g. *Human Science Research Council Press*) were extensively searched. Only conventional publications were included—working papers and reports were not included in the sample. To avoid inflating the number of books, we did not count individual book chapters published in edited volumes targeting African HE. A total of 394 indexed books and 63 non-indexed books were found to match our criteria.

¹ <https://www.ajol.info/index.php/ajol>

² <https://essa-africa.org/AERD>

³ <https://www.cairn.info/>

⁴ <https://scielo.org/>

Phase 2: categorisation of publications

In the second phase, we read all the publications in order to map and analyse HE research on Africa. The publications were classified according to period of publication, journal or publisher, researched countries and authors' institutional and country affiliation. Three periods of publication—1980–2000, 2001–2010 and 2011–2019—revealed the publications' evolution over time. The journal and publisher analysis uncovered the characteristics of publication venues for African HE. Authors' affiliations depicted the countries where HE research communities are based.

Phase 3: thematic classification of publications

In the third phase of analysis, the publications were classified by theme. To draw a classification meaningful to Africa, the point of departure was Teichler's (2005, 2015) account of considering HE research as theme-based (as with any interdisciplinary field). Hence, it is not surprising that several thematic classifications have been suggested (Teichler 2005, 2015; Tight 2004, 2012; Clark and Neave 1992). At least three classificatory approaches are relevant to this study. In the first approach, Teichler (2005) suggests a classification based on four "spheres of knowledge": (1) research addressing quantitative-structural aspects (e.g. access and admission, elite and mass HE); (2) research addressing knowledge and subject related aspects (e.g. disciplinarity versus interdisciplinarity); (3) research addressing personal or teaching and learning-related aspects (e.g. teaching and learning styles, assessment and examinations, students, and academic staff); and (4) research addressing aspects of the institution, organisation and governance (e.g. planning, administration, management, decision-making, efficiency and effectiveness, funding, etc.). The second approach classifies the themes according to the functions of HE: studies relevant for teaching and learning function; studies relevant for decision-making and organisation; studies relevant for the societal engagement of HE; studies relevant for the international dimension of HE. The third approach classifies the themes in a more flexible manner. For example, Tight (2012, 2004) classifies the themes into eight categories: (1) teaching and learning, (2) course design, (3) student experience, (4) quality (including course evaluation), (5) system policy (including funding and policies), (6) institutional management (including institutional leadership and governance, etc.), (7) academic work (including careers, academic roles, etc.) and (8) knowledge (including forms of knowledge, research, etc.).

These classifications show, as Teichler (2015: 831) recognised, that there is no widespread agreement on how to classify HE research. However, it is possible to use them to suggest some major themes. For this study, the different classifications were combined into 18 themes. While all the themes are based on a combination of existing classifications, some themes (e.g. 12 to 18) were added or disaggregated as we read the publications. This enabled us to consider the bulk of research related to the development of African HE. The 18 themes are as follows:

- 1 *Policy, politics, governance, administration and organisation of HE* (hereafter referred to as *governance*): publications addressing how HE is organised, administered and governed. Integrated in this theme are all publications addressing governance or the

- decision-making and organisational function of HE (Teichler 2005) or what Tight (2004, 2012) classifies as institutional management, including policy aspects.
- 2 *Funding of HE*: though often part of management, it deserves a separate account given the challenges of funding HE in Africa.
 - 3 *Societal engagement* (similar to societal engagement as suggested by Clark and Neave (1992): publications addressing sub-topics of the third mission or function of HE: the private and social returns of HE; students, graduates and the labour market, including tracer studies; the contribution of HE to economic actors, including university-industry linkages; the relevance of HE to local governments, communities, NGOs and civil society.
 - 4 *Teaching and learning* (T&L): publications addressing processes and practices of T&L in HE.
 - 5 *Curriculum and disciplinary knowledge (curriculum)*: publications addressing the teaching-focused organisation of academic and disciplinary knowledge in HE.
 - 6 *Student experience*: publications addressing the way students experience teaching, learning and supervision in HE, including how their academic performance is assessed.
 - 7 *Access and equity*: publications addressing the accessibility of HE to diverse racial, ethnic, socio-economic and regional population subsets. Gender is excluded—it deserves a separate category.
 - 8 *Academics*: publications addressing the characteristics of academic staff, including their hiring and management system.
 - 9 *History of HE*: publications addressing the historical development of HE in Africa.
 - 10 *Quality assurance (QA)*: publications addressing the processes of assuring and accrediting academic programs and institutions. We did not include publications addressing grading and outcomes, as Tight (2012) did: these publications belong to the sixth category above.
 - 11 *Gender*: publications addressing student and academic staff *gender* issues.
 - 12 *Scientometrics*: publications addressing the scientific performance of African HEIs.
 - 13 *Globalisation and internationalisation (globalisation)*: publications addressing the way African HE collaborates with foreign counterparts.
 - 14 *Data and information systems (data/information)*: publications addressing the management of data and information by African HEIs, including library information.
 - 15 *Graduate education*: publications addressing the development of postgraduate education.
 - 16 *Challenges/transformation of HE (challenges)*: publications addressing several challenges (e.g. funding, governance, teaching and learning, etc.) imposed by changes in African HE.
 - 17 *Private HE*: publications addressing the development of private HE in Africa.
 - 18 *Research methodology*: publications addressing methodological approaches of researching HE in Africa.

Obviously, as Tight (2004: 6) acknowledged, accurate classification is almost impossible due to the overlap between different categories. For example, a publication may address the curriculum or structure of knowledge of the academic programs offered at a university, and at the same time the process of teaching and learning related to that curriculum. Or a publication may address the features of a doctoral program but with a special focus on how gender affects access, and sometimes success, in that program. For this study, we judged a publication's fitness for a specific category based on the

addressed research question and related findings, and, in case of several research questions, on the most significant core research question and related findings.

Phase 4: most cited (influential) works and most prolific authors

In the fourth phase, the most influential publications, i.e. those with ten or more citations, were identified. For works published in indexed journals or book publishers, Scopus or WoS citations were used (see Table S5). After exporting all the citations as CSV-files, a database was created in which the most cited articles were organised in descending order, and categorised into themes, affiliations and researched countries. For books published by indexed publisher (e.g. Springer, Routledge, some university presses) but not traced by Scopus and WoS, we considered citations counted on the publisher's website or alternative websites, filtering citations by peer-reviewed publications (e.g. Dimensions, Semantic Scholar). For non-indexed publications, Google Scholar (GScholar) citations were used (Tables S5 and S6). The most productive authors, i.e. authors with four or more first-author works published in indexed and non-indexed journals and book-publishers, were searched for. Only first-author articles were considered to avoid repetitive counting, and also because in most social science fields the first author is usually the person who has made the most significant intellectual contribution to the work. For authors traced by Scopus and WoS, CSV-files (for those not traced, GScholar) were used to analyse the most prolific authors and create an author database (Table S10).

Limitations

In spite of our extensive search efforts, we might have missed some relevant publications. For example, the use of online scientific databases does not enable the tracing of publications existing only in hard-copy format, and which might have been published, for example, by an African-based national university or non-university press or publisher. Moreover, according to López-Cózar et al. (2019), WoS and Scopus have limited temporal, spatial, linguistic and disciplinary coverage: almost 90% of indexed publications are journal articles (to the detriment of books), published in English (to the detriment of other languages), about or by developed countries (to the detriment of developing countries), mostly in STEM fields (to the detriment of social sciences/humanities). These biases potentially obfuscate African-based research. Nwagwu (2010) considers this to be “social cybernetics” in science, i.e. the biases of scientific data, indexes and publishing practices mostly giving advantage to developed countries. For example, some African-based book publishers (e.g. *Codesria*) and journals (e.g. *Journal of Higher Education in Africa*) are not traced by WoS or Scopus, despite publishing relevant works and issuing volumes on a regular basis. To minimise these biases, GScholar was used to trace more publications, but the process was challenging because GScholar also includes grey literature and does not enable a reliable search for authors, institutional affiliations and sources.

Besides the search limitations, the manner in which we have counted citations should be regarded with caution. Should we have used GScholar citations for both indexed and non-indexed publications, the rank of most cited works would have been different. This is because some indexed publications have higher citations in GScholar than non-indexed publications. We chose WoS and Scopus citations for indexed publications in order to better visualise citation patterns.

