

# THE TDS MODEL AND EPISTEMIC JUSTICE FOR BILINGUAL LEARNERS

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## ABSTRACT

**The object of research:** Contemporary research suggests the use of an instructional language different from students' home language as a major contributing factor to academic underachievement. This has also been the case in Gwanda South, Zimbabwe, where Sesotho speaking secondary school learners are taught through English only and have been underperforming. Analysts have suggested the use of a language different from their learners' home language as the major cause of academic underachievement.

**Investigated problem:** This study explores how concurrent use of multiple languages can enhance learning in a bilingual community. Results from national examinations show learners from Gwanda South perform comparatively lower than most districts in the country, resulting in calls for transformative pedagogy. This mixed methods study used a descriptive survey design that opted for face-to-face interviews and questionnaires to collect data from 120 secondary school learners, 20 parents, 20 teachers, 10 head teachers and 10 Teachers-in-Charge. Convenience sampling was used to identify participants.

**The main scientific results:** Results from the study indicate participants' willingness for pedagogies that acknowledge multiple languages. They also indicate an enhanced academic performance among students when the TDS model is used for pedagogical purposes. As a result, the article introduces a model that is being proposed and recommended for use in bilingual settings, called The Dual System (TDS) Model. The TDS Model has a number of variables that make it operate effectively and efficiently. Its basis is two languages in an environment and community with a keen interest in the successful use of those languages in the classroom. Both teacher and learner ought to be tuned to dual language use and to accept full roles for both languages in the classroom. Translanguaging then is a key element that defines academic activities. Bilingual education where Sesotho and English are key classroom languages is recommended for Gwanda South, Matabeleland South, Zimbabwe.

**The area of practical use of the research results:** The TDS Model has a number of variables that make it operate effectively and efficiently. Its basis is two languages in an environment and community with a keen interest in the successful use of those languages in the classroom. Both teacher and learner ought to be tuned to dual language use and to accept full roles for both languages in the classroom. Translanguaging then is a key element that defines academic activities. Bilingual education where Sesotho and English are key classroom languages is recommended for Gwanda South, Matabeleland South, Zimbabwe

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## 1. Introduction

### 1.1. The object of research

Contemporary research suggests the use of an instructional language different from students' home language as a major contributing factor to academic underachievement. This has also been the case in Gwanda South, Zimbabwe, where Sesotho speaking secondary school learners are taught through English only and have been underperforming. Analysts have suggested the use of a language different from their learners' home language as the major cause of academic underachievement.

### 1. 2. Problem description

The article introduces a revised model for use of two languages as mediums of expression. It starts with the Sesotho community divided between old and young in language use due to years that they have not had Sesotho used in schools. The proposed model for bilingual education is then provided together with an interpretation of its variables. Further detailed discussion is provided on some of the vital areas of the model necessary for its understanding and interpretation. Role of teacher, attitude of learners to language, and related information is expanded and given in due detail. Because Matabeleland South is linguistically complex, the TDS Model when adopted might need to be adjusted for specific schools in different geographic settings. Then of course, the linguistic complexity necessitates further studies especially in situations where three or more languages might be used by communities in a district or ward.

### 1. 3. Suggested solution to the problem

Following the adoption of the 2013 Constitution, Zimbabwe recognises 16 official languages, namely Chewa, Chibarwe, English, Kalanga, Khoisan, Nambya, Ndau, Ndebele, Shangani, Shona, Zimbabwe Sign language, Sotho, Tonga, Tswana, Venda, and Xhosa [1]. Other minority Bantu languages include Tsonga, Kalanga, Afrikaans, Greek, Portuguese, French, Dutch, and Ndau. In spite of the country's linguistic diversity, English enjoys hegemony being the mostly used language in government, business, and education. For many years now the most of the issues raised in educational and sociolinguistic discussions relating to education in the country have revolved around constructions and reconstructions of notions of 'cognitive' deficiency [2, 3], which have been assumed to be associated with orality, 'nonstandard' language [4] and multilingualism [5]. This monolingual approach to education has led to the academic underperformance of most students, especially those from minority language speaking communities such as Gwanda South where the home language of the majority of the students is Sesotho [6].

