

Mapping education publications in Portuguese in sub-Saharan Africa Report on analysis of international databases





Author

This report was written by Rui da Silva who conducted the searches for Portuguese research outputs and the analysis.

Acknowledgements

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List of abbreviations

AERD	African Education Research Database
AJOL	African Journals Online
CESA	Continental Education Strategy for Africa
ESSA	Education Sub Saharan Africa
FL	Foundational Learning
RCAAP	Repositórios Científicos de Acesso Aberto de Portugal
REAL Centre	Research for Equitable Access and Learning Centre
SciELO	Scientific Electronic Library Online
SSA	sub-Saharan Africa

Summary

This report focusses on the mapping of Portuguese education publications which have implications for education policy and practice in sub-Saharan Africa. Specifically, it explores the state of education research in Portuguese from 2018 to 2022, focusing on all phases of education (i.e. early childhood education, primary education, secondary education, higher education and adult education) in sub-Saharan Africa. It is part of a broader effort by the Research for Equitable Access and Learning (REAL) Centre at the University of Cambridge and Education Sub Saharan Africa (ESSA) to enhance the visibility and use of education research conducted by African-based scholars, particularly those related to Sustainable Development Goal 4, the 2016–2025 Continental Education Strategy for Africa (CESA), and the African Union's Agenda 2063.

The research employed a bibliometric analysis to identify relevant publications in Portuguese language databases, including Repositórios Científicos de Acesso Aberto de Portugal (RCAAP), Scientific Electronic Library Online (SciELO), and Portal de Periódicos da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior. Additional searches were conducted in international databases like Scopus and Web of Science, as well as Google Scholar, to capture a broader array of publications. The study involved a manual screening process to ensure the inclusion of relevant publications. The findings are highlighted below:

- Increase in publications: A total of 125 publications were identified. There
 has been a significant rise in the number of research publications over the
 study period (2018 to 2022), peaking in 2021. However, a slight decline in
 2022 suggested potential challenges in sustaining this growth.
- Predominance of qualitative methods: The analysis revealed a strong preference for qualitative research methods, representing 82 percent. While this highlighted a deep exploration of contextual factors in education, the limited use of quantitative and mixed methods approaches indicated a need for more methodological diversity.

- Research concentrated in fewer countries: Research efforts were primarily concentrated in Mozambique and Angola, both in terms of study settings and authorship, with these two countries (out of the six Lusophone countries in Africa) accounting for over 80 percent of authorship. Although there was some representation from Cabo Verde, São Tomé e Príncipe, and Guinea-Bissau, there remains a need to encourage broader regional participation and collaboration across sub-Saharan Africa.
- Gender disparity in authorship: The study identified a significant gender imbalance, with male authors representing 73 percent of the authorship population. Addressing this disparity is crucial to fostering an inclusive research environment that benefits from diverse perspectives and expertise.
- Challenges in research visibility: The study noted significant challenges in accessing Portuguese language research due to the limitations in databases, and manual screening requirements. These barriers emphasised the need for improved research infrastructure and accessibility to ensure local knowledge is utilised effectively.
- Minimal collaboration among researchers within SSA: The study identified that the majority of the publications (51 percent) resulted from collaborations outside SSA, while only 13 percent and 2 percent resulted from collaborations within country, and collaborations with SSA, respectively.

The report concludes that while there has been significant progress in the volume of Portuguese language education research publications in sub-Saharan Africa, challenges remain in terms of methodological diversity, geographical and gender disparities, and research visibility. To address these issues, the report recommends the following:

- Enhance equitable research collaboration: Researchers need to engage in cross-country collaborations to leverage diverse expertise and resources, which can help address regional disparities in research focus and output.
- Strengthen non-English research: Academic institutions and publishers should be encouraged and supported to address language barriers by improving the visibility and accessibility of non-English education research

through improvement in research infrastructure and inclusive publishing policies. AERD and the AJOL are good initiatives to champion this cause.

