An Assessment of the Appropriateness of Kenyan Sign Language Examination for Hearing Students

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ABSTRACT

Kenyan Sign Language is a vital language for the Deaf community in Kenya and plays a pivotal role in their communication and education. This study investigates the appropriateness of including hearing students in the Kenyan Certificate of Secondary Education (KCSE) Kenyan Sign Language (KSL) examination, originally designed and adapted for deaf students. The research employed a qualitative approach, exploratory design and drawn upon the foundation of Critical Pedagogy. Purposive sampling was used to select seven(7) participants who are teachers of KSL and have experience in teaching both the hearing and deaf learners. Data was collected through interviews and analyzed thematically. The study findings underscore the need for a comprehensive reassessment of the KSL examination, considering the linguistic diversity and cognitive abilities of both deaf and hearing learners. The suggested strategies aim to create a more inclusive and equitable assessment system that respects the unique needs of each group, fostering a fair and accurate evaluation of their proficiency in Kenyan Sign Language. The researcher firmly recommends the exclusion of regular learners from KSL, KCSE examinations administered by the Kenya National Examination Council. Citing the tailored nature of the current 8-4-4 system's Kenyan Sign Language (KSL) curriculum and exams for deaf students, the proposal emphasizes that regular students desiring to acquire KSL skills could opt for extracurricular KSL club participation.

Keywords: Kenyan Sign Language (KSL), Deaf community, Kenyan Certificate of Secondary Education (KCSE), Hearing learners, Cognitive abilities, Inclusive assessment

INTRODUCTION

Individuals who have hearing loss are unable to utilize the sound-based symbolic system that the majority of the population relies on. Hearing loss or deafness is a condition that occurs when the sound transmission from the outer ear to the brain suffers a disruption (Anastasiadou & Al Khalili, 2023). Aura and Mathew(2007) describe 'Deaf" typically as individuals with a profound hearing loss, often to the extent that functional hearing is minimal or nonexistent and"hard of hearing" as individuals with a hearing loss where there is enough remaining auditory ability that devices like hearing aids or FM systems can effectively assist in processing speech. For our purposes, we will define a deaf person as anyone who has experienced a significant loss of hearing. Sign Language thus offers the deaf a communication alternative to the vocal–auditory channel that is inaccessible to them (Mweri, 2016).

Kenyan Sign Language (KSL) is a visual-gestural language used by the Deaf community in Kenya. It serves as a primary means of communication for individuals who are Deaf or hard of hearing in Kenya. It plays a crucial role in facilitating communication and fostering a sense of community among the Deaf population in

Kenya. In the past, KSL was primarily used as a medium of instruction for Deaf learners once they enrolled in school (Ministry of Education, 2009). At the moment, efforts have been made to incorporate it into educational settings and establish it as a subject of study and examination in order to promote inclusivity and accessibility for Deaf Students. According to Kaur, et al. (2020) Indian Sign Language (ISL) was introduced in all deaf schools as a subject so that the deaf children can understand the rich and diverse linguistic culture and identity as deaf individual.

The introduction of KSL as a subject in Kenya came as a result of a task force formed in 2003 to address the educational needs of students with special needs (Republic of Kenya, 2003). This task force recommended that KSL be examined at both the Kenya Certificate of Primary Education (KCPE) and the Kenya Certificate of Secondary Education (KCSE) levels once a suitable curriculum was developed and approved. Subsequently, the curriculum was gradually developed, and KSL as a subject was first introduced in 2007, with examinations conducted by the Kenya National Examinations Council (KNEC) at both KCPE and KCSE levels (Kimani, 2012). The aim was to address language-related challenges, ultimately improving the examination results and increasing the chances of Deaf learners to access secondary education (Omutsani, 2012). KSL is therefore a language of the deaf community in Kenya that was adopted by Kenya Institute of Education (KIE, 2004), to be the medium of instruction, in the schools for the deaf, and later on as an examinable subject with the expectation to enhance academic performance of students with deafness at secondary school level (KIE, 2010). According to Ngota (2010) a language is the vehicle that determines to what extent the learners has acquired the knowledge, skills, attitudes and values of a prescribed instructional program.

