

Emerging Perspectives on Translanguaging in Multilingual University Classrooms

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Edited by

Vimbai Mbirimi-Hungwe,

Taurai Hungwe

and Solly Matshonisa Seeletse

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INTRODUCTION

VIMBAI MBIRIMI-HUNGWE

This edited volume is the result of realizing that translanguaging has mostly been viewed from a language teacher's point of view. It appeared as if a translanguaging approach to teaching is only relevant to language teachers and lecturers. In some of my research, I called for a holistic approach to translanguaging pedagogy (Mbirimi-Hungwe 2016, 2019; Mbirimi-Hungwe and Hungwe 2018). The call for other members of the faculty to adopt a translanguaging approach to education was a result of realizing that students struggle to understand concepts across all disciplines; therefore translanguaging needed to be embraced by all educators in different faculties. A pilot study was conducted using Computer Science students, who were afforded an opportunity to discuss and explain difficult terms amongst themselves in a translanguaging manner. Results show that students found comfort in utilizing their linguistic repertoires to understand some abstract concepts in Computer Science (Mbirimi-Hungwe and Hungwe 2018). This led to the invitation being extended to other members of the faculties at the university. Among those who responded to my call were colleagues from Mathematics, Computer Science, and Statistics. After discussions and deliberations on the use of translanguaging as a pedagogic tool, the idea of an edited volume evolved.

Since the available literature on translanguaging is mainly premised on language teachers and lecturers, this edited volume provides emerging perspectives on translanguaging from Science lecturers as well as English language lecturers. It also brings out classroom experiences from Science lecturers who have used translanguaging as a teaching tool.

The Contributions

Vimbai Mbirimi-Hungwe and Taurai Hungwe (Chapter 1) show that the binding of languages into separate entities that are not mutually intelligible is not possible in South African classrooms. Using the Sotho cluster of languages, the chapter shows that Computer Science students were able to

utilize the Sotho languages to understand some concepts in a Computer Science course.

Prema Nair (Chapter 2) shows how translanguaging can be used in Science EAP classrooms. Prema discusses some emerging perspectives on using a translanguaging approach to teaching argumentative writing to science students. She is hopeful that if a translanguaging approach is utilized in the classroom, a remarkable improvement in students' critical thinking skills, as well as writing skills, will be attained.

Vimbai Mbirimi-Hungwe (Chapter 3) provides an insight into how lecturers should position themselves in a multilingual classroom where translanguaging pedagogy is used. This chapter echoes the sentiments of Garcia and Kleyn (2016), who advocate for teachers to create translanguaging classrooms. In this chapter, Vimbai shows that even if the lecturers do not share the same linguistic repertoire with the students, there is a need for the translanguaging current to be allowed to flow in the classrooms for the benefits of the students.

Taurai Hungwe (Chapter 4) brings an emerging perspective to using translanguaging to create a word database using artificial intelligence. The database would be created and used by Computer Science students to understand difficult Computer Science using different languages besides English. This chapter brings out the emerging perspectives of translanguaging pedagogy and how translanguaging can be used to teach in different fields of study.

Tichavasia Alex Dandadzi and Ntsoka Mathiba (Chapter 5) shows how translanguaging can be used to create a word database for student medical doctors which will assist them to communicate effectively with their patients. This chapter brings out how the translanguaging approach to teaching can bring together Computer Science through the use of Artificial intelligence to enhance service delivery in the health sector.

Eunice L. Sesale, Tshepo Ramarumo, Solly M. Seeletse (Chapter 6) show how translanguaging can be used to teach statistical concepts. The authors note that at this stage, the use of translanguaging has been relegated to language teachers when, in fact, it can be used by all members of the faculty. The authors recommend more advocacy and awareness-raising about the benefits of using translanguaging in teaching. With this hope, the authors caution that translanguaging in classrooms needs to be done in an organized manner to benefit the students.

Joel Lehlaba Thabane (Chapter 7) brings out the notion of Mathematics as a language. In many instances, the mathematical language is a barrier to learning mathematics for many students. This chapter shows that in order to break the barrier, a translanguaging approach to teaching maths can be employed.

