Exploring Strategies for Teaching Music and Aurals to the Hearing-Impaired Learners: The Case of Kakamega County, Kenya

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Abstract
This paper explores the strategies of teaching Music and aurals to the Hearing-Impaired learners in Kakamega County, Kenya. It: establishes the challenges likely to be experienced by learners with HI in handling Music; analyses pedagogical challenges likely to be faced by potential music teachers of learners with HI in teaching Music and Strategies to be used in teaching Music to this category of learners. A number of institutions dealing with learners with HI were randomly sampled. Mumias Education Assessment Resource Centre (MEARC) was used to provide information on the selection and placement procedure of learners with disability. The study employed descriptive and experimental designs. Data was collected using questionnaires, observation and interview schedules. Some learners were subjected to selected teaching strategies (experimental group) whileothers werenot (control group). Music and aural tests were administered on these learners. Both purposive and random sampling strategies were used to select target respondents. Collected data was subjected to content analysis in which triangulation was employed to get views from different sources. Variables were tested to make valid and reliable conclusions. The study found out that learners with HI have a lot of potential in music and therefore can do music as a subject, their assessment plays a big role in their learning ability, they can substitute their sense of hearing with their sense of sight, feel and touch to learn Music and aurals; and, HI teachers are not trained in the subject of Music. The study recommends that Learners with HI should be: provided with adequate teaching and learning materials in Music, given an opportunity to study music as a subject. Also, KISE should introduce Music as a subject as KICD and KNEC incorporates HI concerns in their syllabi.

Keywords: Music, Aurals, Hearing-Impaired, Kakamega, Learners

Introduction
According to Aura (2012), learners with disability in Kenya face many challenges. These learners include the hearing impaired, the physically challenged, the visually impaired, and the mentally challenged among others. Some of these challenges relate to teaching methodologies and biological handicaps (Dell & Donk, 2007; Segal, 1974).

To address these challenges of learners with disability, the Government of Kenya has put in place various strategies. One such initiative was the establishment of the Kenya Institute of Special Education (KISE) in the year 1986. This institution trains teachers and other human resource officers in the area of SNE. However, the training does not include specialization in Music as a subject. Taking cue from this, SNE courses are being offered in many local universities. Music students are not however prepared in SNE dimension. Those who specialize in SNE do not take music as a subject (Wanjala, 2005). Consequently, the Kenya Institute of Curriculum Development (KICD) has prepared Music syllabi and resource materials for all basic education institutions in the country. These syllabi and resource
materials have, however, not put into consideration the hearing handicap of learners with HI (KICD 2002). This scenario poses challenges to potential HI music students. The assessment procedure by KNEC in the subject of music, particularly Paper Two which deals with aurals does not consider the HI. The paper is recorded in cassettes which are friendly to the hearing learners.

Many special institutions have been established for learners with disability in Kenya. Among these special institutions are those for the physically challenged (Joytown School in Thika) and visually challenged (Thika School for the Blind) as well as those for the HI. Among such schools for the HI are: St. Martin’s Primary School and St Angela Secondary School for the Deaf Girls in Mumias, and Ematenje Boys Secondary School for the HI; all in Kakamega County, Nyan’goma in Kisumu County, Kedowa Secondary School in Kericho County, St Joseph’s in Bungoma County among others.

While the physically and visually challenged learners have the opportunity to study Music education, the learners with HI on the other hand, do not have such an opportunity (KNEC Report, 2017). Nevertheless, this category of learners actively participates in practical music during the annual Kenya Music Festival, (see the KMF syllabuses for the years 2015, 2014, 2013). They also take part in inter-class, inter-house and other community cultural and religious functions for example during wedding ceremonies and mass respectively.

The Case of the HI Learners and Music

The Hearing Impaired (HI) learners in Kenya are not learning Music as a subject. These learners are considered incapable of studying music as it basically involves hearing. The KNEC Report (2012) attests to this assumption. All the candidates who sat for Music Examination were those with hearing ability. Both KNEC and KICD syllabi are aligned to learners with hearing ability. The question that arises here is how these learners can perceive and respond to music given their hearing handicap. Though the learners with HI have been given the opportunity to showcase their talents in music, they have not been allowed to study it as a subject.