Outlined in the Kenyan constitution, Article 54(1) (d) provides for the inclusion of Sign language in education curriculum. As a result,sign language is one of the optional languages offered in middle school in the Competence Based Curriculum (KICD, 2022). KICD has designed a KSL curriculum suitable to regular learners. According to KICD, Sign Language taught to regular learners shall expose them to Deaf Culture and enable them to appreciate cultural diversity as they acquire signs from Kenyan Sign Language and impose them on vocabulary drawn from English word order (Signed English). Language skills acquired at this level form a basis for further language development specialization in the subsequent levels of learning. This will build a nation where people in various professions can use sign language thus breaking communication barriers between the deaf and hearing individuals hence enhances social interaction and cohesion.

Under the 8-4-4 system, Kenyan Sign Language (KSL) was introduced as a subject for examination, primarily designed to cater to the needs of the deaf population. However, the inclusion of hearing learners in the KSL examination raises concerns about the appropriateness of the assessment, considering the potential disparity in item difficulty.

Structure of Kenyan Sign Language

Kenyan Sign Language has its own unique grammar, just like any other natural language. Grammar is regarded as one of the fundamentals of language (Sioco & De Vera, 2018). KSL grammar is based on visual and spatial elements, as it is a visual-gestural language. Within American Sign Language, sign parameters (i.e., handshape, location, and movement) are combined in various ways and with nonmanual markers (i.e., facial expressions, body shift, eye gaze) to represent different constructions (Beal-Alvarez, 2014). Endowed with distinctive grammatical structures, signed languages exhibit a comparable capacity for subtlety, precision, potency, and the articulation of intricate ideas akin to spoken languages (Valli & Lucas,2000).

Capital Letters

In KSL, writing in capital letters is a common convention when representing signs or glossing KSL in

written form. It helps distinguish KSL signs from regular written text and indicates that the content is related to sign language. English Text:-Mother. KSL Gloss:- MOTHER

Word order

KSL has its own word order, which is different from the word order in spoken languages like English or Swahili. Rejwan and Caciularu (2021) define word order as a linguistic concept that refers to how syntactic elements are arranged in a sentence in different languages. According to Okombo, et al. (2006), Kenyan Sign Language (KSL) follows specific word orders, with some being more commonly used than others. The most prevalent word orders in KSL are SVO, SOV, and OSV, where "S" represents the subject, "V" denotes the verb, and "O" stands for the object. The SOV word order appears to be the most favored and frequently used in KSL. This means that the subject of a sentence is typically followed by the object and then the verb. English Text: – I love KSL.KSL Gloss:- ME KSL LOVE//. Most natural languages have one preferred or fixed word order, with the vast majority of them belonging to the SVO or SOV (Comrie, 1989).

Hyphen (-)

A hyphen is used in KSL glossing to indicate fingerspelling. When a word needs to be spelled out letter by letter using the manual alphabet, a hyphen is used to show the transition between letters. English Text: – Mother. KSL Gloss:- M-O-T-H-E-R

Forward Slash (/)

A forward slash is used in KSL to represent a short pause, similar to a comma in English. It indicates a brief pause in signing or a separation between signs within a sentence. English Text: – Mary, Jane……. KSL Gloss:- MARY/ JANE……

Double Forward Slash (//)

Double forward slashes are used to indicate a longer pause, similar to a full stop (period) in English. It signifies a more significant pause between phrases or parts of a sentence. English Text: – Hello. KSL Gloss:- HELLO//

Question Mark above a line (?̲)

 A question mark above an interrogative or relative pronoun is used to represent a question in KSL. In addition, the interrogative or relative pronoun comes at the end of the sentence. English Text: – How……..

