The impact of school culture on the academic progress of deaf learners in Tanzanian inclusive schools

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Abstract: The learning situation of deaf students in inclusive secondary education in Tanzania has witnessed a decade of struggle and choice on the best inclusion modality. This has resulted in an inconsistency in the accommodation of deaf students in inclusive schools. In this respect, this study was conducted to explore how the culture of a school has contributed to the academic progress of deaf students in the first decade of inclusive education. The study, therefore, employed phenomenology methods in collecting and analysing the data. The findings show that schools have not been able to change their cultures to accommodate deaf students. Hence, the learning of most students in secondary education takes place in a regular culture of the school. As a result, most of them have not only failed to reach the next levels of their education cycle but also dropped out of school. Therefore, we recommend that for to build an equitable learning space for deaf students in an inclusive school, the curriculum should be adapted to the bimodal-bicultural model.

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1   Introduction

The implementation of inclusive education is the world agenda (UNESCO, 1994) towards the creation of an inclusive society. It had its beginning in 1994 from the Salamanca accord on equalisation of educational opportunities to all groups of people which was signed by 92 countries and thereafter enforced by a decree of the United Nations for Persons with Disabilities (UNCPD) which came into effect in 2008. Salamanca Summit aimed to endorse inclusive education to children regardless of their disabilities, gender, ethnicity [UNESCO, (1994), p.11]. The Salamanca statement necessitated the preparation, development, and implementation of inclusive education in countries through assessment and accommodation of students' learning needs. Since its inception in 1994, many countries in the world started implementing inclusive education as a shift from special education, and such implementation relied on the re-definition of 'inclusive education' in the countries' local settings [Stegemann and Jawic, (2018), p.5]. Behind the fundamental focus of providing education for all students [Adoyo, (2007), p.5], one of the core ideas evolving inclusive education is promoting acceptance of those with disabilities in the society [Boer et al., (2012), p.573].

Like many countries in the world, the introduction and implementation of inclusive education in Tanzania was associated with a pilot study 'special needs in the classroom' whose completion paved an avenue for the inception of inclusive education in 2010. With this inception, deaf students were encouraged to study with hearing students in regular classrooms. The inclusion of deaf students – who essentially use sign language as their main language mode – requires schools to adjust their language policies to accommodate linguistic and social-cultural backgrounds in class the situation (Harry and Marschark, 2014).

However, the inclusion and learning of deaf students in Tanzanian secondary education have led to an increased dropout rate among them to 55.3% while failure[1] piles up to 82.5% (Migeha, 2014; Mkama, 2020). There was a need therefore to explore levels of completion and attainment of an inclusive culture that has been intended to enhance the equitable learning environments for deaf students. The motive for studying the school culture was the fact that culture affects every facet of the school's tendencies (Meier, 2011). Additionally, school culture has respective consequences on moulding deaf students' identity (Mciloy and Storbeck, 2011), hence, developing 'acceptance' or 'rejection' of the self among them.

2   Theoretical framework

This paper is grounded on the theoretical framework of Jerome Bruner's culture. The theory provided an understanding of culture in education and the extent to which students' learning environments can be manipulated by cultural perspectives of the society. From his earlier works, Bruner considered education as the key agent for the transmission of culture from one generation to the other or among the member of the school. This is following the fact that school policies and values are powerful tools for influencing the behaviour of students and teachers. Hence, his contributions impacted greatly on school policy formulation and administration. Essentially, Bruner (1996, p.1) believed that education is not an isolated phenomenon but rather an interplay of different elements of culture. Bruner has shown the importance of bringing other cultural aspects

like communication and language amidst language provision. Proper school policies – like language and communication policies – that are sensitive to students' cultural and linguistic histories are indicators of culturally inclusive spaces. Bruner's insistence on culture in education focused on how education shapes the mind. His view that 'education and culture' are inseparable shades a light to consider two things:

1   education provision as a cultural process

2   enhancement of cultural values in the context of education provision.