Music and the Hearing Impaired Learners

In Kenya, For many years, learners with HI have been segregated in matters of Music (Amanya 2012). The Government of Kenya has, however, put up a special institution, the Kenya Institute of Special Education (KISE). This institution trains teachers and assists in developing teaching and learning materials for Special Needs Learners. Adequate training in handling music seems not to have been undertaken in this institute given the scenario of music education and the HI schools. The subject has not been introduced to learners with HI in all special schools.

Graduates from both the special and regular institutions of higher learning are equipped with pedagogical skills in handling Special Needs Learners (KISE Syllabus 2015-2016). According to the Government of Kenya’s policy on integration in Education, all learners are supposed to be taught together regardless of their educational challenge (Sessional Paper on Education 2005). Adequate training in handling teaching of Music and aurals to HI seems not to have been done in these institutions hence the scenario in our institutions with regard to the HI and music. KNEC timetable for KCSE (2017) has no music for HI.
Kenya Music Festival was started as a European entertainment activity in the year 1927 (Musungu 2013). Musungu (ibid) adds that for many years, the festival had only European participants. Over the years, the festival has now included Africans. All learners, from Early Childhood Education (ECD) learners to university students and teachers’ clubs have been included. The music performed initially was purely Western. The folk song category was included to take care of the white settler workers (Musungu 2013). Today this is the largest Music Festival in Africa (Abwao, 2014). The Festival has included some performance classes for learners with special needs. Musalia (2012) observes that ‘disability is not inability’. Musalia (ibid) observes that the learners with HI have a lot of potential in music as is shown in their participation during music festivals. Teachers are encouraged to give these learners a chance to exploit their musical potential (KMF syllabus, 2017).

Many scholars who are versed with matters of the Hearing Impaired have given views on assessment, placement, care and teaching of this category of learners (Freiberg, 2002; Fawkes, 2006; Obiakor, 2007; Segal, 1974). There are those who see the ability the HI have yet others dismiss them altogether in matters of music. The viewpoints here range from assessment procedures, care of the special needs learners and teaching methods. From these views, the researcher identified gaps required to be filled.

Freiberg (2002) argues that ‘the best method in teaching is enriching the visual learning environment. Freiberg (ibid) recommends the use of sign language; finger spelling, speech reading and pictures as the best approaches to teach learners with HI. Freiberg (ibid) however, does not suggest what to do when teaching perception of musical sounds. Obiakor (2007) cites the main problem of the hearing impaired during learning processes as ‘language and communication’ (167-176). Obiakor (ibid) recommends sign language as the main means of communication by the HI. These views are consistent with the situation of HI in Kenya. Music as a subject however has not been introduced.

Kenya Music Festival Syllabus (2015) introduced a class on verse speaking using sign language. This was to give the learners with HI an opportunity to communicate. Their major challenge is musical sound perception.

Amanya (2011) in her paper during the National Adjudicators and Trainers Workshop admits that the learners with HI are challenged in their perception of melody and harmony. Amanya (ibid) further suggests that the main focus during the training of music to these learners should be rhythm. The view leaves out the component of melody. Obiakor’s recommendation of the use of sign language was experienced in the field where most institutions with HI used sign singing in music activities. Amanya cautions the adjudicators from expecting uniformity in dance performances. Amanya holds the view that the HI is rhythm compliant. This view contradicts the scenario where these learners are given pre-recorded music to direct them when performing western dances. The recorded music has melodies.

Dare and Donovan (1997) suggest ways of caring for the learners with HI. They advocate for proper assessment methods in order to identify correct therapy for these learners. They also encourage stakeholders to undertake correct placement of special needs children in order to be taught well. This is consistent with the situation in Kenya where SNE learners go through EARC for placement tests. Teachers of such learners understand their entry behaviour based on recommendations from EARC. These writers propose early diagnosis of children with HI. According to them, learners with HI should be exposed to a lot of musical activities to get
acquainted to sound and connect it to meaning. The use of KCPE results by secondary head teachers during form one selection is however not based on EARC assessment.

**Pedagogical Viewpoints on teaching music to the HI**

Aura (2012) in a presentation during the National Adjudicators and Trainers Workshop in Kisumu taught participants a song, *Let the Spirit come down*, using hand signs. She began by giving signs for the words and later connected it to pitches. She then demonstrated section by section and asked the participants to repeat after her. The song was well done by all participants using signs only. Gargiulo (2006) also recommends hand sign communication in teaching.

