



**PHONOLOGICAL AWARENESS INSTRUCTIONAL
STRATEGIES USED BY TEACHERS TO ENHANCE THE
LITERACY DEVELOPMENT OF CHILDREN AT RISK
FOR SPEECH DISORDERS IN KIAMBU COUNTY, KENYA**

Janet Wangui Ngugi¹ⁱ,

Mathew Kinyua Karia²,

Tom Abuom²

¹Master's Student,

Department of Early Childhood
and Special Needs Education,

Kenyatta University,

P.O Box 43844-00100, Nairobi,

Kenya

²Lecturer, Dr.,

Lecturer Department of Early Childhood
and Special Needs Education,

Kenyatta University,

P.O Box 43844-00100, Nairobi,

Kenya

Abstract:

The purpose of this study was to establish the phonological awareness instructional strategies used by teachers to enhance literacy development. This research was steered by the Phonological Awareness Theory. The study used a quasi-experimental design. Two groups of subjects were used: one is the control group, which did not participate in the treatment program. The other was the experimental group, which participated, in the given treatment. The study was conducted in Kiambu County, Kenya. Purposive sampling was employed to select 4 preschools and 40 preschool children. 8 teachers were randomly chosen from the selected preschools. Data was collected through interview schedules, tests, and questionnaires. Data was analysed using qualitative and quantitative methods. The study found that almost all the teachers did not apply clear-cut planned instructional strategies to increase the preschool learner's phonological awareness skills, such as pointing out the individual sounds in words or highlighting the number of syllables in words. The teachers, additionally did not apply authorized early literacy methods, such as stimulating phonological awareness activities. The study concluded that phonological awareness, ideally, is a broad skill that focuses on phonemes and for that reason, the preschool learners did not need to know the graphemes to be able

ⁱ Correspondence: email janngugi25@gmail.com, karia.mathew@ku.ac.ke, abuom.tom@ku.ac.ke

to develop phonological awareness. The study recommended that there is a need to assess teachers' literacy instructional practices and the resources they use in the classrooms to enhance literacy development. Preschool teachers should focus on working on a range of activities with children who are at risk for speech disorders to enhance their linguistic and literacy development. The Ministry of Education, Science & Technology (MoEST) needs to provide trainings/ seminars/ continuous professional development (CPD) workshops for Early Childhood Education (ECDE) teachers where strategies/ best practices for teaching reading can be outlined. During such trainings, teachers can share their best practices and help one another overcome problems in the teaching of reading and writing.

Keywords: phonological awareness; instructional strategies; literacy development; speech disorders

1. Introduction and Background

Literacy is among the most fundamental skills that children require to learn once they enter school' (Kaunda, 2019). A strong correlation has been found to exist between phonological awareness and literacy skills in typical children, and also with children with communication disorders. Phonological awareness is defined as the "*wide-range of expertise which entails paying attention to, highlighting, and consciously controlling the phonological elements of speech*" (Duncan, 2018). Phonological awareness has proven a reliable predictor of literacy development in early academic success. Literacy, on the other hand, is described as "*the usage of published and transcribed material to operate in the community, to realize an individual's objectives, as well as advancing one's awareness*" (Mills, 2015). Reading and writing skills are acquired throughout infancy. On the contrary, it does not start in kindergarten or first grade. Everything that adults do to promote children's language and literacy is essential throughout the early years.

Speech impairments constitute the biggest category of communication issues found in children and are the most prevalent group among referrals received by pediatric speech therapists (Davidson et al., 2022). Speech disorders are defined by the American Speech-Language-Hearing Association (ASHA, 1991) as impairments that could adversely impact articulation, fluency, and/or voice. Literacy problems are a major international concern, with as many as 15- 20% of the world's population struggling with reading or spelling difficulties (Dunn, 2021).

Studies from Europe reveal that around 10% of pupils fail to accomplish standard reading skills each year (Pressley et al., 2023). The National Assessment of Education Progress (2008) conducted a research that indicated that some American children encounter challenges with reading resulting in low educational attainment (Seidenberg, 2013) Studies done in Africa have displayed bleak levels of reading. Approximately 92% of primary school children are unable to read at grade level (National Assessment System for Monetary Learner Achievement -NASMLA, 2010). According to the findings of

Uwezo (2010), learners in Kenya face reading and spelling difficulties (Kithinji, 2019). The results also revealed that some pupils in grades three through grade seven are unable to pass English and numeracy tests based on the grade two syllabus. Children at risk for speech disorders often manifest phonological processing difficulties; additionally, teaching phonological awareness may strengthen the efficiency of literacy instruction (Tambyraja et al., 2023). Despite this relationship, the roots of phonological awareness in preschool children have received little attention.