Unlike other psychological theories that not only rely on the cognitive theory but also regard learning as a mono-directional phenomenon, Bruner's (1996, p.3) culture considers learning as an interactional process that includes the sets of values, skills, and ways of life that are essential for meaning-making. Bruner argues that education is the process of negotiation between the individual and culture [Takaya, (2008), p.4]. This negotiation may either lead to students' attachment to the school or a disagreement which eventually results in students' development of belongingness or isolation behaviours respectively. The process of negotiation takes account of what Bruner (1996, p.18) emphasises as 'vitality of culture-embeddedness' in education. Cultural embeddedness allows students to not only share different experiences, histories, and values that are essential for independent life after school but also promotes knowledge, skills, and students' optimism.

Furthermore, Bruner (1996, p.98) sees the school as the culture itself whose role is the transmission of culture from one generation to the other. The school culture is reflected in language and communication policies, pedagogical styles, curriculum, and power all of which shape students' ways of thinking, acting, and the development of coping strategies.

In the context of this study, the theory of culture has been taken as a theoretical framework given its ability to provoke more questions regarding the implementation of inclusive education and more specifically, the inclusion of deaf students in the secondary education system in Tanzania. It is reiterated that the inception of inclusive education is in line with changing the entire culture of the school including communication styles, classroom teaching, and learning behaviours, teachers and parents' involvements in education, all of which aim to change students' learning and interactional behaviours, hence affecting the entire academic progress of deaf students.

3   Methodology

This paper applied a phenomenological design whose objective is not only to explicate the meaning, structure, and essence of the lived experience of a person or a group of people around the specific phenomenon[2] [Simon and Goes, (2011), p.1] but also to provide a deep understanding of a phenomenon as experienced by several individuals [Creswell, (2007), p.62]. The design was used to explore the culture of two schools that were purposely selected. For anonymity, the schools were labelled X and Y, respectively. Three research instruments were used to collect data; observations, in-depth interviews, and documentary analysis. With in-depth interviews, we explored deaf students' views on how they interact and learn with peers in an inclusive setting. From the two schools, 17 deaf students were purposely selected to be included in the study. From each school,

two classes were involved – form 3 and form 4. Eight classroom observations were conducted whereby two observations were done in each class which was selected randomly. So, eight teachers were observed during their lessons. With documentary analysis, we analysed the examination results of deaf and hearing students have a comparative picture of the two groups (Given et al., 2010). Interpretive phenomenological analysis (IPA) was used to analyse data given its ability to provide thick descriptions of characteristics, processes, transactions, and contexts being studied (Blanche et al., 2006). Hence, IPA includes what Miles et al. (2014) and Bryman (2012) has identified as transcriptions of interview audio records and coding content analysis. So, all interviews were video-recorded, transcribed, and thereafter, thematically analysed. Similarly, documentary analysis headed to content and thematic analysis, then, the researcher's interpretation of themes was done with the objectives of the study.

4   Findings and discussion

The presentation of the findings will be done both in tables, figures, and narratives for clarification of the details. Percentages have been calculated based on the number of participants and responses attained during the collection of data. As shown in Table 1, three aspects of teaching methods – well-designed materials, classroom interactive methods, and instructional tools have shown variabilities between two different schools.

Findings have shown that of eight teachers, 2(25%) teachers used teaching materials like pictures, word analysis, and discussions that were appropriate for deaf students in inclusive classes. It was further found that of eight teachers, 2(18.4%) teachers of inclusive classes with deaf students promoted classroom interaction by promoting group tasks. In all classes that were attended, it was observed that hardly any teachers guided students to form inclusive discussion groups appropriate to what the teacher wanted them to do. In their groups, students used spoken language as the main communication modality while a few students were interpreting for deaf students.

It was also evident that on average, 16.9% of tools that are used during classroom lessons are responsive to the learning needs of deaf students. This was in line with the contention that "Deaf students are visual learners" (Marschark et al., 2014); hence, the learning tools need to be visual. On the contrary, observation reveals that 6(75%) teachers used spoken language and mostly lecture methods of teaching. Consequently, the frequency with which deaf students asked and responded to questions in class was low. For example, it was noted that one question was raised by a form 3 deaf student whilst the rest eight questions were raised by hearing students of the same class directly to the teacher and in groups. In the rest three classes, deaf students did not raise any question as opposed to hearing students who kept raising the question during classroom learning. Similarly, it was observed that none of the deaf students was able to give answers to the question raised by teachers.