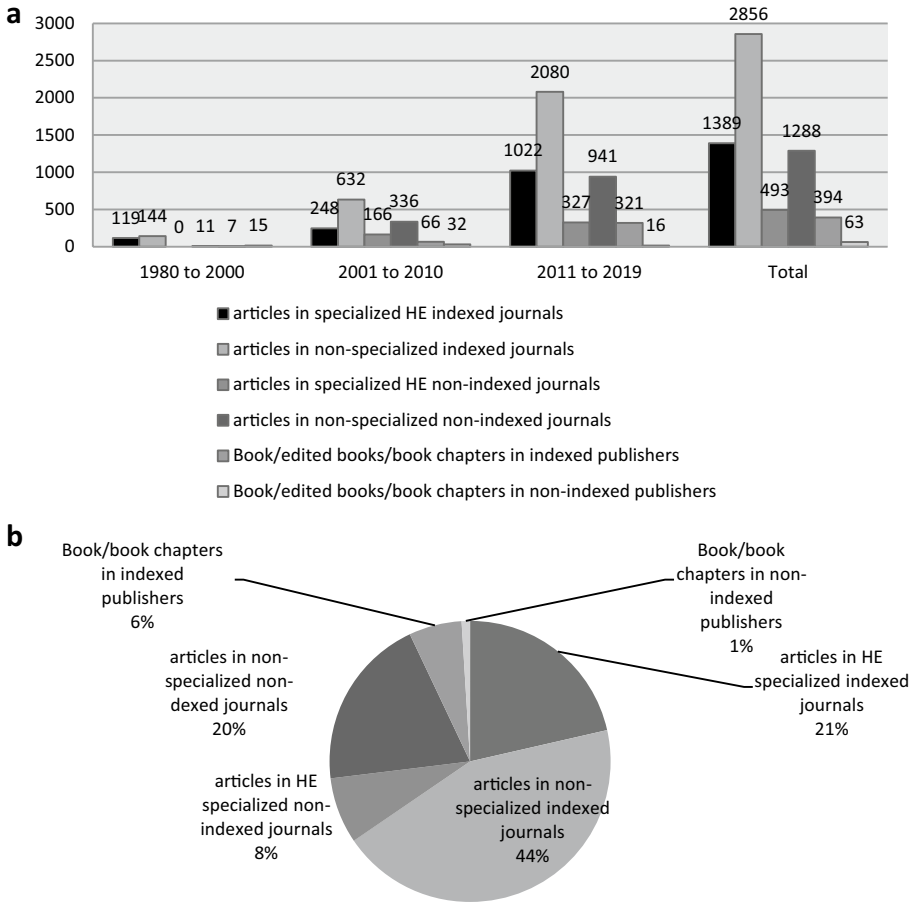


Fig. 1 a Evolution of publications on African HE (total of 6483). b Percent of publications per type

Findings

Evolution of publications, journals and authors' affiliations

Figure 1 a shows that a total of 6483 publications on African HE were produced between 1980 and 2019. The temporal evolution of these publications suggests that research targeting African HE is a recent phenomenon: 6187 articles, corresponding to 95%, were published from 2001 to 2019. By 2000, only 296, equivalent to 5%, had been published. Figure 1 b shows that journals are the dominant publication venue: articles represent 93% and books only 7%. Most research is indexed: 71% was published in indexed journals or book publishers. This representation suggests three insights: authors continue to be incentivised, or prefer, to publish in international rather than local journals; a high standard of research on Africa HE; and the connectivity of authors to the global scientific and publishing landscape. Specialised journals account for 29% of articles, while non-specialised journals account for 66%, suggesting that HE research targeting Africa is potentially being produced by (part-time) researchers from the main disciplines. In spite of Africa's

Table 1 Articles by specialised indexed journals

Journals	Period						Total 1980–2019	
	1980 to 2000		2001 to 2010		2011 to 2019		N	%
1. South African Journal of Higher Education (SAHE)	N	%	N	%	N	%	N	%
2. Higher Education (HIGH)	0	0.0%	0	0.0%	631	61.7%	631	45.4%
3. Higher Education Policy (HEPOL)	53	44.5%	47	19.0%	45	4.4%	145	10.4%
4. Teaching in Higher Education (THE)	26	21.8%	29	11.7%	27	2.6%	82	5.9%
5. Industry and Higher Education (IHE)	2	1.7%	29	11.7%	48	4.7%	79	5.7%
6. Studies in Higher Education (SHE)	5	4.2%	22	8.9%	47	4.6%	74	5.3%
7. Higher Education Research and Development (HERD)	5	4.2%	15	6.0%	41	4.0%	61	4.4%
8. Assessment and Evaluation in Higher Education (AEHE)	0	0.0%	3	1.2%	42	4.1%	45	3.2%
9. Quality in Higher Education (QHE)	10	8.4%	24	9.7%	9	0.9%	43	3.1%
10. Journal of Geography in Higher Education (JGHE)	7	5.9%	20	8.1%	13	1.3%	40	2.9%
11. International Journal of Sustainability in Higher Education (IJSHE)	3	2.5%	11	4.4%	9	0.9%	23	1.7%
12. Journal of Higher Education Policy and Management (JHEPOM)	0	0.0%	5	2.0%	17	1.7%	22	1.6%
13. Tertiary Education and Management (TEM)	1	0.8%	8	3.2%	12	1.2%	21	1.5%
14. Arts and Humanities in Higher Education (AHHE)	0	0.0%	11	4.4%	4	0.4%	15	1.1%
15. Journal of Applied Research in Higher Education (JARHE)	0	0.0%	5	2.0%	10	1.0%	15	1.1%
16. Journal of Further and Higher Education (JFHE)	0	0.0%	0	0.0%	14	1.4%	14	1.0%
18 journals (each journal accounts for below 1%)	4	3.4%	4	1.6%	6	0.6%	14	1.0%
Grand total	116	97.5%	233	94.0%	975	95.4%	1324	95.3%
	3	2.5%	15	6.0%	47	4.6%	65	4.7%
	119	100.0%	205	100.0%	1022	100.0%	1389	100.0%

Table 2 Articles by non-specialised indexed journals

Journals	Period							
	1980–2000		2001–2010		2011–2019		Total 1980–2019	
	N	%	N	%	N	%	N	%
1. Library Philosophy and Practice	0	0.0%	34	5.4%	289	13.9%	323	11.3%
2. African Education Review	0	0.0%	17	2.7%	107	5.1%	124	4.3%
3. BMC Medical Education	0	0.0%	7	1.1%	87	4.2%	94	3.3%
4. Medical Teacher	7	4.9%	39	6.2%	41	2.0%	87	3.0%
5. Scientometrics	7	4.9%	22	3.5%	48	2.3%	77	2.7%
6. Education as Change	0	0.0%	45	7.2%	28	1.3%	73	2.6%
7. Turkish Online Journal of Distance Education	0	0.0%	24	3.8%	46	2.2%	70	2.5%
8. Electronic Library	8	5.6%	26	4.2%	30	1.4%	64	2.2%
9. Southern African Linguistics and Applied Language Studies	0	0.0%	26	4.2%	25	1.2%	51	1.8%
10. Acta Academica	0	0.0%	11	1.8%	37	1.8%	48	1.7%
11. International Journal of Educational Sciences	0	0.0%	0	0.0%	46	2.2%	46	1.6%
12. Innovation in education and teaching international	1	0.7%	3	0.5%	31	1.5%	35	1.2%
13. Library Review	3	2.1%	10	1.6%	22	1.1%	35	1.2%
14. International Review of Research In Open and Distributed Learning	0	0.0%	5	0.8%	29	1.4%	34	1.2%
15. Education and Information Technologies	0	0.0%	0	0.0%	33	1.6%	33	1.2%
16. International Journal of Engineering Education	5	3.5%	12	1.9%	15	0.7%	32	1.1%
17. Libri	5	3.5%	8	1.3%	17	0.8%	30	1.1%
18. Information Development	2	1.4%	14	2.2%	14	0.7%	30	1.1%
19. Journal of Academic Librarianship	2	1.4%	0	0.0%	28	1.3%	30	1.1%
20. Social Dynamics	8	5.6%	21	3.4%	1	0.0%	30	1.1%
21. Quality Assurance in Education	2	1.4%	15	2.4%	12	0.6%	29	1.0%
22. European Journal of Engineering Education	2	1.4%	9	1.4%	17	0.8%	28	1.0%
23. International Journal of Educational Development	4	2.8%	11	1.8%	12	0.6%	27	0.9%
24. South African Journal of Education	0	0.0%	2	0.3%	24	1.2%	26	0.9%

Table 2 (continued)

Journals	Period									
	1980–2000		2001–2010		2011–2019		Total 1980–2019			
	N	%	N	%	N	%	N	%		
25. SAGE Open	0	0.0%	0	0.0%	26	1.2%	26	0.9%		
26. Journal of Librarianship and Information Science	4	2.8%	4	0.6%	18	0.9%	26	0.9%		
344 journals (each journal accounts for below 0.9%)	60	42%	365	58%	1083	52%	1508	53%		
	84	58%	267	42%	997	48%	1348	47%		
	144	100.0%	632	100.0%	2080	100.0%	2856	100.0%		

Table 3 Articles by specialised non-indexed journals

Journals	Period							
	1980–2000		2001–2010		2011–2019		Total 1980–2019	
	N	%	N	%	N	%	N	%
1. Journal of Higher Education in Africa	0	0.0%	104	62.7%	89	27.2%	193	39.1%
2. Makerere Journal of Higher Education			29	17.5%	108	33.0%	137	27.8%
3. Critical Studies in Teaching and Learning			0	0.0%	45	13.8%	45	9.1%
4. Student Affairs			0	0.0%	43	13.1%	43	8.7%
5. International Journal of African Higher Education			0	0.0%	37	11.3%	37	7.5%
6. Ethiopian Journal of Higher Education			33	19.9%	5	1.5%	38	7.7%
			166	34%	327	66%	493	100%

linguistic diversity, English dominates as the scientific lingua franca: only 2% of publications (total = 136—6 books and 130 articles) were written in Portuguese and French, these mostly in non-specialised journals. Only one African-based bilingual specialised journal, the *Journal of Higher Education in Africa*, has published a significant number of articles (27) in French.