Many children with/at risk for speech disorders are quietly distressed educationally and emotionally when they articulate words in their attempt to orally communicate with their acquaintances (Craft & Craft, 2023). Speech challenges often have an impact on their reading and writing skills, resulting in poor academic performance. A gap exists between what the Ministry of Education advocates for pre-primary education and what really happens in the classroom. Phonological awareness, which is a vital ingredient of reading in the pre-primary curriculum in Kenya, receives minimal attention. The traditional teacher-centered system, which emphasizes memorization, demonstrates a heavy focus on the identification of letters of the alphabet. Nevertheless, letter knowledge is insufficient for a learner to develop effectively in reading. Phonetically, the letters of the alphabet have names and sounds; nevertheless, what comes out in words that may stimulate good reading is not the name of the letter but the sound of the letter. Thus, the current study sought to determine whether the literacy challenges largely stemmed from a lack of/delayed phonological awareness at preschool, which serves as the foundation for lifelong learning.

2. Purpose of the Study

This study sought to establish the phonological awareness instructional strategies used by teachers to enhance the literacy development of children at risk for speech disorders.

3. Conceptual Framework

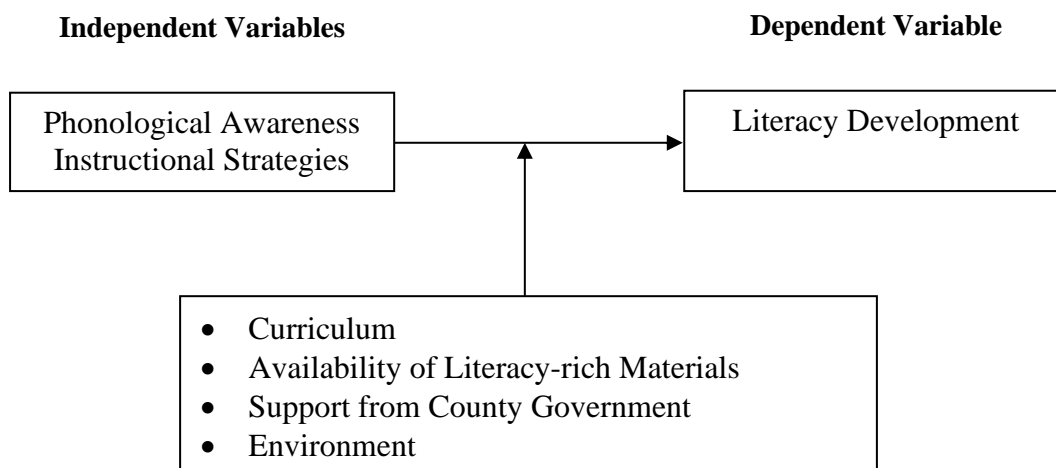


Figure 1: Conceptual Framework

4. Literature Review

This section discusses the theoretical framework and the literature related to the study topic.

4.1 Theoretical Framework

The study was steered by the Phonological Awareness Theory (Anthony & Lonigan, 2004). This theory sheds light upon reading disabilities by recognizing that the knowledge of reading an alphabetic system demands awareness of the association between letters and constituent sounds of speech (grapheme-phoneme correspondence). The proponents of this theory argue that while reading and spelling, learners need to recognize that words consist of sounds that can be arranged, split, merged, and reorganized. Phonological awareness is also one of the critical factors that contribute to the augmentation of automatic word recognition. Recurrent matching of proper sound and letter patterns helps to expand the young reader's language. The phonological awareness theory opted for the study since it assisted the researcher in understanding the formative methodology of literacy acquisition and acknowledges various forms of early literacy practices. Besides, advocacy for the phonological awareness theory arises from indications that individuals with reading problems perform unsatisfactorily, especially on tasks that require phonological awareness.

