

IMPLEMENTATION AND CHALLENGES OF REVERSE INCLUSION AT KAPSABET VOCATIONAL TRAINING SCHOOL FOR THE DEAF IN NANDI COUNTY, KENYA

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Abstract

This case study investigated the implementation of reverse inclusion in a vocational program in which the deaf were trained along with the hearing students. It was peculiar in the sense that it was the first one of its kind in Kenya, perhaps one of the few in the entire region of Africa, and more interestingly a case of hearing students enrolling at a school for the deaf. If it is already culturally challenging to accommodate the deaf in mainstream public school system, a case of the hearing venturing into a deaf school environment raised a lot of intriguing questions. The study addressed the following questions (1) What was the process of implementation of reverse inclusion like and what strategies were used? (2) What were the attitudes of the community members, teachers and students towards deafness and reverse inclusion; (3) What are the views of teachers and students about the effectiveness of the reverse inclusion program? and (4) What challenges were experienced in the implementation of the reverse inclusion program? Resilience and Inter Group Contact theories guided the study. Thirty- eight hearing, 22 deaf; and 7 teachers, were purposively sampled for the study. Data was gathered using focus group discussions, interviews, documents, and observation; and analyzed using the Logico-Inductive-Process. The study revealed that the implementation was slow and occurred in stages. The strategies that were used to facilitate the process included sensitization, cooperation, collaboration and negotiations with multiple stake holders such as the sponsoring organization (Support Africa), the university of Eastern Africa Baraton, the school for the deaf, community members and the ministry of education. In spite of lurking stigmatization of deafness, the trial phase revealed progressive attitudinal change towards deafness as more hearing students joined the program. Both teachers and students felt that reverse inclusion was effective as there was cooperation between the deaf and hearing, the students learnt different trades and upon graduation extended partnership in businesses. The challenges of implementation included negative attitudes, delays in approval of the program, lack of infrastructure, and barriers in communication. The researcher recommends that for successful implementation of reverse inclusion there should be further sensitization of the community on causes of deafness; multilevel collaboration of education stakeholders and partners; introduction of sign language in basic education to promote inter group communication; and integration of special education in teacher education curriculum. In addition, reverse inclusion should be tried with other forms of disabilities in Kenya, for example the blind.

Key Words: Inclusive education; reverse inclusion, Special education, Deaf education, vocational training. Inter Group Contact Theory, Resilience Theory.

The Concept of Inclusion

The definition of the concept of inclusive education has been evolving over the years. Once restricted to special needs of learners with disabilities, it is now used as a process to address and respond to the diversity of all learners. The United Nations Educational, Scientific and Cultural Organization (UNESCO) define inclusive education as education which involves changes and modifications in content, approaches, structures, strategies, with a common vision that it is the responsibility of the regular system to educate all children". In other words, it is Education for All (EFA) - a strategy to remove all barriers to participation and learning for those who are excluded from the main stream schools. The term inclusion is at times used synonymously with integration. However, in practical sense the two terms have different connotations. Whereas integration means putting together students with special needs with the normal students in a main stream classroom, it doesn't necessarily imply ensuring equity in curriculum uptake of the two categories, a function that is deliberately provided in inclusive settings. The goal of inclusion agenda is to minimize social exclusion and segregation in schools

As described by Cohen, Manion, and Morrison (2004) inclusion ensures "being educated in an ordinary school, having access to the same curriculum, and being accepted by all, regardless of gender, ethnicity and special needs. It involves being physically in the same place as other students and 'social acceptance and belonging'... inclusion has come to replace integration" (p. 247); which, by and large, is limited to physical placement of the special needs students in the mainstream school with the aim of having them assimilate the unchanged mainstream system.

Inclusion implies that the mainstream is modified and structured to accommodate the learner's special needs in a regular classroom

and school (Kauchak & Eggen, 2008). According to Qualifications and Assessment authorities there are five general principles of a functional inclusion system. These are; (1) appropriate inclusion of all learners at relevant levels of activity, (2) giving opportunities for continuity and progression for all learners; (3) ensuring achievement of the highest possible standards for all learners (4) recognition of achievements of all learners; and (5) the provision of easily accessible advice and guidance relevant to all learners. Referring to the British National Curriculum statement on inclusion, Cohen and colleagues further stress on three principles that are key for successful inclusion. The first principle is on setting suitable learning challenges that provides all students with access to the national curriculum with considerable differentiation for achievement levels. The second principle emphasizes the importance of responding to students' diverse learning needs in terms of setting reasonable goals, creating effective learning environments, securing motivation and concentration, providing equal opportunity through teaching approaches, employing appropriate assessments and setting targets for learning. The third principle concerns the overcoming of potential barriers to learning and assessment for individuals and groups of students. For example, the teacher may design multisensory activities that target students who need help with communication, language, literacy, management of behavior as they prepare for the world of work.

In particular, the hearing impaired should be helped to manage their emotions, especially trauma and stress. The immediate question that anyone would ask is whether implementation of these principles can be practical enough to avert impending exclusion problems. Christ the master teacher, demonstrated inclusion of the deaf in his teachings by empowering them (Mark 7: 32-37, 9:25). On the notion of empowerment, there should be equal

opportunities regardless of gender, race, background and special needs. Equality in access to education means that all students who enroll in the school system should have equal opportunities in curriculum uptake. This will only be possible if stereotypes, discrimination, bias, and misperceptions of special needs are challenged, through advocacies for equal rights and freedom; celebrations of differences; and promoting positive images of a diverse populace.