Solly Matshonisa Seeletse (Chapter 8) concludes the volume by looking at emerging perspectives on the advantages and disadvantages of using a translanguaging pedagogy in a multilingual classroom. Using a mathematical context, Solly provides a practical suggestion for how to optimize the translanguaging pedagogy.

CHAPTER 1

THE USE OF TRANSLANGUAGING AMONG SPEAKERS OF MUTUALLY INTELLIGIBLE LANGUAGES TO UNDERSTAND COMPUTER SCIENCE CONCEPTS: A CASE OF ‘SEPITORI’ IN SOUTH AFRICA

VIMBAI MBIRIMI-HUNGWE
AND TAURAI HUNGWE

Introduction

The establishment of sociolinguistics in the 1960s by the many African and Asian countries that had attained independence resulted in the categorization of fluid language practices of indigenous communities into bound entities (Lane and Mikiyara 2017). Since the establishment of sociolinguistics in the 19th-century nation-state, ideologies have been used to develop positivist modernist approaches to the study of language and society. This has led to language being perceived as a monolithic entity that is connected with a bound territory. In addition, Lane and Mikiyara (2017) point out that the penetration of missionaries in many colonies across Africa especially, resulted in languages becoming located, categorized and fixed. This engendered the changing of fluid language practices into bounded languages in the form of dictionaries, grammars, and instructional texts.

The transformation of fluid indigenous languages into bound entities under the auspices of corpus planning was a way of solving the language problems in the developing states. According to Ndhlovu (2017), since the development of sociolinguistics, the world has become bound in a standard ideology. The aim of this standard ideology was to contribute to the purification of languages. As early as 1995, Cameroon referred to the so-called purification of languages as ‘verbal hygiene’. Through ‘verbal

hygiene', the purification of languages, standard ideology and the separation of languages have become the norm. Regrettably, the education system has been instrumental in perpetuating the bounded notions of language (Lane and Mikihara, 2017).

In response to the standard ideology emanating from the post-modernist positivist studies of the 19th century, the critical post-structuralist studies of the 21st century challenge the ontological status of languages. The critical post-structuralist school of thought questions the way language has been constructed in the modern society where language is perceived to be static, bound and confined to certain speakers within a geographical location (Milani, 2017). Consequently, the critical poststructuralists have extended the concept of repertoires proposed by Gumperz (1982). According to Gumperz (1982), repertoires are the totality of the linguistic resources (i.e. including both invariant forms and variables) available to members of particular communities. In the same vein, the critical poststructuralists extend the concepts of repertoires by disinventing and re-establishing named and bound languages (Makoni and Pennycook, 2007). Similarly, Spotti and Blommaert (2017) maintain that the disinvention of languages disrupts the focus on the distribution and usage of language. However, this depends on the context in which the language is used at any time, such as who speaks which language to whom and when. The focus is therefore on the speaker's appropriation of language as and when it is appropriate to them.

Makoni (2017) questions the view of languages or even the use of languages as enumerable entities. In the same manner, Makalela (2016) interrogates the notion of assigning languages to 'linguistic boxes'. In accordance with B. Makoni (2017), as well as S. Makoni (2017), languages should be viewed as linguistic human work. That is to say, languages are negotiated constantly between interactants (Jasper, 2017). During the interactive negotiation of meaning between interactants, there is no need for the standard use of languages. What becomes important is successful communication and common understanding. Thus, in this case, the critical poststructuralists question the idea of multilingualism due to its constant reference to languages as enumerable entities. In fact, in order to theorize multilingualism, translanguaging has become a suitable concept. Translanguaging refers to a speaker's complex and active use of a repertoire of linguistic features (Garcia and Wei, 2014) and not languages counted as the first language (L1), second language (L2), and so on.

Accordingly, translanguaging forms part of a movement within the critical post-structuralist school that challenges bounded notions of language vying for a more fluid nature of language that challenges standard ideologies. The term translanguaging was coined by Williams (1996) to describe the process of receiving input in one language and providing output in another language in order to enhance learning. As of now, translanguaging has been extended to cease the separatist view of language as enumerable entities, classified as L1, L2 or mother tongue, and to adopt a fluid nature of language (Garcia, 2011). According to Garcia (2011), preserving purity in languages is not tenable in the current linguistic landscape of the 21st century; what is required is a dynamic and future-oriented view of languages.