The analysis of journals depicts three trends (Tables 1, 2, 3 and 4). First, while in terms of aggregate numbers non-specialised journals dominate, closer scrutiny reveals a concentration in specialised journals. Just 40 specialised journals (34 indexed and 6 non-indexed) have published about half the number of articles published by 460 non-specialised journals (370 indexed and 90 non-indexed): the 40 specialised journals altogether published 1882 (1389 in indexed and 493 in non-indexed), while non specialised journals published 4144 articles (2856 in indexed and 1288 in non-indexed). Second, despite the existence of a large number of journals, a few select journals publish the bulk of research. This is particularly the case for indexed specialised journals, where 94.7% of articles were published by 16 journals; the remaining 5.3% were altogether published by 18 journals (Table 1). It is also the case for African-based specialised journals, as 66% of articles were published by two of the six journals (Table 3). A similar trend occurs in non-specialised journals: 26 of the 370 indexed journals published 53% of articles (Table 2), and 23 out of 90 non-indexed journals published 80% of articles (Table 4). Articles published in non-specialised journals are scattered, often in small numbers, across the 344 indexed journals and 67 non-indexed journals. In specialised journals, besides the *South African Journals of Higher Education (SAJHE)*, most researchers have published in well-established international specialised journals, such as *Higher Education (HIGH)*, *Higher Education Policy (HEPOL)*, *Studies in Higher Education (SHE)*, *Teaching in Higher Education (THE)*, *Higher Education Research and Development (HERD)*, as well as in locally reputed journals (e.g. *Journal of Higher Education in Africa (JHEA)*) suggesting authors' sensitivity to, or incentive towards, the journals' quality and international exposure.

Thirdly, non-specialised indexed and non-indexed journals are eclectic, but the dominant ones belong to at least four (inter-)disciplinary fields: education journals (e.g. *African Education Review* and *Zimbabwean Journal of Educational Research*), library and information system journals (e.g. *Library and Philosophy Practice*, *Scientometrics* and *Information Technologist*), African studies journals (e.g. *Social Dynamics*, *African Research*

Table 4 Articles by non-specialised non-indexed journals

Journals	Periods							
	1980–2000		2001–2010		red		Total 1980–2019	
	N	%	N	%	N	%	N	%
1. The information technologist	0	0.0%	66	19.8%	221	23.5%	287	22.4%
2. Information Impact: Journal of Information and Knowledge Management	0	0.0%	0	0.0%	96	10.2%	96	7.5%
3. Gender and Behaviour	0	0.0%	12	3.6%	46	4.9%	58	4.5%
4. Zimbabwe Journal of Educational Research	0	0.0%	15	4.5%	42	4.5%	57	4.4%
5. Huria: Journal of the Open University of Tanzania	0	0.0%	1	0.3%	52	5.5%	53	4.1%
6. IFE Psychologia: An International Journal	1	11.1%	26	7.8%	21	2.2%	48	3.7%
7. Samaru journal of information studies	0	0.0%	14	4.2%	29	3.1%	43	3.4%
8. Nigerian libraries	0	0.0%	6	1.8%	34	3.6%	40	3.1%
9. African Research Review	0	0.0%	18	5.4%	21	2.2%	39	3.0%
10. Ethiopian Journal of Education and Sciences	0	0.0%	19	5.7%	18	1.9%	37	2.9%
11. Global Journal of Educational Research	0	0.0%	7	2.1%	25	2.7%	32	2.5%
12. Nigerian Journal of Guidance and Counselling	6	66.7%	17	5.1%	6	0.6%	29	2.3%
13. Information Manager (The)	0	0.0%	4	1.2%	25	2.7%	29	2.3%
14. Revista Electrónica de Investigación e Desenvolvimento	0	0.0%	0	0.0%	29	3.1%	29	2.3%
15. Ghana Library Journal	0	0.0%	24	7.2%	3	0.3%	27	2.1%
16. African Journal for the Psychological Studies of Social Issues	0	0.0%	8	2.4%	19	2.0%	27	2.1%
17. University of Dar es Salaam Library Journal	0	0.0%	16	4.8%	10	1.1%	26	2.0%
18. African Journal of Chemical Education	0	0.0%	0	0.0%	16	1.7%	16	1.2%
19. Annals of Modern Education	0	0.0%	7	2.1%	7	0.7%	14	1.1%
20. African Journal of Educational Studies in Mathematics and Sciences	0	0.0%	4	1.2%	10	1.1%	14	1.1%
21. Journal of Educational Foundations	0	0.0%	0	0.0%	13	1.4%	13	1.0%
22. Rwandan Journal of Education	0	0.0%	0	0.0%	13	1.4%	13	1.0%
23. Feminist Africa	0	0.0%	12	0.0%	1	0.1%	13	1.0%
	7	64%	276	82%	751	80%	1034	80%

Table 4 (continued)

Journals	Periods							
	1980–2000		2001–2010		red		Total 1980–2019	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
67 journals (each journal accounts for below 1%)	4	36%	60	18%	190	20%	254	20%
	11	100.0%	336	100.0%	941	100.0%	1288	100.0%

Table 5 Books/book-chapters/edited books per publisher

Publisher	Non-African-based publishers			Total	Percent
	Books	Book chapter	Edited volume		
Routledge	19	63	5	87	19%
Springer	7	55	8	70	15%
IGI Global	0	50	3	53	12%
SensePublishers	0	14	1	15	3%
Chandos Publishing	0	12	0	12	3%
NovaScience	0	9	2	11	2%
Brill Sense	1	7	1	9	2%
Emerald	2	8	1	11	2%
Other international publishers	9	20	5	34	7%
Non-African academic presses	4	9	3	16	4%
World Bank	6	0	0	6	1%
Unesco	4	2	5	11	2%
Subtotal	52	249	34	335	73%
Non-African-based publishers					
Publisher	Book	Book-chapter	Edited volume	Total	%
HSRC Press	22	0	6	28	6%
Codesria	20	0	7	23	5%
African Minds	14	4	6	15	3%
Africa Book Collective	3	2	6	8	2%
Africa SunMedia	5	3	7	6	1%
Other African Publishers	4	2	4	9	2%
Wits University Press	4	0	3	5	1%
Subtotal	72	11	39	122	27%
Grand total	124	260	73	457	100%
%	27%	57%	16%	100%	

Review) and development studies journals (e.g. *Development Southern Africa*). This finding suggests that scholars from interdisciplinary fields undertake significant research on African HE (e.g. *Education, African Studies, Scientometrics, Library/Information Sciences and Development Studies*).

The analysis of book publishers reinforces the idea that authors are sensitive, connected or incentivised to value quality and international exposure: 73% of books were published by international publishers, championed by *Springer* and *Routledge*. In Africa, four publishers seem to be the most represented: *HSRC Press, Codesria, African Minds, African Book Collectives* and *Africa Sun Media* (Table 5).

An average of 44% of authors are affiliated to South African institutions and 20% to Nigerian institutions (Table 6). But the analysis of the typology of publications reveals that South Africa dominates in indexed publications (specialised, non-specialised and books), and non-indexed specialised publications, while Nigeria is more represented in non-specialised and non-indexed publications. Besides South Africa and Nigeria, in Africa, only Ghana and Uganda are home to more than 2% of authors' institutional affiliations. Twenty-two African countries are home to less than 2% of authors' institutional affiliations. Among

Table 6 Authors' affiliations

Countries	Indexed journals			Non-indexed journals			Books			
	Specialised	Non-specialised	Average	Specialised	Non-specialised	Average	Index	No index	Average	
South Africa	74%	40%	57%	30%	5%	18%	41%	73%	57%	44%
Nigeria	3%	24%	14%	16%	67%	41%	7%	1%	4%	20%
USA	4%	5%	5%	6%	0%	3%	8%	18%	13%	7%
Uganda	1%	2%	1%	15%	1%	8%	4%	0%	2%	4%
UK	4%	4%	4%	1%	0%	1%	6%	2%	4%	3%
Ghana	2%	5%	3%	2%	7%	5%	3%	1%	2%	3%
Subtotal	88%	80%	84%	55%	80%	68%	66%	96%	81%	78%
East Africa ¹	3%	7%	5%	30%	8%	19%	11%	0%	6%	10%
Southern Africa (all 14 countries ²)	2%	4%	3%	4%	10%	7%	11%	0%	5%	5%
Western countries	5%	6%	6%	6%	1%	3%	6%	0%	3%	4%
North Africa (7 countries ³)	2%	2%	2%	1%	0%	0%	3%	2%	3%	2%
West (7 countries ⁴) and Central Africa (4 countries ⁵)	1%	0%	0%	4%	0%	2%	2%	0%	1%	1%
Asian countries	1%	2%	1%	1%	0%	0%	2%	2%	2%	1%
Latin American countries	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%
Grand total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

¹Ethiopia, Kenya, Tanzania, Rwanda, Eritreia (no affiliation from Djibouti, Burundi, Seychelles, Somalia, Comoros)

²Zimbabwe, Mauritius, Mozambique, Zambia, Malawi, Namibia, Lesotho, Swaziland, Madagascar

³Egypt, Tunisia, Libya, Algeria, Morocco, Sudan (no affiliation from South Sudan)

⁴Togo, Burkina Faso, Senegal, Cote d'Ivoire, Sierra Leone, Cape Verde (no affiliation from Benin, Guinea, Equatorial

Guinea, Mauritania, Guinea Bissau, Liberia, Mali, Niger, São Tome and Principe, Western Sahara)

⁵DR Congo, Congo, Cameroon, Angola (no affiliation from Chad, Central African Republic, Gabon, Sao Tomé and Príncipe)

these least represented countries, East African (10%) and Southern African countries (5%) are better represented than North, West and Central African countries. None author is affiliated to institutions from 20 African countries: five countries are from Eastern Africa (Djibouti, Somalia, Burundi, Comoros, Seychelles); ten from West Africa (Benin, Cape Verde, Gambia, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Western Sahara); 4 from Central Africa (Chad, Central African Republic, Gabon, Sao Tomé and Príncipe); and one from North Africa (South Sudan).