4.2 Phonological Awareness Instructional Strategies Used by Teachers

A balanced programme that incorporates phonological awareness, language development, and comprehension should be the foundation of literacy development (Breadmore et al., 2019). Rule et al. (2006) discuss the importance of variation in phonological training, stating that because learning must be individualized, the teacher must incorporate multi-sensory approaches. In accordance to Adam and Bruck (2011), when we see, hear, and move to learn, the frontal lobe (speech, grammar, language, and comprehension), temporal lobe (decoding and sound discrimination), and angular gyrus (connects the brain together, reading conduction) are all at work. Because multi-sensory teaching techniques can be used to focus children's attention on the sequence of letters in written words, phonological awareness instruction is able to be boosted. As a result, including manipulates, gestures, spoken and aural clues, boosts preschool children's acquisition of phonics skills (International Dyslexia Association, 2016).

Teachers, according to Adams and Bruck (2011) can use sand, dry erase boards, chalkboards, rice, hair gel in a zip lock bag, or any other media of their choice. The teacher will say the phoneme to the pupil who will then write the grapheme. Another practice proposed in David Kilpatrick's book *Equipped for Reading Success* (2016) is utilising phonemes to explain phonological awareness concepts. A teacher, for example, might write "cot" on a chalkboard, then erase the /o/ and replace it with the /a/ to produce the word "cat". Kilpatrick believes that using phonics concepts as written examples visually

displays the same spoken activity that we teach students to conduct during phonological awareness (Seamer, 2022).

Given that phonological awareness measures require a child to keep a mental representation of several sound segments in the mind while performing a task (i.e., segmenting or blending sounds), the use of pictures or objects could help reduce cognitive load and allow a preschool child to perform well on phonological tasks. The use of pictures and other visual aids allows children with speech & language difficulties to participate more actively in the classroom. Furthermore, utilizing markers to represent each sound, syllable, or word may help make oral activities more accessible to children (Park & Ritter, 2013). Allington et al. (2015) highlighted the need of consciously employing a sequence of activities intentionally such as nursery rhymes, riddles, songs, poetry, and read-aloud books that manipulate sounds to direct pre-schoolers' attention to the sounds of spoken language. Pre-schoolers at risk for speech disorders may benefit from a sensory-rich program that combines phonological awareness and allows them to interact on a deeper level. There is a mismatch between what research claims to be the most effective technique to teach reading, and the actual practice of teaching reading. The present study explored the strategies preschool teachers used to instruct on phonological awareness in their classrooms located in Kiambu County, an area not documented in studies.

5. Methodology

5.1 Research Design and Target Population

The study employed a quasi-experimental research design to assess the level of phonological awareness and its effect on literacy development among children at risk for speech disorders. Two groups of subjects were used; one was the control group, where no treatment was given. The other was the experimental group, which was given treatment. Both groups sat for the pre-test to determine their abilities in phonological awareness before the treatment (instruction). The researcher used mixed research methods involving both qualitative and quantitative approaches. The target population was 50 public pre-schools in Kiambu Town and Ndeiya Zone, comprising of 1108 pre-school children and 140 pre-school teachers.

5.3 Sampling Techniques and Sample Size

To select the pre-schools and children purposive sampling was used. Four pre-schools were also purposively selected from each of the two areas (Kiambu Town & Ndeiya Zone). This selection gave a total of eight pre-schools. Four schools were sampled from each group to form the experimental and control groups. To select the teachers, simple random sampling was applied. The sample size was 4 pre-schools, 8 teachers, and 40 preschool children translating to a total of 48 respondents.

5.4 Research Instruments and Data Collection

Tests, questionnaires, interview guides, and observation guides were used to collect data. A test was distributed to both experimental and control groups of pre-schools and the results of the tests were documented. Closed-ended questions were employed to evoke qualitative and quantitative information respectively from the preschool teachers. The preschool teachers were interviewed in a bid to give the researcher have a deep insight into the literacy instructional practices that they use in the classroom. An observation checklist was used to document the resources the teachers used in the classroom to complement the phonological awareness strategies used.

5.5 Pilot Study

The pilot study was undertaken in Kiambu Township Pre-primary School in Kiambu County. The researcher opted for this school as it was near the researcher's home and in the event of any issues, the researcher would go back to the school easily. Two children, one boy, and one girl, both 5 years of age, identified to be at risk for speech disorders, and two class teachers were involved. The preschool selected from the pilot study was excluded from the main study. The pilot analysis assisted the researcher in testing the validity and reliability of the tests, questionnaires, and interview schedule. The research instruments were validated during the pilot study. Content validity was enhanced through peer reviewing whereby the tests, questionnaires, observation guide, and interview schedule were analysed by experts in the SLP program. To verify the reliability of the instruments, the test-retest method was used. Research instruments were dispensed twice to the same group of participants in the pilot study. Their feedback was documented and the same instruments were redone in a fortnight. A comparison was made from the responses of the two tests to ascertain the reliability and 0.75 Pearson's Product Moment correlation coefficient was deemed sufficiently significant.