- Diversify research methodologies: Researchers should employ diverse research methods to enable deeper exploration of practices, perceptions, and engagement, particularly among the most marginalised populations. Grant research initiatives should incentivise the adoption of diverse research approaches.
- Address gender disparities: Implement strategies to increase female participation in research and knowledge production, ensuring a more balanced and inclusive research ecosystem. This can be done by using funding and capacity building opportunities to leverage the gap between male and female academics.
- Encourage collaboration between African researchers within the continent: There is a need for interventions to promote greater collaboration between African Lusophone researchers in their own countries, and with others in other Lusophone countries across the region. Furthermore, collaborations could be encouraged with non-Lusophone researchers in SSA (with provision for language interpretation where needed). As an example, it could be helpful to establish systems/networks where the SSA researchers can easily connect with each other, share research ideas for collaborations, and learn from each other.

1. Introduction

'Africa's prosperity hinges on the continent's ability to invest in the education and training of its youth' (African Union, 2016, p. 10). In recent decades, significant steps have been made in increasing access to education for young children across sub-Saharan Africa (SSA). However, the region continues to grapple with the highest rates of educational exclusion globally, leaving millions of young children, particularly those from disadvantaged backgrounds, out of school. For those who do attend school, learning outcomes remain alarmingly low. The African Union, in its Continental Education Strategy for Africa (CESA), warns that 'the main challenge in Africa is to sustain access while improving learning outcomes' (African Union, 2016, p. 15).

A robust, contextually relevant evidence base, underpinned by research from scholars within SSA is crucial for enhancing learning outcomes while maintaining educational access for all. Specifically, evidence-based social science research on African education systems by regional scholars is essential for informing and improving policy decision-making, planning, and implementation across the continent.

Despite the existence of a substantial body of research authored by SSA-based scholars, much of this work remains under-utilised in academic debates and education policy discussions (Rose, Downing, Asare & Mitchell, 2019). To address this gap, the REAL Centre at the University of Cambridge and ESSA developed the African Education Research Database (AERD). It catalogues education research with implications for education policy and practice in the context of Sustainable Development Goal 4, the African Union's Agenda 2063, and the CESA 20-25. The database currently houses over 6,000 peer-reviewed journal publications covering the period 2010 to 2022.

To enhance the visibility and use of education research by Africa-based researchers, this report presents the findings of a bibliometric analysis of education publications in Portuguese language by SSA-based researchers from 2018 to 2022. This period was chosen because Portuguese language publications in education that were authored from 2010 to 2017 and that meet

the AERD's inclusion criteria were captured prior to this study, and the latest publication year captured in the AERD is currently 2022. The objectives of this mapping were to:

- Improve the visibility and accessibility of Portuguese language education research by SSA-based scholars.
- Strengthen the use of this evidence base in informing education policy and practice in the region.
- Inform research priorities by providing an up-to-date overview of existing research and conducting a gap analysis of the recent (2018–2022)
 Portuguese language research landscape.
- Promote the development of a community of education researchers, policymakers, and other stakeholders in the region.

2. Methodology

The method used in searching for Portuguese education research largely conformed to the AERD search protocol outlined by Mitchell & Rose (2018). First, the Portuguese databases Repositórios Científicos de Acesso Aberto de Portugal (RCAAP), Scientific Electronic Library Online (SciELO), and Portal de Periódicos da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior were searched, followed by international databases such as Scopus and Web of Science. Considering that Scopus and Web of Science host a very limited volume of non-Anglophone literature with about 95 percent in English (Vera-Baceta, Thelwall & Kousha, 2019) and given the low number of results obtained, relevant publications were also searched for on Google Scholar.

Broader search terms, including educação and escola were used on the platforms. Additionally, specific search terms on foundational learning (FL) were used, since the broader search terms – educação and escola resulted in minimal studies from the FL domain. Below is a list of the FL specific search terms with the Boolean logic used to augment the former search terms:

("competências fundamentais" OR "competências essenciais" OR "competências de base" OR "competências básicas" OR "habilidades fundamentais" OR "habilidades essenciais" OR "literacia" OR "leitura" OR "escrita" OR "vocabulário" OR "fala" OR "oralidade" OR "alfabetização" OR "numeracia" OR "matemática" OR "aritmética" OR "calculo" OR "resultados escolares" OR "resultado de aprendizagem" OR "sucesso académico" OR "sucesso escolar" OR "êxito académico" OR "nível de proficiência" OR "nível de aprendizagem" OR "nível de aprendizado" OR "progresso escolar" OR "resultados escolares" OR "insucesso escolar" OR "ganho de aprendizagem" OR "perda de aprendizagem" OR "fracasso escolar" OR "competências cognitivas" OR "capacidades cognitivas" OR "aptidões cognitivas")

AND ("ensino básico" OR "educação básica" OR "escola primária" OR "primeira série" OR "ensino fundamental" OR "Escola de Segunda Oportunidade" OR "educação alternativa " OR "Ensino alternativo" OR "Ensino complementar" OR "Ensino suplementar" OR "educação especial" OR "ensino especial" OR "educação não formal" OR "escolarização").