From this presentation it is evident that the HI and the HOH can perform a song using hand signs to their fellow learners and those who understand sign language. This also suggests that they can respond to sound using signs, hence this study on strategies for teaching Music and aurals to the HI. From this approach, the HI can respond to melody using hand signs. The study provided an opportunity to the HI and the HOH to write melodies using hand signs.

During the St. Angela Day at St. Angela Vocational Secondary School for the Deaf Girls, the learners performed songs using hand signs during the mass.

Aura’s approach of sign singing seems to address the HI challenge in melodic perception. This study provided the HI with the opportunity to experience alternative methods to sound perception with the view to confirming their capability to study music as a subject.

Gargiulo (2006) in *Special Education in Contemporary Society* gives categories of the HI. The categories are: Hard of Hearing (HOH), Totally Hearing Impaired (THI), and the Partially Hearing (PH). This categorization is used in Kenya but these learners study together regardless of these categories. This categorization on the HI is consistent with the situation in Kenya. The study realized that the HOH were directing the HI during music performances.

In meetings or even conversations, some people say “pardon” when they have not heard something well. Learners with HI are categorized as the HOH, THI, and HI. The HOH learners used support equipment to hear while the THI used hand signs only. The study presented all these categories with an opportunity to take part in aural test. The results were recorded and analysed.

Gargiulo (ibid) advocates for assessment of these learners in order to come up with the correct methods of handling them in class. This assessment should not lean towards the verbal method. The learner should be assessed in terms of socialization, co-operation, and reception of hand/meaning communication; and by the use of proper gadgets. Gargiulo goes ahead to recommend hand sign communication in teaching. This method only spells out the alphabet. It does not cover the musical sound (tone). The study gave the opportunity to teachers to explore strategies of teaching learners with HI how to write rhythm and melody. The socialization and the cooperation aspect as advocated by Gargiulo were also used in this study.

Lola and Bev (2002) suggest some methods for teaching the HOH learners. They advise that such learners should be put in a good sitting position to be able to see the instructor. They also recommend that the teacher should face the light and be gentle and friendly to the
learners. This is so because learners with HI use sense of sight in learning. Further, they insist on the use of visual teaching aids. They encourage Music teachers to expose students to instruments like drums, keyboards and other percussive instruments. From these suggestions, we see that learners with hearing impairment require a more practical approach. The study provided learners with HI with the opportunity to use music instruments to learn aural skills.

Learners with hearing impairment require a more visual approach to teaching, Karen (2002). Carol and James (1980) encourage the use of storytelling using pictures. Learners with HI should be provided with books suited to their level to read from time to time. These writers also suggest the use of comics and play in the teaching process. These methods suggest that these learners should be taught through doing (hands-on approach). The concentration of the HI and HOH can be sustained through seeing, acting, reading and participating in classroom tasks. The study provided the learners to maximum use of senses of sight, feel and touch (experimental research design).

Karen (2002) in her book *Educating Exceptional Children* argues that the best way to teach special needs learners is to enrich their visual learning environment. This includes sign language for the HI, finger spelling, speech reading, charts and pictures. The hearing impaired are in dire need of this approach. Karen however does not address musical sound perception. The study made use of music equipments to teach the HI music and aurals.

Gearheart (1973) recommends early and proper screening of special needs learners. Such learners should be referred to assessment centres for screening where they can be placed in their rightful classes. This study investigated the assessment procedures at MEARC. The centre however did not provide data concerning the HI and music. It dealt with general assessment and placement of SNE learners. The responses from MEARC officers showed the potential of learners with HI in music activities. This centre lacked music equipment to assess the musical capability of learners.

Beaton and O’ Brien, (2001) advocate for the use of hearing aids as recommended by health practitioners. They also recommend the use of amplifiers to magnify sound for learners with hearing impairment. This is consistent with the situation in Kenyan HI institutions. The hearing aids did not effectively address the issue of music. The aids were used for general sound perception.

Dell and Donk (2007) suggest the modification of teaching approaches to suit special needs learners. It is important to identify the strengths and weaknesses of these learners. In doing so, the weaknesses can be turned into opportunities once the challenges are identified. The Government of Kenya also recommends integrated education; through which learners can support each other. This study sought modification strategies in teaching and assessment. In the absence of the hearing sense, the study investigated how learners with HI could be incorporated in the music subject.