The case for equal opportunities, inclusion and diversity needs no further justification as it originates in the notions of justice, democracy, freedom and empowerment which are the fundamental principles of a just society. However, the practical implications should be evaluated to ensure practical attention to various applications of these principles. For instance, addressing equal opportunities through inclusion should not only apply to entitlement to a broad and balanced curriculum; but also take care of access, uptake, and outcome. This means that there should be promotion of freedoms, social justice, choice in lifestyles, life chances; and indeed a move towards a more egalitarian. In this sense inclusive education becomes a political agenda that advocates for empowerment of individuals, groups, cultures and society in general, as it reduces illegitimate differentials of power, and provides a sure pedagogy that breaks down the illegitimate and discriminatory practices in society. The World Summit for social development in Copenhagen, stressed that inclusion is the best option in combating the trends in social exclusion and isolation that is the day-to-day experiences of disabled persons. The argument being that, without breaking the social-economic and political barriers to full participation and equality, the society would be stuck in a vicious circle of poverty as disability increases poverty and

vice versa (Alina, Sandra, & Tom, 2017; Schuelka 2019).

Inclusion recognizes the worth of every student, thus the school is entrusted with a moral responsibility to help every one of these students to realize their potentials as members of an egalitarian society in which they are expected to serve (White, 1952). Education reformers see inclusion as a process of reconstruction and reform with the main agenda of increasing access and participation in mainstream settings and communities; a move to enhance respect, equality and collective belonging; and positive responses to diversity (Marimuthu & Cheong, 2014). Inclusion has mainly targeted children with severe disabilities who may need additional support beyond mainstream school; those who have never enrolled in school, or those who enrolled, dropped out, but would willingly participate in school if conditions were flexible and welcoming; and those who are enrolled in school but are excluded from learning; those from very poor households, those living nomadic life styles, children from some socio-ethnic/ethnic-linguistic groups, those in fragile living environments, and children who are over-age for their grades, Beyond this there is need to attend to all learners unique needs (Booth, & Ainscow, 1998).

Inclusion as Practiced

Responding to the EFA Targets and the Millennium Developmental goals (MDGs), many countries have recently leaped into progress in enrollments. However, inclusion has not been implemented as conceptualized. Many hard-to-reach children remain out of the schooling system. Every year, millions of children worldwide drop out of school before completing basic education (Hunt, 2010). Concerning this, Shaeffer (2009)

warns that ministries of education should be embarrassed by their systems net enrollment rate as they are proud of its net enrollment rate (NER). He creates a gloomy picture when he says that in some countries the disabled children are not even counted in the school age cohort; and that in many more, the last five percent of the non enrolled are not only considered difficult to identify, but expensive to educate. The hearing impaired fall in this category because their disability is not easily identifiable and they require expensive measures of accommodation in mainstream. If inclusion is to work successfully, equality and access for all students should be at the focus of the school's planning and approaches. Such planning may include help with communication, language, use of multi-sensory approaches, and ensuring safety and effectiveness in learning as students are prepared for participation in the world of work. When this happens education fulfils its major goal of qualifying all students for usefulness in life. The concept of "usefulness in this life" is synonymous with the sense of practicality that is discussed by Carson (2010) in his article "Practical Skills for 21st Century Students". He brands this practical sense "common sense", a practical wisdom which he says everyone should possess. This study monitors how the hearing-impaired students are helped to acquire this sense in their vocational studies.

At its best inclusion incorporates all learners' relevant levels of activity, opportunities for continuity and progression, achievement of the highest possible standards, recognition of achievement, and the provision of easily accessible advice and relevant guidance. This suggests that the learning environment is designed and adjusted in terms of participation and the learners needs. So far there are pockets of good practice of inclusive education as

witnessed in small scale initiatives by the non-governmental organizations (Hunt, 2010). The South African government has made radical shifts towards inclusive education at policy levels, though practice still lags behind policy intentions. Hunt stresses that the major concern now is how inclusive approaches to Education for All can be adopted and sustained with the support and enthusiasm of educational professionals. So far a right based approach to inclusion which focuses on rights to access, quality and respect frame policy, programming and school relations. Three case studies which were carried out to examine the functioning of such programs by Party and Sonia (2010) reveal that there is lack of conceptual preparedness towards inclusion, integration, knowledge; and false conceptualizations of special education needs and difficulties related to time differentiation. The researchers have pointed out that if inclusion is to succeed teachers must be exposed to a lifelong learning which empowers them conceptually and practically with social justice oriented pedagogy. In a more recent study, Schuelka (2018) asserts that effective implementation of inclusion is based on a clearer understanding of the concept and definition of inclusive education; its targets, indicators, measures, and outcomes; an understanding of existing structural, educational, and cultural challenges. In addition, there has to be a well-designed implementation strategy that includes a clear plan, evaluation, training, sustained support, and resources; as well as a national policy that coordinates inclusive education and inclusive employment.

Inclusion of the Deaf

As the issue of inclusion and equal opportunities takes root in the educational

curricular debate of most of the world's educational systems, schools are opening doors for individuals with various special learning needs, but with a lot of anxiety about how children with special needs are fitting in the mainstream. Among all cases, research reveals that the deaf and hard of hearing are having serious adjustment problems, and are already retreating back to special schools. Research indicates that the social-cultural challenges which seem to be the major hindrance in the inclusion of this category of learners are prevalent, especially in Africa South of the Sahara (Eskay , Onu Igbo ,Obiyo & Ugwuanyi, 2012). In most cases the main stream curriculum interactions is deficit of the communication and pedagogical needs as it applies to the deaf, neither does it prepare the hearing learners in ways that help them to learn along with their counter parts (Fullerton, 2013). The highly academic nature of the mainstream curriculum does not equip the deaf with appropriate socio-economic and generic skills that they immediately need, to lead a worthwhile life in the society; making inclusive education for this group more rhetoric than is conceived in the inclusion agenda. As Carson (2010) argues, in this era of academic inflation, an ideal curriculum should include technical and vocational skills which prepare all learners for a life beyond the school, especially the deaf whose employment and livelihood is already a serious concern (Shaeffer, 2010; Hunt, 2010).