5.6 Data Analysis

Data was analysed in qualitative and quantitative terms. The quantitative data was categorized, edited, coded, and computed through descriptive statistics such as frequency distribution and percentages. The Statistical Package for Social Sciences was utilized for descriptive analysis. The preschool teachers' instructional practices in the classroom were investigated using qualitative methods. The observation schedule was also used to collect qualitative data. The data for the preschool children's tests was in the form of scores, which were presented using descriptive statistics.

6. Results and Discussions

6.1 Demographic Information

To better understand the characteristics of the study participants, general and demographic information was gathered. The pre-schoolers' biographical data presented the outcome on their gender, while the teachers' biographical data presented information

on the respondent’s gender, age, professional experience, and teaching experience. Findings show that six of the eight teachers were female and two were male. A quarter-2 (25%) of the respondents were within the age group 20-30 years. The 31-40 years age range (62.5%) came next followed by the older age (41 and above) 1 (12.5%). The majority of respondents (75%) held diplomas, while the remaining 2 (25%) held certificates. Three-quarters (75%) of the preschool teachers who engaged in this research had more than six years of teaching experience. One-quarter (25%) of the respondents had less than five years of experience (Table 1).

Table 1: Summary of Demographic Information of the Participants

| Item | | Frequency | Percentage |
|-----------------------------------|--------------|------------|-------------|
| Gender of preschool teachers | Female | 6 | 75% |
| | Male | 2 | 25% |
| | Total | 8 | 100% |
| Age of the teachers | 20-30 years | 2 | 25% |
| | 31-40 years | 5 | 63% |
| | >40 years | 1 | 13% |
| | Total | 8 | 100% |
| Professional qualification | Certificate | 2 | 25% |
| | Diploma | 6 | 75% |
| | Total | 8 | 100% |
| Teaching experience | <5 years | 2 | 25% |
| | 6-10 years | 5 | 63% |
| | >10 years | 1 | 13% |
| | Total | 8 | 100% |
| Gender of the pre-school children | Boys | 280 | 70% |
| | Girls | 120 | 30% |
| | Total | 400 | 100% |

6.2 Phonological Awareness Strategies Used by Preschool Teachers to Enhance Literacy Development

The study sought to establish the phonological awareness strategies used by teachers to enhance the literacy development of children at risk for speech disorders in Kiambu County. The teachers were interviewed in order to learn more about their classroom experiences and perspectives. One of the teachers (T1) acknowledged using the ‘look-and- say method’, which instructs learners to read words as whole units rather than breaking them into sounds first. The children are repeatedly told a word while being shown the printed word as well as a picture depicting that word or within a meaningful context. This finding supports Edhiti’s claim (2000) that words are systematically introduced to a child by allowing him to see the word, hear the word, and see a picture or a sentence referring to the words.

Teacher 1 said that this method worked for her as reported below:

“It has allowed my learners to absorb the meaning of complete words at a time, and the children have been able to acquire a big vocabulary of whole words that they can recognize

overtime. I use flash cards with particular words written on them sometimes, occasionally with a picture attached. For example, I can collect images say of farm animals and then paste them on to cards. Each card will have the name of the animal under the picture. ... Later, I can use a set of blank cards and have the children put their hands up and try to read the words. I do not break down the names of the farm animals into sounds; children have to read words as a whole."

The second teacher (T2) talked about using the 'sentence method' whereby they taught the children how to read by first introducing sentences and then focusing on decoding those sentences. The teacher stated that the learners' first copy words into their books and then every week they add three more words that have been taught to make short sentences. Once the children are able to recognize those short sentences they divide them into words, then syllables, and finally sounds. Because sentences are recognized in their dominant forms, and words and syllables are frequently not recognized in reading settings, the teacher endorse this strategy. The teacher claimed that the teaching of letters and/or sounds interferes with spelling. This contradicts Watson's (2010) notion that strong sound-letter decoding is essential for spelling development.