The search was limited by the inclusion and exclusion criteria of the search protocol – subject area (social science), and author affiliation for the following countries in SSA:

Angola, Benim, Botsuana, Botswana, Burquina Faso, Burundi, Cabo Verde, Camarões, República Centro Africana, Chade, Comores, República Democrática do Congo, República do Congo, Costa do Marfim, Djibuti, Jibuti, Guiné Equatorial, Eritreia, Etiópia, Gabão, Gâmbia, Gana, Guiné Conacri, Guiné-Bissau, Quénia, Lesoto, Libéria, Madagascar, Malawi, Mali, Mauritânia, Maurícia, Moçambique, Namíbia, Níger, Nigéria, Ruanda, São Tomé e Príncipe, Senegal, Seicheles, Serra Leoa, Somália, África do Sul, Sudão do Sul, Sudão, Suazilândia, Tanzânia, Togo, Uganda, Zâmbia, Zimbábue, Zimbabué, Zimbabwe.

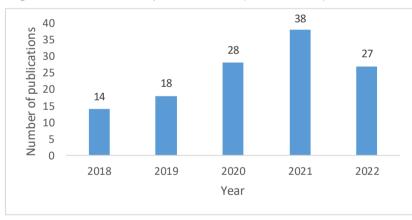
The second step was to screen the publication titles and abstracts to determine their inclusion or exclusion. After this process, publications that met the criteria were exported, and the details were collated in a Microsoft Excel spreadsheet. A subsequent bibliometric analysis was then performed.

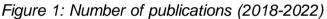
3. Findings

This section offers analysis of the identified education research in the Portuguese language. It focuses on the volume of annual publication trends from 2018 to 2022, the research methods employed in the various publications, country of study (research settings), country and institutional affiliation of authors, their gender, collaboration dynamics, and the emerging keywords of the studies.

Publication outputs and research methods

In all, 125 publications were identified from the searches. As shown in Figure 1, an upward trend of publications was observed from 2018 to 2021, but a decline noted for 2022. The highest number of publications was recorded in 2021, with 38 publications, while 2018 recorded the least number, at 14 publications. These publications were further examined to determine the research methods employed as well as the countries where these studies were produced.



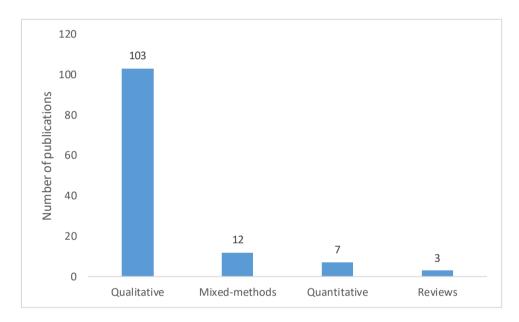


The categorisation of research methods was made using the type of data (i.e. primary/secondary) for the identified education publications. Those that collected primary data were grouped into quantitative, qualitative, and mixed methods. Apart from these three categories, research that largely used secondary data resulted in an additional category – reviews – which included meta-analysis, systematic literature reviews and research syntheses.

The analysis revealed a predominant utilisation of qualitative research methods, accounting for 103 out of the 125 publications. Mixed methods, quantitative and reviews accounted for 12, 7, and 3 publications, respectively.

Results regarding the country of focus for the identified publications show that most of the studies were conducted in Mozambique (n = 71). A substantial number of the studies also focused on Angola (n = 42), while few studies focused on Cabo Verde (n = 9), São Tomé e Príncipe (n = 7) and Guinea-Bissau (n = 6). No publications were identified for Equitorial Guinea.





