



Translanguaging as The Resource for Constructing Offenders' Language Identities in A Correctional Centre Mathematics Classroom

Siphelele Mbatha ¹ , and Xolani Khohliso ² 

¹ Department of Languages in Education, Faculty of Education, University of the Free State, Qwaqwa campus, South Africa.

² Centre for Innovation in Teaching and Learning, Central University of Technology, South Africa.

Correspondence: Siphelele Mbatha, Department of Languages in Education, Faculty of Education, University of the Free State, Qwaqwa campus, South Africa.

Email: MbathaST@ufs.ac.za , xkhohliso@cut.ac.za

Doi: 10.23918/ijsses.v12i1p156

Abstract: The translanguaging strategy, although initially coined from the Welsh bilingual classroom contexts, has extended across different learning and social contexts, particularly because of the expansion of multilingualism. Defined and conceptualized as the purposeful and cross curricular strategy for the planned and systematic use of two or more languages, translanguaging has been perceived, in different scholarly works, both as a communication and a pedagogical approach. Furthermore, since its emergence, scholars have debated the applicability of translanguaging across the curriculum. As a result, researchers working in multilingual classrooms conceptualized translanguaging as the multilingual oral interaction and fluidity in language use across the curriculum. While different scholarly works have discussed translanguaging within the context of various learning areas, the scholarship that discusses translanguaging chiefly within the context of mathematics learning in correctional center classrooms is still arguably limited. This paper sought to explore the role of educationists' and adult offenders' use translanguaging in constructing and in conceptualizing adult offenders' language identities within a correctional centre mathematics classroom. From the interpretivist epistemological stance, qualitative data were collected through semi-structured interviews with three purposively sampled educationists and two purposively sampled adult offenders, to address the following research question, which animate the study: What are the offenders' language identities discernible through the use of translanguaging strategy in a mathematics correctional centre classroom? Framed within the case study research design, through the lens of Vygotsky's (1978a) Socio-Cultural Learning Theoretical perspective, the qualitative data were analyzed using thematic analysis. The findings indicate that translanguaging and an inquiry-based approach help in conceptualizing offenders' *sabela* language and communicative repertoires. These findings have practical implications for both educationists' andragogical practices and adult offenders' learning. The study recommends using translanguaging and inquiry-based problem solving to help construct offenders' language identities.

Keywords: Translanguaging, Correctional Centre Mathematics Classroom, Offenders' Language Identities, Inquiry-Based Mathematics Problem Solving, Multilingualism.

Received: 28.11.2024

Accepted: 25.02.2025

Mbatha, S., & Khohliso, X. (2025). Translanguaging as The Resource for Constructing Offenders' Language Identities in A Correctional Centre Mathematics Classroom. *International Journal of Social Sciences & Educational Studies*, 12(1), 156-175.

1. Introduction

After the advent of democracy, the South African government reformed prisons into centres of behavioural rehabilitation. Section 41 (1) of the South African Correctional Services Act (Act 111 of 1998), stipulates that rehabilitation programs and activities must meet the needs of offenders (see Murhula & Singh, 2019, 2020). The South African White Paper on rehabilitation mandates that the Department of Correctional Services offer rehabilitation programs to offenders as a right, not a conditional luxury (Muntingh, 2010). These programs aim to prepare offenders for skilled trades, ensure effective societal reintegration, and reduce recidivism (Mnisi & Schoeman, 2013; Mokoele et al., 2018; Vandala, 2019). Among these programs, education is particularly significant, as it reduces recidivism and enhances critical thinking and employment prospects (Mokoele, 2018). Owing to the stipulations of Section 41 (1) of the South African Correctional Services Act and the White paper on rehabilitation, the Department of Correctional Services offers several programmes as rehabilitation measures for both juvenile and adult offenders, which include, social work services, religious care, recreational programmes, psychological care, and educational development. While there is a plethora of programmes aimed at rehabilitating offenders, education, according to the South African Judicial Inspectorate of 2016, remains a significant rehabilitation strategy, which reduces recidivism while catalysing critical thinking, logic, reasoning and simultaneously broadening offenders' employment prospects post incarceration (Mokoele, 2018).

Owing to the expansion of multilingualism in South Africa, multilingual pedagogies have been discussed in different scholarly literature. Furthermore, the role of translanguaging has occupied the central focus in scholarly discussions whose concentration is on the development of mathematics cognition in correctional centre classrooms (see Mbatha, 2024). What distinguishes the present study from the preceding scholarly works is that it examines the association between the fluid use of both official and non-formal languages (which is dominant in correctional centre facilities) and the learning of mathematics therein. The examination of the aforementioned association is based on Mbatha's (2024) view of language (and language use) as the resource towards the development of mathematics conceptual understanding.

1.1 Problem statement and research question

Although the significance of education in offender rehabilitation is well-documented (Herbig & Hesselink, 2012; Johnson, 2022; Jordaan & Hesselink, 2022; Segalo & Sihlobo, 2021), it is influenced by several factors, including linguistic aspects (Yang, 2022). According to Vygotsky's (1978a) theoretical perspective, social interaction, or language, is fundamental to cognitive development and understanding. As a matter of fact, according to the Vygotsky's (1978a) theoretical perspective, social interaction, or language, is fundamental to cognitive development and understanding. Vygotsky's (1978a) stance is more than a theoretical perspective, but it arguably is the demonstration of the centrality of both formal and informal language in the communication and in the learning and teaching process. Creese and Blackledge's (2015) academic stance on what they term "fluidity in language use"

¹ Scholars who have been engaging in the conceptualization of translanguaging define it as the practice of transcending beyond the use of a single language by integrating different languages within the single discourse to elevate learners' understanding of the subject matter in multilingual classroom situations. The phrase "fluidity in language use" has been central in studies that

explains, even though not ostensibly, that language is equally important for social communication outside of the classroom as it is for teaching, learning and assessment processes within the context of the classroom. Drawing from this academic stance, the researcher sought to explore the role of translanguaging in mathematics teaching and learning processes, with an assumption that it [the use of translanguaging] informs and can be used to draw and conceptualise adult offenders' language identities and communicative repertoires outside of the classroom context. This study addresses the following research question:

- What are the offenders' language identities discernible through the use of translanguaging strategy in a mathematics correctional centre classroom?

While the distinction between the present study and the preceding scholarship has been discussed, it is also worth noting that the study's exploration of the use of translanguaging within the context of correctional centre classrooms further extricates it study from the preceding scholarly works. Furthermore, in the present study, translanguaging is perceived from two distinct epistemological stances; firstly, as the resource or a tool operationalized to develop mathematics understanding and cognition within the correctional centre classroom, and secondly, as the mode through which offenders' language identities can be comprehended.

