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REINTELLECTUALIZING INDIGENOUS LANGUAGE THROUGH DEVELOPMENT OF SCIENTIFIC LANGUAGE REGISTER IN SEPEDI

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ABSTRACT

South African education policies explicitly permit the use of previously marginalized indigenous languages, including Sepedi, for education. However, the viability of adopting these languages for science discourse is questioned, mainly due to insufficient learning resources and terms in these languages. This underscores a need to develop learning resources with accurate terms in various indigenous languages. The purpose of this study was to explore the development of Scientific Language Register in Sepedi for Natural Sciences and Technology. A qualitative, case study approach was used to gather information relevant to the study. Unstructured interviews were used to collect data. A diary was used as a tool to journal the process of developing this register, noting the challenges and opportunities. Collected data were analysed through content analysis. The results revealed a shortage of scientific terms in Sepedi. Some of the scientific terms in Sepedi were obtained from internet-based resources. However, some of these terms were borrowed or transliterated from English and Afrikaans. Fortunately, collaboration with knowledgeable stakeholders such as a teacher and language experts allowed for provision of more terms and facilitated the creation of new terms as a way of reintellectualizing this language. This study recommends collaboration between language board, science experts, language experts and the local stakeholders in the creation of scientific learning resources in indigenous languages and the terms thereof.

KEYWORDS: Sepedi, Scientific Language Register, Reintellectualization, Challenges and Opportunities.

1. INTRODUCTION

The use of previously marginalized indigenous languages in education has been a South African dream since the dawn of democracy. Section 29(2) of the South African Constitution of 1996 (Republic of South Africa, 1996) and the Language in Education policy (LiEP) of 1997 (Department of Education, 1997) were established to make this dream come true. However, there are setbacks which delay the use of indigenous languages across various subjects in schools. The feasibility of using indigenous languages in subjects such as science is questioned. However, teachers use various indigenous languages through code-switching across different subjects, due to English language barriers that hinders meaningful learning (Shinga & Pillay, 2021). This shows that science can be taught in any language, challenging the status quo.

The practicality of developing learning resources in indigenous languages is also doubted. This is mainly due to, among other things, lack of scientific terms in indigenous languages. However, the development of Afrikaans challenges this view. Afrikaans—which has its roots in South Africa—became the language of education for various subjects in just over 20 years. This was possible due to the support from the government of that time (Ndolere, 2024). Creation of learning materials in Afrikaans demonstrated that, with adequate support, languages can be developed and used for education. Thus, indigenous languages can be used for instructions across disciplines, and learning resources can be developed for different subjects in these languages.

South African education department is piloting Mother Tongue-based Bilingual Education (MTbBE), which started in grade four in 2025 (August-Mowers, 2025). The introduction of mother tongue beyond the Foundation Phase was triggered by the observed poor performance linked to English language barrier. MTbBE transforms the classroom practises from accidental verbal code-switching to translanguaging; which entails free and intentional use of mother tongue including written materials (García & Lin, 2016; Probyn, 2019). This is a profound opportunity to turn policies on multilingualism into practice. MTbBE calls for the use of learners mother tongue in alongside English as the teaching language (Ngubane & Ngwenya, 2025). This practice necessitate the development of resources in indigenous languages. Department of Basic Education (DBE) is producing resources in indigenous languages to support MTbBE. This include the Annual Teaching Plans (ATPs),

Thunderbolt kids workbooks and glossary of terms; which are available on the DBE website. However, these resources are not sufficient and they have excessively borrowed terms, reflecting lack of scientific terms in indigenous languages. This is mainly because indigenous languages were only offered as language subjects from the Intermediate Phase, while English and Afrikaans were used as medium of instructions. Therefore, the vocabulary of indigenous languages remains underdeveloped, as they were not updated with new developments and scientific discoveries. Unsurprisingly, these languages do not have some of the specialized terms for science. Hence, they need to be reintellectualized to be used in contemporary science.