In sum, scholars studying African HE in Africa come from 34 out of 54 countries. In other words, about 40% of countries lack in-house HE research expertise. Scholars researching African HE live in a small number of countries (particularly South Africa, Nigeria, Ghana, and East Africa). This is a matter of concern given the ongoing transformations of HE in Africa. Outside Africa, the USA (7%), UK (3%) and other Western countries (4%) altogether are home to 14% of authors' institutional affiliations, a percentage slightly higher than 12%, i.e. the sum of all African countries, excluding South Africa, Nigeria, Ghana and East Africa. We may conclude that, excluding these countries, there are more scholars interested in African HE in western countries than in African countries.

Thematic classification of publications and targeted countries

Table 7 demonstrates that 9 of the 18 themes—*T&L*, *student experience*, *societal engagement*, *data/information*, *governance*, *access/equity*, *globalisation*, *challenges* and *academics*—have dominated the field from 1980 to 2019, each accounting for more than 5% of publications and together for about 81%. *Gender*, *QA*, *curriculum*, *scientometrics*, *funding*, *graduate education*, *methodology*, *private HE* and *HE history* are the least published themes, together accounting for about 19%. This feature suggests that most research(ers) examine the teaching and learning function and the “third mission” of HE, rather than the “second” mission and organisational and structural features. Grouping the themes together, five main clusters can be identified. The first cluster, accounting for 36%, consists of what is often referred to as *the community of T&L* (Tight 2004, 2012), encompassing *T&L*, *student experience*, *curriculum* and *academics*. The second thematic cluster, accounting for 25%, encompasses publications addressing the *structural transformation* of HE, driven by internal and external factors, namely *access/equity*, *gender*, *globalisation*, *challenges*, *graduate education*, *private HE* and *HE history*. The third cluster, with 25%, is related to the *organisational aspects* and *decision-making function of HE*, i.e. *governance*, *scientometrics*, *data/information*, *QA* and *funding*. The fourth thematic cluster, accounting for 13%, encompasses articles belonging to *societal engagement*, i.e. articles addressing *private and social returns of HE*, *students/graduates* and *the labour market* and *the contribution of HE to economic and social actors*. The fifth and last cluster, accounting for 1%, encompasses articles addressing methodological approaches of researching HE in Africa.

The aggregate analysis of the temporal evolution of themes reveals that *T&L*, *student experience*, *data/information* and *societal engagement* have been a focal point over the three periods, although *T&L* and *student experience* were more widely researched in the 2010s than *data/information* and *societal engagement* (Fig. 2).

Analysing the evolution of themes per publication venue, three main findings can be highlighted: themes that receive more attention, themes that receive less attention and themes that maintain attention. In specialised journals (Fig. 3 a and b), *T&L* and *student experience* received little attention from 1980 to 2000, but they received more attention in the 2010s. *Societal engagement* nearly maintained its attention level over the three periods,

Table 7 Publications' thematic classification

Themes	Indexed journals			Not-indexed			Books			Total average
	Specialised	Non-specialised	Average	Specialised	Non-specialised	Average	Index	Non-index	Average	
	Student experience	17%	19%	18%	11%	24%	17%	5%	8%	
T&L	22%	21%	22%	9%	6%	8%	13%	8%	11%	13%
Societal engagement	11%	9%	10%	11%	4%	8%	10%	33%	21%	13%
Data/information	2%	17%	10%	1%	31%	16%	2%	0%	1%	9%
Governance	6%	4%	5%	15%	5%	10%	12%	6%	9%	8%
Access/equity	7%	3%	5%	4%	2%	3%	11%	14%	13%	7%
Challenges/transformation	2%	2%	2%	13%	3%	8%	10%	6%	8%	6%
Globalization	3%	3%	3%	9%	1%	5%	14%	4%	9%	6%
Fac/staff	7%	5%	6%	6%	9%	8%	2%	4%	3%	5%
Gender	3%	3%	3%	2%	8%	5%	4%	6%	5%	4%
QA	2%	2%	2%	6%	3%	4%	9%	4%	7%	4%
Curriculum	10%	5%	8%	2%	2%	2%	4%	0%	2%	4%
Scientometrics	4%	3%	4%	1%	2%	1%	0%	0%	0%	2%
Funding	2%	1%	2%	6%	1%	3%	1%	2%	2%	2%
Private	0%	1%	1%	2%	0%	1%	2%	4%	3%	2%
History	0%	1%	1%	1%	1%	1%	1%	0%	1%	1%
Methodology	1%	1%	1%	2%	0%	1%	0%	0%	0%	1%
Graduate Education	1%	0%	1%	1%	0%	1%	1%	0%	0%	0%
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

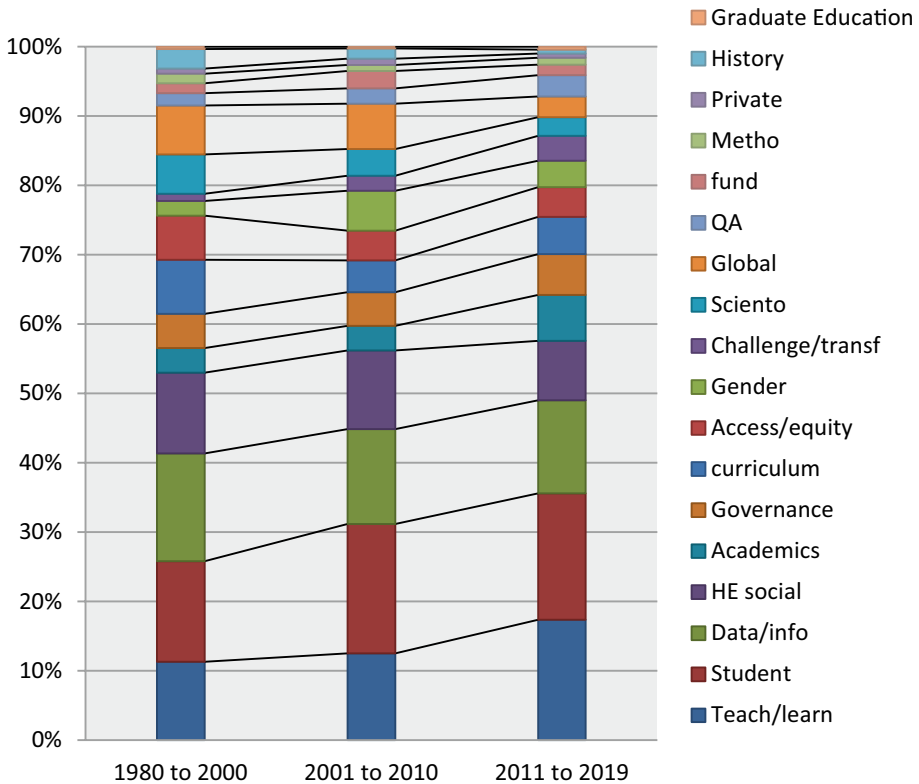


Fig. 2 Evolution of publications per themes (6483 publications)

while *data/information* attention decreased. It is also worth noting the increasing attention paid to *challenges* and *governance* in African-based HE specialised journals, suggesting pressing concerns for scholars to examine the *challenges* imposed by ongoing transformations of African HE, and the *governance* structures required to face these transformations. These *challenges* may also incentivise researchers to examine *QA* and *academics*, since these two themes, despite receiving relatively little attention, maintained a level of focus in both international and local HE specialised journals. In non-specialised journals (Fig. 4 a and b), *T&L*, *student experience*, *societal engagement* and *data/information* were also researched. However, indexed journals differ from non-indexed. In indexed journals, *T&L* and *student experience* received more attention, while *societal engagement* maintained the level. In non-indexed journals, *data/information* and *student experience* received less attention, despite slightly losing ground from the 2000s onwards. In books (Fig. 5 a and b), *societal engagement* maintained a high level of attention both in indexed and non-indexed publishers, while the previously focal themes of *globalisation* and *challenges* lost ground from 2010 onwards to themes such as *governance*, *access/equity* and *T&L*.