2. Literature review

The literature review, in this paper, was arranged as follows:

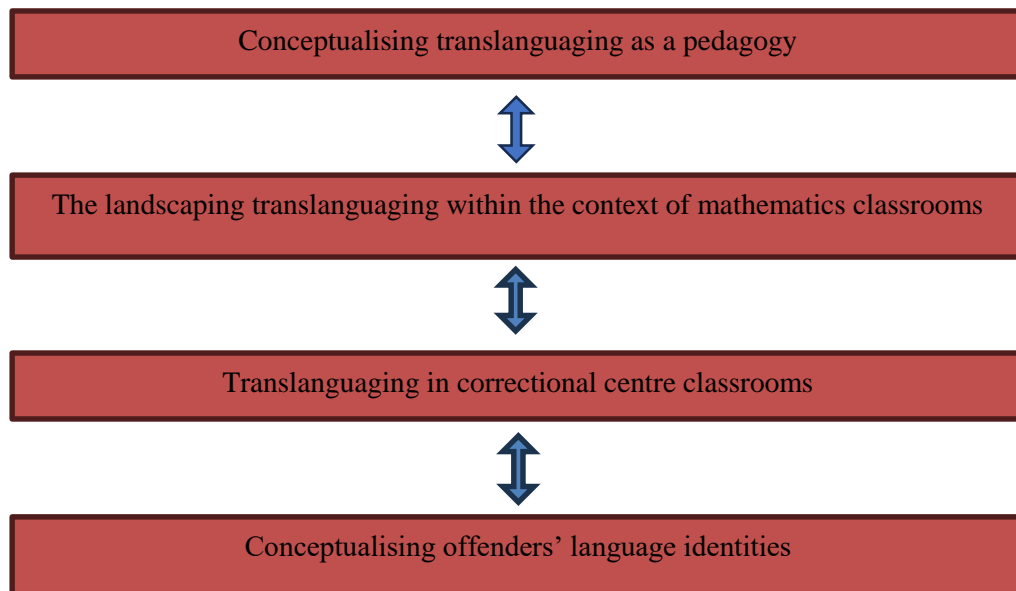


Figure 1: The arrangement of literature review

seek to define translanguaging practices because of its connotation of the smooth and elegant transition between different languages in the single discourse. In the context of the present study, the phrase “fluidity in language use” denotes the smooth transition between and the integration of formal languages and “prison informal languages” with an intention of engaging offenders in the learning process.

Note: The diagram illustrates how the literature was reviewed in this study.

2.1 Conceptualising translanguaging as a pedagogy

Translanguaging has been conceptualised both from the theoretical and from the pedagogical perspective. The researchers did not operationalize translanguaging theory as lens in this context, therefore, this review focuses on literature that defines translanguaging from a pedagogical perspective.

Scholars have engaged in discussions that seek to distinguish translanguaging strategy from the translanguaging pedagogy. For example, Flores (2019) define translanguaging pedagogy as the art and science of teaching bilingual (or multilingual) learners by fluidly using and by transitioning between two or more repertoires within the single learning and teaching context. On the other hand, the translanguaging strategy has been used to connote the communicative practice(s) of and between multilingual persons (Creese and Blackledge, 2015). Translanguaging pedagogy will occupying the central focus of this study because it [the present study] seeks to explore and examine the role of translanguaging within the context of mathematics correctional centre classrooms.

Similar to the use of translanguaging pedagogy and translanguaging strategies interchangeably is the synonymous conceptualization of translanguaging and code-switching. However, Yilmaz's (2021) conceptualization of code-switching as the practice of switching between the codes and thus using languages as discrete systems and Garcia's (2018) discussion of translanguaging within the context of using languages as unitary systems in communicative and learning situations can be operationalized to draw the distinction between the two practices.

García and Kleyn (2016) maintain that the translanguaging pedagogy can be used by all teachers (regardless of whether they are bilingual or monolingual) in any programme to effectively teach language-minoritized learners who are in different stages of bilingualism in their classroom. From this academic stance, the definition of translanguaging pedagogy as the art or science of using two or more languages to enhance both language and content knowledge development to language-minoritized learners can be drawn. In other words, translanguaging pedagogy is employed to effectively engage learners whose home language differs from the language of teaching and learning (also see Gort, 2015; & Sembiente et al., 2023; Martin-Beltrán, 2018; Tigert et al., 2019; Sayer, 2013). Translanguaging pedagogy is employed differently in mathematics classrooms because mathematics entails of three different languages (i.e. mathematics register; language through which mathematics is taught; and learners' home language). Hence, in the subsequent section, the use of translanguaging within the context of mathematics learning is being landscaped.

2.2 The landscaping translanguaging within the context of mathematics classrooms

Translanguaging as the strategy, even though conceptualised from different perspectives, by different scholars, in different contexts, the common denominator between the conceptualizations (even those mentioned above) can be drawn from that which is defined by Leung and Valdés (2019) as the dynamic, transmutable concept that aims to capture a dynamic phenomenon, namely, the complex practices of multilingual speakers (both inside and outside of classroom situations). While the afore cited conceptualization seem to be bedevilling, particularly owing to the fact that the strategy to be employed

to “capture the complex practices of multilingual speakers” remains vague, the two epistemologies that provide two different, yet converging understandings through which the translanguaging has been approached, according to Creese and Blackledge (2015), can be used as the scaffold which can be operationalized in an attempt to reach the composite understanding of translanguaging. According to Creese and Blackledge (2015), the two approaches, namely; fluid languaging approach and fixed language approach, are analytic perspectives, which are in the opposite ends of the “translanguaging continuum”. From the lens of the fluid languaging approach as the denotation of the fluidity in conversational uses of two or more repertoires within a single discourse, translanguaging can be conceptualised as the unprecedented and unsolidified use of different languages, in conversational settings, by multilingual speakers, outside of the formal classroom situation, in social situations (also see Vaish & Lin, 2020). On the other end of the continuum, fixed languaging approach, being described as the systematic use of two languages in bilingual classroom contexts (see Lewis et al., 2012; Garcia and Wei, 2015; Wie and Lin, 2019), gives indication that translanguaging practices can be employed as a planned pedagogical practice, in the classroom. The two epistemologies are, in researchers’ view, instrumental in conceptualising the translanguaging strategy because they [the two epistemologies] illuminate that, translanguaging can be used inside and outside of the classroom context, as long as there is a discourse of and between bilingual and multilingual speakers. The two epistemologies, even though situated at the opposite ends of the continuum, converge and co-ordinate at the single point of enhancing “sound discourse” between speakers of different repertoires (Creese & Blackledge, 2015).

