USAID Arithmetic and Inclusive Education Activity (AIE)

Guide to Minimum Required Characteristics of an Inclusive Learning Environment for Children with Disabilities Reached through AIE

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Acronyms

AIE	Arithmetic and Inclusive Education
IDP	Inclusive Development Partners
UDL	Universal Design for Learning
USAID	United States Agency for International Development

1. Introduction

The United States Agency for International Development (USAID) Arithmetic and Inclusive Education (AIE) activity, which is implemented by RTI International with technical support from its sub-partner Inclusive Development Partners (IDP), builds upon the USAID Tusome Pamoja project to support inclusive education in Tanzania. This approach of providing inclusive education is aligned with Article 24 of the United Nations Convention on the Rights of Persons with Disabilities, which was ratified by the Tanzanian government on November 10, 2009 (United Nations, 2019). The right to inclusive education is also enshrined in Tanzanian law, particularly the Persons with Disabilities Act of 2010, which states that "persons with disabilities of all ages and genders shall have the exact same rights to education in inclusive settings as other citizens" (United Republic of Tanzania, 2010).

Inclusive education can be defined as educating all students, including those with and without disabilities, in age-appropriate classrooms in their local schools with appropriate supports and services (i.e., inclusion). Prior to international and national legislation mandating the right to education for children with disabilities, it was common for children with disabilities to be excluded completely from all educational opportunities (i.e., exclusion). As educational opportunities expand, models of segregation, integration, and inclusion have developed. Segregation can be defined as separate special schools or educating students with disabilities in segregated resource rooms within mainstream general education schools. This latter practice is often referred to as integration but is in fact segregation in closer proximity. *Figure 1* demonstrates the difference between exclusion, segregation, integration, and inclusion.

Figure 1: Four Dimensions of Exclusion, Segregation, Integration, and Inclusion
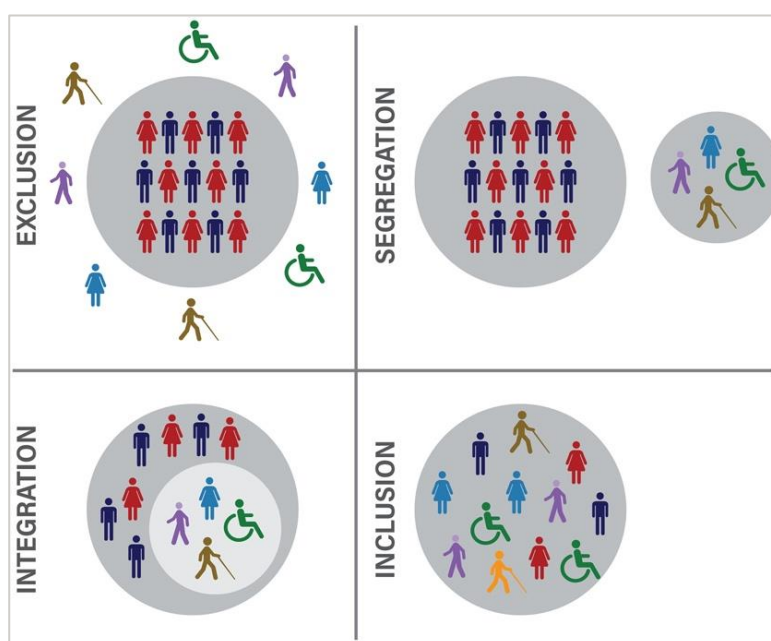
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Research shows that inclusive education benefits students both with and without disabilities. For example, when students with disabilities are educated in an inclusive

setting, research shows that they have more access to the general curriculum, achieve higher rates of academic performance, and achieve better social and behavioral outcomes (███ Although there is often concern that including students with disabilities will detract from and decrease the learning of students without disabilities, research shows that students without disabilities achieve higher learning outcomes when educated in classrooms that also include students with disabilities. The majority of studies conducted in high income countries on the impact of inclusive education on students without disabilities show either a positive or neutral effect (i.e., no negative effects were observed) (███████████████████████

However, it is important to recognize that inclusive education for students who are deaf is defined differently. To place a student who is deaf in a mainstream classroom, especially at the primary level where they are learning key language and literacy skills, where they cannot communicate with their peers or learn from a teacher who is fluent in local sign language, does not signify inclusion for these students but instead promotes isolation. Instead, inclusion for students who are deaf means being educated in a sign language rich environment while receiving the same access to the curriculum as students who are not deaf. IDP is in the process of developing additional guidance on characteristics of an inclusive learning environment for students who are deaf.