Intellectualization refers to the deliberate process of accelerating the development of languages in order to improve their ability to interact with contemporary advancements, theories, and thoughts. It involves creating, expanding, rationalizing and illuminating the language's terms to express important scientific concepts and to ensure full capacity to carry out scientific function in all domains (Mabela & Ditsele, 2024a). While there are claims that South African indigenous languages are not intellectualized because they cannot be used to discuss some scientific topics; other scholars argue that indigenous languages are intellectualized because they have been successfully used to share knowledge, and have only been de-intellectualized by colonialism which excluded them from academic discourse and leading to their underdevelopment. For example, African astronomy reflects how Africans have unique knowledge and interpretation of the phenomena observed in the sky, expressed in different languages. However, this knowledge is limited to what can be seen with a naked eye. This is because vocabulary changes with time as a result of advances in knowledge and technology, even for developed languages like English. Features observed through recent technological devices such as telescopes and satellites have not been included in the indigenous knowledge discussions. Hence, these languages lack scientific terms for these features. Exoplanets and dark matter, for instance, are examples of new occurrences and discoveries that have led to the development of new terms or the expansion of the meanings of already-existing ones (Khusanova, 2024). Therefore indigenous languages such as Sepedi would, unsurprisingly, not have terms for these concepts. Therefore, these languages need not be intellectualized, but to be reintellectualized (Khumalo & Nkomo, 2022; Kaschula & Nkomo, 2019). Reintellectualization

acknowledges the existing knowledge and potential of indigenous languages for education; and emphasises development of these languages within the framework of the new, multi-epistemological intellectual order (Kaschula & Nkomo, 2019). Thus, it recognises the indigenous epistemologies which can be used in educational space; and calls for modernization, especially with new terms that came as a result of new developments and discoveries, to allow these languages to be used for cutting-edge science discussions. Therefore, reintellectualizing African astronomy would involve creation of terms for the extra-terrestrial features and modern technological advancements such as satellites, that are unknown to the indigenous people. Therefore terms acquisition is a key component of language reintellectualization.

Terms acquisition refers to the process of obtaining terms; which include harvesting the existing terms from the target communities and creating terms using techniques such as coinage, compounding and borrowing. There is usually a motive for selecting a particular approach, given the inventive list of techniques. Moreover, there isn't a single approach that can be considered the best (Letsoalo et al., 2022). Coining is a morphological process of creating new words to refer to previously nonexistent things or phenomena (Umaru, 2024). For instance, the coined term "coronacation" means corona vacation, which describes a leave of absence from work brought on by the corona virus pandemic (Sami et al., 2022). Compounding involves combining words or lexical pieces to create a new term (Mabela & Ditsele, 2024b). For example, a Shona compounded term for oxygen is "chipaupenyu", which is made from the term "chipa" which means to give and "upenyu" which means life. Therefore, chipaupenyu means life-giver (Gumbo, 2021). Borrowing involves direct transfer or transliteration from one language to another language. This approach is usually chosen because it is a rapid way to address the issue of terms scarcity (Letsoalo et al., 2022). Transliteration is a type of borrowing in which the target language's alphabet or writing system are used to express words from source language (Grami & Hamza, 2020). It involves substituting letters with the aim of changing the structure and preserving the sound of words. For example: temperature is transliterated to themphereitsha in Sepedi (Mabela & Ditsele, 2024b). While this method fills the vocabulary gap, it compromises the quality of the target language by inviting foreign-sounding words that are represented using the target language alphabets (Letsoalo et al., 2022). It also undermines

the feasibility of indigenous languages for science discourse. Scientific terms in South African indigenous languages are usually borrowed from English and Afrikaans because they are already widely used in this field (Mabela & Ditsele, 2024a). This stresses a need to develop resources in indigenous languages, using science register, with accurate indigenous terms. Creating educational resources in indigenous languages such as registers does not only ensure availability of resources but aids in the updating of vocabulary or reintellectualize these languages, and dispels the myth that only languages from the previous colonial era may be used for teaching and learning in specialized fields (Nhongo & Siziba, 2024). A register is a collection of language characteristics linked to particular social behaviors or social groups (Agha, 2004). Therefore, a scientific language register refers to the collection of lexical terms or vocabulary, linguistic features and intricate grammar used for science discourse.

Creating scientific register in any language involves creation of terms. Provided the diverse nature of terms acquisition techniques and the underlying beliefs around term creation, scientific terms created in indigenous languages are most likely to differ for the same concept. This is a problem because terms need to be consistent enough to facilitate understanding and clear communication (Bensari & Kacimi, 2025). Additionally, some of the terms created are not user-friendly (Mabela & Ditsele, 2024b). This emphasizes the value of a cooperative, interdisciplinary approach for terms acquisition (Khumalo & Nkomo, 2022). This calls for need to collaborate with various stakeholders to develop scientific language registers in indigenous languages; including qualified translators to ensure appropriate translation of specialized content into indigenous languages (Mpalami, 2022) and language boards for terms authentication.