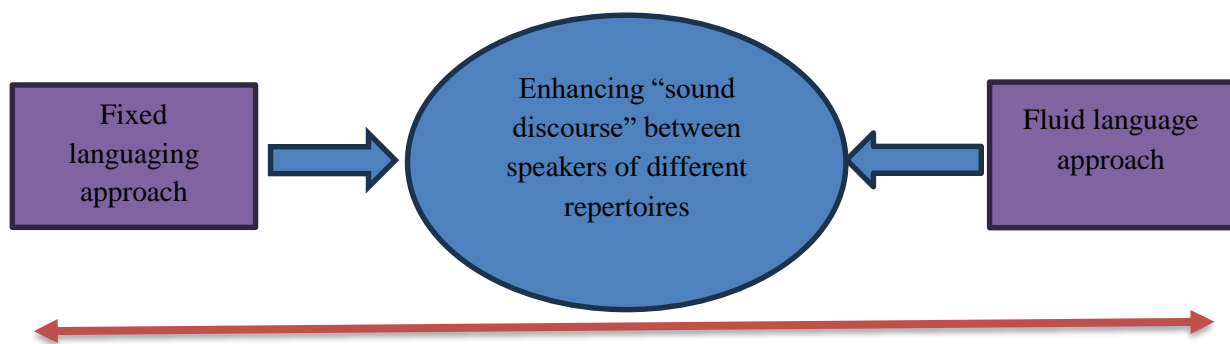


Figure 2: Two epistemologies of translanguaging.

Note: The diagram illustrates the convergence of the two epistemologies of translanguaging at the translanguaging continuum. principles of the Knowlesean (1984) andragogy. Based on “Translanguaging and identity in educational settings” by A. Creese and A. Blackledge. *Annual review of applied linguistics*, 35, 20-35.

When discussed within the context of mathematics classrooms, translanguaging refers to the mobilization of various multilingual and semiotic resources to construct and describe mathematical procedures and processes (Tai, 2022). Parallel to Tai’s (2022) definition is Wei’s (2023) conceptualization of translanguaging in mathematics classrooms as ways in which bilingual and (or) multilingual teachers make use of diverse multilingual and multimodal resources to keep learners engaged in learning abstract mathematical knowledge. Not only is translanguaging operationalized as a

tool to keep mathematics learners engaged, but different scholars have conceptualised translanguaging as the scaffold used to aid learners progress to the higher level of mathematics procedural fluency, factual knowledge, and conceptual understanding (DiNapoli & Morales Jr, 2021; Lopez et al., 2019; Planas & Chronaki, 2021).

Even though not outward, translanguaging is the framework utilized for a two-fold reason; firstly, to create what Lewis et al. (2012) terms the “new language” for multilingual speakers, and secondly, as the scaffold for advancing learners to the understanding of abstract and advanced mathematical knowledge.

While translanguaging has been discussed within the context of, what the researcher terms, “normal mathematics learning and teaching context,” the question that is worth asking, particularly in the context of this paper, is “how is translanguaging conceptualized within the context of correctional centre classrooms.

2.3 Translanguaging in correctional centre classrooms

There is no sufficient scholarship on the use of the translanguaging approach in the context of correctional centre classrooms, particularly in South Africa. The researcher utilized the scholarly literature on the use of translanguaging in adult education as the framework through which translanguaging within the context of adult offenders’ learning can be conceptualized.

According to Rosén and Lundgren (2021), translanguaging, within the context of adult education, is the strategy that seeks to challenge what he terms “monolingual norms”. While the concept of “monolingual norms” is, to some point, perplexing, as it raises the question of “what, in fact, can be described and attributed to monolingual norm?” Hasan’s (2020) idea of explaining translanguaging pedagogy in relation to the embodied language norms of adult teachers and adult learners can be used to create the episteme that, monolingual norms are arguably, language norms held by each adult learner and each adult teacher, based on their home language. Translanguaging, in other words, is the strategy that seeks to create multilingualism, through language fluidity amongst different language norms (see Norlund, 2022). The concept of translanguaging and the “process of challenging language norms” are often permeated in discussions of adult migration and language literacy development for foreign languages (see Duggan et al., 2023 and Turnbull, 2019, for instance). However, the researcher argues that translanguaging can be used to accommodate language diversity and challenge monolingual norms, even within the context of correctional centre classrooms.

2.4 Conceptualising offenders’ language identities.

Language identity, in a general sense and from the Socio-linguistics theoretical perspectives, is the amalgamation of two constructs, which are language and identity (Doherty et al., 2022; Norton, 2010). For Tabouret-Keller (2017), language identity refers to the use of language, terminology, and phrases within a particular discourse as an identifier of ones beliefs and affiliation within the society.

According to Hurst-Harosh (2019), a correctional facility is a community, which entails of offenders who associate, affiliate (socially), and identify with different prison number gangs. As a result, prison

number gang language, repertoires, and styles of communication are used within the gang community to represent certain culture, customs, and practices. In other words, the language repertoire for each gang member is the representation of his or her identity and the position within the gang community. Assembling upon this episteme, language identities of offenders can, arguably, be understood as the representation of number gang affiliation through conversational and styles of speaking a particular vernacular.

In several studies, different concepts and terminologies are used to describe offenders' language identities. Halliday's (1976) concept of antilanguage, for example, has been applied to theorise both youth language practices and colloquial language spoken amongst the "community" of offenders. Theorising antilanguage through the lenses of youth language practices is arguably perplexing, for, it prohibits prison vernacular to youth language practices. The *sabela* informal conversational language, in researchers' view, gives the clear description of what offenders' language identities entail because, according to Klebanov et al. (2016), it [*sabela* language] is the coded prison language, which is multidimensional, depending on its use and application within the particular number gang community (also see Skywalker, 2014). Offenders' language identities, in the context of this paper, refers to the different dimensions of and around the *sabela* repertoires.

The resourcefulness of the translanguaging strategy has been prevalent in discussions of decolonization (Darvin & Zhang, 2023; Zhang, 2022); bilingual education (García & Lin, 2017) and practical theories of language (Wei, 2018). However, the discussion of translanguaging through the lenses of constructing offenders' language identities is still limited. The findings which were inferred from this study were useful in exploring the use and the role of translanguaging in constructing and understanding offenders' language identities in a mathematics correctional centre classroom context.

3. Theoretical framework

The study was underpinned by the Socio-cultural Learning theoretical stance, which is based on the scholarly work of Lev Vygotsky. According to this theoretical lens, the social surrounding (peers, teachers, caregivers, parents) and culture are equally responsible for advancing learners' cognitive development. For Vygotsky (1978a), cognitive development is a socially induced activity, which is realized only by social interaction. While the theoretical stance does not dispute independence and natural development, it [the theoretical stance] features social interaction as the paramount catalyst for realizing the stages of cognitive development. Equally, Vygotsky (1978a) perceives social culture as integral components in learning and in cognitive development (Vygotsky, 1962; Vygotsky & Cole, 1978), which makes his theory be based on the parallelism and concurrency of the two constructs (social interaction and culture).