With 41% of publications, South Africa is the most researched African country, followed by Nigeria (18%). South African dominance is even evident in different publication venues. South Africa is targeted by 60% of indexed journals (73% of specialised journals), 25% of specialised non-indexed journals and 48% of books. Nigeria is only

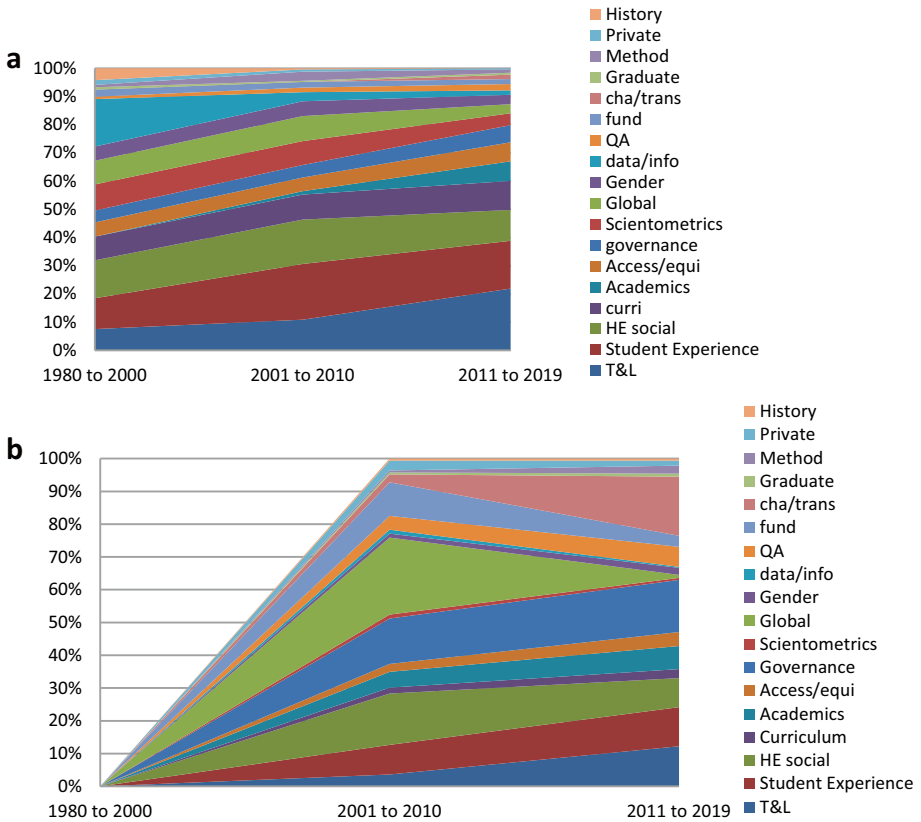


Fig. 3 **a** Evolution of themes in HE specialised indexed journals (1389 articles). **b** Evolution of themes in African HE specialised non-indexed journals (493 articles)

dominant in non-specialised and non-indexed journals. South African dominance is consistent with the fact that 44% of authors are affiliated to South African institutions. South Africa and Nigeria are followed by publications (18%) researching several African countries, regions or the whole continent, including those comparing African countries with non-African countries.

Besides South Africa and Nigeria, only six countries were targeted by more than 2% of publications: Ghana (3%) in West Africa; Uganda (3%), Ethiopia (3%), Kenya (2%) and Tanzania (2%) in East Africa; and Zimbabwe (2%) in Southern Africa. South Africa, Nigeria, and these six African countries represent 92% of all publications. Twenty-nine countries have been less researched, each accounting for below 2% of publications and altogether for 8%. No articles—except perhaps continental or cross-regional studies—have explicitly targeted 16 countries, mostly from North Africa (Western Sahara) Central Africa (Chad, Congo, Central African Republic, Gabon, Sao Tomé and Príncipe), West Africa (Equatorial Guinea, Guinea, Guinea Bissau, Mauritania, Niger, Mali) and East Africa (Djibouti, Eritrea, Somalia, Seychelles). In other words, although African HE has become a complex enterprise, it is still under-researched: 45 (29 under-researched plus 16 non-researched) out of 54 African countries have hardly or never been researched (Table 8).

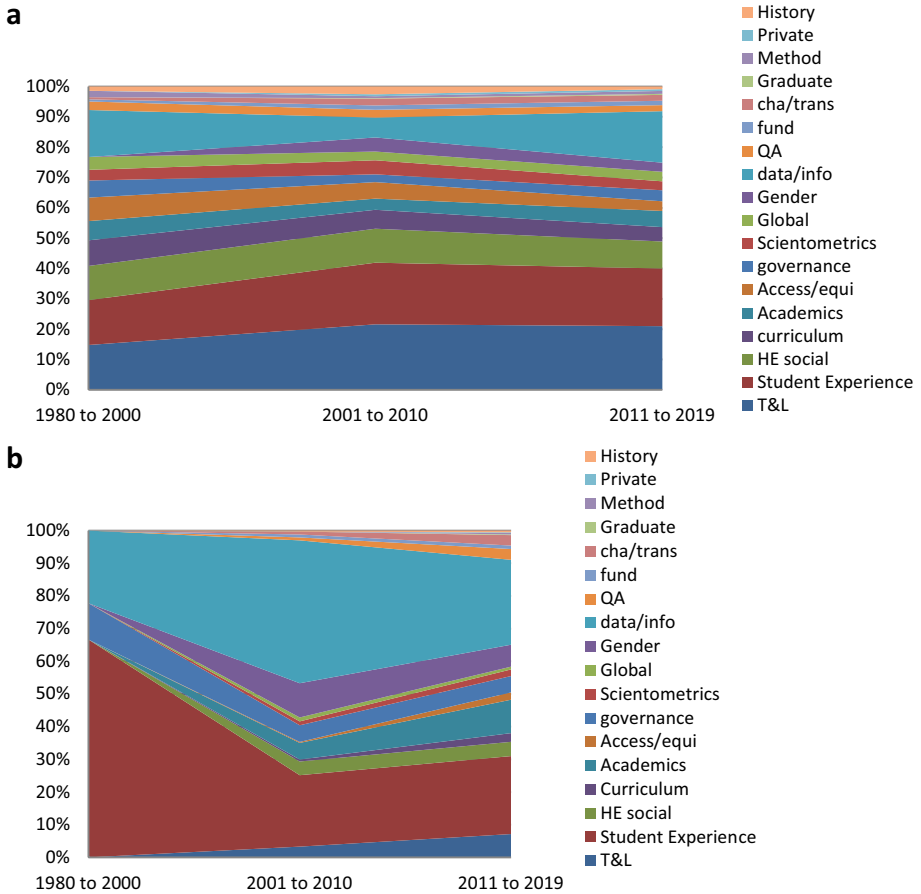


Fig. 4 **a** Evolution of themes in non-specialised indexed journals (2856 articles). **b** Evolution of themes in non-specialised non-indexed journals (1288 articles)

Most cited publications and most prolific authors

Characteristics of most cited publications

Nine hundred and ninety-three publications (15% of 6483) have received ten or more citations. These publications have altogether received a total 31,093 citations (see Table S5 for Scopus citations for indexed publications, and Table S6 for GScholar citations for non-indexed, supplementary materials). Table 9 displays top cited publications (i.e. publications cited more than 100 times).

Seven groups of publications feature in Table 9:

- 1 Publications addressing the societal engagement of HE, focusing on rates of return and HE economic development, authored by George Psacharopoulos (World Bank), David Bloom and his colleagues from Harvard University and by Joel Samoff and his colleagues from UNESCO; and rates of return on engineering graduates and the labour

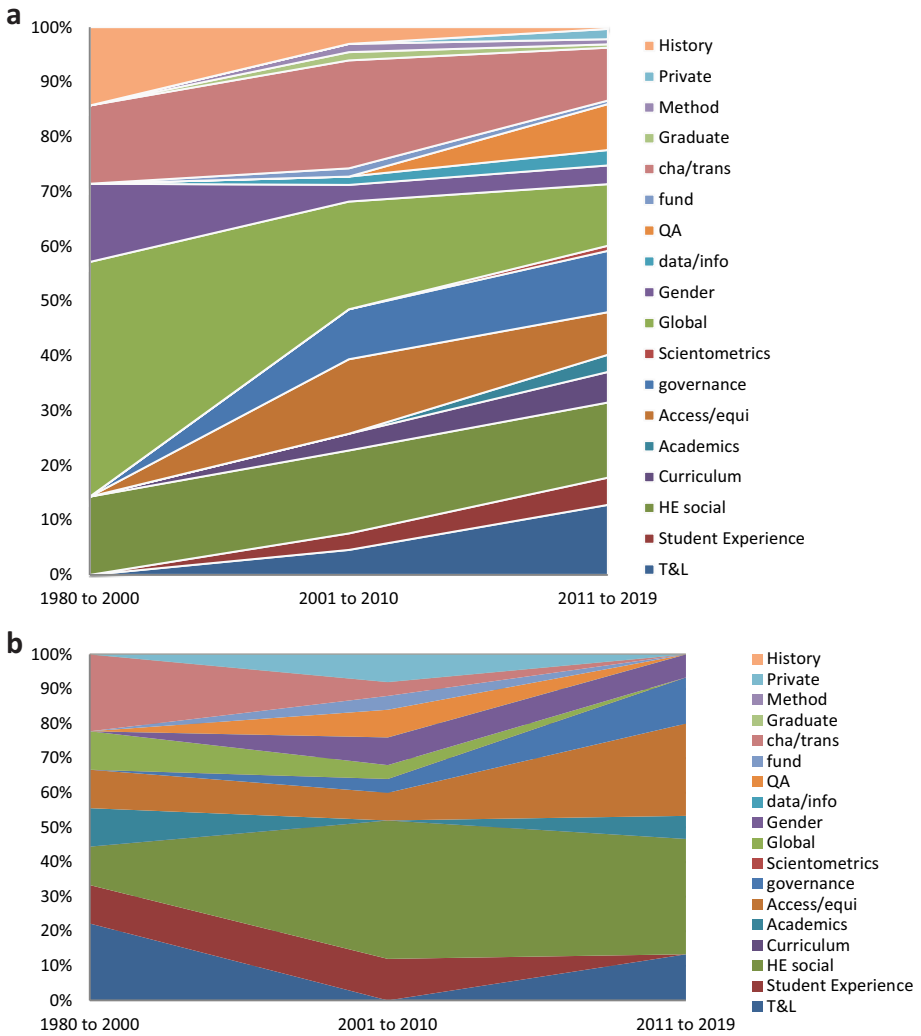


Fig. 5 **a** Evolution of themes in Indexed books (394 books). **b** Evolution of themes in non-indexed books

market, authored by Rosanna Martin and her colleagues from University of Cape Town (UCT). This first cluster produced the highest number of citations, which is consistent with the controversy associated with the economic relevance of HE in Africa.