While terms are crucial part of science discourse, they are not static. Thus, terms evolve with the influence of new discoveries (Khusenova, 2024). The history of the term oxygen is an example of this. The term "oxygen" underwent several stages of adaption before becoming a universal term. This brings hope to the process of term creation for science in indigenous languages. Oxygen gas was first studied by Boyle (1627–1691) and Robert Hooke (1635–1702), who called it "volatile nitre." Later, John Mayow (1643–1679) coined the phrase "nitro-aerial spirit." Joseph Priestley coined the most often used word, "dephlogisticated air" (Hancock, 2022). Antoine Lavoisier, assuming that this gas was an essential component for all acids, invented the term "oxygen,"

taken from the Greek word "oxys," meaning "sharp," in reference to the sourness of acids. Oxygen means acid-forming in Greek. The term oxygen is still commonly used; despite later arguments that "begetter" would be more appropriate given the gas's crucial function in maintaining life on Earth (Heffner, 2013). This proves that terms in indigenous languages can evolve from being individualized to localized, then nationalized, and ultimately internationalized, provided it receives the necessary support.

Sepedi is one of the South African indigenous languages, and an official language, spoken mostly in the province of Limpopo (Rakgogo, 2019). Sepedi is also known as Sesotho sa Leboa or Northern Sotho. However, other scholars argue that Sepedi is not the official language's name, but a dialect of Sesotho sa Leboa (Rakgogo & Zungu, 2022). It is argued that the South African 1993 constitution utilized the name Sesotho sa Leboa, which was translated into Sepedi in 1996 (Rakgogo & van Huyssteen, 2019). Since both designations correspond to the same language and are equally recognized under the constitution, the word Sepedi is used in the current study to represent the official language, not a dialect. Sepedi is used as a medium of instruction in the Foundation Phase, and offered as a language subject from the Intermediate Phase. It has been recently used as a medium of instruction in grade four, with the roll out of MTbBE. Thus, although not sufficient, scientific learning materials in this language are available. There is a need for more learning resources to be developed to support the use of Sepedi in science.

This study strives to make the most of the current education policies, and contribute to multilingualism in education through the development of Scientific Language Register in Sepedi. The aim of this study is to explore and document the process of developing Scientific Language Register (SLR) in Sepedi indigenous language as a learning resource for Natural Science and Technology (NST) subject, focusing on the theme: Planet Earth and Beyond. The study endeavors to answer the following questions:

- 1) What are the challenges associated with the development of Sepedi scientific register for NST on Planet Earth and Beyond?
- 2) What are the opportunities of developing the Sepedi scientific register for NST on Planet Earth and Beyond?

2. RESEARCH METHOD

This study used a qualitative research approach to gather descriptive, non-numeric information regarding the scientific terms in Sepedi, as well as the

challenges and opportunities of developing the SLR in Sepedi. The study used a case study design, with Sepedi as a case. Case studies offer important insights into the subject being studied by concentrating on a detailed examination of one or a few representative cases, enabling the researcher to gain a comprehensive understanding of certain events (Luthfiandana et al., 2024). Unstructured interviews were used to allow natural flow of information. Participants were consulted to provide Sepedi terms for astronomic phenomena such as the sun, moon, earth, etc. as part of Planet Earth and Beyond topic. They were also involved in the construction of such terms where none existed.

This study took place in Seotlong circuit, in Limpopo province. This area is located in Sekhukhune regions, which has a dense population of Sepedi-speaking people. The participants consisted of books author who is also a sociolinguist by profession, poet, NST teacher who also teaches Sepedi, and elderly citizen; who were purposively sampled based on based on their home language—Sepedi— and their intensive knowledge of the language as pre-determined criteria. Participants information is shown in table 1 below. Internet-based resources such as Multilingual term list, Google Translate and Glosbe were also used to extract some terms. The involvement of multiple stakeholders and the use of various resources to extract the terms was to ensure triangulation—the convergence of data through the use of many sources to boost the validity and credibility of research (Bans-Akutey & Tiimub, 2021).

Table 1: Participants Information.