Hegarty and Alur (2001) recommend the integration of the HI in the regular curriculum. They suggest that these learners should be taught alone first before mainstreaming them in the regular programme. In Kenya, HI, learn in their own special institutions. They are also taught by teachers who have been trained to handle SNE learners. Music is however not taught in these institutions.
Frederickson and Cline, (2009), advocate for inclusion and integration of learners with special needs in the regular curriculum. Farrell (2001) describes integration as a process of making modifications on teaching strategies to the Special Education Needs (SEN) learners to enable them to join their regular counterparts. This means that the regular are not adjusted to cope with the SEN. Farrell (ibid) further describes inclusion as the process of institutions restructuring their learning strategies to incorporate SEN. In Kenya, the situation is different since HI learn in their separate institutions. They have not been included in the Music curriculum.

Segal (1974) suggests proper classroom organization. In the classroom there should be supporting learning materials, qualified interpreters in case of learners with HI and use of hearing gadgets and equipment for practical lessons. Segal however does not give any guidance in teaching music.

**Musical Ability Among the Deaf**

“Deaf people can do anything except hear,” according to Howeet al. (2016). Hilterman is an example of a deaf person who played drums with his siblings in a band. The deaf therefore enjoy and love music. This poses the question of alternative modes of hearing for the deaf. Is it possible to hear without ears? Is it possible for the deaf to make music, listen to music and appreciate music in the absence of ears? Sign language is paramount among the deaf culture (Howeet al., 2016).

Beethoven’s Nightmare is an example of a band in America that uses American Sign Language (ASL) to create music albums. This deaf rock band is found at the Gillandet University for Deaf Learners and it uses guitars, drums, keyboards and other orchestral instruments. This shows that there is rhythm inside the bodies of the deaf (Howeet al., 2016). The band continues to entertain on the West coast of America mainly to deaf audiences but to the hearing as well.

Howeet al. (2016) further state that feeling vibrations is an integral part of the deaf’s experience of music. Hilterman the singer is quoted by Howeet al. (2016) as saying that, “hearing is not about the ear. It is about what you hear, the beat, rhythm, vibrations inside your body, not the ear.”

Deafness is a source of musical aligning and not a disability element to music (Maler, 2016). The deaf appreciate music through listening through vibrations (inner hearing), hearing through playing instruments and watching sign language songs (song signing). Performances incorporate sign language: deaf song signers create music in sign language – thus sign language music.

Bahan (2006) places song signing into two categories: percussion songs (arranging songs in rhythms; and, translated songs (translating song lyrics in ASL and performing them). Song signing videos are an important avenue for self-expression among the deaf. Deaf signers therefore create their own music to express their culture.

**JEROME BRUNER’S CONSTRUCTIVIST THEORY (1966)**
Jerome Bruner was born blind in New York City in 1915. At the age of two, he underwent a surgery to restore his sight which gave him limited vision. He then tried to spend the rest of his life trying to understand how the human mind perceives the world. (www.symplypsychology.org/bruner.html) he undertook his master’s degree in the year 1939 and his doctorate degree in 1941.

Jerome Bruner’s Constructivist was developed in 1966, emphasizes change of behaviour through the learners’ own initiative. The inner behaviourism in a learner assists in learning. The theory also puts into account ages of learners. The learner should gradually be taught content. Simple structures should be given to lower ages and complex content to older learners.

Bruner argues that the learner should be given the opportunity to do things practically. According to him “children learn by themselves through interaction with the environment.” Children should observe, touch, and feel, move and play with whatever they encounter in their environment (Murray, 1963). The HI learners are very practical in music as shown in music festivals.

Learners with HI were given dances to perform and play instruments. The rhythms and melodies were written down. The strata for performance were the classes of the learners to test the cognitive aspect in terms of age with emphasis to Music and aurals. Learners observed demonstration of playing music instruments and imitated the same. Aurals tests were administered to learners with HI with the view to identify their sound perception ability.

Bruner believes in the gradual cognitive development of learners as they grow. The performance of dances and playing of music instruments assessed the sound perception level of various ages of learners with HI. Various levels of hearing ability were tested and correlated to ages. This was based on reports from MEARC and results from aural tests.

Relevance of Brunner’s Theory to Teaching Music to the HI
Children construct their own knowledge. Learners are given the opportunity to observe, dance, feel and touch as they learn Music. They play instruments and write down what they played.