2. Children with Disabilities Addressed by AIE

All children can learn and benefit from an inclusive education. Best practice dictates a rights-based model of inclusive education, wherein all children with disabilities are included within inclusive classrooms. Due to Tanzania's lack of reliable practices for identifying children with disabilities, AIE will focus less on specific diagnostics at the individual level and more on inclusive classroom practices and supports that meet the needs of all children in the classroom. Thus, a range of different learning needs will be addressed, including those of children who are blind or have low vision, children who are deaf or hard of hearing, and children with learning difficulties, which can include students with learning disabilities, attentional and behavioral disabilities, as well as intellectual disability.

Adopting the social model of disability, AIE will focus on addressing existing school barriers that deny children access to education rather than on a child's disability. AIE's approach will convey the important message that not all disabilities can be visibly recognized. As a result, AIE training and programmatic support will emphasize the importance of inclusive teaching practice for all learners. AIE will follow a multi-pronged approach focusing on the categories shown in *Table 1* below. More information about the approach for inclusive environments and instructional strategies can be found in Sections 3.2 and 3.3.

Table 1. Characteristics for Children with Disabilities Reached Through AIE

Activity	Characteristics of Children Supported						
	Low Vision	**Blind**	**Hard of Hearing**	**Deaf**	**Learning Difficulties**	**Out of School Children**	**Specific Disability Categories**
Screening at school	X	X	X	X	-	-	-
Referrals support and testing	X	X	X	X	-	-	-
In-class support to teacher training	X	X	X	X	X	-	-
Universal Design for Learning principles embedded into all teaching and learning materials	X	X	X	X	X	-	-
Support package for classroom	X	-	X	-	X	-	-
Community awareness raising for access and support	X	X	X	X	X	X	X
Parent–teacher partnerships and support group actions via Community Education Mobilizer training	X	X	X	X	X	X	-

3.   Minimum Characteristics on Inclusive Learning Environments

While resources and curriculum may differ significantly by country, there are three main characteristics of an inclusive classroom that will remain the same in any country: inclusive attitudes, environment, and instruction. These three core characteristics are described more below, with an implementation example provided for each. Though there are several other interventions that could be accomplished within these three key areas, the AIE activity has prioritized the following

interventions to reflect the needs of Tanzania while recognizing the short timeline for project implementation.

3.1 Inclusive Attitudes

To support an inclusive learning environment, it is essential that teachers, administrators, and all relevant school staff have positive attitudes and perceptions regarding students with disabilities and their ability to learn and contribute to the classroom. This is especially relevant in Tanzania where disability is highly stigmatized and, in some cases, seen as a curse that must be hidden from the community (███████████████████████████████████). Research shows that biased teacher perception of students with disabilities can serve as a barrier to learning, as it affects how teachers interact with students with disabilities and influences the types of learning opportunities that those teachers provide (████████████████████).

It is also important to address possible stigmas and misperceptions of disability held by parents of children with and without disabilities, as well as by the community. Many parents of children with disabilities in low income settings may not see the value of educating their children or may have concerns about their children's safety, traveling both to and from school as well as within school grounds. This concern has been reiterated by several disabled persons' organizations in Tanzania. In addition, it is important to also educate parents of children without disabilities and the general community on the benefits of inclusive education, in order to ensure that they know inclusive efforts will only improve learning outcomes for all students.

To address the important issues of inclusive attitudes, AIE will conduct the following activities:

- Develop community mobilization messages around disability awareness and inclusive education through the radio show Soma Nami.