The observation showed that deaf students were passive in responding to questions that were raised by a teacher in class. The mode of asking the question was of two ways:

1   teachers used spoken language

2   teachers wrote the question on the chalkboard.

It can be speculated that, in either way, deaf students could not understand the question, hence none of the deaf students showed up – both in groups and classroom discussions. In line with classroom participation, research has shown that deaf students can easily participate in learning when they are facilitated. The use of visual learning tools (Marschark et al., 2002), proper communication model (Swanwick, 2017), and appropriate learning model (Mkama et al. 2015) influence deaf students to participate in learning and have shown positive results in promoting interaction in inclusive classes with deaf students.

On the other hand, the study identified aspects that were influential in promoting inclusive classroom learning. These aspects were in line with how teachers solicit deaf students' input, teachers' understanding of the learning needs of deaf students, and teachers' ability to use visual tools. This study has shown that 3(37.5%) teachers could solicit deaf students' input in inclusive classes whereas 1(12.5%) teacher appeared to use visual aids during a teaching in inclusive classes with deaf students. It also appeared that 2(25%) teachers teaching in inclusive classes were aware of the individual learning needs of their learners, communication being one of them (Moores, 1996). It was found that 2(25%) teachers could influence deaf students to learn. This is in the background that teachers' knowledge of the deaf, especially on the psychological part of communication, is key to classroom interaction and better learning of the deaf students (Marschark et al., 2014).

Regarding the interaction among students, the 'inclusivity' of the deaf was another theme depicted. Inclusivity was a result of the scrutiny of documents that were in line with the implementation of the inclusive education agenda. With respect to lesson preparation and assessment, we examined the classroom structure and assessment techniques that are used by teachers to deaf learners. Hence, four observations and interviews were administered to both teachers and deaf students. It was found that 3(37.5%) deaf students are placed at the front positions. In form 3 of school X, five deaf students were at the front desks. Only hearing students were in the middle and back desks. This rose curiosity about what teachers do with deaf students at the front desks. Storbeck and Magongwa (2006) and Soodak (2003) emphasise the importance of making a class adaptive and arranged in such a way that the deaf feels belonging, safe, and friendly to the learning environment. This is more than putting students in front of the class.

The documentary review involved the scrutiny of lesson plans, schemes of work, exercise books, and test papers. The above 50% of the findings teachers considered 'assessment' as opposed to other aspects. We were interested to know why teachers seem to be considerate in assessment while the classroom structure does not support deaf students to learn.

It was learned that some teachers feel pity for deaf students. For example, 2(25%) teachers showed that they considered grammar and content when assessing deaf students, while 1(12.5%) assessed deaf students regularly. This was in the background that despite that deaf students have problems in grammar and written language, limited assistance was given to them in improving their language content.

With the subject content, the study revealed that teachers' content of the subject matter was a key factor for teachers' choice of instructional tools. Findings show that 5(60%) teachers of inclusive classes understand the content of the subject matter while 1(12.5%) teacher can relate the content of the subject matter to the deaf students' life experience. There was observed a big difference between teachers' knowledge of the

subject content and how they use the deaf students' experience to let them understand the subject matter. This is on the background that understanding how deaf students learn and how best to help them to learn and unlearn is essential for teachers and caregivers. Marschark et al. (2014) challenge how the teacher can teach deaf students without understanding 'who the deaf is'. This calls for teachers of the deaf to dedicate some time to learn about 'being deaf', as it is important for deaf students' enrolment, learning, and general academic progress.