The third teacher (T3) mentioned employing a technique that implied having the knowledge of letters to recognize words. The teacher mentioned that the children use their grapheme awareness to read or decode whole words. According to the said teacher, before a learner can recognize words and pronounce them, he/she first needs to recognize letters of the alphabet.

"We teach them how to pronounce the two, three, four, and five letter syllables after they have learned the names of the uppercase letters and lowercase letters."

The teacher added that by the children forming clauses and sentences with the syllables and words that were combined, reading and writing are complete. According to Mills (2015), literacy development is dependent on the understanding of both grapheme representations and orthographic rules of a language. This means that in order to activate information stored in memory, a learner ought to master classes of letters or syllables representing phonemes which are smaller meaningful units that make up words.

The fourth teacher (T4) appeared to be unsure about phonological awareness. The teacher stated that they instructed their learners as follows:

"I enjoy doing picture reading. I begin by asking the learners to name a picture and then discuss the beginning/ending sounds of the word as seen in the picture. Then I give the children a worksheet to color that picture and then the next lesson, we match the pictures that have the same beginning/ending sounds."

The fifth teacher (T5) mentioned providing children letter cards, e.g., /a/, /t/, /p/, /s/, and /b/. The child then joins the letters a and t - to form -at. The teacher then instructs the learners to insert /m/ at the beginning of the word -at to form mat. The teacher then asks the children to replace the /m/ with a /r/ to form rat and then replace the /r/ with a /h/ to make a hat. The lesson continues with the teacher modeling many words, gradually increasing the number of letters in the words.

The sixth teacher (T6) said that they teach reading using the use the story technique.

“First, I give them a story or ask questions that will elicit a story and then I use sounding out of words. We start with vowel sounds and then move on to consonant sounds. Then we combine consonants and vowels to form words. Then, at a later date I will teach them syllables such as “ba, be, bi, bo, bu” and they will create syllables, words and sentences. Another method is to tell a story to the children several times, and then have them memorize it. Then I point to the words while I read the story aloud. Eventually, the children will be able to read the story and point to the words on their own.”

The teacher went on to say that they also used picture books for reading to ensure that the children read in the correct manner (left to right eye movement) and pointed out words. According to the teacher, this strategy is beneficial since it encourages learners to grow as readers and broadens the types of books they read. This finding is consistent with Allington and Cunningham’s (2011:134) explanation of classroom reading methods, which included the use of charts as flashcards, with the combinations of consonants and vowels that are typically used to teach the various sound sequences of the African Languages, e.g., da-de-di-do-du. They made the children read words and sentences together in chorus in groups.

The seventh teacher (T7) remarked,

“Every week I concentrate on a specific letter of the alphabet. We identify both capital and small letters. We learn the name of the letter and the sound it makes. I say the sound several times, and the children repeat it. Later we play a game in which the children have to tell me more words that start with the sound that we are learning. Finally, I give my students a worksheet on which they can cut, stick or color the sound we have learnt.”

The last teacher interviewed (T8), indicated that they started their reading lessons with a story from a picture book and then asked the pre-schoolers questions about the story, and afterward, they could come up with a song about that story. This finding is in harmony with the findings of a research conducted in the USA by Murphy, Hatton, and Erickson (2008, p.136) which assessed tactics used by teachers to boost phonological awareness. These included:

“Singing and listening to songs, nursery rhymes, and chants; reading stories with interesting sounds/rhythms; building knowledge of sound-symbol associations in meaningful contexts; and inventing words that rhyme with child’s name.” (p. 140).

This teacher also said that teaching sounds and letters separately, then creating words and sentences and lastly reading a book was a useful technique for increasing learners' phonological awareness skills. In general, some of the teachers lacked the basic principles of reading. This reaffirms the findings of previous studies in which some researchers expressed concern about educators being confused about some basics in phonological awareness concepts (Washborn, Mulcahy & Musante, 2017). The study findings on participants' understanding of phonological awareness were quite alarming.

The first teacher (T1) indicated that they were having problems with the delivery of teaching materials. The materials were either in scarce, of poor quality and/or arrived late in their school. The teacher, on the other hand, mentioned using pictures to make cards and crayons for coloring exercises, such as when coloring sounds/pictures representing particular sounds. The second teacher (T2) talked about having charts and posters in the walls of the classroom. However, because books were scarce, there was not a single lesson in which learners practiced reading from a book. They were almost totally reliant on the chalkboard, flashcards and the charts.