An empirical research revealed that when properly trained in vocation the deaf can secure employment especially in trade and services categories such as automotive, building and construction, human resource and office administration as clerks as well as in engineering -building and transport (Clerk, 2007). However, Berker (2011) argues that even with such employable skills

the deaf are not absorbed in the job market due to employers' attitudes and ignorance about deaf identity -who they are and what they can actually do. The matter is further complicated by the fact that the deaf themselves have acquired a diminished and confused self concept as a consequence of their socialization in society. Clerk's study on career prospects and potentials revealed that the deaf youth not only have a deflated image about themselves, but an inflated image about the hearing- in a way that would threaten any move towards inclusion.

Other forces against inclusion include what Bucalos and Lingo (2008) in the article "Filling the potholes to inclusion" have termed as "philosophical reservations". This is a case in which teachers, because of attitude, lack of training in the deaf culture and linguistic skills, find it difficult to make accommodations in general classrooms to enhance learning of the deaf and (Burke & Sutherland, 2004). The extremist advocates of the deaf culture are also afraid that mainstream inclusion that is accelerated by hearing devices and cochlear implants is eroding the deaf identity, predisposing deaf children to identity crisis (Bollag, 2008). All factors constant, the current social - economic and political trends in society as reflected in media now portray and advocate for a sense of greater separation and difference within the larger society, making it difficult to have meaningful inclusion even at school level. Hyde (2010), associate professor and director of the center for deafness studies and research, observes that the amounting challenges and pressures of inclusion in mainstream are now generating varied interpretations and practices of inclusion; as a curriculum agenda. One of such practice, which has triggered interest in the present study, and could be a viable way of building resiliency among the deaf is "reverse inclusion".



Preliminary research treats reverse inclusion as a new venture which attempts to offer better opportunities for inclusion in the sense that there are better accommodations for both the special education students and the typically developing children in a special education setting (Schoger, 2006). It is claimed that in this setting the deaf are able to retain the deaf identity/culture as well as develop a sense of belonging in the hearing community; as they interact with their hearing peers, who in turn introduce them to the wider social circles- hence catalyzing their inclusion in society. The main concern of this study is how the reverse inclusion is working or not working, particularly, in the African setting where deeply rooted taboos are at logger heads with inclusion strategies. Amidst these challenges the reverse inclusion agenda, especially for the deaf, is picking up and is evident in advocacy for global bicultural and bilingual approaches that combines oral communication and sign language (Marlyn, 1997). There are emerging reverse inclusion programs for the deaf and the hearing as models to further inclusion in the community (Schoger, 2006; Border et al, 2010; Richardson et al, 2010; Party & Sonia, 2010; Hintermair, 2011). The argument is that when properly implemented reverse inclusion may be superior to mainstreaming because it offers a more secure environment where the deaf students are able to; make lasting friendships with typically developing students. It can also motivate them to improve their communication skills, due to both increased communication and strong modeling from their peers. Students who are part of a reverse inclusion setting often successfully meet social/emotional goals on their IEPs, and they also improve their chances of eventually joining an inclusion setting, with subsequent benefits. The students without disabilities benefit as well.

In addition to building lasting friendships beyond the classroom setting, they improve their own social skills, particularly in handling diversity. This helps to combat stereotypes about people with disabilities and encourages them to embrace diversity and respect those who have challenges outside of their experiences (Mag Sinfield, & Burns, 2017.)

Approaches and Experiences of Inclusion of the Deaf

A lot of research studies are now focusing on the experiences of the hearing impaired in the mainstream. One such study was carried out by Border et al (2010) who observed how five students with mild-to-moderate deafness participated in inclusive classroom settings. The researchers were interested in how the students with mild-to-moderate- deafness compared with the hearing on their responses to practice and prompt opportunities. Findings revealed that of the five students with mild-to-moderate deafness four had similar rates to their peers; however, they required high levels of prompting and were less accurate at following class wide verbal prompts. This study points to the need for more interaction in inclusion settings. In another research Hintermair (2011) investigated health related quality of life and classroom participation of the deaf and hard of hearing students at mainstream schools. The results showed that life quality for deaf and hard of hearing sample was comparable with that of the normative sample. However, item-total correlations indicated that the domains of school and social activities with peers were more important for the health related quality of life (HRQOL) of the DHH than for the hearing students. The DHH students had higher scores for school experiences, physical, mental health and overall HRQOL (Though the differences were small to

moderate). Do these findings suggest that the hearing students may not benefit much from social interactions with the deaf and hard of hearing? And why would this be so?

Richardson, et al (2010) also studied the experience of deaf and hard –of-hearing students in main stream and separate post secondary education and came up with the following findings. The DHH students in separate classes were more positive about work load expectations, instructor feedback and the choices they had in coursework. On the other hand, those in mainstream were positive about their acquisition of analytical skills (rather than rote memorization) and about their instructors' interest in them, including flexibility in assessment methods. In this case there seem to be substantial benefits for the deaf and hard –of –hearing students in mainstream. Eldredge, 2020)

The Attitudes and Management of Inclusive Classrooms for the Deaf

Since the 19th century there has been a marked cultural revolution in the management of people with disability and evolving attitudes towards inclusion. Jackson and Panyan (2002) observe that prior to the middle Ages and shortly thereafter, disability was associated with supernatural causes, many times with possession of evil spirits. Early attempts to understand and treat such behaviors included extraction of a pathogenic foreign body, soul restoration, exorcism, confession and counter magic. During 18th and 19th centuries institutions were started to care for those with mental and other disabilities, but sad to say, the care given was quite impersonal. This is very unfortunate and contrary to the Biblical warning that it is not right to curse or put a stumbling block to the deaf (Leviticus 19: 14). An example of an early humane treatment was by a French

physician, Pinel, who observed that kindness and respect transformed behaviors of individuals with various disabilities. Since this revelation, various strategies have been developed in management of different disabilities.