Participant	Home language	Reason for sampling	Role in the study
Poet	Sepedi	He wrote poems in Sepedi	Suggested terms
Teacher	Sepedi	Teaches Sepedi and science	Suggested terms and assisted with the crafting of new terms
Author/ Socio-linguist	Sepedi	He is a qualified linguist and wrote grammar books in Sepedi	Suggested terms and assisted with the crafting of new terms
Senior citizens	Sepedi	Custodians of Sepedi language	Suggested terms

A diary was used as a data collection tool. A diary is a journal used to record thoughts, feelings, and experiences. By documenting such details, a journal might offer insightful information that improves comprehension of occurrences (McCombie et al.,

2024). In this study, the diary mainly captured the opportunities and challenges encountered during the development of the scientific language register. Data were analyzed using inductive content analysis since the topic of developing scientific registers in Sepedi has not been sufficiently explored, therefore prior information of the phenomenon is insufficient (Elo & Kyngäs, 2008).

3. RESULTS AND DISCUSSION

3.1. Result

Sepedi is one of South African official languages, primarily spoken in the Limpopo province. It serves as the language of learning and teaching (LoLT) in the Foundation Phase and is offered as a subject in higher grades in some schools. Prior to, and during the development of the register, the researcher looked for scientific terms in Sepedi. She accessed the 2013 Natural Sciences and Technology multilingual term list compiled by the Department of Sport, Arts, and Culture, which has a list of scientific terms in English, Afrikaans, Setswana, Sesotho, and Sepedi. Additionally, the researcher utilized online translation platforms such as Google Translate and Glosbe translate. The researcher searched the terms from these resources. These resources were able to provide some terms in Sepedi such as *letšatši* for sun, *ngwedi* for moon, *dinaledi* for stars, etc. as shown in table 2 below. Additionally, the researcher interacted with knowledgeable stakeholders who speak Sepedi, who provided meaningful insight to the process of developing Sepedi scientific register. Their guidance was instrumental in discovering and refining terms. Therefore, access to resources and experts represent opportunities during the development process, as they offered terms during the development of Sepedi scientific register.

The researcher was also confronted with challenges during the development of Sepedi scientific register, such as lack of scientific terms in Sepedi. The researcher noted the following observations:

“Prior to the development of Sepedi scientific language register, the researcher accessed the Natural Sciences and Technology term list provided by the department of Arts and culture to assist with scientific terminologies in Sepedi. She noted that most of the terminologies were directly translated or were borrowed from other languages such as English and Afrikaans. An example is the term planet, which is translated to *Planete* or *Phlanete* in the term list. The researcher also accessed Google translate and Glosbe online translation platforms, and the term planet was translated to *polanete*.”

These observations align with Mabela and Ditsele (2024a) who noted excessive use of borrowed terms. The terms crafted for planet were transliterated from English, highlighting a significant shortage of scientific terms in Sepedi. Three different spellings were noted: *Phlanete*, *Planete* and *Polanete*, depending on which resource was used. All these three terms were created pragmatically with the goal of maintaining the sound, ignoring the creation of meaning and the grammatical rules of the target language. Some of these spellings, such as “*phlanete*” do not adhere to the phonological and morphological norms of Sepedi. This can create confusion for learners. Firstly, learners are most likely to be confused by different spellings. Lastly, these transliterated terms do not bring any explanation which could assist with understanding. For instance, if a learner is struggling to understand the term planet in English, suggesting Sepedi terms like *Planete* or *Polanete* or *Phlanete* might not assist in providing an explanation or any hint that can assist in generating understanding. Therefore, the terms created through this technique do not offer any intellectual benefit to the learners. In addition, this way of term creation brings the impression that indigenous languages are not fit for science discourse (Nhongo & Siziba, 2024). Therefore, the researcher suggests creation of terms that will respect the target language boundaries and carry the meaning that will intellectually benefit the learners.

The researcher continued the search and consulted a poet for assistance in appropriate Sepedi scientific terms. The poet confirmed challenges of limited scientific terms in Sepedi, as illustrated in the following statement:

“The researcher contacted the author of Sepedi poems to assist with the scientific terminologies in Sepedi. He confirmed that lack of scientific terminologies in Sepedi is a challenge. He further advised that the researcher must work together with science teachers to get the terminologies because they understand the scientific concepts and processes better.”

In the transcript above, the poet emphasized lack of scientific terms in Sepedi. He further suggested collaboration with science teachers. Science teachers in this case would be professionals or specialists who are knowledgeable in the subject and have a better understanding of the concepts. The suggestion is similar to the recommendations from Mpalami (2022) who highlighted teamwork with professionals when translating terms from English to indigenous languages; and (Khumalo & Nkomo, 2022) who suggested interdisciplinary collaboration.