- Engage school committees and Community Education Mobilizers (CEMs) to educate parents on the benefits on inclusive education for all children.

Community awareness and education through the Soma Nami radio programs and CEMs will focus on inclusive concepts that promote the value of a diverse society, disability awareness and acceptance, and the benefits of inclusive education, as well as information on inclusion of specific disabilities. This will include information about albinism and children with developmental disabilities. As it will be targeted at the broader community, the information will also include welcoming informational messages for parents of children with disabilities who have not yet enrolled their children into school.

Implementation Example

AIE will develop self-guided learning materials on the importance of inclusive education for children with and without disabilities, which will then be disseminated to the CEMs. CEMs share this information with teachers and parents. This information could include vignettes that illustrate the benefits and positive impact inclusive education has had on a child with disabilities and a child without disabilities. It could also include reflections from a parent of a child with disability on the satisfaction experienced from their child's inclusion.

3.2 Inclusive Environment

Establishing an inclusive environment is a key element to providing inclusive education. In order to promote a more inclusive learning environment AIE will incorporate the following elements into its programming.

3.2.1 Screening for hearing and vision

AIE will be conducting vision and hearing screening for all students in the districts in which RTI works. Teachers will be trained to screen all students in their classrooms to identify any hearing and vision difficulties. AIE is in the process of developing a screening strategy that will include the methods teachers will use to screen children for hearing and vision disabilities.

AIE will work to identify universal classroom-based support and testing resources in the community. Ideally, students identified through screening to have a vision and/or hearing challenge would receive additional testing from a medical professional and be referred to services that might provide either medical treatment or assistive devices. Additionally, screening at schools can be expanded to include children in the broader community, including those not currently in school. If identified as having possible hearing and vision disabilities, these children will also be referred to community resources.

3.2.2 Classroom management

As access to referral services may not be universal for all schools, teachers can also modify the classroom environment to support students with vision or hearing needs. These modifications can include strategic seating assignments for students who are identified as having possible challenges with vision or hearing and using adaptive resources (██████████████). They can also include placing students who have low vision or low hearing in the front of the class and placing students with albinism away from bright windows to reduce glare. Additional classroom management strategies can include encouraging peer group instruction, use of visual schedules, and providing accommodations for tests (████████████).

3.2.3 Access to materials

Access to materials is critical for students with disabilities, as it allows them to access the curriculum on an equitable basis. For students who are blind, this means access to learning materials, such as Tusome Pamoja materials, in braille. Providing materials in soft copy can also be useful for students to view on computers when available. Audio books have been shown to support students with learning disabilities, vision-related disabilities, and intellectual disabilities ███████████ ███████████.

3.2.4 Access to assistive devices

Access to assistive devices—both high- and low-tech—can be valuable for many students with disabilities. This can include providing magnifying glasses and book stands for students who have low vision, in order to enhance the print of written materials and bring it closer to the eye. It can also include access to low-tech symbols for students with communication challenges and low-tech adaptive learning materials for students with physical disabilities or motor planning challenges (Bulat et al., 2017).

To address the important issues of inclusive environment, AIE will conduct the following activities:

- Conduct vision and hearing screening with referrals where available.

- Train teachers on appropriate techniques to modify classroom environments to support students with disabilities.

Implementation Example

AIE will distribute magnifying glasses to each classroom as a part of the minimum package distributed to all teachers. Instead of large print textbooks, which are expensive to produce and only guarantee access to one book for children with low vision, magnifying glasses allow children with low vision to access any book that is accessible to children without low vision.

- Include accessible materials and key assistive devices and teaching supports in the classroom packages.

- Provide guidance on additional low-tech materials that can serve as teaching supports.