The South African context

South Africa prides itself on being a multilingual country that recognizes 11 official languages. These 11 languages consist of seven languages that belong to two clusters, namely the Nguni and the Sotho clusters. The Nguni cluster consists of four languages i.e isiZulu, isiSwati, isiNdebele and isiXhosa, while the Sotho language cluster comprises of Sepedi, Setswana and Sesotho. The remaining languages are English, Afrikaans, Tsonga, and Tshivenda. Due to the mutual intelligibility of the languages making up the two language clusters, there have been suggestions to collapse the clusters into only two languages. The first proposal was made by Nhlapo (1944), who suggested building up two languages using an amalgamation of the Nguni languages into one language called Nguni and the other called Sotho coming from the Sotho cluster. This suggestion was met with a great deal of resistance from linguists who feared the death of other language varieties (Weber, 2014). In addition, linguists also argue that there is neither a scientific logic nor language benefit to the harmonization proposal. Neville (1989) reiterated the need to have a standard written Nguni and Sotho, respectively. We will discuss the origins of these languages later on.

Given the stalemate between politicians, academics and language practitioners about the standardization of languages, the South African government has continued to foster a multilingual stance on education policies. For example, the Language Policy of Higher Education Department of Education (2001) stipulates the recognition of multilingualism and states that indigenous languages should be used for purposes of learning in institutions of higher learning. In the policy, universities are encouraged to select languages according to the region of concentration of one or more indigenous languages and develop them for

use of instruction in higher education. As the policy states, indigenous languages will be considered on a territorial basis, where students who come from a particular part of the country should be allowed to use the predominantly spoken language from that area for purposes of teaching and learning.

In as much as the policy is applauded for its recognition of multilingualism in South Africa, it does not recognize the reality of languages. This paper aims to investigate the use of the Sotho language cluster in the classroom. The aim is to ascertain the feasibility of assigning the Sotho languages to geographic territories and using those territories as the basis of teaching in those languages. According to South African history (2016), Setswana is spoken mainly in Pretoria, in the Gauteng province, and in the North-West province. Sepedi is predominantly spoken in the Limpopo province and Sesotho is spoken in the Free State province as well as the Eastern Cape province.

Historically, the Sotho group seems to share a number of linguistic and cultural characteristics. According to Ngcongco (1979), the languages of the Sotho cluster have a lot in common, which has actually prompted historians to conclude that the Basotho (Sotho people), Bapedi (Pedi people) and Batswana (Tswana people) migrated southwards from the northern part of Africa. It is strongly believed that their migration was influenced by the great migration of the Iron Age Bantu-speakers. Due to the Iron Age migrations, the Sotho people (who comprised the Batswana, Bapedi and Basotho) must have associated with the Zezuru (Shona speakers in modern-day Zimbabwe) (Ngcongco 1979). Historians such as Ngcongco (1979), Guthrie (1962) and Summers (1962) point out that the Sotho and Nguni languages seem to have developed from the Zezuru language. Archaeological evidence also shows that these people must have settled in the Zambezi Limpopo valley known as Mapungubwe (Ngcongco 1979). During this settlement in the 10th to the 13th centuries, there was a close association among different traders from different parts of the world, including the modern Southern African region. In fact, the residents of Mapungubwe were the ancestors of the Shona people of Southern Africa. So, if the Sotho people lived there at some point, there must have been a close association between these people for a considerable period. Ngcongco (1979) perceives it legitimate to conclude that whatever linguistic and cultural background the Sotho brought with them during migration, the development of the distinctive language is likely to have occurred in the Limpopo valley.

Makalela (2016) attests the association of various groups through trade in the Mapungubwe civilization to 'Ubuntu', where people intermarried and survived by trading under the auspices of just being people and not languages. In addition to Ubuntu, these people stayed together because they were aware that they had originated from the same *dzinde* (stem). This *dzinde* of the Sotho languages makes it untenable to separate them into different enumerable entities because they share a common origin. During the Limpopo settlement, the *dzinde* allowed the people to live together harmoniously because they shared the same linguistic practices.