Bruner advocated for learners being given basic concepts rather than cramming facts. A hands-on approach where sampled learners perform musical tasks is recommended.

Logical organization of content is important. The music teachers were assisted through this study to organize their music content from simple to complex. Various activities were listed in order of difficulty and given to learners in that order.

Learners use the environment to acquire knowledge. The sampled learners used local material to construct instruments and practice local music using the instruments. The instruments were also used to create rhythm and melody.

Group learning is essential in learning process. Through group dances, the hearing impaired proved the effectiveness of this method. They shared costumes and instruments; and learnt from each other as they created formations in the dance. Coordination of movement proved a challenge but sign language and direction from the teachers helped to overcome this challenge. During performances of western dances e.g. Scottish dance, pre-recorded music
was used to accompany the dance. The dance director however stood at a strategic position and used hand signs to guide the dancers.

The concrete to complex approach is good for hearing impaired learners. They were exposed to known music before being exposed to new music. Simple familiar rhythms and melodies were performed before moving to complex ones. They started with hymns used in church. They danced to them and were given other musicals.

**CARL ORFF’S SCHULWERK - “SCHOOL WORK” APPROACH (1920S)**

Carl Orff was born in Munich on 10th July 1895. Being a musician and a song writer based in German, Orff developed elemental music fusing tone, dance, poetry, image, design and theoretical gesture. Orff, a German composer, is noted primarily for his musical/dramatic stage works based on ancient and classic texts. The pedagogical ideas that became Orff-Schulwerk (literally "school work") originated in the 1920s. Orff’s Schulwerk approach encompasses music, movement, drama and speech. The approach uses everyday activity to make music child centred. Its basic system like language is a friendly approach to teaching music. The approach uses environmental objects as teaching and learning aids during music lesson.

Orff suggests that music should be a simplified concept because with this, a child freely learns. Orff (ibid) also argues that a child should not be subjected to exam pressure. From this concept, Orff gives a perception that a classroom should be full of fun and play.

Cohesion and parents’ participation should be incorporated in learning. Orff also gives hands on approach whereby a learner should do tasks by experiencing and participating. The approach stimulates learners as they grasp concepts. This approach also helps the learner to understand time, rhythm, form, line, colour, design, space and mood in the simplest way possible. From this concept, learners are able to sing, play instruments, dance and learn music through play.

The approach uses of percussion instruments, for example, xylophones, metal phones, gongs, marimbas, drums, among others.

**Relevance of Orff Schulwerk Approach in Teaching Music to the HI**

With Orff’s approach, the HI can play instruments and can also be able to feel vibrations. Another relevance to this study is that this approach encourages a learner to play in class including the HI and also capture the mood. The learners with HI are also able to participate, experience knowledge and practice time and rhythm. The approach also gave the learners with HI an opportunity to sign sing. Percussion instruments were used in the classroom to create rhythm and melody.

Orff (1966) recommends play and movement as a means to rhythmic perception. In this approach learners should play, dance, tap, clap and speak in rhythm. Using these theories, the study gave learners with hearing impairment the opportunity to observe the demonstration of playing instruments, dancing to rhythm, playing instruments and feeling sound vibration. The Orff’s approach gives learners a world of play as they learn. In the absence of the hearing sense, this hands on approach gives the learners with HI an opportunity to use other senses to learn music as a subject.

**CONCEPTUAL FRAMEWORK**
From the drawing, four major concepts are highlighted. These are: Instrumentation, Dancing, Feeling vibrations, and Observation.

Learners with HI played music instruments and were able to grasp the concept of rhythm and melody. Initially demonstrations were conducted to them as they observed then they repeated what was demonstrated. The sense of sight was effectively used as the teacher demonstrated the playing of music instruments. They repeated the same tune played on keyboard. They also danced to the rhythm of the music.

Learners with HI observed playing of instruments and rhythmic figures and later wrote what they could see being played. Sign singing was also experimented. Learners with HI used hand signs and Solfá ladder to write melodies. The melodies and the rhythms were marked and their responses recorded.

A Study Carried Out on Strategies of Teaching Music to HI Learners
A study carried out on strategies of teaching music to the HI (Omari, 2019, master’s thesis) in sampled schools in Kakamega County employed cross-sectional descriptive and experimental research designs. Descriptive design is a research design concerned with describing the state of affairs as they exist (Kombo & Tromp (2006), Mugenda and Mugenda (2003). Through this design, the study sought data from questionnaires administered to learners with HI and their teachers. The responses from these questionnaires were collected for analysis. They were tabulated and scored.