Implementation Example

AIE will train teachers on some of the following instructional strategies for students who are blind or have low vision:

- Use the student's name frequently to ensure inclusion in conversations and to cue the student when she is expected to respond to questions.
- Ask other students to identify themselves when speaking or asking questions so students who are blind or have low vision can better follow the discussion.
- Only speak when facing the student.
- Give a clear verbal explanation before, during, and after a task.
- If a book includes pictures, describe the pictures to the class in as much detail as possible.
- Make learning as tactile as possible by using tactile objects that the student can feel and manipulate, including low or no-cost resources such as stones for counting. This strategy is effective when working with many types of special learning needs, but can benefit all students in a classroom.
- Write in large, clear print on the board. If color chalk is available, use only the brightest, boldest colors in the box. Allow the student to come to the board to read what is written when needed.
- Consider light reflection in the classroom. Eliminate light reflecting on the chalkboard, or place the student in an area where the least amount of light is reflected throughout the day.
- Read what is written on the board at a steady pace in a loud, clear voice.
- Visual efficiency, which refers to the group of visual skills important for success in school, sports, driving, and the modern workplace, is important to consider in students who are blind or have low vision. Visual efficiency skills include depth perception; color perception; and visual-motor skills, such as eye teaming, eye movement, and eye focusing speed and accuracy. Among students with the same level of vision loss, the effectiveness with which they use their remaining vision can vary greatly. An individual with 20/20 vision can still have problems with visual efficiency skills. It is critical for a teacher to be aware of the visual efficiency skills of students with low vision and to work with vision specialists to provide such students with exercises that can maximize visual efficiency.
- Vision may not be the preferred mode for all tasks. Although for some tasks vision may the primary mode of learning for a student with low vision, this is not necessarily the case for all tasks, especially those that are more functional in nature (e.g., counting the number of student textbooks in a stack). As a result, each task that a student who is blind is asked to learn should be evaluated with respect to the preferred and most effective mode of learning.

Source:▮▮▮▮▮▮▮▮

3.3 Inclusive Instructional Approaches

All students should have equitable access to the national curriculum and receive an education in a way that allows for different learning styles, learning preferences, areas of motivation, and learning strengths. Universal Design for Learning (UDL) is an effective approach that moves from focusing on dis-ability to focusing on vari-ability (Hayes, Turnbull, & Moran, 2018). USAID has supported the use of UDL in its programs, as it looks at improving instructional approaches and is proven to benefit students both with and without disabilities. Below is an overview of two key elements of inclusive instruction.

3.3.1 Universal Design for Learning

UDL is based on the premise that there is significant variance in how all children learn (▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮). The three principles of UDL are: 1) multiple means of engagement, or that all children are motivated to learn in different ways; 2) multiple means of representation, or that students benefit when instruction is presented in different ways; and 3) multiple means of action and expression, or that students benefit when they are allowed to express information in different ways. Although UDL was designed to promote inclusive education for children with disabilities, research shows that all students who received instruction using UDL principles made significant gains in reading, math and science (▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮▮▮▮)

3.3.2 Access to the curriculum

A common misperception is that students with disabilities should receive a curriculum that differs from that used for students without disabilities. For example, one misperception is that students who are deaf should take two years to access the same literacy materials that students who are hearing receive in one year. Better practice is providing all students access

to the national curriculum with appropriate supports, which leads to more consistent and higher learning outcomes.

To address the important issues of inclusive instructional approaches, AIE will conduct the following activities:

- Build upon teacher training already being supported by the Tanzanian government and provide teachers with strategies on how to use the UDL framework in their classroom.

- Support the intersection of UDL and arithmetic by using UDL principles in teacher training approaches to numeracy instruction.

- Through teacher training, encourage teachers (including resource teachers) to follow the general curriculum in mainstream classes.

4. Conclusions

Not only is inclusive education an international human right, it has proved to be beneficial to all. Inclusive education, where students with and without disabilities can be educated in a way that incorporates inclusive attitudes, inclusive environments, and inclusive instructional approaches, leads to stronger education services for all children. As result, learning outcomes for students with and without disabilities typically improve. AIE will work to promote a more inclusive learning environment that will support students with disabilities in their local schools, while also conducting research on why students with disabilities may be currently out of school. These interventions will create an improved learning environment and opportunities within Tanzania.

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