According to Banda (2002), there was only one Sotho language originally, which was separated by the European missionaries who assigned different orthographies to the same language, resulting in Sepedi, Sesotho, and Setswana. In essence, three varieties of the same language were created. Banda also mourns that due to the orthographic transformation, words that used to be pronounced the same way were now being spelt differently. The separation of one language into three different languages distorts the history of languages and also disrupts the fluid nature of the African languages. Prah (2003) presents an *aide-memoire* that South Africa is an African country like all others on the African continent. At least three-quarters of its population is made up of African language-speaking people whose histories and cultures are coterminous with those of all the neighbouring countries. In essence, the Sotho cluster cannot be distinguished from other African languages because they share the same *dzinde* (origin).

Just as English and French incorporate huge amounts of linguistic material from other languages due to their historical origins, African (Sotho in particular) languages also leak into each other with no clear boundaries between them (Weber, 2014). In South Africa, the separation of these languages can be attributed, as already mentioned, to the standard ideologies based on nation-building and the purification of languages. Nonetheless, Davies and Dubinsky (2018) explain that the separation of languages, especially for educational purposes, was meant to cement ethnic awareness among Africans. For example, the Bantu Education Act of 1953 entailed the use of Bantu languages until the 8th grade as a vehicle to promote tribal rather than African identity (Davies and Dubinsky, 2018). The separation of Africans according to the language they used was how the colonial system destroyed the *dzinde* of African languages, thereby promoting tribal divisions. Prah (1993) reiterates that African languages were taught not to provide the African masses with a base for cultural development but rather keep to them apart from each other and the rest of South African society while maintaining strict control over the type of literature provided. In

addition, during the late 1970s to the early 1980s, partial public usage of the indigenous African languages in formal and informal capacities was restricted to the “Bantustans” (Prah, 1993). According to Prah (1993), the Bantustans were homelands created by the apartheid government in the form of territorial units where specific African languages were spoken. For example, people who lived in Bophuthatswana spoke Setswana, QwaQwa spoke Southern Sotho/Sesotho, and Lebowa spoke Sepedi. The emphasis on the use of African languages in schools and the created homelands resulted in mutually intelligible languages being relegated to boxes that would separate them from their *dzinde*, making them separate enumerable entities. The worse thing was that each group was made to believe that their language was superior to others, which resulted in tribal rivalries and conflicts.

However, due to its hybrid nature, it is impossible to prevent languages from transforming and manifesting into different varieties sprouting from the same *dzinde*. One example is the hybridity of languages in urban areas where many languages mingle and manoeuvre in speakers’ repertoires. Such hybrids have always been looked down on because they are considered ‘street’ or ‘urban’ languages, mostly associated with the delinquent members of society (Makoni, 2017). For example, in Pretoria, an urban language variety exists called Sepitori. This is used by Sepedi and Setswana speakers to negotiate meaning when they communicate with each other (Webb, 2014). According to Ditsele (2014), standard South African languages are on the decline among urban dwellers while the urban vernaculars such as Sepitori are on the increase. Ditsele also advises that in order to avoid the death of the standard languages, it is imperative to incorporate the vocabulary used in the non-standard varieties of Sepitori into the standard languages. This is also an acknowledgement of language evolution and transformation and is probably a better approach than allowing languages to disappear.

Makoni and Pennycook (2007) argue that instead of viewing the urban varieties of languages as problematic, they should be preserved and embraced because they possess the true nature of language, shaped by its origins and fluid and innumerable nature, as opposed to the colonially imposed standards created to serve the interests of the colonial masters. In fact, according to Makoni, (2017), the so-called urban varieties are more appropriate for use in education than the standard varieties because they point to the original nature of languages.

Based on this background, the purpose of this study is to investigate the use of the Sotho language(s), i.e. Sepedi, Setswana and Sesotho, by Computer

Science students to understand concepts. The question is whether it is possible or even sensible for these three languages to continue being separated, especially for pedagogic purposes, given the origin, history and fluid nature of the Sotho languages. The findings of this study intend to provide suggestions for the future directions languages should take in South Africa, especially for pedagogical practices.

The study

The study is based on Computer Science students in the Bachelor of Science degree program who take a module called Computer Organization and Architecture (COA) at Sefako Makgatho Health Sciences University (SMU). The COA module requires students to acquire a deep understanding of abstract Computer Science concepts and many students find it difficult. This complexity and difficulty are compounded by students learning the material in a language they are also still learning. An intervention was thus necessary to fortify the teaching of these concepts. This intervention entailed forming small groups of students whose tuition was given through translanguaging. COA is defined as the study of the internal working, structuring and implementation of a computer system. Apart from the abstract nature of the COA concepts and the fact that they are taught in an unfamiliar language (English in most cases), there are other challenges that impede the comprehension of unfamiliar concepts.