?, KSL Gloss:- ………………..$\overline{\text{HOW}}^?$

Plural in KSL

To indicate plurality in KSL, signs may be repeated or modified to represent more than one of something, the word many may be added after the noun or the number of nouns may be mentioned. English Text: – Boy – Boys. KSL Gloss:- BOY – BOY BOY// or BOY – BOY MANY// or BOY – BOY TWO//

Tenses

KSL also incorporates tenses to indicate the timing of actions or events within a sentence. In KSL, tenses are marked at either the beginning or the end of a sentence (Ndegwa, 2008). For past tense the word past is signed at the beginning of a sentence or the word finish can be signed at the end of a sentence. English Text: – I ate a banana. KSL Gloss:-PAST BANANA ME EAT // or BANANA ME EAT FINISH//

For future tense the words future, time, is signed at the beginning of a sentence. English Text: – I will go to Nairobi. KSL Gloss:-FUTURE NAIROBI ME GO// or TOMORROW ME NAIROBI GO//or MONTH NEXT ME NAIROBI GO// or TIME ME NAIROBI GO//

Sign Variations

Kenyan Sign Language (KSL) is a developing language with unique characteristics. KSL has borrowed a lot from American Sign Language. KSL features an intricate grammar system, which has been adopted from American Sign Language (ASL) in several Sub-Saharan African countries, including Tanzania, Uganda, and Kenya(Raga, 2009). In addition, KSL incorporates regional influences. Raga (2009) alludes that KSL grammar origin is designed according to shapes of objects in the space, concepts formation, policies and principles formulated by indigenous ideology of the region. Consequently, a single word may have different signs in various regions. For instance, consider the word "carry." In the western region, it involves placing hands on the head, while in the central region, signers use a different gesture by putting their hands with folded fists on the sides of their head. In other regions, yet another variation may include folding fists facing downwards, putting the hands on the back or resting the hands on the shoulders.

Moreover, as KSL continues to evolve, it encounters emerging words for which established signs do not yet exist. In such cases, the Deaf community initially resorts to finger-spelling to convey the new word. Eventually, a collective decision is made to determine the most suitable sign for these newly coined terms. Examples of such recent additions include words like "corona" and "curfew." The responsibility for creating and adopting new signs for these words falls upon the Deaf community.

KCSE KSL Examination

Measurement, assessment, and evaluation are important components interrelated in education system. (Saputra, et al. 2021). KNEC offers KCPE and KCSE examination in the education system of Kenya. An examination is a battery of tests that measure different test taking behavior of students for the purpose of decision making (KNEC,2017). Assessments, whether summative or formative, offer valuable insights into learners' comprehension of the subject matter and their reactions to specific teaching techniques. These insights can serve as a foundation for reviewing and enhancing instructional methods for more effective outcomes (Haladyna, 2002, as cited in Koçdar et al., 2016).

The KCSE KSL examination comprises three papers. Paper 1 is on receptive Skills. Hartani, et al. (2022) express that receptive skills such as reading and listening (in this context, observing), involve the capacity to receive and comprehend information. This paper assesses the students' ability to understand sign language. It consists of three sections, including fingerspelling words, signing of sentences, and responding to questions based on observed signed story. Each section is scored, with the total for Paper 1 being 35 marks.

Paper 2 is on Grammar. This paper evaluates the students' knowledge of KSL grammar. According to Sioco and De Vera (2018) a strong command of grammar not only enables individuals to convey their thoughts more clearly but also increases their chances of being comprehensible and effectively communicating with others. Additionally, a proficient grasp of grammar empowers individuals to produce high-quality written works, as emphasized by Bradshaw (2013). It includes tasks such as writing a composition in line with KSL rules, identifying verbs and nouns, and completing crosswords. This task appears to be simple for a form four student however some deaf learners struggle to grasp the content. The deaf learners lack appropriate vocabulary size and sentence formation skills than their hearing peers possess (Qi & Mitchell, 2011).According to Parkinson (2023) deaf and hard of hearing children develop vocabulary slowly. Paper 2 has a total of 25 marks.