- 2 Publications addressing *T&L*, focusing on: methodological and supervisor-supervisee issues related to writing a dissertation by post-graduate students, authored by Johann Mouton⁵ (from Stellenbosch); methodological issues of engineering education, authored

⁵ This publication was considered because it does not purely focus on research method but, as the author refers, it lies between research methods and the HE literature focusing on student-supervisor relationship (Mouton, 2001).

Table 8 Researched countries

Researched countries	Indexed journals				Non-indexed journals				Books			Total average
	Non-Specialised		Specialised		Non-specialised		Specialised		Indexed	Non-indexed	Average	
	Non-Specialised	Specialised	Average	Specialised	Non-specialised	Specialised	Average					
South Africa	48%	73%	60%	4%	25%	15%	39%	56%	48%	41%		
Nigeria	21%	5%	13%	67%	13%	40%	5%	0%	3%	18%		
Africa	10%	5%	8%	2%	21%	12%	33%	35%	34%	18%		
Ghana	5%	3%	4%	8%	2%	5%	3%	0%	2%	3%		
Uganda	2%	2%	2%	1%	14%	7%	3%	0%	2%	3%		
Ethiopia	2%	2%	2%	1%	11%	6%	2%	0%	1%	3%		
Kenya	2%	3%	2%	1%	4%	2%	3%	0%	2%	2%		
Tanzania	2%	1%	2%	5%	2%	3%	1%	0%	1%	2%		
Zimbabwe	1%	1%	1%	5%	0%	2%	3%	0%	2%	2%		
Subtotal	93%	93%	93%	92%	92%	92%	92%	91%	92%	92%		
Below 2% of articles target: Egypt, Botswana, Malawi, Mozambique, Rwanda, Cameroon, Tunisia, Mauritius, Namibia, Morocco, RDcongo, Zambia, Cote d'ivoire, Senegal, Libya, Burundi, Liberia, South Sudan, Sudan, Togo, Eritrea, Cape Verde, Gambia, Algeria, Lesotho, Angola, Benin, Mali, Gabon												
Subtotal	7%	7%	7%	8%	8%	8%	8%	9%	8%	8%		

Table 9 Most cited publications (with more than 100 citations)

Indexed publications	Theme	Authors	Title	Publisher or Journal	Citations (Scopus)	Researched country
1	Methodology	Mouton, J. 2001	<i>How to succeed in your master's and doctoral studies: A South African</i>	Van Schaik Publishers	1594	South Africa (SA)
2	Rates of return of (higher) education	Psacharopoulos G. 1994	Returns to investment in education: A global update	<i>World Development</i>	1066	World and Africa
3	Rates of return of (higher) education	Psacharopoulos G., Patrinos H.A. 1994	Returns to investment in education: A further update	<i>Education Economics</i>	742	World and Africa
4	Methodology	Case J.M., Light G. 2011	Emerging methodologies in engineering education research	<i>Journal of Engineering Education</i>	200	SA and World
5	Rates of return of (higher) education	Psacharopoulos G. 1994	Returns to Education: An Updated International Comparison	<i>Comparative Education</i>	189	SA
6	Challenges	Teferra D., Altibach P.G. 2004	African higher education: Challenges for the twenty-first century	<i>Higher Education</i>	161	Africa
7	T&L	Amory A. 2007	Game object model version II: A theoretical framework for educational game development	<i>Educational Technology Research and Development</i>	160	SA
8	Challenges	Cloete, N., et al. 2015	<i>Transformation in higher education: Global pressures and local realities</i>	Springer	156	SA
9	Curriculum and disciplinary knowledge	Muller J. 2009	Forms of knowledge and curriculum coherence	<i>Journal of Education and Work</i>	154	SA
10	Graduates and labour market	Martin R., Maytham B., Case J., Fraser D. 2005	Engineering graduates' perceptions of how well they were prepared for work in industry	<i>European Journal of Engineering Education</i>	145	SA

Table 9 (continued)

11	T&L	Frehywot, S. et al. 2013	E-learning in medical education in resource constrained low- and middle-income countries	<i>Human Resources for Health</i>	132	Africa
12	Scientometrics and institutional performance	Duque R.B., et al. 2005	Collaboration paradox: Scientific productivity, the Internet, and problems of research in developing areas	<i>Social Studies of Science</i>	126	Kenya and Ghana
13	Gender (leadership)	Morley L. 2013	The rules of the game: Women and the leaderist turn in higher education	<i>Gender and Education</i>	114	World and Africa
14	History	Ajayi, J. F. et al. 1996	The African Experience with Higher Education	James Currey	109	Africa
15	Challenges	Mamdani, M. 2007	<i>Scholars in the Marketplace. Reform at Makerere University, 1989–2005</i>	African Books Collective	103	Uganda
Non-indexed publications						
Themes						
1	Social engagement	Bloom, D. E et al. 2006	<i>Higher education and economic development in Africa</i>	Publisher or Journal World Bank	Citations (Google Scholar) 940	Researched country Africa
2	Quality assurance	Materu, P. N., 2007	<i>Higher education quality assurance in Sub-Saharan Africa: Status, challenges, opportunities, and promising practices</i>	World Bank,	419	Africa
3	Access and equity	Chisholm, L., 2004	<i>Changing class: Education and social change in post-apartheid South Africa</i>	HSRC	334	SA
4	Access and equity	Morrow, W., 2015	<i>Bounds of democracy: Epistemological access in higher education</i>	HSRC	242	SA

Table 9 (continued)

5	Challenges	Sawyer, A., 2004	African universities and the challenge of research capacity development	<i>Journal of Higher Education in Africa</i>	219	Africa
6	Challenges	Saint, W., 2004	Higher education in Ethiopia: The vision and its challenges	<i>Journal of Higher Education in Africa</i>	194	Ethiopia
7	Challenges	Kraak, A., 2000	<i>Changing modes: New knowledge production and its implications for higher education in South Africa</i>	HSRC, book	188	SA
8	Challenges	Mohamedbhai, G., 2014	Massification in higher education institutions in Africa: Causes, consequences and responses	<i>International Journal of African Higher Education</i>	183	Africa
9	Gender	Mama, A., 2003	Restore, reform but do not transform: The gender politics of higher education in Africa	<i>Journal of Higher Education in Africa</i>	155	Africa
10	Private	Varghese, N. V., 2005	<i>Private higher education in Africa citations</i>	UNESCO	154	Africa
11	Fund	Johnstone, D. B., 2006	Higher Education Finance and Accessibility: Tuition Fees and Student Loans in Sub-Saharan Africa	<i>Journal of Higher Education in Africa</i>	139	Africa
12	Social engagement (relevance of HE)	Samoff, J., & Carrol, B., 2003	<i>From manpower planning to the knowledge era: World Bank policies on higher education in Africa</i>	UNESCO	135	Africa
13	Globalization and internationalization	Zezeza, P. T., 2003	Academic freedom in the neo-liberal order: Governments, globalization, governance, and gender	<i>Journal of Higher Education in Africa</i>	123	Africa

Table 9 (continued)

14	Governance	Booyesen, S., et al. 2010	<i>Fees must fall: Student revolt, decolonisation and governance in South Africa</i>	Wits University Press	115	SA
15	Governance	Brock-Utne, B., 2003	Formulating higher education policies in Africa: The pressure from external forces and the neoliberal agenda	<i>Journal of Higher Education in Africa</i>	113	Africa

- by Jennifer Case and Gregory Light, from UCT; the use of ICT in HE, authored by Alan Amory (Kwazulu-Natal); and *curriculum*, authored by Johann Muller (UCT).
- 3 Publications addressing *challenges* of HE, authored by Damtew Teferra and Philip Altbach (CIHE-Boston College), Nico Cloete (CHET) and his colleagues, Sawyerr Akilagpa (Association of African Universities), Mahmood Mamdani (Columbia University), William Saint (World Bank), Andre Kraak (University of Witwatersrand) and Goolam Mohamedbhai (University of Mauritius).
 - 4 Publications addressing *QA* issues, authored by Peter Materu (World Bank), and *governance* issues, authored by Susan Booysen (Mapungubwe Institute for Strategic Reflection), Birgit Brock-Utne (University of Oslo).
 - 5 Publications focusing on *equity* issues, authored by Linda Chisholm (HSRC), by Wally Morrow (HSRC), including those addressing *gender* or women leadership in HE, authored by Louise Morley (University of Sussex) and Amina Mama (UCT).
 - 6 Publications addressing particular issues of the *dynamics* of African HE, such as privatisation, authored by N.V. Varghese (UNESCO), and *globalisation*, authored by Paul Zeleza (University of Pennsylvania).
 - 7 *Scientometric* publications, authored by Ricardo Duque and his colleagues from the University of Kwazulu-Natal. Geographically, the most cited publications often compare Africa with other regions or compare several African countries (often from West and East Africa); when a single country is targeted, it is often South Africa.