In addition to the challenges of learning through an additional language, the scientific discourse poses a challenge for students in that it contains many unfamiliar technical words (Probyn, 2015). Also, everyday words have specialized scientific meanings. For example, in Computer Science the word ‘pipelining’ has a different meaning from the everyday noun ‘pipeline’. Therefore, learning science involves a cognitive shift from the common understanding of the world to a scientific view of the world (Probyn, 2015).

Participants

Students were divided into eight groups of eight. These students speak mostly Setswana, Sesotho and Sepedi so the groups were linguistically heterogeneous. The aim of the study was to investigate the extent to which students who speak the Sotho languages maintain the languages separately when trying to define the terms assigned to them. In addition, the intention

was to establish the extent to which the students could negotiate and grasp the meaning of the Computer Science terms.

Data collection

Each group was assigned a list of COA terms with their English definitions provided by the lecturer. The students were supposed to discuss their understanding of the terms using the Sotho languages. It should be noted that the assignment was not based on the translation of COA terms from English to the Sotho languages but rather based on students' understanding of the terms as they relate to COA. So, students would pick a difficult term used in the definition of terms list and unpack the word until they understood the concept. The discussions between the students were captured on audio recorders and transcribed.

Data analysis

Results were analyzed based on the similarity in explanations of COA concepts in the three languages, namely, Sesotho, Sepedi and Setswana.

Results

During the collection of the data, students were instructed to use Sepedi, Setswana and Sesotho when discussing the terms. The process was delayed because there were arguments amongst the students about which language to use. Some students claimed to be Tshivenda-speaking, others said they were Zulu speakers, while the majority were Sepedi and Setswana-speaking, with a handful being Sesotho-speaking. The disagreement warranted the intervention of the researchers, who established from the students that they use a non-standard language called Sepitori. This non-standard language variety is a fusion of Sepedi, Setswana and Sesotho and other languages used for communication in urban Pretoria. Thus, it was agreed that participants use Sepitori for communication purposes.

The glossary was provided with English definitions and students had to make meaning out of the concepts. The following are examples of how appropriate meaning was negotiated.

1. Under the term Computer Organization, the definition was:

Addresses issues such as control signals and memory types and are involved in all aspects of computer systems.

From this definition, all eight groups conceded that it was difficult to understand the term ‘memory types’. Students knew that memory relates to something that one remembers, but from a Computer Science view, the word memory does not mean ‘to remember’. They negotiated the meaning until they understood that the word memory referred to storage. They, therefore, agreed that memory in this context means *sekgwama* in Setswana and *dikgwama* in Sepedi. In both languages, this refers to a purse. The idea of a purse relates to storage because a purse is where money is stored. In this case, memory is where data is stored on a computer. Although in Sesotho the nearest word to memory is *mohopolo*, the students agreed on *sekgwama*. *Mohopolo* refers to remembering so it was not the appropriate explanation of memory in this context.

2. Control unit

The definition of this term was:

It is part of the Central processing unit that directs the operation of the processor. It tells the computer’s memory, logic unit and input and output devices how to respond to instructions.

In order to understand the concept of the control unit, students agreed that it could be explained as *didiriswa tsa taolô* in Setswana. They agreed that a control unit in Sepedi means *disebediswa tsa taelo* and in Sesotho it means *lisebelisoa tsa taolo*. The noun *taolo* in Sesotho and *taolô* in Setswana has the same meaning as *taelo* in Sepedi as they all mean something to do with authority, instruction and control.

It is also important to note that the word ‘unit’ is understood to be something used to perform a task; hence, they use the verb *disebediswa* in Setswana, *lisebelisoa* in Sesotho, and *didiriswa* in Sepedi.