Countries of focus for the identified publications

As a result of cross-country collaborations, some countries outside Lusophone Africa, including Uganda, Sudan, South Africa, Madagascar and Ethiopia, also featured as study settings. Additionally, Brazil, a Lusophone country outside sub-Saharan Africa, was included. Figure 3 shows the number of studies focused in the respective sub-Saharan Africa countries, while Table 1 shows all countries of focus, including Brazil.



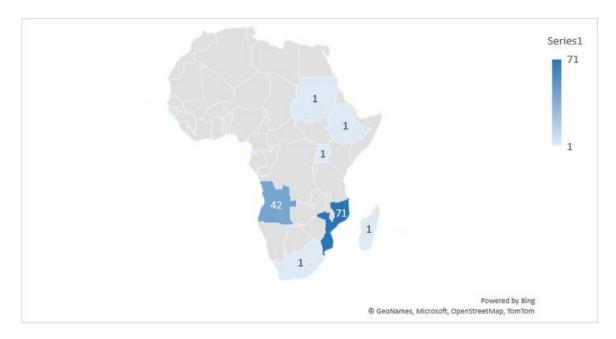


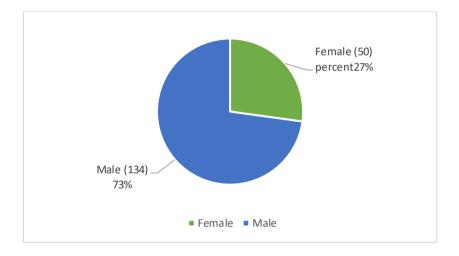
Table 1: Countries of focus for identified publications

	Number of
Countries	publications
Mozambique	71
Angola	42
Cape Verde	9
São Tomé e Príncipe	7
Guinea-Bissau	6
Uganda	1
Sudan	1
South Africa	1
Madagascar	1
Ethiopia	1
Equatorial Guinea	1
Brazil	1

Gender of researchers and country of affiliation

The gender distribution of the authors of the identified studies underscored a persistent pattern of gender disparity in knowledge production. Among the publications included in the analysis, 50 authors, representing 27 percent, were women. However, the majority, comprising 134 authors, representing 73 percent, were men (Figure 4). This imbalance highlighted the need to address barriers to women's participation in educational research and foster a more inclusive research environment.

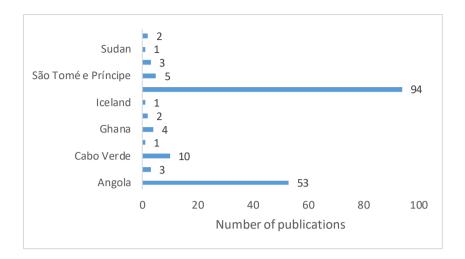
Figure 4: Gender distribution of authors

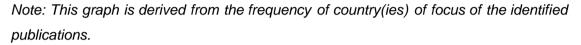


Note: This graph is derived from the frequency of each genderⁱ category (i.e. male, female) across the identified publications.

The data further reveals the dominant representation of Mozambican (94 authors) and Angolan (53 authors) nationals in the production of Portuguese language research that has potential implications for education policy and practice. As shown in Figure 5, these two countries accounted for over 80 percent of the total 179 authors. Notably, other Lusophone African nations such as Cabo Verde, São Tomé e Príncipe and Guinea-Bissau were disproportionately represented. Ghana, South Africa, Uganda, Sudan and Ethiopia contributed a handful of authors, due to the focus of the searches.

Figure 5: Researchers' country of origin





Institutional affiliation of researchers

For analysis of the institutions in which the researchers were based, the frequency of institutional mentions was considered, irrespective of the number of authors based in the same institution. Figure 6 shows the institutions that produced the identified publications. The highest count of a single institution recorded was 22 and the lowest was 3. Researchers at the Universidade Pedagógica were the most active contributors, giving their affiliated institution the most mentions (22 times).

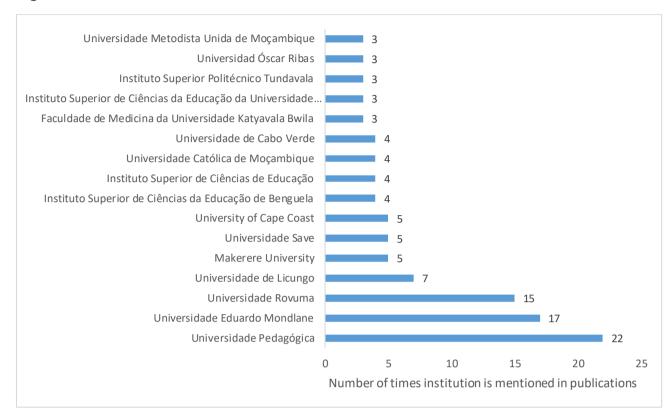


Figure 6: Institutional affiliation of researchers

Note: This graph is derived from the frequency of institutions across the 125 publications.