Interview schedules were used to collect data from Education Officers and administrators. At MEARC, interviews were conducted guided by the prepared interview schedules. The responses from these interviews were collected for analysis, tabulated and scored. As the learners undertook aural tests and played music instruments, observation schedules were used to indicate the progress and challenges faced.

Observation schedules were also used during classroom sessions to critique the strategies used by the regular teachers. Data from these observation schedules was collected for
analysis. Learners’ challenges were sought and recorded. Views from administrators and music trainers through interviews were also discussed and recorded.

Experimental research design is concerned with the description and analysis of what would be, or what would occur, under carefully controlled conditions (Zanden, 1993; Stacks & Hockings, 1998). The design provides a method of investigation to help derive basic relationships among phenomena under controlled conditions or, more simply, to identify the conditions underlying the occurrence of a given phenomenon (Zanden, 1993, pp. 21-22).

People who conduct experiments are engaged in deliberate and systematic manipulations of certain stimuli or environmental conditions with a keen eye on finding out how such manipulations affect the behaviour of the subject. They work with two groups; experimental and control groups (Claus, 2009; Thomas, 2009; Burton & Bartlett, 2009). In this design, change is introduced in one group – the experimental group - but not in the other group – the control group. This design has the immediate purpose of predicting events in the experimental setting but with an aim of generalizing the findings beyond the confines of the experiment (Zanden, 1993; Stacks & Hocking, 1998).

This study experimented on the following strategies: Feeling of drum beats, observation and playing musical instruments, and dancing to the rhythms of the music instruments. Under the first strategy, respondents from each class were split into two groups. One group felt drum beats played on the backs and wrote down rhythm as directed by the teacher. The other group was directed without feeling the drum beats. Theoretically, the responses of each group were recorded.

In the second strategy, one group of learners in their classroom observed the teacher demonstrate the playing of a drum. They emulated the playing and wrote down the rhythms with the guidance of the teacher. The teacher then demonstrated a melody on the keyboard. The learners emulated the same and wrote down the melody under the guidance of the teacher. Another group in the same class was taught rhythm and melody theoretically and wrote down the rhythms and melody given by the teacher. The aural tests were marked by the teacher and the results recorded.

Under the third strategy, one group of learners danced to rhythm and wrote down the same rhythm they had danced to. The other group wrote rhythm given to them by the teacher without dancing to it. The rhythm was marked and the results recorded.

The above experiment shows various strategies experimented in the teaching of Music and aural. The strategies were administered to one group (experimental group). The same strategies were denied to the other group (control group). When aural tests were administered to both groups, the results were recorded to test the validity of the strategy. The results from the experimental group were higher than those of the control group. This showed that the strategy was effective in teaching Music and aural. These experiments tested whether sense of sight, feeling and touch could be used to perceive musical sound in the absence of the sense of hearing. The experiments showed positive results in regard to the use of the senses stated above in teaching Music and aural to the HI.

Data from MEARC was sought on the process of assessment and placement of learners with HI. A comparison of the results of those learners who passed through this centre and those
who joined the institutions directly was done. The performance of both the groups was recorded. The results showed that those who passed through MEARC performed better than those who joined the institutions directly.

Performance in Aural Tests by Assessed and Direct Entry Learners with HI
The teachers were certain with the entry behaviour of learners who had passed through MEARC. These learners had a report from the assessment centre. This report assisted the teachers to identify the best strategies for these learners. MEARC officers filled a questionnaire to ascertain the ability of learners with HI to perform Music as a subject. As much as Music was not one of the areas tested at MEARC, the officers agreed to the fact that learners with HI have a lot of potential in music.

Summary
The study investigated challenges faced by learners with HI in learning Music and aurals. It went ahead to identify pedagogical challenges faced by teachers of learners with HI in teaching Music and aurals and came up with approaches to be used in teaching Music and aurals to learners with HI. Main centres of HI were targeted i.e. St. Martins Primary School for the HI, St. Angela vocational school for the HI, Ematundu Vocational Secondary School for the Deaf Boys and Mwikhom Primary School for the Deaf. MEARC was also included in the study to take care of assessment issues of the learners with HI.