In understanding the learning situation of deaf students in an inclusive setting, this study analysed the academic progress of deaf students in five years (2015–2019). A fluctuating enrolment rate of deaf students between the two classes was a cross-cutting phenomenon among the schools that were involved in this study. The number of deaf students enrolled in form 2 has been larger twice as much as those who are registered in form 4. Statistics show a drastic decrease in deaf students reaching up to form 4. For example, at school X, of 35 students who were registered into form 2 in 2015, only eight students were able to reach into form 4 within the regular schedule of study. This means that 77.1% (N = 27) of deaf students did not complete their studies within the prescribed time of the study. However, the situation seems to have improved in 2016 where the difference between form 2 and form 4 is 7. It may be true as well that the number of deaf students enrolled in form 4 in 2018 has been influenced by repeaters who would have not made it to form 4 in the previous years (2014–2016).

A similar situation has appeared to face deaf students at school Y where over 40% of deaf students failed to complete their education circles within the prescribed time. For example, half of the class of form 2 in 2016 (N = 5) failed to get to form 4 in 2018. Meaning that 42% (N = 5) of the form 2 class of 2016 failed to complete their form 4 in 2018. We may argue that the learning environment plays a fundamental role in motivating deaf students to learn. This situation agrees with what Grover (2014, p.20) asserts, "students' dropout is related to the fact that the school does not meet their learning needs".

Analyses of the examination results of deaf students in form 2 and form 4 within five years (2015–2019) were also considered by this study. The analysis involved the school culture which was done separately. Regarding the grading system, the categories of division are analysed as indicated below:

Table 1   Description of the grading categories

Division category	Specific description	General description
Division 1	Distinction	Pass
Division 2	Good	Pass
Division 3	Average	Pass
Division 4	Poor	Pass (unsatisfactory)
Division 0	Very poor	Fail

Table 1 shows that divisions 1 to 3 indicate that students have passed hence they can choose to advance to the next level of formal education. On the other hand, division 4 and 0 indicate unsatisfactory pass and failure respectively. Hence, form 4 students achieving these divisions cannot proceed with formal education while form 2 students who get up to division 4 can move to the next class.

Deaf students' examination results had been very low consistently in the five years of analysis. Unlike form 2 examination results (FTER) of which deaf students indicated to be performing relatively better, the same deaf students who get into form 4 ended up getting division zero or division four (lowest passes).

Figure 1 Form 2 examination results of the deaf (see online version for colours)
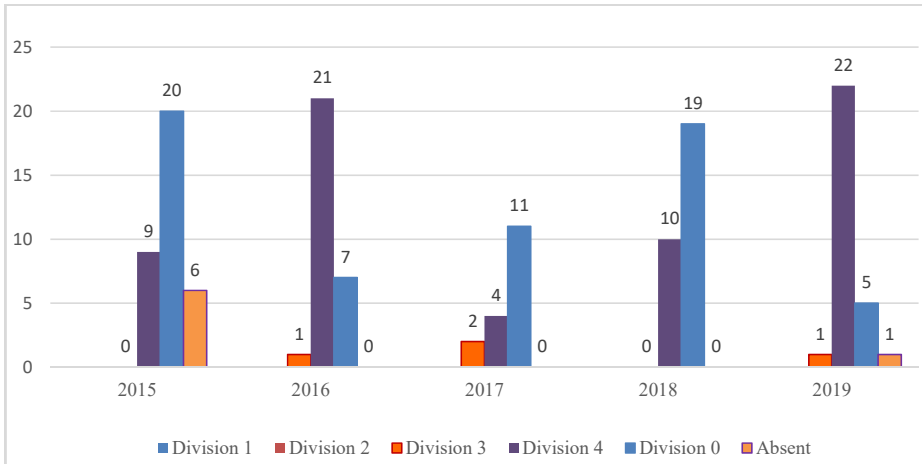
Regarding the FTER, Figure 1 indicates that of 139 deaf students who were registered at school X from 2015 to 2019, only four students were able to score division 3, and 66 students got division 4, while 62 students got division 0. With these statistics, 50.1% (N = 70) of students qualified to proceed to the next grade while 49.6% (N = 69) of students either repeated the class or dropped out of school. The performance of deaf students who managed to proceed to form 4 is shown in the table below that of 67 students who were admitted to form 4, only 5.8% (N = 4) students attained division 4 whilst 94.2% (N = 63) students got division 0.