Fortunately, the researcher already identified a teacher, who teaches both Sepedi and science, as a potential participant. She consulted a to assist with terms. He echoed the concern about the limited availability of scientific terms in Sepedi, as demonstrated in the following statement:

"The researcher consulted a science teacher who also teaches Sepedi. He confirmed that there is lack of terminologies in Sepedi for science. He further highlighted that terminologies can be developed looking at what that thing is doing (action) or what it is used for."

The teacher in this transcript agrees with the previous participants on the issue of limited scientific terms in Sepedi. In addition, the teacher suggested looking at the function and developing terms that best describe the function. The term creation technique proposed here is compounding or coinage. The interest is in describing the structure or the function linked to the term. This term creation method offers educational benefits as it allows learners to visualize, or generate understanding based on the description provided by the term. The method suggested by the teacher above was used during the development of the term oxygen, which translates to acid-forming due to its presence in acids (Heffner, 2013) or chipaupenyu which means life-giver in Shona (Gumbo, 2021).

The researcher further looked for other resources and stakeholders that can assist with the scientific terms in Sepedi, as follows:

"The researcher contacted the author of Sepedi grammar books, who is also a qualified Sociolinguist, to assist with the scientific terminologies in Sepedi. He confirmed that lack of scientific terminologies in Sepedi is a challenge. He further stated that terminologies can be coined, looking at the context in which they are used."

The author, who is a specialist of the language in question, confirmed what other participants stated: insufficient scientific terms in Sepedi. The author further suggested a term creation technique, coining based on the context. The term coining technique has been highlighted in Mabela and Ditsele (2024b); together with borrowing, compounding and transliteration as term creation techniques.

Researcher continued to consult elderly citizens who represent the custodian of Sepedi language to assist with the scientific terms in Sepedi as follows:

"The researcher consulted senior citizens in her village. The senior citizens narrated stories and shared their knowledge of extraterrestrial world in home language. This assisted with the names of the planets such Kgogamašego, Mahlapolane, etc. They

referred to them as dinaledi which means stars. However, some of the terminologies such as that of planet remained unknown."

Interestingly, the elderly citizens did not mention lack of terms. They freely shared their knowledge of astronomy in Sepedi, providing the terms for some celestial bodies. This shows that they have their own indigenous knowledge and understanding of astronomy, outside the European knowledge. These findings confirms that indigenous languages are intellectualized as they have episteme, they need to be updated through reintellectualization, which involves creation of terms associated with modern discoveries as highlighted in Kaschula and Nkomo (2019). However, some of the terms such as planet are still unknown to them. They used the term 'dinaledi' for planets, which primarily means stars. The use of the term dinaledi for planets can cause confusion in classrooms because planets are different from stars. This highlights a gap in indigenous language terms and stresses a need to create an equivalent term for planet to avoid such confusions.

Additionally, the internet-based resources have limited terms. For example, Sepedi terms for star and asteroid could not be found in the Multilingual Term List for Natural Sciences and Technology. This questions the reliability of these resources. In addition, the equivalent terms for like asteroid and planet could not be found nor be provided by participants, regardless of the information provided to explain these phenomena. Therefore, the researcher, together with participants, saw it fit to employ term creation strategies to develop equivalent terms that could best describe these scientific phenomena in a way that they can be understood by learners. The terms were compounded with the help of participants, mainly a teacher who has knowledge of both science and Sepedi and an author who is an expert (sociolinguist). The term creation process started with a careful analysis of the phenomena to gain a clear understanding of what they are and exploring suitable methods to craft language-internal terms.

Asteroids are small rocky planetary bodies which are the remains of the ancestors of the terrestrial planets (Asphaug, 2009). Therefore, the compounded term for asteroid is:

- Maswika-bakabaka (plural) / Lewsika-bakabaka (singular)

The term "maswika-bakabaka" was crafted through compounding as an equivalent for asteroids. It is composed of two segments: maswika, meaning rocks, and bakabaka, derived from sebakabaka, meaning space. Thus, maswika-bakabaka translates

to "rocks in space." The term was created mainly focusing on the structure or on what asteroids are, to best generate an understanding of the term for learners.