Collaboration among researchers within and outside SSA

Collaboration among researchers promotes networking and learning among researchers in different countries and can potentially help mentoring and skills development of young career or less experienced researchers. Collaboration can also increase research diffusion and improve visibility. To understand the extent to which there is potential networking and learning among researchers in different countries, collaboration among researchers within the same country, as well as within and outside SSA, was considered.

As shown in Figure 7, more than half (51 percent) of the publications reflected collaborative efforts of researchers outside SSA (i.e. collaborations between SSA-based researchers and their colleagues outside SSA). By contrast, only

2 percent of the publications resulted from collaborations within SSA, and 13 percent within countries.

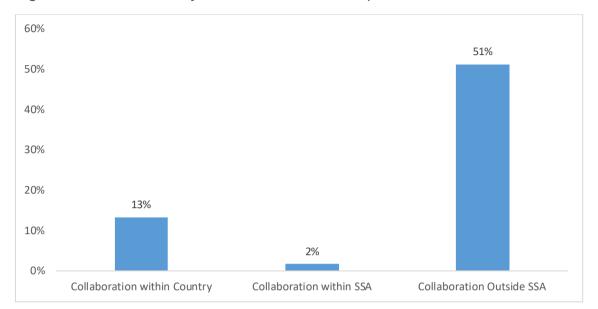


Figure 7: Collaboration dynamics of the identified publications

Note: The base of this analysis is 125 publications. Publications that did not involve collaborations were excluded from this analysis. Some research outputs report multiple collaboration categories.

Emerging keywords

The most frequent keywords used in the publications were higher education (14.9 percent), followed by education policy (10.8 percent), secondary education (5.1 percent) and teacher education (4.4 percent). These results demonstrate a neglect of early years, with early childhood education accounting for only 1.3 percent and primary education 3.8 percent. See Appendix 2 for the full list of keywords and corresponding focus.

4. Challenges and limitations

Mapping Portuguese research with implications for education policy and practice in sub-Saharan Africa presented challenges and limitations. The identified Lusophone databases lacked advanced search functionalities, necessitating manual online screening of search results. This process was not only labour-intensive, but also susceptible to oversight, especially considering that the exercise was not reviewed by a third party. Hence, despite meticulous efforts to identify relevant publications in Portuguese, it is acknowledged that there could be possible omissions.

5. Conclusions and recommendations

The report concludes that while there has been an increase in Portuguese language education research publications by Africa-based researchers from 2018 to 2021, the decline in 2022 suggests challenges in sustaining research productivity. The identified studies predominantly employed qualitative methods, offering valuable insights into the contextual aspects of education. However, the findings revealed a gap in quantitative and mixed methods approaches.

Mozambique and Angola were the lead in production of publications, highlighting the need for more investment in other Lusophone countries and collaboration across countries. The report also identified a significant gender disparity among authors, with women being underrepresented. Overall, the report emphasised the importance of fostering a diverse and inclusive research environment that enhances the impact of education research on policy and practice in sub-Saharan Africa.

Recommendations

These recommendations are intended for various stakeholders involved in education research, policy development, and practice, particularly in Lusophone African countries.

• Enhance equitable research collaboration among researchers in the region: Portuguese education researchers and academics should consider fostering more collaborative research within SSA to leverage diverse expertise and resources. Collaboration between African researchers within the region should also be encouraged, even across the language divide. This is because the development of a strong

collaborative research community, particularly across countries in SSA, would enable the sharing of lessons and knowledge, and provide opportunities for mentorship for early career researchers. There is a need to establish systems and/or networks to enable SSA researchers to easily connect with each other (e.g. with provision of language interpretations) and share research ideas for collaboration.