The patterns of these top cited publications, in terms of thematic, geographical and journal/publisher representation, as well as authors profiles, is consistent with all 993 most cited articles. The analysis of all 993 publications' influence per theme (Table S7) shows that, from the total of 31,093 citations, *student experience* received 16%, *T&L* 12%, *rates of return* 10%, *challenges* 9%, *scientometrics* 6%, *access/equity* 6%, *gender* 5% and *globalisation* 4%. The other individual themes yielded 3% or fewer citations. If individual themes are grouped into clusters, the *T&L* cluster is the largest in publications (43% of 993) and citations (33% of 31,093 citations), followed by *Structural transformation*, with 24% of publications, and 25% of citations. *Organization and decision-making* ranks third in share of publications (23%) and citations (19%). *Societal engagement* represents 9% of publications but 18% of citations, due to the high influence of rates-of-return publications. In other words, a larger number of publications does not always imply greater influence. South Africa is, again, the most targeted by the most cited publications, with 54%, followed by Africa (16%), and other (non-African?) countries (30%). Nigeria represents 11% and Kenya 9%. In total, excluding continental and regional studies, only 26 out of 54 countries have been targeted by the most cited publications (Table S9).

Non-specialised journals published 63% of publications, which yielded 53% of citations; specialised journals published 29% of publications, which yielded 26% of citations; books represent 7% of publications accounting for 22% of citations (Table S8). If non-specialised journals are clustered together, education journals dominate with 36% of articles and 30% of citations. Regarding individual journals, four have produced the most influential publications: *JHEA*, with 7% of publications, which account for 9% of citations; *HIGH*, with 7% of publications that yielded 5% of citations; *Scientometrics*, with 3% of influential publications accounting for 3% of citations, and *World Development*, with only two articles accounting for 4% of citations. Concerning books, the World Bank and two South African book publishers, *HSRC* and *Van Schaik Publishers*,

Table 10 Top 20 most prolific authors per number and type (indexed vs not indexed) of publications

Total (indexed and non-indexed articles and books)				Total (non-indexed articles and books)		
Rank	Author	Country	<i>N</i>	Author	Country	<i>N</i>
1	Tella, Adeyinka	Nigeria	84	Nwokedi, Victor	Nigeria	28
2	Walker, Melanie	SA	32	Tella, Adeyinka	Nigeria	25
3	Nwokedi, Victor	Nigeria	30	Charles Omekwu	Nigeria	12
4	Case, Jennifer	SA	29	Anunobi, Chinwe Veronica	Nigeria	10
5	Leibowitz, Brenda	SA	27	Chuma O. Nnadozie	Nigeria	10
6	Pouris, Anastassios	SA	26	Anasi, Stella	Nigeria	10
7	Cloete, Nico	SA	25	Rudhumbu, Norman	Zimbabwe	10
8	Baro, Ebikabowei	Nigeria	24	Teferra, Damtew	SA	9
9	Nwagwu, Williams	Nigeria	24	Adetimirin, Airen E	Nigeria	9
10	Rambe, Patient	SA	23	Odu, James O	Nigeria	9
11	Waghid, Yusef	SA	22	Ajala, Isaac O	Nigeria	8
12	Sooryamoorthy, Radhamany	SA	20	Khelfaoui, Hocine	Canada	7
13	Kruss, Glenda	SA	20	Emojorho, Daniel	Nigeria	7
14	Bozalek, Vivienne	SA	20	Aliyu, Murtala	Nigeria	7
15	Wolhuter, Charl	SA	20	Cloete, Nico	SA	6
16	Teferra, Damtew	SA	19	Ahenkorah-Marfo, Michael	Ghana	6
17	Bitzer, Eli	SA	18	Badu, Edwin Ellis	Ghana	6
18	Ezema, Ifeanyi J	Nigeria	18	Semela, Tesfaye	Ethiopia	6
19	Cross, Michael	SA	17	Clarence, Sherran	SA	6
20	Winberg, Christine	SA	17	Ekere, Justina Ngozi	Nigeria	6

have produced the most influential works. These highly influential journal and book publishers suggest that research on African HE is likely be impactful if published by internationally well-established specialised and non-specialised journals, as well as by well-established African specialised journals, book publishers associated with international development agencies (World Bank) and by South African book publishers.

Characteristics of the most prolific authors

Two hundred and eight authors published four or more first-author publications: 71% (147) published four to ten, 24% (50) published 10 to 20 and only 5% (10) produced over 20 publications (Tables S10, S11, S12 and S13). Of these authors, 48% are affiliated to South African HEIs, particularly research-intensive universities, and 25% to Nigerian institutions, mainly federal public universities. Authors from Western countries (mainly the USA, UK, Sweden, Norway, Finland and Australia) represent 9%, and they are generally African diaspora or non-African-born scholars interested in international comparative studies. These authors are often affiliated to colleges/faculties of education (e.g. UCL Institute of Education), institutes of development (e.g. Institute of Development Studies of Sussex), centres of research on HE (e.g. CIHE in Boston) or international development agencies (e.g. World Bank). Only 14% of prolific authors live in Africa but outside South Africa and Nigeria, and these are often based in public universities from West, East and Southern Africa. More than 75% of prolific authors publish on four topics: *data/information* (25%), *T&L* (22%),

eclectic or several topics (16%), *scientometrics* (7%) and *societal engagement* (5%). About 25% focus on issues of *academics*, *access/equity*, *private HE*, *globalisation*, *graduate education*, *funding* and *governance*. Table 10 shows that among the top 20 most prolific authors, authors affiliated to South African institutions dominate in indexed publications, while those affiliated to Nigerian institutions dominate in non-indexed publications. South African academics not only dominate, but also publish on almost all themes. Nigerian authors come second, but they are only prolific in *data/information* and *scientometrics*.

Discussion and conclusions

These results highlight six main findings.

First, research targeting African HE has witnessed a recent rise or renewal—almost 95% of research has been published from the 2000s onwards. This finding is not surprising, given that HE has been a globally relevant object of scientific inquiry since the mid-twentieth century (Altbach 2014). What seems to be particular in the African case is that the field emerged later than elsewhere. Indeed, the development of HE systems in Africa is a relatively recent phenomenon. While some African HEIs were created before the World War II,⁶ most were established in the 1950s, first as colonial projects, and later, following the independences in the 1960s and 1970s, as engines for the modernisation and development of newly born African nation-states (Lulat 2005). These nationalist projects led to substantial investment in HE during the 1960s and 1970s, which not only resulted in the growth of the sector during this period (Sawyer 2004), but also in the emergence of relevant research targeting the burgeoning African HE sector, particularly the role of HEIs as agents of modernisation and development (e.g. authors like David Court, Ali Mazrui, Eric Ashby and many others published relevant works in journals such as *Minerva*, *Higher Education Quarterly*, *African Affairs* and the like).

However, the positive momentum of the 1960s and 1970s was undermined in the 1980s, when African HE was negatively affected by externally-imposed neoliberal structural-adjustment policies (SAPs), and by the position, held by international development community, that HE was a luxury for Africa, because of its supposedly high private but low social rates of return (Psacharopoulos 1994). SAPs pushed African states to reduce their capacity to invest in HE, and the rate-of-return approach led the international development community to shift its investment from HE to pre-university levels. During the 1980s, Africa therefore witnessed a decline in the development of the HE sector, which might have negatively impacted the development of HE research.

That said, with new arguments repositioning HE as relevant for developing countries, the rate-of-return approach was revisited and HE was re-legitimised in the development narrative (Teferra 2016). This turnaround has contributed to the revitalisation of the HE sector in Africa since the 1990s. In other words, after two initial decades of positive momentum, followed by a decade of decline, African HE has re-experienced, from the 1990s, a rapid pace of expansion in the context of privatisation, commercialisation, globalisation, internationalisation and the diversification of forms of access (Mohamedbhai 2014; Teferra and Altbach 2004). This growth and resulting complexification may have

⁶ E.g. HEIs were established in Ancient Times in Mali, Morocco and Egypt; in nineteenth century in South Africa and Liberia, in early twentieth century in Uganda and Egypt (Lulat 2005).

contributed to the rise and renewal of research interest from the 2000s onwards. This *later* growth in the field seems therefore to be particular for Africa—as Altbach (2014) pointed out, the scientific enquiry into HE emerged in the mid-twentieth century to account for the massification or “academic revolution” which has since occurred worldwide.