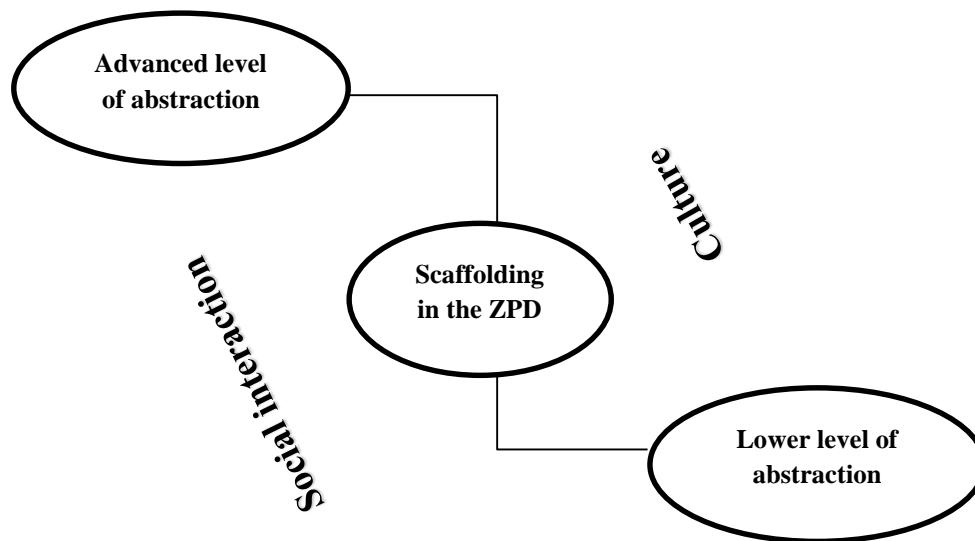


Figure 3: The role of culture and social interaction in the development of cognition.

Note: The diagram illustrates the role of culture and social interaction in the development of cognition. Based on “Interaction between learning and development: In Mind, in society” by L. Vygotsky. Harvard University Press.

Culture and social interaction are perceived, in the Vygotskian (1978a) perspective as paramount tools used to take learners from that which they are able to do on their own, to that which they need assistance on, through what he terms “the metaphor of scaffolding.”

3.1 Culture

For Vygotsky (1978a), every culture and aspect thereof have its unique and important tools of intellectual development. For instance, one cultural aspect can could enhance learners’ memory, whereas the other develops, in one way or the other, social interaction and cognition. The present study takes into cognisance the prison culture and the communicative practices thereof. Assembling from Vygotsky’s (1978) theoretical stance on culture, offenders’ language identities and communicative practices can be operationalized for the purposes of intellectual development in the learning and teaching of mathematics in correctional centre classrooms. These language identities can be used as the resource to enhance mathematics understanding by associating it [mathematics understanding] with offenders’ culture, and thus resulting to the development of mathematics cognition.

3.2 Social interaction

According to Vygotsky (1978a), social interaction is the tool used to develop learners to the advanced level of knowledge abstraction. While the concept “social interaction,” may sound bedevilling, it is conceptualised, in Vygotskian (1978a) theoretical perspective, as the use of language for teaching and learning purposes. In other words, for Vygotsky (1978a), teachers (or knowledgeable peers)

operationalize language as the tool to aid learners to move from that which they are able to do independently, to that which they can only achieve through the help of others (Zone of Proximal Development). The advanced development of cognition (which is realizable within the context of the ²Zone of Proximal development) is achieved through the use of language as the scaffold for learners to reach the high level of knowledge abstraction (this is, for Vygotsky, 1978a, termed the metaphor of scaffolding). For the ³metaphor of scaffolding, Vygotsky (1978a) perceived social interaction (or language) as the resource used by either parents, teachers, or knowledgeable peers firstly as the scaffold for knowledge advancement, and secondly, as the means towards helping learners in the Zone of Proximal Development, through scaffolding (see figures 1 below). Language and culture, in Vygotskian theoretical view, are perceived as both instrumental in the development of cognition in the Zone of Proximal Development, through scaffolding. The use of offenders' communicative practices in correctional centre classrooms, for the context of the present study, is deemed as the resource which can be used by educationists to passage adult offenders from that which they know (simple mathematics knowledge) to that which they can only comprehend with the help of knowledgeable peers (complex mathematics knowledge). The interaction between adult offenders and mathematics educationists, which is the combination of offenders' repertoires and formal mathematics language, also arguably aids educationists to conceptualise offenders' language identities.

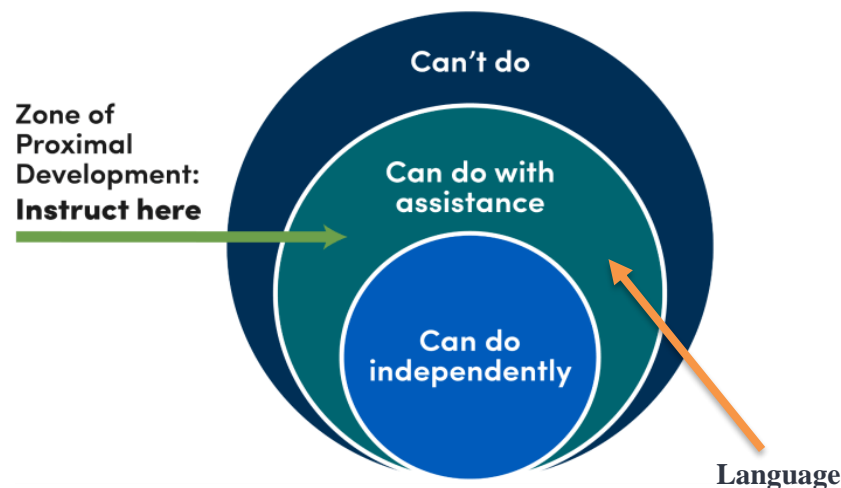


Figure 4: Language as the resource for scaffolding in the Zone of Proximal Development

Note: The diagram illustrates the centrality and the instrumentality of language in scaffolding in the Zone of Proximal Development. Source: Interaction between learning and development. Based on Vygotsky, L. (1978a). *Mind in Society*. Harvard University Press.

² Zone of proximal development refers to the space between what a learner can do without assistance and what a learner can do with the assistance of either adults or knowledgeable peers.

³ Scaffolding refers to a method of teaching the content stepwise, to help learners understand and reach the advanced level of understanding.

Furthermore, for this paper, the use of translanguaging and offenders' language identities are perceived as the scaffold used towards aiding offenders to reach the advanced level of mathematics knowledge. Translanguaging, in the context of the present study, was perceived as the two-fold resource (firstly, as the resource used to conceptualize and construct offenders' language identities, and secondly, as the strategy used to enhance offenders' mathematics understanding). Again, translanguaging was used as the scaffold, not only for learners, but for educationists, to comprehend offenders' language identities and offenders' repertoires within the context of and during the process of teaching mathematics to offenders.