Figure 2 Form 4 examination results at school X (see online version for colours)
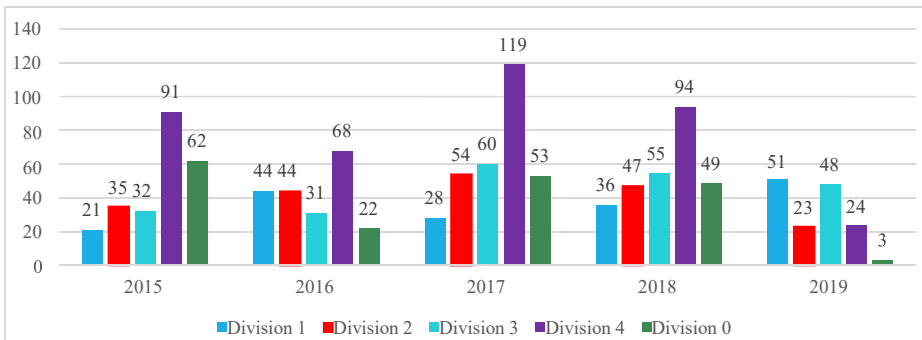

Figure 2 indicates that students at school X have been attaining variable grades throughout the five years. It is seen that the number of students who get division 0 is lower compared to other divisions. However, when analysing deaf students separately,

most of them get division 0. For example, of 189 students who got division 0 in the five years, 34% (N = 64) were deaf students.

With school Y, Figure 3 indicates that deaf students have consistently attained division 4 and 0 throughout the five years whilst only 4 deaf students achieved divisions 2 and 3 in five years. We may learn further that most deaf students counting to 69.4% (N = 25) got division 0 within five years. Comparatively, the academic performance of deaf students has been indicated to be consistent in FTNA and FFNE in the sense that over 50% of deaf students never succeeded to attain a minimum pass.

Figure 3   Form 2 examination results for deaf students at school Y (see online version for colours)
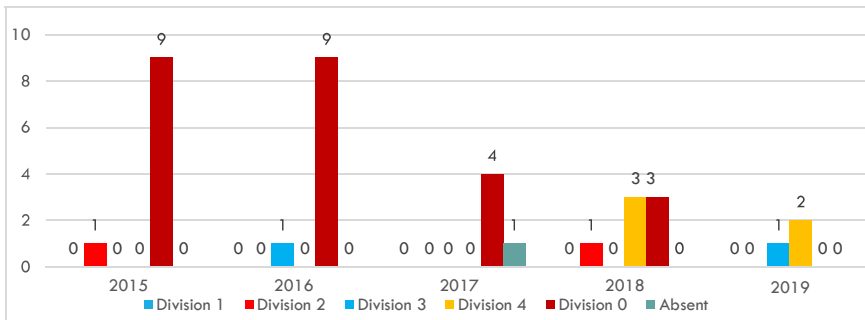
Comparing with hearing students' academic achievements, a big percentage of students who got division 0 is composed of deaf students. For example, of 36 students who got division 0 in five years, 72.2% (N = 26) of students were deaf. Although a failure rate of less than 16.2% within five years may look like a good result, however, when considering the results of deaf students separately, 72.2% of these students failed.

Figure 4   Form 4 examination results at school Y (see online version for colours)
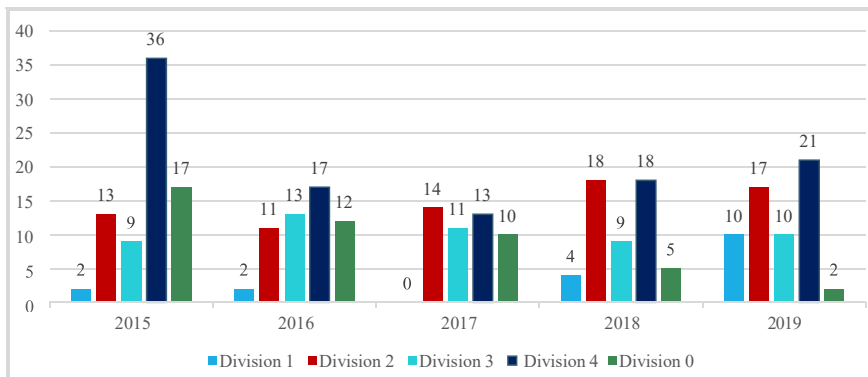
Referring to Figure 4, deaf students have maintained attaining lower grades in their FFNE results. Statistics have indicated that of 129 deaf students who sat for the national examinations from 2015 to 2019, only 2.3% (N = 3) students were able to get division 3 while 1 student attained division 2. Hence, 75.9% (N = 98) students got division zero, 20.9% (N = 27) got division four, 2.3% (N = 3) got division three, and 0.8% (N = 1) got division two.