3. Sequential circuit

The definition says: *A device whose output is determined in terms of its inputs in relation to its previous outputs.*

Based on this definition, students endeavoured to understand what is meant by 'sequence'. They understood the term 'circuit' but struggled to understand the concept of a circuit being sequential. The lecturer explained, showing that sequence means when a phenomenon follows a certain order. Eventually, during the discussion, one student said they use the term *ho latellana* in Sesotho, meaning to follow. Based on the suggestion from Sesotho, it was agreed that in Setswana it could mean *tatêlanô ya motsamaô wa motlakase*; that is, the order in which things happen in a circuit. In Sepedi, the meaning was closer to the Setswana meaning, where it was agreed that sequential circuit is *tatelano ya sekete*. This means that the students worked out the meaning in Sepedi to refer to the order of the circuit.

In Sepedi, the students used a borrowed word from the English *circuit* and used the term *sekete*. In Setswana, they used the phrase *motsamaô wa motlakase*. *Motlakase* means electricity. So, the students used their understanding of circuit from an electricity point of view and then used this to understand the COA concept of the sequential circuit.

It is also interesting to note that from the Sesotho explanation of sequential circuit, a different word (*ho latellana*) was used to explain the meaning; however, students were guided to work out an explanation and meaning in Sepedi and Setswana.

4. Register

This term in COA refers to a hardware circuit that stores binary data. For the students to understand the meaning of the term, they had to focus on the definition from a technical point of view. The term 'register' generally refers to the school register in all three languages. If the students had focused on the literal meaning of the word in their languages, they would not have understood it. However, based on the English definition of the term, the register is a form of storage. Thus, the students worked out that in Sesotho, register means *polokelo* and in Setswana it is *bobolokelo*. On the other hand, they could not work out the word for storage in Sepedi, but to store is referred to as *bobolokelo*. Although Sepedi-speaking students did not have a direct word for 'storage' in their language, they could understand it from the Sesotho and Setswana explanations. This ultimately resulted in them understanding the meaning of the term 'register' as it is used in COA.

5. Function

The definition of the term ‘function’, when used in COA, is *the operation of individual components as part of the structure*.

The students resolved to understand the term with the linguistic resources they possess. They agreed that ‘function’ refers to how the computer works. In this case, in Setswana it meant *tiro ya khomputara*; in Sepedi as *mosomo wa setlanye/ khomputara*, and in Sesotho *mosebetsi oa k'homputara*.

Discussion

The results of this research suggest that the three separate languages (i.e. Sepedi, Setswana and Sesotho) are, in fact, intellectually intelligible and can be used by students to understand academic concepts. During the discussion, there were instances where some terms appeared not to have a meaning or could not be explained in one language. For example, the term ‘memory’ was difficult for students to understand in Sesotho in a COA context. However, when students negotiated meanings and explained concepts to each other using Setswana, Sesotho and Sepedi, they reached agreements of the meaning of the terms. This agreement among students, even though their languages had been separated, shows the fluidity and fuzzy boundaries of the three languages (Makalela 2016; Weber, 2014). Speakers of the three languages could not find a direct word from one of the languages in some instances but they were able to use the available linguistic resources among themselves to help each other understand the concepts. It is indeed the Ubuntu (Makalela 2016) among the students that allowed them to negotiate the meanings of the terms among themselves. In addition, the mutual intelligibility of the languages, where the languages leak into each other (Weber 2014), allows interactants to manoeuvre and negotiate meaning.

Many critical poststructuralists (Makoni and Pennycook, 2007; Garcia and Wei 2014; Makalela 2016; Ndhlovu 2017) have bemoaned the separation of languages. According to Banda (2002), there was one Sotho language but it was separated by the missionaries, who assigned different orthographies to the same language resulting in Sepedi, Sesotho and Setswana. Results of this research show that indeed the three languages came from the same origin but were separated in the written form. When students discussed the meaning of ‘control unit’, they came up with three explanations that are written differently but mean the same. In Sesotho, students understood the term to mean *lisebelisoa tsa taolo*, in Setswana *didiriswa tsa taolô*, and in

Sepedi *disebediswa tsa taelo*. As mentioned earlier, the noun *taolô* in Setswana and Sesotho *taolo* mean the same as the Sepedi *taelo*. They all refer to something that has got to do with authority, instruction and control. The word means the same in all three languages but each is written differently. The same applies to the verb *lisebelisoa* in Sesotho and *didiriswa* in Setswana. The two verbs are written differently but pronounced the same. The letter L in Sesotho is pronounced D in Setswana and Sepedi. The ‘soa’ in Sesotho is pronounced the same as ‘swa’ in Setswana. This shows that the languages emanate from the same origin and are pronounced similarly and have the same meaning, but were separated orthographically.