4. Context of the study

The study was contextualized within one correctional centre mathematics classroom, in the selected correctional facility situated in the province of KwaZulu-Natal. The findings presented in this paper emanated from the researcher's PhD study, which sought to explore the use of the three-dimensional approach in teaching mathematics through the medium of isiZulu in the selected adult correctional centre classroom. Translanguaging was primarily not a phenomenon which was under exploration, however, the findings from the PhD intervention study outlined the significance of translanguaging in constructing and conceptualizing offenders' language identities. Since the role of translanguaging was discernible during the intervention, the researcher subsequently pursued to investigate the correlation between translanguaging and the understanding (or the conceptualization) of offenders' language identities, from the objective perspective, by conducting semi-structured interviews with three mathematics educationists and two offenders. The educationists who participated in the semi-structured interview had taught mathematics, in a correctional centre, for more than seven years, and had used isiZulu, Afrikaans and English dialects fluidly to cater for offenders' multilingualism. On the other hand, the adult offenders that participated in the semi-structured interviews had engaged in "translanguaged" conversations with educationists and fellow offenders within the mathematics classroom context.

5. Methodology

The study was designed to evaluate, through qualitative data, the role of translanguaging in the conceptualization and construction of offenders' language identities within the context of mathematics correctional centre classrooms. It [the study] was framed within the case study research design because the researchers explored the role of translanguaging in the construction of offenders' language identities particularly within correctional centre classroom, with the case of one selected correctional centre occupying the central focus. Three educationists, responsible for the teaching of mathematics from one selected correctional centre facility in the province of KwaZulu-Natal and two adult offenders who are learners of mathematics in a correctional centre classroom were purposively selected. The participants were sampled purposively because the primary intent was to collect data and infer findings particularly from educationists who teach mathematics and from offenders who learn mathematics while being acquainted with the prison communicative language. Furthermore, the intent was to observe the role of offenders' language identities within the context of multilingual correctional centre classrooms, and the selected correctional centre classroom entails of speakers of different languages, with the prison communicative language being the common repertoire.

The selected educationists have taught mathematics in a correctional centre classroom, for more than seven years, and have used the three dialects (isiZulu, English, and Afrikaans) in their pedagogical practices. Furthermore, the two adult offenders, aged 20 to 65, had learnt mathematics from the Adult Education and Training level two to Adult Education and Training level three (where the study was contextualised). They [adult offenders] had spent more than five years in a correctional centre facility, and presumably have sufficient command of correctional centre communicative language.

Data were collected through semi-structured interviews with the selected participants. Each participant was interviewed for the period of fifteen (15) minutes in one of the unoccupied correctional centre classrooms. It was indicated that participants were not going to get rewards by participating in the semi-structured interview. Hence, one adult offender withdrew from the study, and the researchers had to resample and target another adult offender, who had been in a correctional centre for more than five years, and who was enrolled for AET level three, doing mathematics as one of the learning areas. It (data) were transcribed, carefully sifted, and thematically analysed to address the question of “What are the offenders’ language identities discernible through the use of the translanguaging strategy in a mathematics correctional centre classroom?” Data were initially coded to observe patterns, and it was, thereafter, arranged according to different themes. These themes were then used as findings in the section of discussion and presentation of results.

The relatively small number of participants in the study might limit the generalizability of data. For instance, the population of adult offenders was represented by only two participants. In this regard, their views might not be used to draw generalization on the use of translanguaging and offenders’ repertoires in this context. Again, the number of educationists who participated was relatively small, compared to the total number of mathematics educationists in correctional centre classrooms. Therefore, from this indication, the study limitation can be drawn.

6. Ethical considerations

Prior to conducting the study, the first researcher obtained the ethical clearance from the university of his affiliation. Subsequently, the permission to enter into the premises of the correctional facility and collect data from both educationists and adult offenders was obtained from the South African National department of Correctional Services. After obtaining the permission letter, the consent of two adult offenders was requested, with reiteration on the fact that their anonymity would be protected. Again, the consent forms were distributed to educationists, and they were informed of their rights to withdraw from the study at any given point should they wish to do so.

7. Findings

The following themes emerged from the semi-structured interviews with three purposively sampled mathematics educationists and with two purposively sampled adult offenders. The responses of the five participants are also cited verbatim.

7.1 Translanguaging as the “new language” used to conceptualize different offenders’ repertoires.

Educationist A indicated that he fluidly used the mixture of English, Afrikaans, and isiZulu to accommodate offenders with different language repertoires. Importantly, **Educationist A** illustrated the understanding of translanguaging, and how it differs from code-switching.

Educationist A:

When I teach mathematics, and even when I converse with offenders, I mix isiZulu, English, and Afrikaans within one discourse, to create what I often call the “new language” which accommodates offenders of different repertoires. I do not change between the languages, but I just use all the languages, maybe in one sentence, to transmit a certain mathematical knowledge or a certain concept. It just happens naturally because I am multilingual. One of the reasons why I employ the translanguaging strategy in my mathematics classroom is that, I teach offenders, and offenders are affiliated with number gangs. Within those number gangs, the “number language” used entails of the mixture of these three languages predominantly. In their responses to mathematical problems, I also get to learn the different modes of ukusabela. The way each offender speaks identifies him with and signifies a particular number gang affiliation. For example, umfana, for the 26 number gang members is a derogatory name, which denotes a male offender, whose role, within the number gang community, is to sexually entertain fellow offenders by playing the role of a woman. Now, with that understanding, I try to avoid the word, or to give the mathematical word problem that has that name.

For **educationist A**, even though code-switching and translanguaging are multilingual pedagogies, their operationalizations differ, making the two multilingual pedagogies dissimilar. This finding strengthens Yilmaz’s (2021) and Garcia’s (2018) attempt to distinguish translanguaging from code-switching, and thus nullify the synonymous understanding of the two multilingual pedagogies.

From **educationist A**’s verbatim words, the conversational use of isiZulu, English, and Afrikaans to create what he termed the “new language,” within the context of mathematics correctional centre classrooms and beyond, is resourceful in understanding the various conversational repertoires of different number gang members. Drawing from Vygotsky’s (1978a), it is evident that language (and language use) is instrumental in the process of teaching. However, language cannot be used as the scaffold only for the benefit of learners, but teachers are also moved to the advanced level of understanding through language. For example, the education A moved to the advanced level of understanding offenders’ language identities by using translanguaging as the resource in his mathematics teaching. Furthermore, the use of certain words, by certain number gang members, aids him to construct their [offenders’] language identities, and avoid making mathematical examples, or giving out problems that entail of words that might be derogatory or insulting to a certain group of offenders. According to the words of **educationist A**, translanguaging does not only aid in understanding and in constructing offenders’ language identities, but it also informs the kind(s) of examples and mathematical problems to be given out to adult offenders. By assembling from

educationist A's response, translanguaging is operationalised as the resourceful and instrumental scaffold for both educationists (because **educationist A** gets to understand offenders' language identities and subsequently reform his language use in the mathematics classroom) and offenders-because they feel welcome and engaged in mathematics learning (see the verbatim words from **adult offender A** below).