Paper 3 is on Expressive Skills. Learning experiences for the expressive skills have a wider scope of operation as outlined in the syllabus (K.I.E, 2004). This paper assesses students' ability to express themselves in KSL through an interview. The paper has two questions. The first question is an interview which includes questions on introduction, life experiences, critical thinking, contemporary issues and conclusion. The second question has two items. The examinee picks one. The first is a topic to be discussed while the second is a picture where the candidate needs to create a story. Pictures play an important role in expression and appreciation of the children's creative ability (Kithure, 2002). The tasks that are evaluated are vocabulary, production, fluency, creativity, and comprehension. Each question is scored out of 20, with a total score of 40 marks. The lowest possible score for each task being evaluated is 1, meaning that the lowest overall score a candidate can achieve in Paper 3 is 10 marks. The total score for all three papers combined is 100 marks.

This assessment provides valid information about what has been done or achieved, enable students and others to make sensible and rational choices about course careers and activities (KNEC, 2017). Assessment as making students accountable through scoring, grading and certification (Monteiro, et al., 2021). KNEC refers to this as summative evaluation whose major goal is to pass judgement.

STATEMENT OF THE PROBLEM

Despite its original intent of the Kenyan Sign Language (KSL) examination for hearing students, a subject initially introduced to address the educational needs of the deaf population, there is a growing phenomenon of hearing learners taking the KSL examination. This raises concerns about the appropriateness of the assessment for a hearing students, necessitating an examination of the potential challenges, discrepancies, and implications associated with this shift in the examination demographic.

LITERATURE REVIEW

Haug, et al. (2005) provide an overview of tests designed for assessing the signed language skills of deaf children and discuss the challenges associated with developing and evaluating these tests in terms of reliability and validity. They emphasize Haug (2005) acknowledgment that sign language tests serve diverse purposes, ranging from monitoring the development of sign language skills in deaf children to evaluating the proficiency of adult learners in sign language, particularly those aspiring to become future interpreters. The versatility of sign language tests is highlighted, showcasing their applicability in assessing language acquisition across various age groups and learning contexts.

Palfreyman, et al. (2015), as mentioned by Haug, et al. (2005) point out challenges faced by test developers, including insufficient documentation of specific sign languages and the unavailability of crucial resources such as reference grammars or sign language corpora (Haug, 2017). The absence of a sign language corpus can impede test development, as highlighted by Haug at al.(2005). They emphasize that having a corpus on sign language acquisition can significantly enhance test development by providing essential information like frequency lists of signs, serving as a foundational basis for creating vocabulary tests.

Quinto-Pozos,(2011) carried out a study on Teaching American Sign Language to Hearing Adult Learners. He expresses that American Sign Language (ASL) has become a very popular language in high schools, colleges, and universities throughout the U.S., due, in part, to the growing number of schools that allow students to take the language in order to fulfill a foreign or general language requirement. Within the past couple decades, the number of students enrolled in ASL classes has increased dramatically, and there are likely more instructors of ASL at the present time than ever before. Beal (2020) alludes that the majority of learners of ASL as a second language are typically hearing university students, frequently within university

interpreting or deaf education preparation programs.

In India, Kaur, et al.(2020) explores into comprehending the strategies employed to integrate sign language instruction into the school curriculum and the modifications required in the current sign language curriculum designed for second language learners to make it suitable for first language learners. The author notes that the current 'Indian Sign Language curriculum,' initially crafted for instructing sign language interpreters in a Diploma-level course, was originally tailored for teaching sign language as a second language, primarily targeting hearing adults.

THEORETICAL FRAMEWORK

This study was drawn from Critical Pedagogy of Paulo Freire (1997) who alludes in the belief that teaching should challenge learners to examine power structures and patterns of inequality within the status quo. Critical Pedagogy offers a theoretical lens to critically examine the appropriateness of the KSL examination, especially when the test items adapted for deaf learners seems too simple for hearing learners. It invites researchers to scrutinize underlying power dynamics, challenge assumptions, and actively involve learners in reshaping the assessment practices to be more inclusive and equitable.

STUDY OBJECTIVES

The main purpose of the study is to assess the appropriateness of the Kenyan Sign Language examination for hearing learners. Specific objectives include:

1. To assess how teachers of KSL perceive the current Kenyan Sign Language examination when administered to hearing learners.
2. To examine the impact of the administration of the Kenyan Sign Language examination to hearing learners on the Deaf learners.
3. To come up with strategies or changes that could be implemented to address the issue of item difficulty mismatch in the Kenyan Sign Language examination for hearing learners.