The term "planet" was originally derived from a Greek word *planētēs* which means "wanderer", since planets move in relation to seemingly stationary backdrop stars. The Astronomical Union declared in August 2006 that a planet is a celestial body that orbit the sun, has a nearly spherical shape, and clears the area around it of tiny objects; disqualifying Pluto from the category of planets to dwarf planets (Alcock, 2014, p.221). The compounded term for planet is:

- Diralalatšatši-šušula (plural) / Seralalatšatši-šušula (Singular)

The term "diralalatšatši-šušula" is an equivalent term compounded for planets in Sepedi. It can be broken down into segments: The prefix "se" is used to show singularity while "di" is used for pluralism,

ralala (to orbit or move around), tšatši (from letšatši which is the sun), and šušula (to push away). Therefore, "diralalatšatši-šušula" translates to "those that orbit the sun and shove away or push away." In developing this term, key features that a celestial object must have to be classified as a planet were considered: primarily, the orbiting of a star and clearing away of any debris in its orbital path.

These terms were created to reintellectualize Sepedi; to reduce shortage of scientific terms in Sepedi and to provide meaningful terms for learners so they can understand the concepts better. The motivation was drawn from the history of the universally known term oxygen, which was given various names before it was standardized as oxygen (Hancock, 2022). Reflecting on the etymology of the term oxygen, there is hope that the terms developed in this study can evolve from being used by individuals to being standardized and adopted locally, nationally, and even internationally.

Table 2: Example of Scientific Terms in Sepedi from Various Sources.

English terms	Terms from google translate	Terms from Glosbe translate	Term from Multilingual Term List	Terms from participants	Terms used in the SLR
Sun	Letšatši	Letšatši	Letšatši	Letšatši	Letšatši
Moon	Ngwedi	Ngwedi	Ngwedi	Ngwedi	Ngwedi
Star	Naledi	Naledi	-	Naledi	Naledi
Solar system	Tshepedišo ya letšatši	Tshepedišo ya letšatši	Tshepedišo ya letšatši	Seletšatši	Tshepedišo ya letšatši/ Seletšatši
Outer space	Sebaka/ sebaka sa ka ntle	Sebaka-bakeng	Lefaufau	Sebakabaka	Sebakabaka
Satellite	Sathalaete	Sathalaete	Sathalaete	Sehlapetši	Sehlapetši
Planet	Polanete	Polanete	Phlanete/ Planete	Naledi/ Dinaledi	Seralalatšatši-šušula in singular or Diralalatšatši-šušula in plural (Compounded)
Asteroid	Asteroid ya asteroid	Asteroid	-	-	Leswika-bakabaka (singular) or Maswika-bakabaka (plural)

3.2. Discussion

3.2.1. Opportunities

The researcher had access to various resources that facilitated the development of the scientific language register. These resources include online translation platforms (Google translate and Glosbe translate), and Multilingual Term List. Additionally, inputs from knowledgeable stakeholders such as books author, poet, teacher, and elderly citizens significantly contributed to the successful harvesting and creation of scientific terms in Sepedi. The

availability of these resources and stakeholders represents a valuable opportunity for the creation of scientific register in Sepedi.

3.2.2. Challenges

The researcher encountered challenges during the development of the scientific language register, including was the lack of scientific terms in Sepedi as highlighted by various stakeholders. The stakeholders acknowledged that, while Sepedi is a widely use official language, its scientific vocabulary remains underdeveloped.

While Multilingual term list, google translate and Glosbe provided terms needed for the development of the register, some of these terms were directly borrowed from English and Afrikaans. In addition, there were inconsistencies on the terms used; thus, different terms for the same concept or terms were spelled differently. Moreover, some terms were not available in the Multilingual Term List and other internet-based resources and were not known to the stakeholders. This emphasizes the issue of shortage of terms in Sepedi. However, working together with stakeholders of the target community to create terms was a step towards solving this issue.

4. CONCLUSION

Sepedi is an official language with the rights to be used for education. The roll-out of Mother Tongue-based Bilingual Education presents an opportunity for this language to be used in science. However, like other indigenous languages, it has scarcity of

scientific terms. Online translation platforms and Multilingual Term List provided some terms. However, some of these terms are not consistent, which can cause communication problems. In addition, some terms are directly translated from other languages, violating the morphological and phenological rules of Sepedi and compromising the quality of the language. Nonetheless, collaboration with stakeholders including language specialists, teacher and elderly citizens provided an opportunity to harvest some terms, and craft other terms using term creation techniques. This has proven that indigenous languages can be reintellectualized. Therefore, this study recommends collaboration between science experts, language specialists, local stakeholders, and language boards like PAN South African Language Board (PANSALB) during the creation of scientific terms and indigenous languages resources, to enhance accuracy and standardization of scientific resources in indigenous languages.

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