Adult offender A:

⁴Omama nobaba who teach us mathematics here [in a correctional centre] do not only use English, and this is some kind of positive transformation for us because, before, we would be taught mathematics in English, which is the language we do not understand. I guess that is where the narrative "mathematics is difficult" emanates from. The problem was not mathematics per se, but it was the language through which it was taught. Now, omama nobaba use all languages, and that makes abafowethu feel engaged, welcome, and accepted in mathematics classrooms.

⁵Thina, we have our own language, which is only used and understood by the members ama-⁶26 or ama-28. And we also use that language in the classroom. By our use of the language, omama nobaba also get to grasp the meaning(s) of certain phrases, and that makes us feel that they are accommodating of our language identities.

From the words of **adult offender A**, the use of translanguaging contextualised within the mathematics classroom, aids in creating a welcoming, encouraging and accepting mathematics learning atmosphere. Again, the use of translanguaging in mathematics classrooms aids educationists to understand, construct and conceptualise offenders' language identities. The **adult offender A** indicates that translanguaging was primarily not used because English was solely used as the Language of Learning and Teaching. From the Vygotskian (1978a) theoretical perspective, there is an indication that the use of translanguaging serves as the scaffold that "simplifies" mathematics in a correctional centre classroom.

7.2 Facilitating inquiry-based problem solving through translanguaging in a mathematics correctional centre classroom: One way of constructing offenders' language identities.

Educationist B indicated that he encourages the fluid use of isiZulu and English in his mathematics classes. Furthermore, **educationist B** specified that he conceptualises and construct offenders' language identities in their interaction during the mathematics inquiry-based problem-solving sessions.

Educationist B:

⁴ According to the correctional centre vernacular, male correctional officers, male educationists and all other male employees within the correctional centre facility are referred to as "obaba." This is done by offenders show to show respect and acknowledgement to the male correctional centre employers. Equally, female correctional officers, female educationists and all other female employees within the correctional centre facility are referred to as "omama." This gesture of respect is applicable across almost all correctional centre facilities.

⁵ *Thina is an isiZulu pronoun, which means "we."

⁶ The 26's and 28's are two different gang groups, that most offenders are affiliated with. There are other gang groups (such as Airforce, 27's) which are not as popular as the 26 and the 28 groups.

I have no formula of using isiZulu and English in my teaching. In one sentence, I would have both isiZulu and English words, and the offenders seem to understand mathematics better if you “break the language boundaries.” I also came to realise that, by letting them [offenders] solve mathematical problems on their own, through interaction amongst each other, and by listening to them interact, a lot of language identities and the sabela concepts can be learnt. For example:

- *Ukumokola-to subtract, to steal, or to remove.*
- *Igunya-the superior number gang member.*
- *Isisebenzi-the sub-ordinate gang member.*

Educationist B indicates that, language identities can be developed in a two-fold way. Firstly, by fluidly using two or more dialects in the classroom, and secondly, by creating the space for, or by facilitating the inquiry-based problem solving, through interaction. As a matter of fact, the inquiry-based problem solving was also evident in educationist B’s mathematics classrooms, where offenders were engaging in mathematics procedural fluency inquiry-based problem solving, with the educationist being the facilitator of the session (see the photograph below).



Figure 4(a): Inquiry based learning in a correctional centre classroom.

Adult offender B, who was in the class where translanguaging was operationalized in inquiry-based mathematics problem solving classrooms indicated that, the use of translanguaging did not only assist the educationist to conceptualize offenders’ language identities, but it also simplified mathematical concepts and mathematical skills, which would have been difficult to comprehend though the use of English.

I would say, using different languages in one sentence helps omama nobaba to understand our ⁷inombolo language “prison” language. But most importantly, it helps us to better understand mathematics procedural fluency. For example, when I was taught in English, I did not understand the place values and rounding up (as well as rounding down).

⁷ *Inombolo* language-refers to the language used by all offenders that are affiliated by and with a certain gang group.



Figure 4(b): Inquiry based learning in a correctional centre classroom.

According to adult offender B, translanguaging is the resource and the scaffold that advances the knowledge and application of procedural skills, and it is more instrumental and useful in mathematics problem solving than the sole use of English.

7.3 Translanguaging between the sabela language, isiZulu, and English as the resource for subverting dichotomy between mathematics content and offenders' daily lives.

Educationist C indicated that, he uses the sabela language, isiZulu, and English fluidly in the mathematics classroom. According to **educationist C**, when the *sabela* language, isiZulu and English are used fluidly, offenders get to connect and apply mathematical content with their daily lives.

Educationist C:

In one conversation, I use isiZulu, sabela language and English, in my mathematics teaching. By using the language which offenders identify with [sabela language], they get to attach mathematics content to their context and with their daily lives.

8. Discussion

The paper revealed that, educationists and adult offenders use the three languages fluidly, within the single discourse, in the process of learning and teaching mathematics procedural fluency in a correctional centre classroom. As Creese and Blackledge (2015) allude, translanguaging entails of the fluidity in the use of two or more repertoires. What was noticeable, from the findings, is that the languages used fluidly are dependent on the home languages of offenders within the context of the correctional centre. For example, offenders incarcerated in a correctional centre within which the study was contextualised were isiZulu, English, and Afrikaans home language speakers, and hence, the educationists' and adult offenders fluidly used the three languages within the context of mathematics teaching and learning. This fluid use of languages developed offenders' mathematics procedural fluency, while it aided educationists to construct and understand offenders' language identities.

Sabela language, being the language that entails of the mixture of different languages (see Hurst-Harosh, 2019), was conceptualised and understood by educationists through the of the translanguaging strategy. Translanguaging also aided educationists to be cautious of the choice of words in mathematics correctional centre classrooms, to avoid derogating or belittling particular gang members.

According to Creese and Blackledge (2015), the two approaches of translanguaging (fluid languaging approach and fixed languaging approach), denote the use of translanguaging in and outside of classroom situations. The paper revealed that, the use of translanguaging within the context of mathematics classroom (fixed languaging approach) served as the scaffold [as the Vygotsky's (1978a) theoretical stance posits], which aids educationists to conceptualize and construct offenders' language identities through their [offenders'] interactions in inquiry-based mathematics problem solving situations. Again, translanguaging aided offenders to develop to the advanced level of mathematics abstraction. On the other hand, translanguaging in normal conversational settings (fluid languaging approach) aids offenders to connect mathematical knowledge with their daily lives, and hence be able to solve real life problems using mathematical knowledge.

9. Recommendations

The researchers recommend the use of translanguaging for its two-fold benefit. Firstly, as the scaffold and resource for and towards the inquiry-based mathematics problem-solving for offenders. Secondly, as the tool, which can be operationalized to construct and conceptualize offenders' language identities. The researchers further propose the use of translanguaging in and outside of mathematics classroom setting, in correctional centre classrooms, to aid offenders subvert dichotomy between classroom-based mathematics content, and the application thereof outside of the classroom situation.