The current study adopted translanguaging theory. The theory embraces the concurrent use of two or more languages in the classroom. The term translanguaging was not originally intended as a theoretical concept, but a descriptive label for a specific language practice [7]. It was Baker's English translation of Williams' Welsh term *trawsieithu*, to describe pedagogical practices that Cen Williams observed in Welsh revitalisation programmes [8] where the teacher would try and teach in Welsh and the learners would respond largely in English [9]. In some cases, the language choice would be reversed when students would read a text in Welsh and the teacher would offer explanations in English [10].

Such instructional practices are by no means unique to the Gwanda South context where teachers and/or students move between languages. Instead of viewing the migration between languages negatively [7] as is the case in classrooms involving bilingual learners in Gwanda South, Cen Williams suggests that the use of multiple languages helped to maximises the students' [11], linguistic resources in the process of problem-solving [4], knowledge construction, and concept comprehension [7].

According to [4] translanguaging is the parallel use of two languages with the aim of developing both languages as well benefiting from the skills development associated from dual use of the two languages. [4] posits that:

Both languages are used in a dynamic and functional integrated manner to organize and mediate mental processes in understanding, speaking and learning...

From the above context, if applied correctly translanguaging increases the learner's interaction with the teacher. It allows the teacher to have contact with each and every learner regardless of their linguistic backgrounds. The argument is supported by [12], [8], and [13] who perceive translanguaging to be a process of using language to gain knowledge, make sense, and to articulate one's thought and to communicate about using language.

The study looks at how the concurrent use of multiple languages can enhance learning in a bilingual community, hence the adoption of translanguaging theory in this study. It seeks to promote all the languages on an equal basis having established that, the impact of the dominant language on the marginalized languages tend to involve avoidance in the use and promotion of the marginalized languages. In the case under study, domination and exploitation of marginalised languages such as Sesotho become more pronounced.

Therefore, if translanguaging theory and TDS Model is adopted, it will contribute in the promotion and upliftment of Sesotho. It is a theory that promotes coexistence of the home language or mother tongue (L1) and the second or additional language (L2) in the classroom. The approach embraces additive model of education over a subtractive model thus an immersion slant is prescribed for Gwanda South. In Zimbabwean schools, learners are educated through their home language from grade R to grade 2. From third grade onwards, the medium of instruction is English language, thus employing a subtractive bilingual approach to language use.

For starters, additive model as posited by [14] is when the learner benefits from their L1 as a medium. It is argued that learners' L1 assists in learning L2. The concurrent use of L1 and L2 also promotes language and cultural preservation. Studies on L2 acquisition indicate that if a child masters their L1, learning becomes easier or less problematic since it is easier to transfer the reading, writing and listening skills [15]. According to [16], there is an underlying cognitive/academic proficiency common to languages and this enables transfers of literacy related skills across languages. The outcomes that bilingual education is imperative for teachers, learners, and parents is ideal for an education system in a country like Zimbabwe that is characterized by multilingualism.

If taken into consideration, the TDS model can contribute to change of attitudes by teachers, learners, and parents who have negative attitude in using L1 a medium for fear that L1 will negatively interfere with learning in general. A growing body of research suggests that bilingualism promotes cognitive development [17, 18]. Research in Nigeria by [19] in the early 70's clearly showed that indigenous languages facilitated more meaningful learning than using English only. According to [20], similar research was carried out in Kenya and found out that important ideas were more easily conveyed when teachers use L1 and L2 concurrently than sticking to English only as a medium of instruction. It can be argued that evaluations of language in-education models have measured magnitudes of these outcomes and the shared outcome indicates that various tests of vocabulary and language proficiency, tests of literacy in the L1 and L2 as well as cognitive development and self-esteem are much visible and noted when both L1 and L2 are embraced as mediums in class [21]. The proposed TDS model thus contributes immensely in handling bilingual classes appropriately.

**Aims of the study.** The study sought to explore the role language plays in education and establish stakeholders' perceptions on the use of translanguaging in the classroom. It also sought to develop a model to be used in multilingual classrooms in a bid to enhance learners' academic performance across the curriculum.

