

Towards lingual equity: the language of open knowledge

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Open Access Week – 21 October 2019



Self-Directed Learning



United Nations
Educational, Scientific and
Cultural Organization



- UNESCO Chair on Multimodal Learning and Open Educational Resources
- North-West University, South Africa

OA Week Context

- Nick Shockey (2019):
 - Whose interests are being prioritized in the actions we take and in the platforms that we support?
 - Whose voices are excluded?
 - Are underrepresented groups included as full partners from the beginning?
 - Are we supporting not only open access but also equitable participation in research communication?

<http://www.openaccessweek.org/profiles/blogs/theme-of-2019-international-open-access-week-to-be-open-for-whom->



Aim

- In this presentation the nature of language as a barrier for open access content is explored.
- As the theme of 2019 International Open Access Week is “Open for Whom? Equity in Open Knowledge” and as it is UNESCO's Year of Indigenous Languages, it is essential to consider the **nature of academic language** on the one hand the **hegemony of English** in science on the other hand.



2019 | INTERNATIONAL YEAR OF
Indigenous Languages

Two issues

- Could true open access be supported by:
 - increased use in scientific publication in languages other than English and
 - provision of content from scientific publications in plain language?

" The ubiquity of English as the language of science and academia is indisputable" (Hultgren, 2019)

"English is obviously the language that currently dominates global scientific activities as a lingua franca" (Amano et al., 2016)

"...from the limited universe of around 27,000 journals included in the Web of Science (WoS) indexes -- most prominently, the Science Citation Index -- **most of which publish in English**. However, more than 9,000 peer-reviewed scholarly journals are being published in other languages, with French (3,500), German (2,700), Spanish (2,300) and Chinese (1400) contributing the highest numbers. Most of these journals are excluded from prestigious journal indexes, thus perpetuating the ideology that **English is the global academic lingua franca**." (Curry & Lillis, 2018)

"...the **nesting of English in many of the metrics** used to evaluate the work of academics, including the **citation indexes** and **top-ranked journals** published by Elsevier, Springer and other European and North American publishers, removes questions of linguistic medium from the conversation -- English becomes a presumed requirement" (Curry & Lillis, 2018)

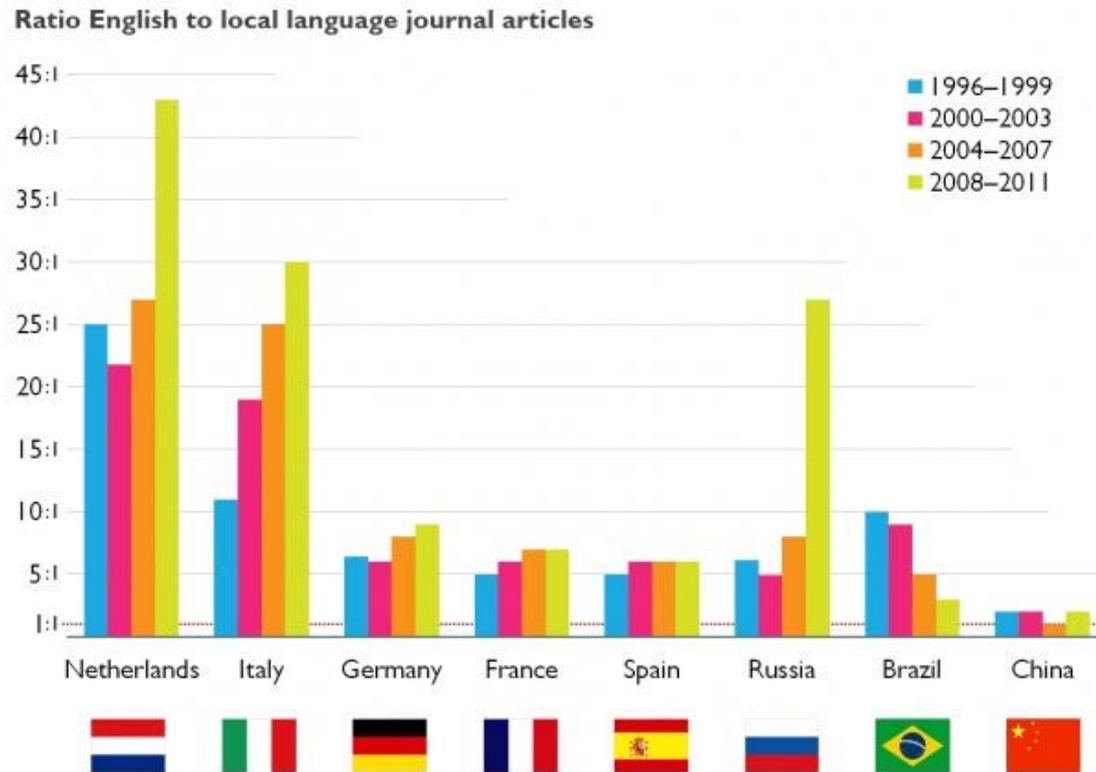
Meneghini and Packer (2007) note:

"Of the past 25 winners of the Nobel Prize in **Literature**, only 9 wrote their masterpieces in English; the remaining 16 laureates wrote in other native languages."

However, "[m]ost Nobel laureates in **Physics, Chemistry, and Physiology or Medicine** do not face the challenge of translating their works into another language before gaining recognition. Many speak English as their first language and even non-native English speakers usually publish their discoveries in English".

Van Weijen (2012):

"...roughly 80% of all the journals indexed in Scopus are published in English."



(Van Weijen, 2012)

Van Weijen (2012):

"The results indicate that researchers publishing in English, Chinese or Russian tend to publish most in fields related to the 'harder' Physical and Life Sciences, such as Physics, Engineering and Materials Science. On the other hand, researchers who choose to publish in Dutch, French, Italian, Portuguese or Spanish tend to publish their work most in fields related to the 'softer' sciences, such as the Health Sciences, Social Sciences, Psychology and Arts and Humanities. "

Language	"Hard" Sciences		"Soft" Sciences		Multi-disciplinary & Undefined
	Life Sciences	Physical Sciences	Health Sciences	Social Sciences, Arts & Humanities	
English	23.4	44.7	19.5	10.7	1.7
Chinese	8.7	72.5	13.0	2.9	2.9
Dutch	14.9	3.2	52.3	26.1	3.5
French	8.6	16.3	36.4	36.5	2.3
German	7.3	34.5	32.5	23.5	2.2
Italian	4.7	12.1	38.6	40.6	4.0
Portuguese	26.1	11.5	38.4	22.1	1.9
Russian	17.2	45.0	21.0	8.4	8.4
Spanish	10.8	13.2	44.4	29.6	2.0

Table 1: Overview of the percentage of articles published in the four main categories per language, as a percentage of the total publication output in that language from 1996 to 2011.

(Van Weijen, 2012)

South African situation

- English is prominent in all levels of education, despite differing levels of proficiency and language being a barrier (Desai, 2016).
- Already in 2005 to Mouton indicated that:
 - 89,9% of academic articles between 1990 and 2002 were in English followed by 8,2% in Afrikaans and 2,2% in other languages.
 - In addition, a steady decline in Afrikaans articles was observed: 14% in 1990 down to 5% in 2002.
 - Afrikaans publications were specifically "promoted" by certain journals.
- Bangani *et al.* (2018) also observe a disconnect between language policy and library collections and also notes the position of English as academic language.



Notitia linguarum est prima porta sapientiae

- Latin > English
- Clarify and scientific terminology
- Language standardisation

Linguistic imperialism

- Phillipson (1992:47) defines English language imperialism as: “the dominance of English is asserted and maintained by the establishment and continuous reconstitution of structural and cultural inequalities between English and other languages”.
- Phillipson (1992:47) is also of the opinion that such language imperialism is an example of linguicism that can be described as ideologies, structures and practices that are used to create and legitimize unequal power and resource distribution between groups in terms of language distribution

Access issue

- What about research not published in English?
- Amano et al. (2018):
" Language barriers can cause gaps in information availability during the global compilation of scientific knowledge, as scientific information is available not only in English but also in many other languages."

However

City Press

IsiZulu goes sci-tech

13 January 2013 10:00

Like 237

Tweet 120

+1 3

Share 49

Ten new isiZulu words - Created by Phiyayinkosi Mbuyazi



Internet: Izilwebu
(Izilwebu = spiderweb)



Recycle: Buyafuthi
(buyisa = bring back + futhi = again)



Airport: Izikhumolondiza
(Izikhumolo = port + indiza = aeroplane)



Charge: Dladlambisa
(umdlamba = passion, energy)



Technology: Izincikochwe
(iciko = good at what you do + ubuchwepeshe = expertise)



Print: Gxifa (gxifiza = the sound the printers make)



Explorer: Onhlohlolohlo
(hlola + hlola = digging, probing, curious)