The study revealed the relevance and the instrumentality of language fluidity in offender mathematics education. It is proposed that the adult persons curriculum framework be designed in such a way that the Language of Teaching and Learning (LoLT) is not limited to use English, it extends to the fluid use of English and other languages. Owing to the importance of comprehending and conceptualising offenders' language identities, the study proposes Teacher-development workshops, whose focus will particularly be on equipping correctional centre educationists on the use of offenders' repertoires in teaching or assessing offenders' mathematics knowledge.

Translanguaging, although previous conceptualised as the multilingual pedagogy, is (according to the findings of the study) a resource which can be operationalized to enhance mathematics understanding and the conceptualization of offenders' language identities simultaneously. Again, as Vygotsky (1978a) discusses the role of language in the process of scaffolding, the study discovered that perceiving the "language" as the tool in the process of scaffolding is not sufficient. However, the language and language use are important aspects in the development of cognition, and during the "metaphor of scaffolding." Hence, the researchers recommend both the emphasis of language and the relevant language use in the process of teaching mathematics to adult offenders.

The recommendations stipulated above are arguably pertinent in any correctional centre facility in South Africa, because of the spread of multilingualism and the popularity of the use of *sabela* language across the South African correctional centre facilities. be considered in any correctional centre facility in South

10. Conclusion

The paper revealed the role of translanguaging in constructing offenders' language identities in the context of mathematics correctional centre classrooms. The intellectual piece found that,

translanguaging is instrumental, and is the scaffold for understanding offenders' sabela language. Furthermore, the paper revealed that the use of translanguaging in the context of mathematics correctional centre classrooms aids in a two-fold way: firstly, it aids offenders to apply and connect mathematical content knowledge with their daily "out-of-classroom" lives. Secondly, it aids educationists to conceptualize and construct language identities and diversified repertoires within the correctional centre classroom.

The study contributed to the body of knowledge by revealing the fluid use of English, isiZulu, Afrikaans and the *sabela* language in the context of correctional centre mathematics classroom. Subsequently, the study revealed the role of using offenders' languages in the process of translanguaging, and thus challenging the idea of neglecting informal languages and the role thereof in the development of cognition.

The population of adult offenders and educationists was represented by a relatively small number of participants. Therefore, for future studies, sampling representing the population may be increased, with the use of translanguaging and the *sabela* language still occupying the central focus. Again, subsequent studies may focus on the use of translanguaging in constructing offenders' identities within the context of learning and teaching of other learning areas offered to adult offenders in South Africa.

The general conclusion which can be drawn is the discernible potential of translanguaging in developing both mathematics cognition, and in conceptualising offenders' language identities.

References

- Creese, A., & Blackledge, A. (2015). Translanguaging and identity in educational settings. *Annual review of applied linguistics*, 35, 20-35. <https://doi.org/10.1017/S0267190514000233>
- Darvin, R., & Zhang, Y. (2023). Words that don't translate: Investing in decolonizing practices through translanguaging. *Language Awareness*, 32(4), 645-661. <https://doi.org/10.1080/09658416.2023.2238595>
- DiNapoli, J., & Morales Jr, H. (2021). Translanguaging to persevere is key for Latinx bilinguals' mathematical success. *Journal of Urban Mathematics Education*, 14(2), 71-104-171-104. <https://journals.tdl.org/jume>
- Doherty, L., Norton, B., & Stranger-Johannessen, E. (2022). 10 translation, Identity and translanguaging. *Multilingualism and identity: Interdisciplinary perspectives*, 201. [https://books.google.co.za/books?id=vUp6EAAAQBAJ&lpg=PA201&ots=IjAyKyxIK_&dq=Doherty%20L.%20Norton%20B.%20Stranger-Johannessen%20E.%20\(2022\).%2010%20translation%20Identity%20and%20translanguaging.%20Multilingualism%20and%20identity%3A%20Interdisciplinary%20perspectives%20201.%20&lr&pg=PA201#v=onepage&q&f=false](https://books.google.co.za/books?id=vUp6EAAAQBAJ&lpg=PA201&ots=IjAyKyxIK_&dq=Doherty%20L.%20Norton%20B.%20Stranger-Johannessen%20E.%20(2022).%2010%20translation%20Identity%20and%20translanguaging.%20Multilingualism%20and%20identity%3A%20Interdisciplinary%20perspectives%20201.%20&lr&pg=PA201#v=onepage&q&f=false)
- Flores, N. L. (2019). Translanguaging into raciolinguistic ideologies: A personal reflection on the legacy of Ofelia García. *Journal of Multilingual Education Research*, 9(1), 5. <https://fordham.bepress.com/jmer/vol9/iss1/5>
- García, O., & Kleyn, T. (2016). Translanguaging theory in education. In *Translanguaging with multilingual students* (pp. 9-33). Routledge. <https://doi.org/10.4324/9781315695242>