There were instances during the discussion where two languages would have the same terms and meanings to explain a concept and the other one would have a different term. For example, when students were negotiating the meaning of the term ‘register’, they had to get the contextual meaning of the term from the English definition, which was provided by their lecturer. In order to understand the term ‘register’, students had to work out the meaning from the fact that the term refers to storage. In Setswana and Sesotho, students understood the term, which means storage in the COA context, to be the word *polokelo*. In Sepedi and Setswana, storage is understood to be *bobolokelo*. However, as asserted by Weber (2014), the Sotho languages leak into each other with no clear boundaries between them. As such, students were able to understand each other as they negotiated the meaning of the concepts.

Assigning languages based on the geographic location of the speakers of the languages has proven to be impossible. As mentioned earlier, the Language Policy of Higher Education (LPHE) (2001) stipulates that the use of indigenous languages at university will be considered on a territorial basis, where students who come from a particular part of the country should be allowed to use the predominantly spoken language from that area for purposes of teaching and learning. In this regard, Sepedi, which is predominantly spoken in Limpopo (the northern part of the country) and Sesotho, which is spoken in the Free State province, would not be used for pedagogic purposes at SMU, which is located in Pretoria. However, in this research, Sepedi, Setswana and Sesotho were used by students to understand COA concepts. Results show that for communicative purposes during the discussion, the students used a non-standard hybrid language emanating from a mixture of all the three languages called Sepitori. Students were able to discuss and find the meaning of academic concepts using Sepitori, a non-standard variety of the Sotho languages. Based on this, it can be suggested that instead of separating languages into bound enumerable entities (Makoni

and Pennycook 2007; Makoni 2017), languages should be allowed to be manifested and appropriated depending on the speaker's convenience (Spotti and Blommaert, 2017).

Lastly, this research suggests the need to allow mutually intelligible languages to work in harmony, especially for academic purposes. Separating languages would hinder students from grasping concepts that they could understand if they were allowed to use the linguistic resources available to them. In instances where one language did not have a possible explanation available for students to understand some COA concepts, the other two languages were used. In this case, we would recommend allowing the three languages, Sesotho, Sepedi and Setswana, to be used interchangeably as linguistic resources so that they can be appropriated by speakers for communicative purposes and meaning-making. Allowing the languages to co-exist as linguistic resources will accommodate the fact that the non-standard Sepitori exists and is used for communicative purposes. This version keeps the languages alive.

In contrast to sociolinguists (Nhlapo, 1944; Neville, 1989) who believe in the harmonization of mutually intelligible languages into single languages, we suggest that these languages be allowed to exist in their fluid nature, possessing a mutual intelligibility that allows speakers to use these languages in various contexts as and when appropriate. Our suggestion is based on the fact that whatever linguistic and cultural background the Sotho brought with them during migration, the development of the distinctive languages must have occurred in the Limpopo valley (Ngcongco, 1979). The languages emanated from the same stem but, due to socialization in the valley, they might have been formed as a result of non-standard hybrids during that time. In essence, languages were standardized by people who wanted a written form, but that does not mean that the written forms of the languages depict the true form of the standard spoken varieties. We would agree with Ditsele (2014) and Makoni and Pennycook (2007), who suggest accepting and recognizing the non-standard varieties of languages and allowing them to be used in formal contexts. In fact, Makoni (2017) asserts that the so-called non-standard varieties are more appropriate for use in educational contexts than the standard varieties because they depict the original nature of languages.