## 2. Materials and Methods

This mixed methods study used a descriptive survey design that opted for face to face and questions to collect qualitative and quantitative data. The advantage of collecting both qualitative and quantitative data was necessitated by the fact that both approaches have their respective weaknesses. Quantitative research in which data is collected numerically is weak in understanding the context or setting in which data is collected [20]. On the other hand, qualitative research may include biases and does not lend itself to statistical analysis and generalization. Mixed method strategies can therefore offset these weaknesses by allowing for both exploration and analysis in the same study through collection of both quantitative and qualitative data in the same study. Since quantitative data includes closed-end information that undergoes statistical analysis and results in a numerical representation, qualitative data, on the other hand, is more subjective and open-ended allowing for the 'voice' of the participants to be heard and interpretation of observations.

### *Sample.*

In this study, participants were chosen through convenience sampling. A total of one hundred and twenty learners (120) aged between twelve and seventeen years in secondary school and twenty (20) parents with children in secondary school were chosen to participate in the study. Convenience sampling is a method of selecting participants by taking samples that are conveniently located around a research site. It is a sampling technique that involves using participants who are "convenient" to the researcher. There is no particular pattern followed whatsoever in acquiring these participants.

The study also targeted head teachers, teachers in charge (TIC's) and general teachers from the ten schools used in Gwanda South. Their use was to obtain their views on the language preferences in learning. Ten head teachers, twenty teachers and ten teachers in charge participated in the study.

Their inclusion was motivated by their everyday interaction with learners and parents on issues to do with children's performance and pass rates. The respondents were selected from Gwanda South rural.

#### *Instruments.*

The interviews were done using mother tongue (Sesotho) and English since some respondents were not competent in English. Face-to-face interviews were used to collect data from both learners, parents, and teachers. Interviews were considered suitable in this study in order to determine respondents' opinions, attitudes or trends of beliefs towards the concurrent use of languages [22]. For the parents, closed and open ended questions were used to give room for elaboration on questions that required clarification. The interview guide for parents had questions that sought information on whether they preferred their children to learn in mother tongue in view of the current language policy and to mention reasons for their language preferences. The interview schedule for learners was structured and intended to find out their language preferences in speaking, reading, and writing. It was meant to answer the research question on the prescription of the TDS model. [23] posit that interviews are appropriate in getting responses from young people.

#### *Procedure.*

Permission to conduct study was sought from the Provincial Education Director for Matabeleland South through the Permanent Secretary's office. The interviews were conducted by the researchers. Questionnaires were administered to school heads, heads of departments and teachers of ten (10) secondary schools. Learners were identified by teachers basing on their academic performance. Parents who had come for their school development meetings, or to conduct business at the schools were invited to participate in the study. Researchers obtained the participants' informed consent. In the case of learners, their parents signed on their behalf as they were still under the age of legal age according to the laws of the country. Participants were also informed of their right to withdraw from the study at any given time without fear of punishment or retribution.

### **3. Result**

Results show that all the sampled learners speak Sesotho and Ndebele at home. They indicated that during their playtime and even at home, they spoke Sesotho and Ndebele as the only languages of communication. According to their responses, the majority of learners understood better when mother tongue was used as a medium alongside English.