Global: Uqoqazwe
(qoqa = group together + izwe = land)

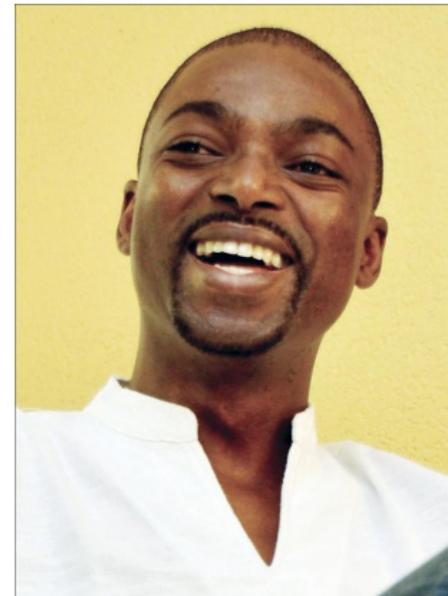


Spark plug: Onhlansini
(Izihlansi = sparks)

1+1=2

Mathematics: Imzimbalwazi
(bala = write + ulwazi = knowledge)

Graphics24
Illustrations: Hanlie Malan



Phiyayinkosi Gift Mbuyazi, who has become a 'language activist'

One man has invented 450 new science and technology words in isiZulu – and now a film has been made about his work. **Charl Blignaut** and **Khotso Sello** report

IsiZulu will eventually become extinct because there are not enough books written in South Africa's largest official language, and because schools are increasingly teaching in English, says Phiyayinkosi Gift Mbuyazi.

And those are not the only problems.

"I studied to be an engineer. One of the things I soon realised is missing from isiZulu and other indigenous languages are words related to science and technology. IsiZulu is not keeping up with the language of new technologies," he says.

And so the 41-year-old writer, who was born in Obanjeni, in rural KwaZulu-Natal, is on an extraordinary mission to keep his mother tongue alive – and up to date.

He has invented a dictionary of 450 brand new words in the Zulu language to explain contemporary terms instead of just reverting to

English.

However

NORTH-WEST UNIVERSITY NEWS

PhD in Setswana: a first for NWU's campus in Mahikeng

The North-West University's (NWU's) campus in Mahikeng conferred the first ever Setswana PhD in the history of the Department of Setswana, since its establishment about 39 years ago.

A Doctor of Philosophy in Languages and Literature in Setswana was conferred on Eileen Elizabeth Pooe, an educator, lecturer and head of the Department of Setswana during the Spring Graduation ceremony on 17 October 2019.

Her thesis was conducted entirely in Setswana and was titled "Taoto ya Phetsolelo ya *Mhudi* ka Sol T. Plaatje mo Setswaneng jaaka mmusetsagae wa dikwalo tsa Maaforika tsa Seesimane".

Her thesis controversially postulates that *Mhudi*, an African novel written in English by Sol Plaatje, is for all intents and purposes a Setswana novel by a Motswana, about Batswana, and should be repatriated into Setswana for the benefit of Plaatje's people, the Batswana.

Dr Pooe has contributed a lot to the growth of the department and introduced a popular Setswana honours programme in translation and interpreting, maintaining Setswana as language of tuition and research in higher education.

She also served as a member of the Pan South African Language Board's Arts and Culture Committee for Setswana terminology development.

Dr Pooe is a South African Translators' Institute accredited translator and practitioner and boasts the National Library Award as Best Woman Writer of language books for OBE and CAPS.

Her illustrious career as an indigenous language author include familiar titles such as *Le re Tlhabetse*, a learner book and teachers' guide series for Grade 7 to 9; *Platinum Segarona*, a learner book and teachers' guide series for Grade 10 to 12; and *Re a Ipela*, a learner book and teachers' guide series for Grade 11 to 12.

In addition to her published set of works, Dr Pooe also translated the Setswana section of the *South African Multilingual Dictionary for Schools* and developed addendums for prescribed novels for Grade 12. These include *Masego* by Gomolemo Mokae (2009), *Omphile Umphi Modise* by Monyaise, DPS (2009), and *Ntlimole Mmutiwa* by OR Lebelo (2016).

Professor Shole Shole, Dr Pooe's promoter, says this is indeed a historical achievement.



What's news?