METHODOLOGY

A qualitative approach method was employed. The qualitative design facilitates an in-depth exploration, enabling the researcher to capture nuanced insights and perceptions through open-ended questions. Seven participants were purposively sampled. The inclusion criteria were participants qualified as KSL teachers, have experience teaching both deaf and hearing students and were available and willing to participate in the study(Kelly, 2010). Data was collected through interviews to obtain nuanced information about teachers' experiences, opinions, and any specific examples or anecdotes related to teaching KSL to hearing students. Thematic analysis was employed to allow the researcher to identify, analyze, and report patterns within the qualitative data, offering a structured yet flexible approach to uncovering key themes and patterns in participants' responses.

FINDINGS

Perceptions of teachers of KSL on the current Kenyan Sign Language examination when administered to hearing learners

Participants overwhelmingly acknowledged a need for critical examination regarding the suitability of the current format for hearing learners. The participants had a concern that, originally designed for deaflearners,

KSL may not align with the linguistic and cognitive abilities of hearing individuals. They echoed,

"In my opinion, there needs to be a critical examination of the current examination format. What works for deaf learners might not be the ideal fit for hearing students. I appreciate the effort to include sign language in exams, but my concernis about item difficulty. There is need explore ways to make the exam more reflective of the language's depth and diversity." (P3,12th November 2022)

"The is a need for re-evaluation and come up with an assessment format that truly caters to the varied needs of all our learners." (P4, 13th November 2022)

"The current examination format, tailored for deaf learners, doesn't align with the cognitive abilities of the hearing students. The curriculum and assessment should be aimed for a more comprehensive assessment that includes a broader range of linguistic elements? This current exam seems to oversimplify the evaluation process for hearing learners." (P5, 13th November 2022)

"While I see the importance of incorporating sign language into education, the exam's emphasis on fingerspelling and signing sentences might be overly simplistic for a form four level. This is underestimating the hearing students' ability to grasp more intricate aspects of sign language." (P6, 14th November 2022).

Impact of the administration of the Kenyan Sign Language examination to hearing learners on the Deaf learners

The participants underscored that the perceived simplicity of the KSL exam is viewed as unjust, resulting in compromised assessment integrity due to the higher scores achieved by hearing learners. This straightforward exam has the potential to instigate a crisis of confidence among deaf students, prompting them to question their own abilities. They expressed,

" The simplicity of the exam makes it unfair for them as hearing learners can score higher without truly grasping the language. This unfair comparison compromises the integrity of the assessment." (P1, 11th November 2022)

"The easy exam for hearing learners creates a confidence crisis among our deaf students. They might question their abilities when, in reality, it's the exam structure that's flawed. Our priority should be building their confidence, not undermining it with an inadequate assessment system." (P4, 13th November 2022)

"This situation emphasizes the need for inclusive assessment practices. Exams should consider the unique challenges faced by deaf learners, ensuring a fair evaluation. We must work towards creating an environment where all students can excel based on their true abilities." (P7, 14th November 2022)

Strategies or changes that could be implemented to address the issue of item difficulty mismatch in the Kenyan Sign Language examination for hearing learners

The participants expressed the need of a thoughtful overhaul to address the issue of item difficulty mismatch. They advised:

"There should be a comprehensive review of the exam content to align it more closely with the linguistic capabilities of each group. The adaptation for deaf learners could be enhanced to better reflect their language acquisition challenges, while the exam for hearing learners needs to be appropriately challenging without being excessively easy." (P2, 11th November 2022).

"Introducing varied difficulty levels within the exam or implementing adaptive testing strategies could be an effective approach. This way, the exam adjusts based on the learner's performance, ensuring that both deaf and hearing learners are appropriately challenged. This tailored approach respects the diverse linguistic needs of each group and fosters a fair assessment environment." (P3, 12th November 2022).