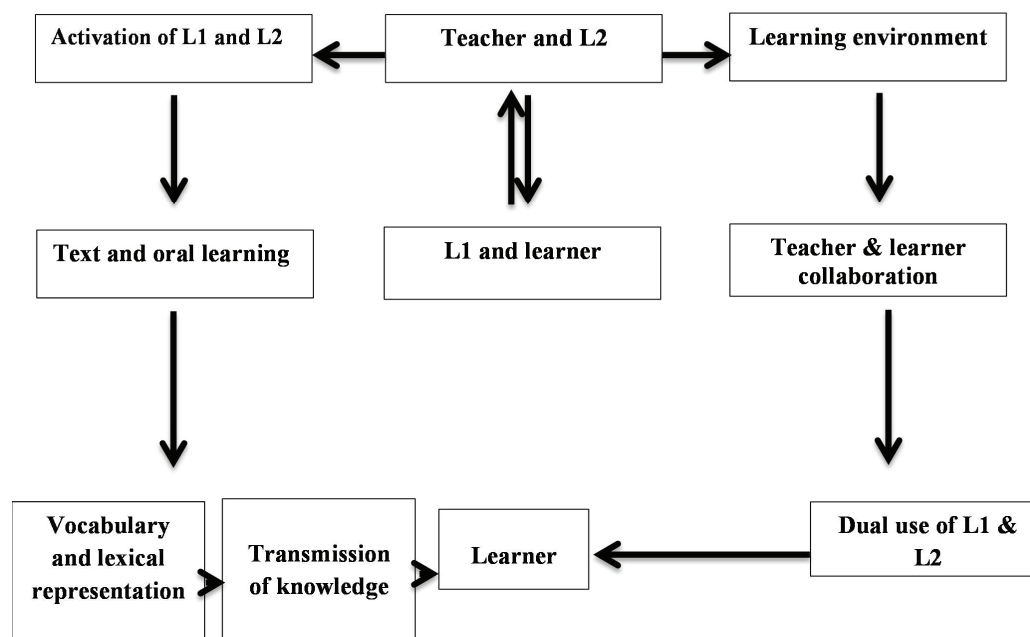
#### *State of Sesotho community.*

Investigations into the Sesotho community indicate mixed feelings towards using Sesotho as a medium of instruction in schools. Some elderly people and the middle aged advocate for the use of Sesotho as a medium in the intergenerational transmission, while the younger generation seems not sure whether to embrace Sesotho (which is mother language) as a medium of instruction. In most related studies, the role of parental language ideologies has been deemed pivotal as asserted by [24]. The interview responses from the current study show a lack of unity among the residents in the advancement of Sesotho as a medium and fight for its promotion.

The community should be proud of its language and assist in the development of Sesotho orthography and literature, which is standard and acceptable across all the dialects spoken in Gwanda South. By developing a literature that would be used by the schools, it would help in the documentation of oral history and the preservation of culture. The above recommendation is in line with [25] assertion that language is a carrier of culture. The Sesotho community should develop a reading culture and liking of their language. We suggest that cultural centres be established to share the indigenous knowledge systems as well as documentation and translation of oral literature into English as a way of reconciling Sesotho and English. From the results obtained, the study proposes a TDS model for the Sesotho Community of Gwanda South with the intention to improve bilingual education.

The findings of this study have led to the proposal of an instructional model that promotes bilingual education, to be called The Dual System (TDS Model). This proposed model according to the researchers is ideal for learners who have limited proficiency of L2. The model is the first author's contribution towards improving learning based on the learner's home language. It acts as a new knowledge that has been created as a means of assisting teachers in selected Gwanda South schools that are located in areas mostly rural and predominantly Sesotho. The data gathered during interviews indicates that language plays a pivotal role in enabling the teacher and learner to

interact. Our recommendation is that the proposed model be interpreted and used by teachers. For uniformity, presented below is our interpretation of the Model.



**Fig. 1.** Proposed TDS Model by O. Marupi to improve bilingual education

#### *Interpretation of TDS Model.*

Learning according to the model is based on the teacher, the learner, school text, oral sources, learning environment and two school languages. It is a bilingual model for education. The model emphasizes the following variables:

- teacher, learner, text, speech; all four have a basic relationship that is interdependent in nature. None of the four should have autonomy. The removal of any will lead to a collapse of the system and harm learning process. Speech involves community and its oral skills should be utilized by the school;

- environment; an environment obtains where teachers and learners collaborate. The environment is made up of the school, the community, natural and man-made resources around the schools which make the totality of teaching aids that the school can make use of. Environment provides data for both teacher and learner. The community, as a part of that environment, provides resources for children's cognitive development;

- text, resources; Good texts are well-crafted, and written resources that a learner can consult readily. These are vital for providing vocabulary, terminology, data, knowledge, statistics, etc. that both learner and teacher need;

- English and Sesotho are the two central languages for bilingualism in Gwanda South. Both will be used for similar range of activities and none will dominate the other. NB. Teacher teaches in L2. Learner knows and speaks L1 but has to learn to read and write L2 taught by teacher. Learner uses oral knowledge of L1 in class and resource personnel (community members) supplement oral data in L1. Learner uses L1 to learn L2. The process revolves around mutual promotion of both L1 and L2 in a cyclical manner;

- L1 and L2 developmental areas are activated at the same level and provide equal assistance to student and teacher;

- both L1 and L2 will need a good library/resource centre at the school.