The experiences, knowledge and strategies of deaf individuals differ in some ways from those of hearing individuals, and are due to influence their learning and behavior (Machark et al 2002). O'Donnell et al (2009) strengthen this assertion by warning that teachers should expect that students with special needs will sometimes have a more difficult time displaying desirable behaviors than students without such needs. They urge teachers to give a lot of positive support to help such students to develop the skills, and carry out self regulated learning. In this light, research provides a pool of strategies for teaching students with hearing impairments in ways that promote appropriate responses. Priority strategies include promoting acceptance of these students, and providing an environment of acceptance, where modifications can be made without causing unnecessary attention on individual students. How can this be done? When such a student joins a class the teacher should be warm and welcoming. A friendly discussion is necessary to set pace for understanding the student's hearing loss, letting them that the teacher is willing to help. The student or another person (with the student's approval) can be requested to explain the hearing loss to the entire class, if appropriate. Any modifications in the class should be as natural as possible so that the student is not stigmatized. The student should be accepted as an individual and be made aware of their assets and limitations, and be encouraged in his special abilities or interests. Related studies (Robinson & Huene, 1982; Kauchak & Eggen, 2008), give the following factors

as contributing to effective placement in general education settings

- Classroom teachers need time to learn about their student and deafness. A student's team, usually including their general education teacher, consultant, interpreter, and speech language pathologist need time to share information and plan instruction.
- Professional staff and a student's parents must be committed to making placement successful and feel confident about a student's ability to be successful.
- School and district leadership must provide the kinds of support that promote positive outcomes, such as providing adequate professional staff, paraprofessional staff, computers, and an adequate budget for the purchasing of materials and equipment.
- Professional staff must provide information about the needs of students who are deaf/hard-of-hearing and must be engaged in activities that enable them to understand program design, clarify their roles and activities, and identify appropriate instructional strategies.
- Parents need to be involved on a daily basis in the learning of their children.
- Teachers of the deaf must have occasional opportunities to teach a whole class or to team teach with a general education teacher.
- A school must offer structured and supportive extracurricular activities.

Learning Environment and Accommodating Strategies for the Deaf

Kauchak and Eggen (2008) suggest a least restrictive environment as a rule for inclusion. The impaired students should be allowed to choose preferred seating positions in their classroom. The most preferred seats would be near the teacher. Heward and Orlansky (1988) advice importance of having such students directly face the teacher. Environmental distracters such as noise sources, including hallways, radiators, and pencil sharpeners should be at a distance. The position should be at a place where light is on the teacher's face and not on students' eyes. If the student has a better ear, that ear should be turned toward the teacher. The student should also be allowed to move whenever necessary for demonstrations or other classroom activities. Since the hearing impaired students use lip-reading and other visual information to supplement what they hear Marshall and Hunt (2006) advices teachers to increase use of visual information such as visual aids and demonstrations. Modifying teaching by using illustrations and demonstrations allow the students to benefit from instruction and decreases the need for repetition. Teachers can maximize these efforts by use of tangible objects which students can see and experience based on their active senses.

Studies show that cooperative learning is a valuable method in engaging all members of the learning community and promote meaningful social interaction as students work together to achieve a common goal (Kauchak & Eggen, 2008). For deaf students, the format of learning in the mainstream classroom appears to be conducive to mainly direct instruction alone

because other avenues of social interaction become too difficult. Group discussions can become difficult to understand because it is difficult for the interpreter to sign for all group members. It must also be hard to look at the group members contributing and at the same time follow the interpreter. The strong sense of the “deaf culture” –a concept that glues the deaf together as a community can also work against cooperative learning. Educators who have worked successfully with the deaf advice on the following (1) keep groups small to prompt conversation and interaction (2) seat students at round tables (in a circle) where all faces are visible (3) remind students to take turns in speaking (4) point to the student who will speak next (5) Wait for the deaf/hard of hearing student to locate the speaker (6) assign roles to group members so that each student will have the chance to participate- let them practice with the roles (7) reinforce positive interactions as they occur during group work time, and (8) encourage participation by giving manageable assignments (Hallahan & Kauffman, 1988; Heward & Orlansky, 1988). . On the overall, Eldredge (2020) asserts that in reverse integration the deaf are already in their environment and this is conducive for their learning.

The Benefits of Adapted Educational Methods for the Deaf

Contrary to earlier assumptions about the deaf being ‘stone deaf’ it is now known that hearing loss occurs in many patterns and degrees. In most cases of deafness there is some amount of residual hearing that can be used productively with amplified sound. In fact, Ross as reported by Heward and Orlansky (1988) considers residual hearing as a birth right” of every hearing impaired child, one that must be used and depended on to whatever extent or level. Unfortunately, people are ignorant of

this fact and do not give the affected children a chance to learn. For those who will read this article, let everyone know that there is promise of instructional intervention for students with hearing impairment. Several adapted methods of communication such as hearing aids, personal FM systems, favorable seating, medical management, auditory skill-building, help with self-esteem, sound-field FM systems in the classroom. Special educational support can offer help depending on the degree of hearing loss. The most commonly used adaptation is hearing aid. Hearing aid amplifies sounds, but does not necessarily make it clearer. There are different types of hearing aids; the in-the ear aids, behind the ear aids, body aids or bone conduction aids. They can be worn in one ear (monaural) or both (binaural). Today’s hearing aids are said to be more powerful and versatile; they pick up sound, magnify its energy and deliver this louder sound to the user’s ear and brain. It has a microphone, an amplifier and control for volume adjustment (Hallahan & Kauffman, 1988).