The third teacher (T3) revealed:

“I use alphabet charts/ posters that are hung on the wall. The letters ‘A’ TO ‘Z’ are represented on those charts; if the letter for this week is letter ‘B’ then they are going to say it, after sounding that word, they will build words from that letter.”

The fourth teacher (T4) said they use pictures and color them. The teacher talked about using magnetic cards, alphabet cards, and flash cards with the names of the letters of the alphabet. The fifth teacher (T5) also noted that the school provided whiteboards where the children could practice writing the letters. The sixth teacher (T6) said that they attach great value to visual materials and employ a variety of instructional methods; from posters, picture cards, storybooks, workbooks, sand, and paint. The teacher reported that they used pictures then flashcards then sentence strips and lastly finished with a book. The teacher spoke about using the “Sound and Read Book”.

The seventh teacher (T7) said she had difficulty finding resources to offer to her learners in the classroom.

“Because the school does not have many resources, we always have to stay focused thinking about creative ideas to implement in our classrooms.”

The teacher did, however, state that they make their own play dough for the children to use in school. They also make their own flashcards out of easily available materials such as recycled papers. The last teacher interviewed (T8) said they did not

have enough literacy-rich materials in their school and that they would struggle to obtain material. However, the teacher stated that they would draw images symbolizing the letters/sounds on manila papers and then paste them on the wall.

7. Conclusions

The study concluded that phonological awareness, ideally, is a broad skill that focuses on phonemes and for that reason, the preschool learners did not need to know the graphemes to be able to develop phonological awareness. Measures of testing the levels of phonological awareness have different degrees of complexity and this was reflected by the ranking of the subtests from the least difficult to the most difficult. Consequently, the study concludes that it is necessary to create and enhance ways for training phonological awareness, particularly phonemic abilities, to ensure that learners lacking phonological awareness achieve success in reading and writing/spelling.

8. Recommendations

There is a need to assess teachers' literacy instructional practices and the resources they use in the classrooms to enhance literacy development. Preschool teachers should focus on working on a range of activities with children who are at risk for speech disorders to enhance their linguistic and literacy development. The Ministry of Education, Science & Technology (MoEST) needs to provide training/ seminars/ continuous professional development (CPD) workshops for ECDE teachers where strategies/ best practices for teaching reading can be outlined. During such trainings, teachers can share their best practices and help one another overcome problems in the teaching of reading and writing. Future studies should take into consideration additional participants to strengthen the confidence that the results may be generalized to other populations in various environments. It was not possible to conduct a nationwide study with samples of preschool children at risk for speech disorders from all counties in the country. This study was only conducted at a few selected schools in Kiambu County. For this reason, a follow-up study that would research more on phonological awareness in all the Counties in Kenya would be adequate.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Author(s)

Janet Wangui Ngugi is an Inclusion Teacher at Braeburn School (Nairobi, Kenya). She is a Master's Degree holder in Special Needs Education (Speech and Language Pathology) at the Department of Early Childhood and Special Needs Education in the School of Education- Kenyatta University, Kenya. She has a keen interest in advancing in the research of children with speech and language disabilities.

Dr. Mathew Kinyua Karia (PhD) is a Lecturer in the Department of Early Childhood & Special Needs Education (Speech & Language Pathology Program)-Kenyatta University (Nairobi-Kenya). He teaches in the area of Speech and Language Pathology. He is also a consultant in the field of Speech and Language Pathology. His research interests are in the areas of Speech and Language Pathology, Hearing Impairment, Inclusive Education, Neurolinguistics, Phonetics, and Phonology. He is also working in various Kenyan hospitals as a consultant speech therapist as well as a volunteer speech therapist with Operation Smile Inc., a USA-based NGO as well as Starkey Hearing Foundation. Dr. Karia holds a Doctor of Philosophy (Phonetics/Speech & Language Pathology) from Cologne University (Germany), M.A. (Linguistics/ Phonology) from Kenyatta University (Kenya), and B.Ed (Arts- English/Literature) from Kenyatta University.

Dr. Tom Abuom (PhD) is a Lecturer in the Department of Early Childhood & Special Needs Education (Speech & Language Pathology Program)-Kenyatta University (Nairobi-Kenya). Area of specialization: Speech and Language Pathology; Clinical Linguistics; Neurolinguistics & Aphasiology. His research interests are in the area of Communication Disorders in Geriatric Population and Aphasia.

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