#### *Role of language and lexical learning.*

Variables identified above will need expansion in the ideas that follow below. Language has been put at the centre of this model as a way of indicating the central role played by a language in a learning environment. The model proposes a learning environment that is only conducive if the language used as a medium is easily understood by teacher and learner. The TDS Model can be aligned to Revised



Hierarchical Model (RHM) by Knoll and Stewart cited in [26] which discusses the nature of the link among bilinguals' L1 lexical representation, L2 lexical representations and conceptual representations. The body of knowledge available supports the concurrent use of L1 and L2. Similarly, in the proposed model it is argued that lexicons for two languages equally access the conceptual store. It is argued that at the early stages of L2 acquisition, the student develops direct lexical connections between new L2 words and their L1 counterparts, but L2 words typically are not strongly linked to concepts.

One of the observations is that as proficiency increases, the learner develops stronger lexicon-semantic connections between L2 lexical items and their matching conceptual representations. These observations are reflected in [27] who states that concepts learned in the L2 that do not have L1 counterparts may be formed at the initial stages of learning. The emphasis of the model is on using languages which are going to allow interaction between L1 and L2 at the same time allowing the teacher and learner to collaborate, thus making transmission of knowledge flow easily.

The combined/ parallel use of L1 and L2 allows languages to grow at the same time [18]. The researchers believe that the transmission of knowledge and explanation of concepts is easily made when using a language better understood by both the teacher and learner hence the proposal of the dual system model (TDS model) that allows dual use of languages as mediums. In bilingual education, it has been established that two languages influence each other during language processing as alluded to by [28]. It is further suggested that bilinguals activate various languages they are familiar with when producing or comprehending one language. The model takes into cognizance how mother tongue influences the learning of L2. Based on the above context it can therefore be argued that reconciling Sesotho and English as mediums of instruction in Gwanda South will positively improve learning in the Sesotho community.

The proposed model can also be aligned to [28]'s argument that bilinguals are influenced by different languages they have learned from birth and the ones they have learned at a later age. The educational implication is that students co-activate their L1 when processing words or sentences in their L2, while cross-language activation in the reverse direction as shown in the diagram increases proficiency in the L2.

A stronger language (L1) overrides the weaker language L2. The model suggests that Sesotho, though perceived as a weaker language, contributes in some way in the learning of L2. The TDS Model encourages multiple uses of languages when learning although in some instances it might require adjustments to the processing mechanisms as alluded to by [29]. The application of the model encourages class interaction and thus enhances participation in class. Learners should be participatory in all class activities since they are at the centre of learning. Through the model, students are given an opportunity to share their ideas in class with their peers and teacher allowing them to be appreciative of their learning. The emphasis is on making the students feel in control of their learning.

#### *The learner.*

The researchers view the learner as a crucial factor in influencing the language used in class. The model proposes a spontaneous learning environment due to the choice of mediums used. Learners tend to be in control of their learning. The learners' performance is exhibited through the language they understand best. The use of a medium understood by learners allows them to be in control of learning and acumen though they should be laid down rules on how code switching and translanguaging should be used. The active participation of the learner in class through use of mother tongue allows free participation in lessons. The model proposes that learners use their strongest language to learn a weak language. [30] and [31] cited by [32] recommends that learners should be allowed to practice the need for higher cognitive levels of the L1 through their tussle to use L1 while dealing with academic concepts and as such the freedom to use mother tongue as a medium assists the learner to learn freely.

The researchers believe the model allows learners to approach learning with a positive mind at the same time respecting the central role played by a mother tongue. The emphasis is on constructing new terminology in their mother tongue as they deal with new academic concepts. Permitting the learners to relate their existing knowledge with their learning will allow them to negotiate meaning easily unlike when using L2 only. It is a model that allows the development of African languages. The model is ideal since it embraces reading and writing of texts in mother tongue which is pivotal in cognitive academic language proficiency.

Speakers of African languages struggle to express themselves in English even when knowing the answer hence the model embraces using L1 and L2 in evading communication barriers.

Through the proposed model, African languages are promoted in education and interaction of ideas in higher learning is enhanced.

Another school of thought by [33] argues that beginning and intermediate L2 learners, simultaneous bilingual learners and trilingual second language learners exhibit high levels of cross-language activation in the development of bilingual system. It is argued that owing to learners' low levels of proficiency in L2, language activation tends to be unbalanced, that is non-existent from L2 and L1. In relation to present studies and proposed model, it is therefore ideal to use the model from the direction of L1 to L2 as a way of learning L2 since the reversed approach has negative results as stated by [34].