All NWU News

On the Mafikeng Campus

On the Potchefstroom Campus

On the Vaal Triangle Campus

NWU Experts

Categories

Announcements

Human Interest

Academic

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Community

Sport

Student life

Press Releases

Calendar



Plain language

- Movement to make legal and functional texts accessible
- 1960s and 1970s – US and UK
- Plain Writing Act of 2010 (US)
- Recent trend in South Africa (Cornelius, 2015)
- Research digests/abridgements

Table 1. A selection of journals, societies and other organizations that produce plain-language summaries of scientific research.

Organization	Type	Name of plain-language summaries	Length	Number of images	Number published per month/year
American Astronomy Society (aasnova.org)	Scientific Society	Highlights	350–500 words	1 image, plus 1–3 figures from article	~12/month
		Journals Digests	One sentence	None	~20/month
Annals of the Rheumatic Diseases (promotions.bmj.com/ardsummaries/)	Journal	Patient summaries	500–1,000 words	None at present	~3/month
Astrobiters (astrobiters.org)	Student-led organization	N/A	600–800 words	1-2	~20/month
Autism (journals.sagepub.com/home/aut)	Journal	Lay abstracts	250 words max.	None	~80/year
British Psychological Society (digest.bps.org.uk)	Scientific Society	N/A	Variable, generally around 500–700 words	1	~20/month
Cochrane (cochranelibrary.com)	Network of researchers	Plain-language summaries	400–700 words	Usually none	Variable; published 485 in 2015.
eLife (elifesciences.org)	Journal	eLife digests	200–400 words	None	50–60/month
Frontiers for Young Minds (kids.frontiersin.org)	Journal	N/A	2,000 words max.	Variable	Variable; published over 100 articles since launch in 2013.
Functional Ecology (functionalecology.org)	Journal	Lay summaries	250–350 words	1 photograph	~160 articles in 2016
PLOS Medicine (journals.plos.org/plosmedicine/)	Journal	Author summaries	6–9 single sentence bullet points	None	14/month
Proceedings of the National Academy of Sciences (pnas.org)	Journal	Significance Statements	~120 words	None	~3000/year

(Shailes, 2017)

Readability

- Top 5 most influential papers for 2019 on Google Scholar (average readability grade in the second column)

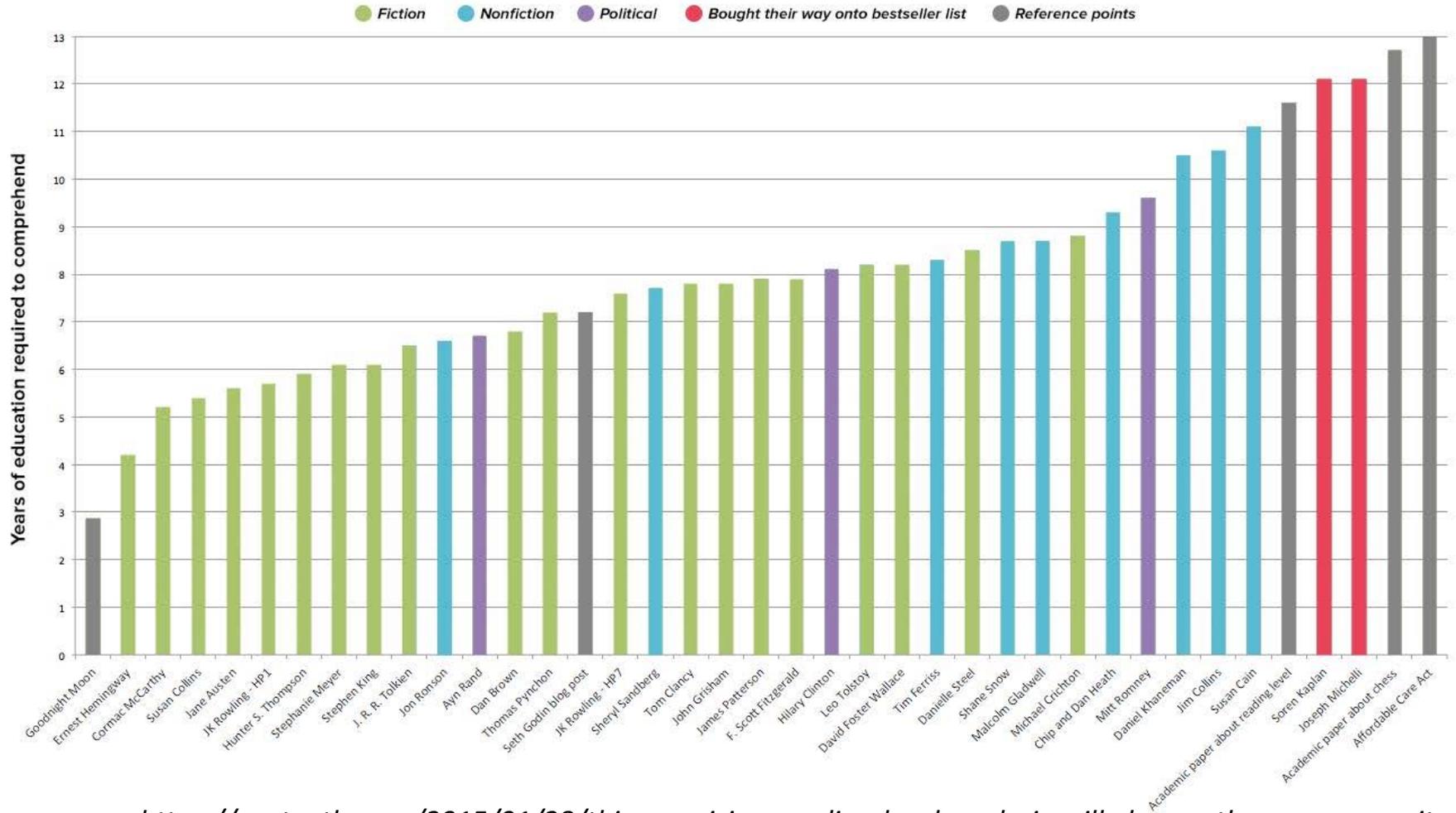
Deep Residual Learning for Image Recognition (2016)	13 (18-19 year)
Deep learning (2015)	18 (23-24 year)
Going Deeper with Convolutions (2015)	16 (21-22 year)
Fully Convolutional Networks for Semantic Segmentation (2015)	15 (20-21 year)
Prevalence of Childhood and Adult Obesity in the United States, 2011-2012 (2014)	16 (21-22 year)