There are also classroom amplification systems that establish a radio link between the teacher and hearing impaired students. The teacher wears a small microphone-transmitter and each child wears a receiver that doubles a personal hearing aid. The FM radio frequency allows the students and teacher to move freely around the classroom area. Other devices that can be adapted to meet the needs of the hard-of-hearing students include wristwatches, door bells, flashing lights, pillow vibrators and specifically designed smoke detectors. In case of severe hearing impairment, a telecommunication device for the deaf (TDD) is available to help the deaf communicate by phone. Some television programs also come with caption – these are written explanations that can be read

(Heward & Orlansky, 1988). This information on educational adaptation implies that there should be some degree of technical training for teachers.

Improving Social Interactions of the Deaf in Inclusive Settings

Learning has strong social roots in interactions with adults and peers (Machark et al 2002). Unfortunately, as observed by O'Donnell et al (2009), the greatest challenge of students with physical and sensory disabilities is social exclusion. They have "to deal with these issues on a "24/7" basis. There is no time off from being hard of hearing... (p. 178)." In fact, research reveals that social life is the primary problem of such children. They have higher rates of arrests, more marital, social and vocational problems (Hallahan & Kaufman, 1988). In establishing a socially viable environment for the hearing impaired, the teacher needs to be familiar with the background of the child, including educational and medical history. Parents, school counselors, the student's former teachers, special educators, specialists, audiologists, and other professionals who have interacted with the child may serve as valuable resources of information (Robinson & Huene, 1982).

It is important to understand that classroom community has a vital effect on both learning and behavior; therefore, the teacher needs to intentionally foster a positive classroom environment. This begins with helping hearing students learn about hearing loss and deafness. The teacher can even invite a specialist in hearing impairment to educate the hearing about the disability. Students should be given the opportunity to ask questions and to be introduced to any adaptations the hard-of-hearing may use to aid communication, such as an FM system or an interpreter.

Such education is important because it gives room for tolerance and a fuller understanding of individual diversity. As a rule, the teacher should require students to respect one another's differences, a zero-tolerance teasing policy in the classroom can ensure that no student will be isolated or ostracized for his or her uniqueness (Robinson & Huene, 1982). In the 21st century, the prescribed curriculum should include use of technologies that facilitate deaf-hearing interactions such as e-mail and instant messaging, lessons on how to make informed decisions, self advocacy and empowerment, rights in the community, and in such places of public accommodation as stores and banks that provide services people require in order to create an independent life (Bowe, 2003).

Strategies for Effective Communication with the Deaf Students

For effective communication all students in the classroom should be taught various modifications to enable them communicate effectively and accommodate one another in classroom activities. The teacher can teach the following strategies to the hearing students to ease communication with the hearing impaired colleague Always face the student whom you are addressing, stand or sit not more than 4 feet away; make sure you have the student's attention before you start speaking; try to keep your whole face visible and illuminated; do not speak too loudly or exaggerate lip movements for the student who is lip-reading; when communication breaks down try repair strategies such as rephrasing the message, saying it at a slower pace, or writing the message when appropriate. Act out the message or use visual cues or symbols; do not become frustrated, aggravated, or say "never mind" when communication is difficult; look for activities where less talk is

required, such as sports, computers, puzzles, or board games. (Heward & Orlansky, 1988).

Even if every measure is taken to ensure effective communication the inherent differences in communication of the two groups will still lead to misinterpretations. The teacher should create a free environment in which the students are encouraged to seek the help they need, both from the teacher and other students. It is pointed out that a number of teachers prefer to set up a classroom "buddy" for a student with special learning needs, to help in taking notes and clarifying assignments (Marshal & Hunt, 2006). While this approach may work well in the classroom, it is important to remember that no one student should be made to take the sole responsibility of helping another. Every student should be coached to be resilient in handling their unique circumstances. Resilient theory acknowledges that every human being encounters difficulties in life, and has an inherent potential to overcome these challenges, though circumstantial events may jeopardize coping strategies. Researches who applied this theory to deaf students are of the opinion that fostering a helping and collaborative environment for all students ensures both academic and social growth (Young, Green, & Rogers, 2008).

Methodology

This case study utilized literature, narratives and documentary analysis to explore the implementation of reverse inclusive education for deaf and hearing students, with the objective of finding out attitudes towards the practice, extent of the success in its implementation, challenges and recommendations. The hearing were students who had dropped out of the mainstream schooling system. Focused

group discussions, Interviews, written excerpts, observations, and documentary reports such as staff meeting minutes, and document on memorandum of understanding were used to gather qualitative data. All the students and teachers participated in the first phase of the study which included focused group discussions. While all students were required to write excerpts on their experiences, only heads of departments did this on behalf of teachers in their departments. Students, particularly the deaf, were allowed to write their reflections in groups, so that they could assist each other. During the last phase of data collection, purposive sampling was done to select heads of departments and second year students for a group interview. One teacher helped to translate the sign language used by the deaf students and teacher during the interview. The information was written, at times verbatim, on a note book. Pictures were also taken to capture aspects of student's learning. The collected data was read at regular intervals before analysis to make sense of it because of incoherency of some of the writing particularly of deaf students. Data was analyzed using the Logico-Inductive-Process advocated by Mertler and Charles (2006), for qualitative data. Based on this; themes, subthemes and categories of patterns were identified; and explanations were made from the patterns to answer the research questions. Data from the focused group discussions, interviews, documents, and observation was triangulated with evidence from pictures to ensure validity and consistency of findings. For further internal reliability, direct quotations from interviews were used, and confirmation of the information on documents by the school principle. The developing themes were cited, interpreted and discussed.