Conclusion

This paper investigated how Computer Science concepts can be understood by multilingual students using the various linguistic resources that they

possess. The research shows that students were able to negotiate the meaning of terms and concepts using the three mutually intelligible languages, i.e. Sotho, Sepedi and Setswana. These languages leak into each other and allow speakers to communicate and understand concepts using all three languages. In addition, separating the three languages during the discussion was impossible since the students used Sepitori, a non-standard variety of the three languages, to communicate and negotiate the meaning of the Computer Science concepts. Based on the results of this study, we suggest that these languages should not be separated, especially when used for academic purposes because they form the linguistic resources that students need to understand concepts. Consequently, separating the languages would be tantamount to rejecting the origin of Bantu languages when they have the same origin. The origin of African languages allowed for the sprouting of varieties of languages, and this needs to be accepted and embraced. Finally, we maintain that there is no need to allocate the use of languages based on geographic locations where languages are spoken, especially at universities. The language policy needs to be amended to allow students to use all the linguistic resources available to them as long as they make meaning of academic materials. The movement of people no longer allows treating languages as static and bound to a specific location. Instead, it is important to allow languages to fluidly exist and be used for meaning-making and understanding academic material.

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CHAPTER 2

THE INFLUENCE OF A TRANSLANGUAGING APPROACH ON ARGUMENTATIVE WRITING IN EAP CLASSROOMS: AN EMERGING PERSPECTIVE

PREMA NAIR

Introduction

The needs of the technology-based workforce have transformed globally, and so too have the demands; hence, the need for individuals competent in oral communication, problem-solving skills, critical thinking, and effective team work-collaboration, was inevitable (Jerald, 2009). The ability to develop or construct an argument is paramount in today's society. Two higher-order thinking skills, "argument and critique" (Osborne, 2010), are practices considered pertinent in any knowledge-based society. Therefore, there is an urgent need for students to develop these skills in order to analyze, argue and make judgements about the socio-scientific issues they encounter in their daily lives. Sadler and Zeidler (2005, 113) delineate socio-scientific issues as those which are "based on scientific concepts or problems, controversial in nature, discussed in public outlets, and frequently subject to political and social influences." This suggests that there is a need to find solutions to the countless problems and predicaments of society through debate and argument. According to Kuhn (1991:1), "argumentation is an essential thinking skill required for idea formulation, problem-solving and good judgement." Importantly, these skills should be developed in students so they can be exposed to different pedagogical strategies, experiences and practices and learn to find solutions to the myriad challenges. Consequently, to engage in argumentation is one of the most powerful discourse practices and is heavily language dependent. In these challenging times, enforcing the use of the target language, which is English, in educational programs is becoming increasingly questionable

since there is such a lot of movement of people and information across the globe. Similarly, students at multilingual universities encounter many challenges, especially with regard to the use of L2 as their medium of instruction.

Argumentation and argumentative writing are complex tasks and rely heavily on appropriate language use. Because of this, it is essential to find solutions to the language impediments that students encounter. When students embark on argumentation, they must make claims and support these claims with evidence and reasoning, which in turn eventually increases their problem-solving and critical thinking capacity (Willingham, 2007). This indicates that argumentation is a crucial skill because it will assist students to improve and develop content knowledge, language, and practices. Choy and Lee (2012), as well as Paxton (2009), suggest that using students' L1 has many benefits that can overcome language challenges. They point out that the L1 can be used as a teaching and learning tool as well as to scaffold academic discourses.

Indeed, multilingual students find it challenging to master reading and writing skills, and this may result in their inability to comprehend text and critically evaluate it. Writing is an essential language skill that requires higher levels of competence; however, both these imperative skills (reading and writing) seem to be particularly challenging for multilingual students as they lack adequate levels of proficiency in their L2 English. According to Geiser and Studley (2001), developing writing skills is vital not only in academic contexts but also in professional undertakings. Khun (1991) and Osborne, Erduran and Simon (2006) argue that unless argumentation is specifically and explicitly addressed in the curriculum, students will not have the chance to explore its use in tertiary institutions.

Studies have shown that there are many challenges faced by students with regard to L2 in South Africa, and this is due to it being a multilingual country (Bangeni and Kapp 2007; Boakye and Mbirimi-Hungwe 2015; Mashiyi 2014). Besides the social and cognitive challenges, universities have been practising monolingualism as the instructional norm; this is despite the multilingual student population (Statistics South Africa, 2012). This bias can affect students' academic literacy. Therefore, students' writing skills are also challenged due to the nature of second language acquisition. Kiramba (2017) notes that the language of academic writing has historically been English, and that has been a normal practice in Kenya. Furthermore, he declares that not considering the learners' language, cultures, identities and experiences when authorities enforce an "unrealistic