The application of the TDS Model has positive effects on cognitive functioning as aligned to [35]'s studies which argue that the concurrent use of mother tongue and L2 comes with cognitive benefits. The use of two or more languages assists learners to develop mechanisms that assist in the development of a weaker language using a strong language, while [33] state that by using two or more languages learners develop control devices responsible for language selection, therefore bilingual children show enhanced cognitive control compared to their monolingual peers. The application of the TDS Model as proposed in the study will assist the learner to develop their cognitive skills. The results of the study therefore show that pedagogical teaching skills can increase positive transfer of language acquisition and help the bilingual learner.

*Role of the teacher.*

The TDS model allows the teacher to manage the classroom easily by using both English and mother tongue in giving instructions. It is a model that allows the teacher to facilitate learning using both L1 and L2. The migration that takes place between the two languages during classroom talk allows the teacher to have a full understanding of the calibre of students in their class and thus attend to them according to their diverse needs. The model is attractive to both teacher and learner as it allows the use of a language that enables self-expression and negotiation of meaning.

It can be argued that teachers operate easily by using a language that is best understood by the learner, and therefore teachers should operate in a language that allows interaction between learner and teacher. The teacher becomes the conduit of transmitting knowledge. The TDS Model is ideal since it accommodates all learners with their varied individual needs. The researchers believe learners enjoy learning in a language that identifies with them and allows self-expression. Besides the above, the ability to express themselves in their own language generates peer freedom in the classroom and helps the learner to open up. It is a model that acknowledges the linguistic diversity of learners.

The flexibility created by allowing learners to use their mother tongue enables students to relate to their learning without any difficulties as noted when they use English only which can instill a spirit of superiority among learners. This notion has been presented as a partial explanation for the reason why some L1 speakers of African languages struggle to adapt when learning using English as a medium, hence its adoption makes the teacher understand individual needs of learners. Once adopted, teachers can detect the individual strengths of learners and be enabled to teach them accordingly. Teachers are therefore encouraged to understand their class and employ teaching strategies which identify with their potential. The model enables the teachers to know where learners are weak and require help.

The TDS Model recognizes the critical role played by teachers in applying code-switching and translanguaging as a teaching strategy since it allows interaction between the learner and teacher. The model acknowledges that the teacher and learner are separated and united by L1 and L2. Learning can take place efficiently if a medium used is understood by the two parties. The concurrent use of L1 and L2 during lesson delivery creates active engagement and involvement by learners thereof resulting in class interaction. The model allows teachers to see beyond the learner's challenges of mastering L2 which can act as a hindrance in general learning. Through the reconciliation of Sesotho and English as mediums, a high level of interaction between learner and teacher is created which enhances the learner's self-esteem. The model can be perceived as highly interactive and most appropriate for Gwanda community considering that it ensures that the learner and teacher use L1 and L2 as mediums. The approach allows learners to accept their L1 at the same time realizing the importance of learning L2 by integrating their learning with speaking, reading and writing in both L1 and L2.

*The model versus interpersonal communication.*

The model is gleaned on the promotion of reading as a learning strategy. It is a model that promotes both L1 and L2 at the same time. This model is attractive in the sense that it focuses on

learning a language or learning through a language. It can be argued that by so doing, a balance between two languages is created meaning that no language is superseded by the other. During lesson delivery, learners can easily share ideas, while reading aloud improves reading skills which are polished through practice. Practice and proper pronunciation of words during class text reading enables learners to grasp key concepts. The monolingual literacy practices are overcome by the dual use of L1 and L2. It can be argued that the bi-literacy approach encourages flexible approaches to the learning of languages as postulated by [36].

From another perspective, the above approach could be aligned to the fast growth and embracing of translanguaging. According to [37] learners are generally enthusiastic in discussing or being taught concepts in their mother tongue during lessons. Learners tend to feel comfortable in negotiating meaning of unfamiliar terms using their mother tongue. [37] believes strategies that encourage use of L1 and L2 should be integrated in curricula by virtue of their strength in lesson delivery. A similar strategy was used in South Africa by translating a text into 10 official languages [38].