The Results of the Study Establishment and the Implementation of the Reverse Inclusion Program

The first research question explored the process of the establishment and implementation of the reverse inclusion program, paying particular attention to factors that helped the program to pick up. The research question asked, (1) *What was the process of implementation of reverse inclusion like and what strategies were used?* To answer this question, information was derived from interviews, observations and documents. Such documents included a copy of memorandum of understanding between the three parties, and staff meeting minutes. The researcher established that the program was initiated through a co-operative venture involving the University of Eastern Africa, Baraton, Kapsabet School of the Deaf and Support Africa International (SAI). It was based on a memorandum of understanding, signed by the three parties on October 5, 2004. The roles of the three parties were as follows; Kapsabet School of the Deaf was to provide the structure and administration, the University of Eastern Africa, Baraton was to offer expertise and research advice, while Support Africa International was to provide some equipment and funding. The broader aim of the project was to achieve inclusivity of the deaf using the concept of reverse inclusion. The vision of the program was to produce vocationally oriented youth who will be able to contribute to the socio economic wellbeing of their families, communities, and the nation at large

Even though the memorandum was signed in 2004, the interviews revealed that the inception of the program was not until the year 2010. It stood out that the major barriers to the implementation of the program was the socio-cultural and the philosophical debates that were in the

background. One teacher remarked that saliently, there were questions on how reverse inclusion would work in a culture that marginalized the deaf. A resounding question at each meeting was “*who would allow their hearing child to come and learn in a deaf school?*” While pondering on this question at one of the meetings (in which the researcher was present as a participant observer), the principal asked to consult with the board of governors to receive further guidance. At the next meeting, where the community assistant chief was in attendance) the Principal seemed more comfortable in the presence of the Chair of the Board of Governors who seemed to endorse the idea of a trial on reverse inclusion, though he also felt that there was need for further approvals at community and government levels. Thus, there were also bureaucratic and structural challenges (as observed by the researcher).

The University of Eastern Africa, Baraton team visited the office of the District Education Officer (DEO) to facilitate the inspection and approval of the vocational school. The facility was inspected and approved for operation in August 2008. As mentioned in the interview, even with the approval of the facility, there were serious concerns on how the students would be recruited. It was felt that there would be inequality in curriculum uptake if grade levels varied greatly between the hearing and deaf. The bigger question was whether parents would send their hearing children to be trained at a school for the deaf. In spite of these challenges the community was sensitized about the project through radio, and churches; and the project started in January, 2010 with a total of 13 students. Among them only one (female) student was hearing- meaning that the community had not fully supported the idea of reverse inclusivity. Further sensitization was done

and the community seemed to be slowly accepting the idea that hearing and deaf students could learn together in a deaf school environment. This was demonstrated by the increase in enrolment of hearing students as follows; in 2012-2013 out of the 28 enrolled, 5 were hearing; in 2014/2015 out of the 32 students enrolled about twenty were hearing; and the year 2015/2016 out of the 60 students enrolled there were 38 hearing and 22 deaf and hard-of-hearing students (Principal's report during an interview). The main finding here is that the implementation of reverse inclusion was a slow process hampered with stigmatization and attitudinal barriers.

Attitudes towards Deafness and Reverse Inclusion

The second research question explored the attitudes of the community members, teachers and students on reverse inclusion. The research question read as follows- *What are the attitudes of community members, teachers and students towards deafness and reverse inclusion?* Information was gathered through focused group discussions, and interviews with the teachers and pupils. Documentary analysis was also used to gain further insight into the teachers' and students' responses. Both the focused group and interviews revealed that according to the African believes, in particular the Nandi community, deafness resulted from curses. The parents of the deaf are believed to have done something wrong. Teacher A said in the interview that;

"If somebody injured someone by injecting a sharp object in the ear... he is likely to get a deaf child... this is God's punishment..."

When asked how deaf children would be treated in the Nandi community, the teacher said that parents with deaf children hid them in the house, "to have a deaf child is curse

...so you hide the shame". The teacher narrated a story of a fourteen-year-old girl who had been hidden in the house until recently when some of the teachers from the deaf school intervened and enrolled her for school (standard two). The teacher further said that;

"The deaf were locked inside...kept in isolation. If you take a deaf person into the community it is believed, you are spreading the curse...no free mingling with them."

The Principal of the school gave an experience of one of the teachers who confessed that when he was younger, him and his friends feared passing around the gate of the deaf school. They would literally run. The only deaf teacher at the school observed that, during the first three weeks of enrollment at the vocational school, the hearing students fear the deaf students-they avoid working with them on projects. One of the hearing students confirmed this point-during focused group discussion with students; adding that when she first enrolled at the school, she was so afraid and some of her friends at home were apprehensive, and were wondering how she would cope with the deaf. Teacher B said;

Some people think deaf people are mad, wild, arrogant...can beat you...before I came here I feared the deaf. I thought they were hostile". I see the same thing when I take some of my deaf students to my village church. People stare at them as if they are strange. One of my neighbors asked my wife why I teach at the deaf school. She said my family will be affected...we will be tormented".

Teacher A said that community members were asking a lot of questions about reverse inclusion and at times watched from the school gate to observe the activities at the school from a distance. The document of the meeting held on 15th October, 2010 between

the partners (the school staff and university representative); indicated that the Principle was cautious not to make a “mistake” and as a result had facilitated two major campaigns to sensitize community members on the importance of reverse inclusion. There seemed to be lot of socio-cultural barriers and beliefs that were working against the inclusivity of the deaf in the society.