- García, O., & Lin, A. M. (2017). Translanguaging in bilingual education. *Bilingual and multilingual education*, 117-130. https://doi.org/10.1007/978-3-319-02324-3_9-1
- Hasan, M. (2020). Translanguaging as an instructional strategy in adult ESL classrooms. <http://dspace.aiub.edu:8080/jspui/handle/123456789/985>
- Herbig, F. J. W., & Hesselink, A.-M. (2012). Seeing the person, not just the number: Needs-based rehabilitation of offenders in South African prisons. *South African Crime Quarterly*, 41, 29-37. <https://doi.org/10.17159/2413-3108/2012/v0i41a838>
- Hurst-Harosh, E. (2019). Tsotsitaal and decoloniality. *African Studies*, 78(1), 112-125. <https://doi.org/10.1080/00020184.2018.1480847>
- Johnson, K. D. (2022). *The Impact of Adult Education and Learning Programs Post-Release* [Wilmington University (Delaware)]. <https://ezproxy.ufs.ac.za/dissertations-theses/impact-adult-education-learning-programs-post/docview/2663499773/se-2?accountid=17207>
- Jordaan, J., & Hesselink, A. (2022). Predictors of aggression among sample-specific young adult offenders: Continuation of violent behavior within South African correctional centers. *International criminal justice review*, 32(1), 68-87. <https://doi.org/10.1177/1057567721998431>
- Klebanov, B. B., Kaufer, D., Yeoh, P., Ishizaki, S., & Holtzman, S. (2016). Argumentative writing in assessment and instruction: A comparative perspective. *Genre in language, discourse and cognition*, 33, 167. <https://doi.org/10.1515/9783110469639>
- Leung, C., & Valdés, G. (2019). Translanguaging and the transdisciplinary framework for language teaching and learning in a multilingual world. *The Modern Language Journal*, 103(2), 348-370. <https://www.jstor.org/stable/45172005>
- Lewis, G., Jones, B., & Baker, C. (2012). Translanguaging: Developing its conceptualisation and contextualisation. *Educational Research and Evaluation*, 18(7), 655-670. <https://doi.org/10.1080/13803611.2012.718490>
- Lopez, A. A., Guzman-Orth, D., & Turkan, S. (2019). Exploring the use of translanguaging to measure the mathematics knowledge of emergent bilingual students. *Translation and Translanguaging in Multilingual Contexts*, 5(2), 143-164. <https://doi.org/10.1075/ttmc.00029.lop>
- Mnisi, N. E., & Schoeman, M. (2023). An Analysis of Offender Social Reintegration Programmes Delivered by Non-Governmental Organisations. *Acta Criminologica: African Journal of Criminology & Victimology*, 36(3), 1-20. https://hdl.handle.net/10520/ejc-crim_v36_n3_a1
- Mokoele, N., Masenya, M., & Makalela, K. (2018). Performance management as a mechanism to effective public service delivery in South Africa. *African Journal of Public Affairs*, 10(4), 106-118. <https://hdl.handle.net/10520/EJC-134c33f428>
- Muntingh, L. (2010). A guide to the rights of inmates as described in the correctional services act and regulations. <http://hdl.handle.net/10566/227>
- Murhula, P. B. B., & Singh, S. B. (2019). A critical analysis on offenders rehabilitation approach in South Africa: A review of the literature. *African Journal of Criminology and Justice Studies*, 12(1), 12. <https://digitalscholarship.tsu.edu/ajcjs/vol12/iss1/12>
- Murhula, P. B. B., & Singh, S. B. (2020). An Empirical Assessment of the Effectiveness of Offenders' Rehabilitation Approach in South Africa: A Case Study of the Westville Correctional

- Centre in KwaZulu-Natal. *The Oriental Anthropologist*, 20(2), 347-369.
<https://doi.org/10.1177/0972558X20952972>
- Norton, B. (2010). Language and identity. *Sociolinguistics and language education*, 23(3), 349-369.
<https://doi.org/10.21832/9781847692849-015>
- Planas, N., & Chronaki, A. (2021). Multilingual mathematics learning from a dialogic-translanguaging perspective. In *Classroom research on mathematics and language* (pp. 151-166). Routledge. <https://doi.org/10.4324/9780429260889>
- Rosén, J., & Lundgren, B. (2021). Challenging monolingual norms through pedagogical translanguaging in adult education for immigrants in Sweden. *Pedagogical translanguaging: Teachers and researchers shaping plurilingual practices. Multilingual Matters*. <https://doi.org/10.21832/9781788927383-012>
- Sayer, P. (2013). Translanguaging, TexMex, and bilingual pedagogy: Emergent bilinguals learning through the vernacular. *TESOL quarterly*, 47(1), 63-88. <https://doi.org/10.1002/tesq.53>
- Segalo, L., & Sihlobo, M. (2021). Rehabilitation of Inmate Young Offenders and the Education system: Offenders' Perspective in South Africa. *FWU Journal of Social Sciences*, 15(3), 43-59. <http://doi.org/10.51709/19951272/Fall-2021/3>
- Tabouret-Keller, A. (2017). Language and identity. *The handbook of sociolinguistics*, 315-326. <https://doi.org/10.1002/9781405166256.ch19>
- Tai, K. W. (2022). Translanguaging as inclusive pedagogical practices in English-medium instruction science and mathematics classrooms for linguistically and culturally diverse students. *Research in Science Education*, 52(3), 975-1012. <https://doi.org/10.1007/s11165-021-10018-6>
- Vaish, V., & Lin, A. M. (2020). Introduction: Translanguaging and translanguaging pedagogies. *Translanguaging in multilingual English classrooms: An Asian perspective and contexts*, 1-9. <https://link.springer.com/book/10.1007/978-981-15-1088-5>
- Vandala, N. G. (2019). The transformative effect of correctional education: A global perspective. *Cogent Social Sciences*, 5(1), 1677122. <https://doi.org/10.1080/23311886.2019.1677122>
- Vygotsky, L. (1978a). Interaction between learning and development. In *Mind in Society*. Harvard University Press. <https://ia.eferrit.com/ea/a6589cd862231ed3.pdf>
- Vygotsky, L. S. (1962). Thought and word.
[https://books.google.co.za/books?id=B9HCIB0P6d4C&lpg=PR9&ots=TuI8Yhj6Hu&dq=Vygotsky%20L.%20S.%20\(1962\).%20Thought%20and%20word.&lr&pg=PR9#v=onepage&q=Vygotsky,%20L.%20S.%20\(1962\).%20Thought%20and%20word.&f=false](https://books.google.co.za/books?id=B9HCIB0P6d4C&lpg=PR9&ots=TuI8Yhj6Hu&dq=Vygotsky%20L.%20S.%20(1962).%20Thought%20and%20word.&lr&pg=PR9#v=onepage&q=Vygotsky,%20L.%20S.%20(1962).%20Thought%20and%20word.&f=false)
- Vygotsky, L. S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Harvard university press.
[https://books.google.co.za/books?id=RxjjUefze_oC&lpg=PA1&ots=okzUU3s27r&dq=Vygotsky%20L.%20S.%20\(1978\).%20Mind%20in%20society%20Development%20of%20higher%20psychological%20processes.%20Harvard%20university%20press.&lr&pg=PA1#v=onepage&q=Vygotsky,%20L.%20S.,%20&Cole,%20M.%20\(1978\).%20Mind%20in%20society:%20Development%20of%20higher%20psychological%20processes.%20Harvard%20university%20press.&f=false](https://books.google.co.za/books?id=RxjjUefze_oC&lpg=PA1&ots=okzUU3s27r&dq=Vygotsky%20L.%20S.%20(1978).%20Mind%20in%20society%20Development%20of%20higher%20psychological%20processes.%20Harvard%20university%20press.&lr&pg=PA1#v=onepage&q=Vygotsky,%20L.%20S.,%20&Cole,%20M.%20(1978).%20Mind%20in%20society:%20Development%20of%20higher%20psychological%20processes.%20Harvard%20university%20press.&f=false)
- Wei, L. (2018). Translanguaging as a practical theory of language. *Applied Linguistics*, 39(1), 9-30.
<https://doi.org/10.1093/applin/amx044>

- Yilmaz, T. (2021). Translanguaging as a pedagogy for equity of language minoritized students. *International Journal of Multilingualism*, 18(3), 435-454.
<https://doi.org/10.1080/14790718.2019.1640705>
- Zhang, X. (2022). Prediction of Purchase Volume of Cross-Border e-Commerce Platform Based on BP Neural Network. *Computational intelligence and neuroscience*, 2022, 3821642.
<https://doi.org/10.1155/2022/3821642>