<https://www.webfx.com/tools/read-able/check.php>

Readability

Reading Level of Bestselling Authors' Books

@shanesnow



<https://contently.com/2015/01/28/this-surprising-reading-level-analysis-will-change-the-way-you-write/>

Rodgers (2017):

"But if we want to take the open agenda to its logical conclusion we must do more. It is not enough to give everyone access to every research paper and leave it at that: we have to make research open in other ways. **We have to make an effort to communicate with readers outside the research community**; we have to speak to pupils and teachers, to healthcare professionals and patients (and their families), to anyone and everyone who is interested in science and research. And we have to speak to them in **their language**, in the language of the news media and Wikipedia. We have to speak to them in plain language, not in the formal and formulaic prose found in most research papers; and we have to use verbs, not nouns, and to avoid words like characterization and facilitation that – while much loved and used by scientists – can stop a sentence or article dead in its tracks. "

Recommendations

- Developing terminologies and translating key texts in educational contexts (Desai, 2016).
- Reconsider dual publication ban (Curry & Lillis, 2018).
- Journals encouraging translated versions of articles (Meneghini & Packer, 2007).
- Multilingual researchers collaborating (Solli & Ødemark, 2019).
- Provide plain-language digests or summaries of research (Rodgers, 2017).
- Citation indexes and rankings should encourage multilingual content.
- Incentivize individual and community-based language planning efforts and activism.

Conclusion

- Towards open access the nature of language and languages in science needs to be interrogated.
- The role of English needs to be acknowledged. But how about additive multilingual publication practice?
- The complex language situation in South Africa also prompts further promotion of African languages.
- Authors and publishers can draw on affordances from the Plain Language Movement and readability tests.

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Thank you – Ke a leboga – Dankie



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- and Open Educational Resources
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NWU OER Events



- **Prof. Tel Amiel**

UNESCO Chair in Distance Education, University of Brasília, Brazil

- **11 November 2019**, Vanderbijlpark: “A brief introduction to OER and its origins”
- **12 November 2019**, Potchefstroom: “OER in Brazil and Latin America: recent developments”
- **13 November 2019**, Mafikeng: “The role of Open Educational Resources in teaching, policy and technology, with recent development from Latin America”



- **Prof. Daniel Burgos**

Vice-chancellor for Research & Technology & UNESCO Chair on eLearning, International University of La Rioja, Spain

- Wednesday **20 November 2019** – “MOOCs and OERs do not work: Challenges for an effective implementation”



- **Open Education Week 2-6 March 2020**

- **Prof. Rory McGreal**

UNESCO & ICDE Chair on OER, Athabasca University, Canada