Second, the fact that 71% of research was published in indexed journals or book publishers suggests that authors continue to prefer to publish in international over local journals, and reveals the connectivity of authors to the global scientific landscape. This is evident even when considering that journals and publishers accounting for most HE research on Africa are limited in number: about 20 specialised journals, 20 non-specialised journals and six book publishers (e.g. *Springer*, *Routledge*, *World Bank*, *HSRC*, *African Minds* and *Codesria*). These are often well-established international and African-based journals and book publishers. In other words, the global expansion of journals, as Altbach (2014) highlighted, did not significantly affect the culture in Africa of publishing and citing a few selected internationally and regionally well-established journals and venues.

Third, specialised journals account for 29% of articles, and non-specialised journals account for 66%, suggesting that research targeting African HE is produced by what Harland (2012) labelled “part-time” HE researchers, i.e. scholars coming from main (inter-) disciplines who are occasionally interested in HE. This assertion can be backed by two insights: first, the fact that articles published in non-specialised journals are scattered, in small numbers, across over 400 journals; second, the fact that the most relevant non-specialised journals belong to four interdisciplinary disciplines, namely education, scientometrics and library sciences, African studies and development studies, suggesting that these “part-timers” also come from inter-disciplinary areas. However, the fact that 40 specialised journals have published 1882 articles—about half of 4144 articles published by 460 non-specialised journals—suggests the existence of scholars researching HE on a regular basis.

Fourth, the thematic analysis of publications reveals that, as far as Africa is concerned (and in contrast perhaps with Asia), HE research(ers) can be grouped into five tribes or “communities” (Tight 2004). The first and dominant tribe focuses on different aspects of *T&L*, namely the process, curriculum and main agents (academics and students). The dominance of *T&L* in Africa is similar to that in Asia (Horta and Jung 2014), but differs from the international pattern: although *curriculum* and *student experience* were found to be dominant, *T&L* was among the themes attracting the least attention in specialised international journals (Tight 2012). In Africa, the *T&L* publications focus is not surprising given that most African HEIs are primarily teaching institutions (Cloete et al. 2015). The second tribe, accounting for about 25%, focuses on how HEIs are structurally transformed by surrounding factors, such as *equity/access* (e.g. massification), *globalisation* and *HE privatisation*, whereas the third tribe, accounting for 25%, looks at the internal organisation (*governance*) of HE. The fourth community, representing 13%, is concerned with the *societal engagement* of HE. The fifth community, very small in size (1%), includes researchers reflecting on *methodological approaches* of researching HE. Its small size seems to suggest that, despite the existence of HE research targeting Africa, researchers seldom reflect on their research practices, particularly on the efficacy of their research practices at capturing African idiosyncrasies.

Fifth, while the aggregate analysis of the temporal evolution of themes reveals that *T&L*, *student experience*, *data/information* and *societal engagement* were popular over the three periods, the analysis of evolution of themes per publication reveals three distinct situations: in specialised journals, *T&L* and *student experience* are attracting rising attention and *societal engagement* maintains a focus; in non-indexed journals, *data/information* and *student experience* are paid more attention; in books *societal engagement* maintains its level of

attention, while *globalisation* and *challenges* are losing ground to *governance*, *access/equity* and *T&L*. Three insights can be drawn from these time-variations. First, the rising attention to *T&L* and *student experience*, particularly in specialised journals and books, suggests that research is increasingly interested in examining the conditions under which *T&L* occurs in Africa. Second, the fact that *societal engagement* maintained focus over the three periods and in almost all publication venues suggests that narratives and assumptions about the relevance of HE to Africa are far from being resolved. Third, the emergence of *access/equity*, *gender*, *governance* and *QA* as key themes in specialised journals suggests that research(ers) are interested in examining *equity* and *governance* concerns that often go along with the expansion of HE in Africa. It is worth mentioning that being a large community does not always imply greater influence. For example, while the *T&L* community is both large and influential, *societal engagement* and *scientometrics*, though smaller, are also highly influential in terms of citations.

Sixth, South Africa is dominant in HE research in Africa: about 44% of authors are based in South Africa, including the most prolific. Furthermore, about 41% of all publications target South Africa. The country is also targeted by 60% of indexed journals (73% of specialised journals), 48% of books and 53% of the most cited works. Nigeria comes second, with Nigerian authors publishing mostly in non-specialised and non-indexed journals, and focusing mostly in one theme: university *data/library* sciences. After Nigeria and Ghana in West Africa, the third most relevant community is from East Africa, representing 14% of all publications. Of similar relevance is the community of HE researchers from Western countries. This “foreign” community, representing about 14%, generally consists of African academic diaspora or non-African academics, who often compare Africa with other parts of the world, or focus on African regions or the whole continent. This is the reason why “Africa” is the second most researched terrain after South Africa.

HE research is still sparse or non-existent in several African countries. However, some incipient communities are emerging in North Africa (Egypt), West Africa (Nigeria and Ghana), Eastern Africa (Kenya, Uganda, Tanzania and Ethiopia) and in almost all Southern African countries. These African regions and countries are also occasionally sites of empirical research. In general, 49 out of 54 African countries have barely or never been researched. About half do not have in-country HE research expertise. Excluding the HE research hub in South Africa (Bitzer and Wilkinson 2009; Wolhuter 2014), HE researchers represent a weak academic community in Africa, emerging only in some Western, Eastern and Southern African countries.

The overall publication portrait is reflected when looking at the existing institutional infrastructure (or “hardware”) specifically established in Africa to promote research on (African) HE. As highlighted elsewhere (Altbach 2002; Tight 2020), the vitality of HE as a field of study can also be judged by examining university departments and research centres, academic degrees, journals and professional associations that have been established specifically to focus on HE. A more detailed picture requires an in-depth analysis in a separate paper, but a brief account shows that a HE institutional basis is well established in South Africa, but weak or non-existent in other African countries.

In South Africa, following the establishment in the early 1990s of the first university-based unit for research into HE—the *Centre for Higher Education Studies and Development* at the University of the Free State—similar centres were established in several universities (e.g. UCT, Kwazulu-Natal, Western Cape, Witwatersrand, Stellenbosch and Rhodes). While most of these university-based centres belong to colleges or academic departments (particularly education, social sciences and humanities), other centres have also been established within central university administrations (e.g. quality assurance

and/or institutional research units) to regularly collect and analyse data on institutional issues. Besides its university-based centres, South Africa is also home to autonomous research institutes (e.g. *HSRC*), semi-government research institutions (e.g. the *Council on Higher Education*) and independent think-tanks (e.g. *CHET*) dedicated to research and/or policy analysis on HE. Hence, it is not surprising that most major South African universities (almost 15, Bitzer and Wilkinson 2009) offer post-graduate programs (mostly Masters and PhDs, but also post-graduate certificates) in HE studies, including some programs awarding degrees in education with a specialisation in HE issues. South Africa is also home to professional associations and networks related to HE: some established during apartheid (e.g. the *South African Association for Research and Development*, today known as the *Higher Education Learning and Teaching Association*), and others during post-apartheid (e.g. the *Southern African Association for Institutional research*). These institutions and networks are responsible for the establishment of South African-based specialised HE journals (e.g. the *South African Journal of Higher Education*, established in 1979; *Critical Studies in Teaching and Learning* and the *Journal of Student Affairs in Africa*, both established in 2013, and the *International Journal of African Higher Education*, established in 2014) and book publishers (e.g. *African Minds*), including university presses (e.g. *HSRC Press*).

Other African countries have a more limited institutional base. Countries such as Egypt, Uganda, Ethiopia and Mozambique have established, often within their oldest or flagship universities, research units, academic programs and journals, some of which have been traced by Rumbley's et al. (2014) *Worldwide Inventory*. Universities such as Makerere (Uganda), Addis Ababa (Ethiopia), Cairo (Egypt) and Eduardo Mondlane (Mozambique) have established post-graduate programs, and/or research units and journals specialised in HE (e.g. the *Makerere Journal of Higher Education*, the *Ethiopian Journal of Higher Education*), mostly under the initiative of HE scholars and in cooperation with well-established foreign research units or programs. Some countries, such as Ghana, Tunisia, Mali and Senegal do not house such centers or programs, but are home to relevant continental networks, such as the *Association of African universities* (Ghana), the *Working Group on Higher Education* (Tunisia), the *Educational Research Network for West and Central Africa* (Mali) and the *Council for the Development of Social Science Research in Africa-Codesria* (Senegal). *Codesria* is worth emphasising because it houses the oldest continental HE journal, *JHEA*, and regularly publishes books on African HE. Nevertheless, the institutional base of most African countries is weak or non-existent. In most countries, HE research (or institutional data collection/analysis) is often undertaken by semi-government macro institutions (e.g. Councils on HE or QA) or central university administrative departments (e.g. QA units). There are also cases where HE is a specialisation within post-graduate programs in education, social sciences or humanities. It is worth mentioning that institutional infrastructure is often funded for definite periods of time by international donors, such as Carnegie, the Ford Foundation and bilateral programs.

This weakness of HE expertise, both in terms of publications and institutional base, is worth concern given the social challenges of HE in Africa and the demand for local expert knowledge in African societies. As our results suggest, continuous HE research has to address the different developmental stages of HE within particular countries more broadly. It should reflect upon an African governance regime, teaching and learning cultures, academics' societal engagement and the general goals of inclusive or exclusive HE for African societies.

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