Views on the Effectiveness of the Reverse Inclusive Program

The third research question investigated the views of the teachers and students about the effectiveness of the reverse inclusive program. The research question read- What are the views of teachers and students about the effectiveness of the reverse inclusion program? Effectiveness was defined by the extent to which the program would succeed in creating a working and lasting relationship between the deaf and hearing students and teach both vocational skills that would enable them to start their own businesses upon graduation. Data was derived from interviews, students’ and teacher’s written excerpts; and minutes from staff meetings; and observation of student’s work (shown in pictures). In the group interview, the researcher asked the respondents to give their opinions on whether the concept of reverse inclusion was practically working at the vocational school. Here are some of the questions asked and the responses;

Interviewer: In a few words tell me how learning along with the hearing students is working for you

Deaf student A (using sign language): *We are working together well... communication is now okay... we work together. Sleep together...*

Interviewer: *Or would you prefer that the deaf students be trained alone in*

this vocational training school?

Deaf student B (using sign language): *“No together. It is good to be together with the*

hearing. Here I have many hearing friends. Not at home. At home the relationship is bad. The hearing relates with us bad...they group themselves”.

Interviewer: (to the hearing student) *how did you feel when you first came to learn at this school?*

Hearing student A: *I was at first afraid, but when I met one hearing student also learning here it was okay.*

Interviewer: *What does it feel like to learn in the school for the deaf?*

Hearing student B: *It is just okay. At our school it is working well so far. We work together and eat together. I have ten deaf friends. My best friend is a deaf girl... I have already learnt sign language. “sasa ninaweza kusaidia wenye hawasikii” (I can now help those who don’t hear). The deaf ‘wako sawa...ni watu wazuri’ (they are okay...are good people).*

Deaf Teacher: (using sign language) *the idea of having hearing students coming to train here is somehow working, though the hearing students initially fear the deaf. In the classes I teach, friendship is tight between the two groups... there is a good working relationship. The hearing students are a bit stronger in academics and assist the deaf... the hearing gets help from the deaf in learning sign language...”*

From these interview reports it seems like some hearing students were apprehensive, at first, to learn with the deaf - but with time warmed up to the environment. In one of the excerpts a hearing student noted that he is “very happy

in this school". The deaf also mentioned that they feel more accepted than when they are back home. The two groups work together and learn from each other. Another thing which came out clearly is that through the reverse inclusion, the hearing students and teachers helped in the integration of the deaf in to the community. The deaf and hearing students visit each other at home. One other teacher expressed that he invites the deaf students to his home church and helps with translation. The same teacher noted that previously the deaf students were not very confident when they were taken out for ball games. He said *"they watched from far and feared... it was as if the ball belonged to the other students, but yesterday when we took them out for ball games they were cheering... it looked as if the game belonged to them as well."*

The researcher also established, from the interviews, that four of the deaf students who graduated from the vocational training school have established their own workshops in the community- in the areas of carpentry, tailoring and hairdressings. They use mobile phones and simple sign language to communicate with their clients, who are mainly hearing. In one case the deaf carpenter has in co- operated a hearing partner in his carpentry shop. One most important observation is that most of the students' projects were done in groups which combined both hearing and non-hearing. In the focused group discussion, the teachers noted that there was a lot of cooperation between the two groups. Further, as noted by the arts teacher, in his excerpt several courses had picked up, and there was success in the integration of the hearing and deaf students, students made flower vases, table mats, necklaces, photo frames wood cuttings, paintings, drawing and wall hangings. Figure 2 shows some of these.



Figure 1: Researcher at the Fine Art Room with the Fine Arts' Teacher

Students also made successful gains in garment making. Some students, in their excerpts, remarked *"I have to make a shirt, and blouse and skirt"*, and *"we have learnt how to make clothes"*. This was confirmed during one of the visits when observations were made by the researcher on what students had made as shown in figure 3 below.



Figure2: Students making Garments.

The program sponsors had expressed interest in having the students to use advanced technology, including the computer. At the beginning of the program there were mixed feelings and it was doubted that the deaf could effectively use the machines and modern technology. It was even said, that it would be dangerous to have the deaf students to use the machines. However, the findings revealed that, with guidance, the deaf students used the machines successfully. One of the deaf students wrote that *“I have learnt many things especially through machineries’... they are sophisticated and modern that has enabled us to know the most efficient ways of working within the shortest time... we use machine to make chairs, desks and beds”*. Figures 3 shows male students in the wood and metal workshop using machinery.



Figure 3: Students in the Wood Work Shop using a Machine for shaping Wood

One of the measures of effectiveness of the program was that the students enrolled would be able to produce things like furniture which they could sell to sustain the program and also; use the skills

gained for future self employment. As shown in Figure 4, this was realized . The students made beds, chairs, stools, cabinates, roling pins and boards. In the vocational trainers meeting of July 23rd 2010 -held at the schol , the members noted that the program had potential for greater production and reccomended that the school investest in production rooms.



Figure 4 : Furniture Made by Students.

In addition the students also learnt agriculture, and mainly planted vegetables in the school farm. Five deaf students, in their excerpt, indicated that *“we have a farm in our school, we all dig and plant vegetables like tomatoes, onions, spinach and skumawiki”*- the later is the local term for kale. Another student indicated working at the school farm has helped him *“to plan crops at home”*. In the analysis of staff meeting minutes on the progress of the students, it was noted that all these achievements esteemed the students, particularly the deaf (recorded in minutes dated 23rdJuly, 2010; 19th, October 2010). Figure 5 shows the school farm.