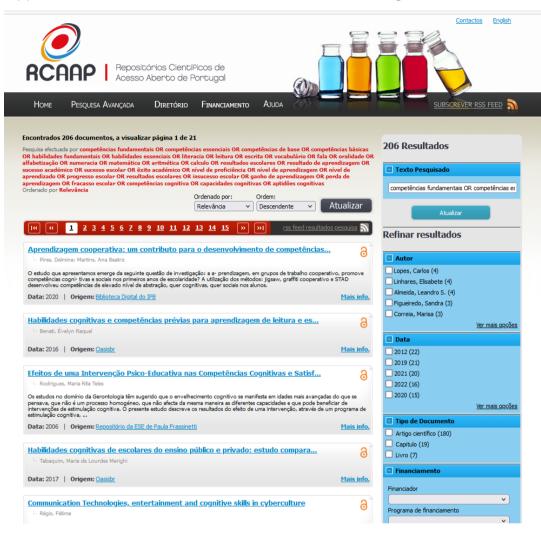
- Strengthen non-English research: Academic institutions and publishers should be encouraged and supported to address language barriers by improving the visibility and accessibility of non-English education research through improvement in research infrastructure and inclusive publishing policies. AERD and the AJOL are good initiatives to champion this cause.
- Diversify research methodologies: Researchers should employ diverse research methods to enable deeper exploration of practices, perceptions, and engagement, particularly among the most marginalised populations. Grant research initiatives should incentivise the adoption of diverse research approaches.
- Address gender disparities: Implement strategies to increase female participation in research and knowledge production, ensuring a more balanced and inclusive research ecosystem. This could be done by providing funding and professional development opportunities to leverage the gap between male and female academics.

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Appendices

Appendix 1: Evidence of searches in various Portuguese databases





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Appendix 2: List of keywords and their respective percentages

Keyword	Frequency	Percentage
Higher education	47	14.9 percent
Education policy	34	10.8 percent
Secondary education	16	5.1 percent
Teacher education	14	4.4 percent
Primary education	12	3.8 percent
Access to education	10	3.2 percent
COVID-19	10	3.2 percent
Science education	10	3.2 percent
Curriculum reform	8	2.5 percent
African languages	7	2.2 percent
E-learning	7	2.2 percent
ICT in education	7	2.2 percent
Portuguese language	7	2.2 percent
Teaching methods	7	2.2 percent

Distance education	6	1.9 percent
Environmental education	6	1.9 percent
Learning outcomes	6	1.9 percent
Policy implementation barriers	6	1.9 percent
Sustainable development	6	1.9 percent
Assessment	5	1.6 percent
Conflict	5	1.6 percent
Equity	5	1.6 percent
Student motivation	5	1.6 percent
Adult education	4	1.3 percent
Curriculum relevance	4	1.3 percent
Early childhood education	4	1.3 percent
Inclusive education	4	1.3 percent
Teacher induction	4	1.3 percent
Language of instruction	3	0.9 percent
Leadership and management	3	0.9 percent
Teacher capacity	3	0.9 percent
Teacher career	3	0.9 percent
Citizenship	2	0.6 percent
College education	2	0.6 percent
Gender disparities	2	0.6 percent
National development	2	0.6 percent
Orphans and other vulnerable		
children	2	0.6 percent
Special education	2	0.6 percent
Teacher supervision	2	0.6 percent
Teacher-student relations	2	0.6 percent
Alternative provision	1	0.3 percent
Arts education	1	0.3 percent
Career aspirations	1	0.3 percent
Child labour	1	0.3 percent
Disability	1	0.3 percent
Drop-out	1	0.3 percent

Early pregnancy/marriage	1	0.3 percent
Entrepreneurship	1	0.3 percent
Female empowerment	1	0.3 percent
Health education	1	0.3 percent
Home-school relations	1	0.3 percent
Literacy	1	0.3 percent
Mathematics education	1	0.3 percent
Mental health	1	0.3 percent
Numeracy	1	0.3 percent
Problem-based learning	1	0.3 percent
Student attendance	1	0.3 percent
Student voice	1	0.3 percent
Teacher motivation	1	0.3 percent
Teacher training	1	0.3 percent
Textbooks	1	0.3 percent
Wellbeing	1	0.3 percent

Endnotes

ⁱ The analysis emphasises gender counts, with each researcher counted in proportion to the number of their appearances.

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