Statistics above are consistent since the inception of inclusive education in Tanzania in 2010. For example, in the first five years (2010–2014), Migeha (2014) showed that deaf students' failure was 84% which is similar to the current study. With these statistics, questions can be raised regarding the quality of teachers, quality of policy in practice, quality of school management, quality of students and so many others. However, despite several questions might be, this study considers the school culture as the fundamental factor behind the situation. This argument is supported by Wong (2013) who sees the need for bridging bridges between members of the school. She is of the view that bridges are essential for creating relationships among members of the school. It is through harmonious relationships where members of the school can interact and share their long-learning and life experiences, hence forming a community of learning.

Additionally, literature has found that school culture makes the necessary framework of the school operation. In his research, Meier (2011) indicates the role of school culture in creating the learning environment which suits students learning needs. For example, values, beliefs, practices, materials, and problems all together are both the process and product of culture; hence, they have effects on collaborative tolerance and parity within the school context. Connected to teachers' practices, this study asserts that teachers' teaching behaviours have been entirely affected by the culture of respective inclusive schools.

5 Conclusions

Adoption of inclusive education requires that schools and the community surrounding the school be involved in the planning and implementation processes. This will enable diverse students' needs are addressed during its implementation. The first decade of the learning situation of deaf students in an inclusive setting in Tanzania has witnessed regressive academic achievement among the majority of them. Among other factors that might be contributing to the expansion of the problem, lack of equitable inclusive culture stays at the centre of deaf students' failure. This is evidenced by reflecting on the main communication modality which is mostly used in inclusive schools with deaf students. Hence, this study sees the need to bridge the communication gap between teachers and deaf students on one hand and between hearing and deaf students on the other. It is through a welcoming environment with adequate access for diverse learning needs where the deaf students can feel belonging and protected. Given the actual learning situation of deaf students in an inclusive situation in Tanzania – as evidenced by this research – we, therefore, recommend the adoption of the bilingual-bicultural model (henceforth Bi-BiM) which is geared to develop the recognition of the cultural and linguistic plurality and diversity of the entire school population. Attached to school culture which forms a theoretical framework of this study, Bi-BiM both forms an interface between deaf and hearing students and unveiling the inter-connectivity between visual-gestural and auditory-vocal modalities respectively. Bimodal (signed and spoken) – bicultural (deaf and hearing) model in education allows two languages, the spoken and signed, to be used simultaneously within the school context. With the Bi-BiM, deaf students have cultural space from which they can transit from and between both the hearing community and the deaf community [Mciloy and Storbeck, (2011), p.497]. The Bi-BiM in deaf education begins by accepting the Tanzanian Sign language (TSL) within a language family repertoire and therefore be attached to Cummins' linguistic interdependence model which

argues for a common proficiency underlying all languages. This interdependence model considers the proficiency of the first language with its effect on second language acquisition. In this regard, bilingual-bicultural education allows the cross-linguistic transfer of the structural influence of one language on the other at all levels of phonology, morphology, or syntax [Ellen and Marcel, (2014), p.76] and which in result assists in literacy development among deaf students.

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Notes

1 According to the National Examinations Council of Tanzania, failure means attaining division zero (see Table 1).

2 Sefotho (2015, p.29) considers 'phenomenon' as an essence that can be understood through a definite structure and which is a sub-rosa.