Figure 5: The school farm where Students planted Vegetables

Further analysis of the teacher's and student's excerpts revealed that both the teachers and students were visionary and very optimistic about the program. Teachers expected- "coming up with production rooms for each program to display and sell their products". A group of three deaf students also expressed these visionary statements in their excerpt as follows; "to see our dream farm", "have future work and help home", and "get richer". Another group of five deaf students wrote "we have learnt a lot in school so that in future we shall succeed". During the interview the principal of the school expressed that there were grate prospects from their graduates. These same sentiments were repeated later during the 1st graduation ceremony that took place on 2nd April, 2015. The success of implementation of reverse inclusion was attributed to the collaboration and monitoring of the program by the University of Eastern Africa, Baraton and the Support Africa organization; moral and financial support from the school's board of governors and the ministry of education. Evidence of this was noted in some of the

students' excerpts on their experiences, one of them read as follows "The visitation done by sponsors who often visit is of great encouragement, that gives us motor to learn & have a great hope". Other factors which were pin pointed as contributing to successful implementation were the sensitization of community on deafness, motivation, training and commitment of teachers; and political good will, as the government finally took over the payment of teachers' salary. Community members also demonstrated some support of the program.

The Challenges of Implementing the Reverse Inclusion Program

The fourth research question explored the challenges of implementing the reverse inclusion program. The research question was; *What challenges were experienced in the implementation of the reverse inclusion program?*

From the documentary analysis, teachers were not clear about the objectives of the program. There were also questions on how the deaf and hearing would communicate (Minutes dated 8th November, 2007). Three years later communication was still an issue as evidenced in the minutes dated 14th February, 2009; and a report given on the progress of the program dated 19th October, 2010. Only one of the teachers had been trained in the use of the official sign language, the others used local sign which was inadequate for instruction. Besides, the local sign language did not in cooperate names of tools. Learners and teachers had to agree on the signs to use for specific tools and terms; and at times resorted to "languaging". The hearing students also lagged behind in sign language. The same meeting also noted that absorption of the deaf graduates into the labor market would be a challenge due to

communication. Analysis of the content of the joint meeting between the three partners that was held on 1st February, 2010 indicated additional challenges such as inadequate facilities and equipment; some of the equipment required were welding machine, and plumbing tools. In addition, the fine arts staff noted that while most of the students were already motivated a few were still picking up (Minutes dated 23rd July, 2010). Payment of tuition-particularly by deaf students was also a major concern as was repeatedly mentioned in the student's written excerpts.

Discussion

The study investigated the process of implementation of reverse inclusion, the attitudes towards reverse inclusion, the effectiveness of the reverse inclusion and challenges. The findings indicate that the implementation of reverse inclusion was a slow process that was done in piecemeal. The fact that different strategies had to be used to make a break through implies that the concept of reverse inclusion was still alien and in the absence of systemic policies it was difficult to come up with a structured model on how this would work. In the book, *Issues in Educating Children with disabilities*, Llyoid, Kameenui, and Chard (2009) analyze different scenarios of special education program in mainstream, concluding that none seemed to align with the philosophical depiction of inclusion. The finding that initially there were negative attitudes towards the project, though implicitly expressed, may not only apply to deafness. Eskay, Onu, Igbo, Obiyo, and Ugwuanyi (2012) observes that in the African context there are deep seated negative attitudes towards disability. The change in attitude, as the project picked up, could be explained by the familiarity that

developed among the two groups and the realization of their interdependence.

Interestingly, this study and previous studies (Baker, 2015) established that reverse inclusion is effective; and has the potential of reducing the stigma towards disability as it serves as a stepping stone to full inclusion. It creates a situation where there are gains for both parties. While the special needs students benefit from the modelling of the typically developing students, through cooperative learning; both gain support, interactions and acceptance. It is observed that such cooperation starts from the classrooms, extend to the playground and beyond. In this study the impact had spread into the community where the deaf graduates cooperated with the hearing to establish small businesses. Like hearing biculturalism, the deaf can easily adapt their attitudes, behaviors, and languages to both worlds, and fit to varying degrees; at times benefitting more because "reverse integration" puts them at the center of their learning (Eldredge, 2020). Intergroup contact and resilience theories provide further insight into understanding the reverse inclusion phenomenon. However, these findings contradict with the more recent findings by Elaidi, and et al (2021), that in reverse inclusion, typically developing students are not able to develop in line with their speed and copy negative behaviors of their friends with special needs. More investigation is needed in this area because some scholars suggest that at times non-normal environments is needed to produce normal behaviors (Llyoid, Kameenui, Card, 2009). According to the intergroup contact theory optimal intergroup contact: is enhanced when there is equal group status within the situation, common goals, intergroup cooperation and support from the authority and sub groups. On the same note, the challenges to inclusion which

were majorly attitudinal and communication can be addressed through systemic alignment and inter-sectoral collaboration within an integrated community framework (Barratt, 2016). Technology can be used to enhance the learning of the deaf and hard-of-hearing students, particularly in vocational programs. Though, attention has to be paid on factors such as gender and the nature of the programs. In the study of deaf students Kaba and Ellala (2020), noted significant differences among gender and academic major in use of technological tools such as computer as a thinking tool for problem-solving.

Conclusions and Recommendations

The study concludes that implementation of reverse inclusion is a daunting task, particularly in an educational environment where inclusion policies are not succinct. Secondly, there are still negative attitudes towards deafness in the African context; though a progressive change was realized in the study with regard to reverse inclusion. Third, reverse inclusion worked and was effective in helping the non-hearing and hearing students to acquire both social and vocational skills; as they also achieved some developmental milestones. Lastly, the main challenges of implementing reverse inclusion in a deaf school environment is communication, bureaucratic hurdles and funding. The researcher recommends that there should be a concerted effort by higher academic institutions, non-governmental organizations and the ministry of education to champion the concept of reverse inclusion. The community should be sensitized further on causes of deafness; and sign language should be offered in the Kenya curriculum- as any other languages, to make it easy for the hearing to communicate with the deaf.

Special education should be a component of teacher education curriculum. In addition, the reverse inclusion program should be replicated in other special education schools in Kenya, as a step forward to full inclusion of learners with special needs.

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