"Ongoing teacher training and awareness programs should be conducted to ensure teachers understand the unique needs of both groups of learners. This way, teachers can provide appropriate support, and the exam can be a true reflection of each student's linguistic competence in Kenyan Sign Language." (P7, 14th November 2022).

DISCUSSION

The findings of the study shed light on the perceived inadequacies of the current Kenyan Sign Language (KSL) examination when administered to hearing learners. Participants expressed a unanimous concern regarding the suitability of the existing format designed originally for deaf learners. The consensus was that the KSL exam might not align with the linguistic and cognitive abilities of hearing individuals. KSL test items are primarily designed for Deaf learners who use KSL as their primary means of communication. People as social beings need to communicate with those around them (Piştav-Akmeşe, 2016). These test items are tailored to assess the language skills, comprehension, and expressive abilities of Deaf individuals who use KSL. For Deaf learners, KSL test items are appropriate and serve the purpose of evaluating their proficiency in KSL, which is their primary language. These learners rely on KSL for communication and education, and the test items are designed to accurately assess their language skills and knowledge. However, for learners with hearing who do not use KSL as their primary language but have chosen to study KSL out of interest or as part of an inclusive education effort, the test items may be less suitable. The level of difficulty and relevance of the test items might not align with the expectations and abilities of hearing students who are not native KSL users. According to Haug, at al.(2005) the assessment of a test's validity and reliability becomes feasible after the test's development, pilot testing, subsequent revisions, and the completion of a primary study involving a larger sample, which, in this context, the larger sample comprises hearing learners. The KSL tests for hearing learners lack established evidence regarding their validity and reliability. The participants emphasized the need for a critical examination of the current examination format, urging a reevaluation to ensure it caters to the varied needs of all learners. Criticism was directed towards the assessment for its evaluation of fingerspelling and signing sentences, which was deemed excessively simplistic for a hearing learner at the form four level. An essential principle in examination item tests is ensuring equity and fairness. According to Kane (2010) assessment practices are considered as fair if they do not unduly privilege a particular group of test-takers. The principle of equity and fairness requires that the test developer makes a deliberate effort to ensure that the test does not give undue advantage to any group of learners and that the test items contain an appropriate balance in relation to aspects like gender, religion, culture or socio-economic factors.

The impact of administering the KSL examination to hearing learners was deemed significant, with concerns raised about compromised assessment integrity due to higher scores achieved by this group. The perceived simplicity of the exam for hearing learners was seen as unjust, potentially instigating a crisis of confidence among deaf students, who might question their own abilities in light of the unfair comparison. A good test should differentiate between high and low achievers. A high-quality test should offer valuable feedback regarding the desired construct. To evaluate the test's quality, it's essential to analyse its items with respect to their level of difficulty and their capability to differentiate among students (Koçdar et al., 2016). The test should have a balance of items cutting across the cognitive levels with varied levels of difficulty.

To address the issue of item difficulty mismatch, participants recommended a comprehensive review of the exam content to better align it with the linguistic capabilities of each group. They suggested enhancing the adaptation for deaf learners to reflect their language acquisition challenges while ensuring that the exam for hearing learners is appropriately challenging. The introduction of varied difficulty levels and adaptive testing strategies was proposed as a way to create a more equitable assessment environment.

Teacher training and awareness programs were also highlighted as essential for ensuring that teachers understand the unique needs of both groups of learners. This, participants argued, would enable teachers to provide appropriate support, ultimately contributing to a more accurate reflection of each student's linguistic competence in Kenyan Sign Language.

CONCLUSION

Regular learners to be excluded from registering for KSL, KCSE examinations by the Kenya National Examination Council since the existing 8-4-4 system's KSL curriculum and examinations are specifically tailored for deaf learners. With the imminent phasing out of KCSE in four years, there might be limited need for a separate development of the KCSE, KSL curriculum for regular learners given that the KSL curriculum of the Competency-Based Curriculum (CBC) in regular schools, has already been structured. The researcher proposes that regular learners interested in learning KSL could do so through extracurricular clubs.

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