Data from the field revealed that learners with HI do not have adequate learning materials to support them in learning Music and aurals. The few music instruments found in these institutions were used for music festivals and not in the teaching of music. Most institutions participated in KMF and none taught music as a subject.

Responses from questionnaires administered to the teachers of HI and their administrators indicated that there is a negative attitude to the learners with HI being given the opportunity to study Music as a subject. This is a result of their hearing handicap and music is closely associated with hearing. Music was linked to hearing and was therefore not exposed to the learners with HI.

From the field, there was evidence that HI teachers are not trained to handle music as a subject. They however participated in music activities as co-curriculum entities. Music was not offered as a subject in all the institutions visited. The teachers and the administrators of the HI institutions had had no idea whether music is an examinable subject. In institutions visited, music was missing on the timetable. All the HI teachers agreed to the fact their learners had a lot of potential in music activities.

All the institutions visited used the KICD syllabus which offered the regular schools subjects. Kiswahili was replaced by sign language. The syllabus did not put into consideration the HI handicap of hearing which hindered them from taking Music as a subject. Learners with HI performed songs using sign language.

The institutions offered their candidates for KNCE examination. In science, the HI were given alternative questions for the topic of sound but for the rest of subjects, the learners with HI did the same questions. In view of the above, the study suggested that if music examination procedure can take into account the aspect of sound, the HI can also be given an opportunity to take the subject.
The study experimented on some strategies for teaching Music and aurals to the learners with HI. The strategies included observation, movement, feeling drum beats, dance and playing musical instruments.

The learners with HI who were subjected to these strategies performed better in Music and aurals test than those who were not subjected to the same. The approaches were therefore effective as revealed by the results from these aural tests.

Main Findings
- HI have potential in music activities -100% of the respondents attested to this. KMF syllabus 2018
- Teachers of HI learners have not been trained to teach music subject .100 % agree.
- In the absence of sense of hearing the HI learners can use other senses e.g touch ,feel, sight, to perceive sound .
- EARc plays a big role in special needs learners entry behaviour
- Learners who pass through MEARC perform better in music than those who join institutions directly.
- Music is not taught as a subject in institutions of HI learners (interviews carried out on administrators of HI institutions, KNEC report 2017.
- HI learners in senior classes perform better in aural tests than those in lower.
- New strategies tested proved effective as evidenced from results of HI learners.

Conclusion
The findings in the field showed that learners with HI can take music as a subject since they have a lot of potential in music. The study also concluded that inadequate teaching and learning aids were a hindrance to the HI learning music in general and aurals in particular. Teachers of learners with HI had not been trained to handle music subject. There was a generally negative attitude towards the learners with HI studying music as a subject. The KICD and KNEC syllabi did not factor in the handicap of hearing by learners with HI hence their inability to study music as a subject.

The strategies experimented in teaching Music and aurals to the learners with HI gave positive results. The study found that not all learners with HI pass through EARc. At the secondary school level, the learners were selected after KCPE basing on their scores. At MEARC, the clients who visited the facility had an objective of being recommended for either medical attention or placements in schools. At this station, the researcher found that the officers on the ground did not have the capability to discuss the music subject. They however, alluded to the fact that learners with HI have potential in music activities.

Recommendations
The study makes the following recommendations:
1. From the potential identified from the performance of learners with HI in Music festival activities, the study recommends that they be given opportunity to study Music as a subject.
2. The learners with HI should be provided with teaching and learning aids to handle Music and aural.
3. KISE should start Music as a subject, and train Music teachers for learners with HI.
4. Parents, teachers and the community should be enlightened on the music potential of the learners with HI to curb the negative attitude.
5. KICD and KNEC syllabi should incorporate the concerns of the learners with HI. Dell and Donk (2007) support this fact by stating that in employing examination techniques, various handicaps should be considered. In this case, KICD and KNEC syllabi should consider the HI handicap in hearing.
6. The Music syllabus should consider the hearing handicap of HI.
7. Aural examinations should be modified to have alternative response other than hearing.
   This study recommends the following methods of examination:
   a. Sign singing as opposed to vocal singing
   b. Practical playing of instruments
   c. Feeling of beats and writing the rhythms
   d. Sight signing of rhythms and melodies
8. The study recommends EARC to have at least one Music expert to assess learners’ ability to take Music as a subject.

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