Based on the above, the learners' multilingual and multi-literacy ability proved to be positive in promoting deeper class discussions. The researchers believe the proposed model is relevant in the study especially when considering case studies used with similar examples. The model proposes that through the reconciliation of Sesotho and English as mediums of instruction, the teacher's goals should be to change the learners' attitudes towards their mother tongue so that they utilize their existing knowledge. Exposure and knowledge of different languages can create competition among learners in the process growing some eagerness to learn. We therefore believe that if the TDS model is implemented at schools, it will improve learners' academic performance across the curriculum as well as the way they perceive education in Gwanda South.

#### *Role of translanguaging.*

According to [4], there are four educational advantages to translanguaging: Promotion of a deeper and fuller understanding of the subject matter, helping development of the weaker language, and facilitating home-school links and co-operation and integrating of fluent speakers with early learners [39]. It would be valuable to relate Bakers' second and third advantages of translanguaging with the proposed TDS Model through its promotion of the weaker language and understanding of the subject matter. Translanguaging helps learners in developing proficiency and confidence in their weaker language [40].

The role of translanguaging is confidence building among learners through the use of L1 and L2 to understand concepts. Translanguaging can be used as a platform to create or develop new terms in African languages, which is likely to happen if the proposed TDS Model is used since it will allow exploratory talk between learner and teacher to take place in the process allowing learners to display their creativity.

#### *The attitude of teachers and learners.*

The researchers observed that both the teacher and learner lacked enthusiasm in either teaching or learning when using English only. Both parties exhibited discomfort and displeasure. With the proposed TDS Model, the attitude of both the teacher and student changes positively by virtue of using a medium understood by both.

**Limitations of the study.** The study was carried out in one district only and with a small sample, making it difficult to generalise the results. The time frame was also rather short. Further research where a large sample is used, covering various languages and across several academic classes and curricula is suggested. Results from such studies will paint a better picture on the effectiveness of translanguaging and the TDS Model.

**Prospects for further research.** The researchers suggest that the following future research or studies be carried out:

1. Research could be carried out to determine how minority and marginalized languages can be used as mediums in areas/ cases where more than three indigenous languages exist. Already some communities in Gwanda South have schools where non-Sesotho speaking teachers have been deployed. Some of the teachers would use Ndebele when teaching believing that learners understand that language. Due to political and administrative arrangements, Shona personnel have been deployed too in teaching and other government departments. They too assume that Sesotho children know Shona and use it in the classroom. The situation might worsen with deployment of Kalanga, Venda, or Nambya speaking teachers. The Zimbabwean teacher deployment policy needs revisiting.



2. Research should be conducted to look into barriers that hinder the use of indigenous languages as mediums at public offices.

3. Investigation into how teacher training institutions and the government could be better equipped to produce responsive teachers who are well trained to teach in schools that are in bi/multilingual rural areas is necessary – especially teachers who speak languages local to specific communities.

4. Research on strategies that could be used to motivate both teachers and learners to embrace English and Sesotho as mediums of instruction without discrediting mother language would be appropriate.

5. Surveys should be made to establish the linguistic distribution of languages in Zimbabwe as a measure of establishing how to distribute resources even though [30]'s survey is in use. More detailed survey data is necessary as well as comprehensive sociolinguistic survey for Matabeleland. The two provinces are linguistically complex. The TDS Model would need to be readjusted for specific areas with complex linguistic maintenance.

#### 4. Conclusions

The article has introduced and explained a TDS Model for Sesotho and English bilingual education in Gwanda South, Matabeleland South, Zimbabwe. Variables for the model have been explained. Detailed discussion on the teacher, learner environment and resources has also been made. Bilingual education has been argued for, necessitating a discussion on translanguaging. Attitude of teachers, learners, and the community toward Sesotho as medium of instruction alongside English emerge in the presentation. Because Matabeleland South is linguistically complicated, areas for further research are suggested elsewhere in the paper. Multilingual education that might arise in the future might necessitate a reworking and reapplication of the TSD Model.

#### Conflict of interest

The authors declare that there is no conflict of interest in relation to this paper, as well as the published research results, including the financial aspects of conducting the research, obtaining and using its results, as well as any non-financial personal relationships

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