IMPROVING THE POTENTIALS AND PRODUCTION OF BRAILLE TO ENHANCE THE INCLUSION OF PERSONS WITH VISUAL IMPAIRMENTS IN NIGERIA

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Abstract
The paper examined the concepts Braille and inclusive education relate the extent to which these practices have gained ground in Nigeria. Proposal is made on the strategies for improving all the dimensions into Braille development and production in Nigerian and domicile the broad outlook Braille to the sectors of the academic, government and non-governmental organizations. The way forward is also proffered.

Despite the different perspectives through which the aspect of education tagged “Special Needs Education” has gone through (Obani, 2006) in the past fifty years, certain core values have remained indissoluble. Among the foundation ingredients which could not stand the test of time were:
1. Various derogatory names by which the learners are being called;
2. The classification to which needs were viewed from;
3. The setting with which served were being delivered;
4. Certain causative factors and preventive measures; (Shonibare, 2006)
5. Other pedagogic practices were hinged the more on perceived group behaviour as against individual abilities.

However, the historical perspective to the service delivery in virtually every aspect of learners with different abilities from inception had been how to use the prevailing ability(ies) of the learner to achieve optimal performance and to develop to the fullest the human potentials as much as possible. For example, the category of learners with autistic spectrum related tendencies reveals an utmost strength in extra perceptual indications which are sometimes found in limited forms among learners without such traits e.g. sorting and discriminatory abilities based on colours, routine and the ability to follow patterns. In the same vein, a learner with acute hearing loss uses the eyes more functionally, especially if pre-requisite training accompanies the early childhood development and capacity building. On the other hand, a learner with visual impairment rests mainly their strengths of learning modes the more on tactile and auditory modes. It is in this perspective that the place of Braille has become an indispensable companion of the blind over the years. The other issues in the personal development of the blind that could be of equal importance are the issues of mobility and independent daily living skills. In this paper, some efforts will be put in place to:

1. Examine the concept of Braille;
2. Explore the concept of inclusion;
3. Identify the evolution and application of Braille to solving major social needs of such learners in the society in general;
4. Relate the extent to which these practices have gained ground in Nigeria;
5. Identify the sustainability of these practices through institutionalization;
6. Propose strategies for improving all the dimensions into Braille development and production in Nigeria, and
7. Domicile the broad outlook of Braille to the sectors of the academia, Governmental and Non-Governmental Organizations, etc.

The Evolution of Braille in Perspective

The Braille in use in English speaking countries has its origin from the efforts of Louis Braille (1809-52), a French teacher of the blind who was himself blind. His product took its root from twelve points writing code for communication development for the use of the military in the dark. Earlier at the beginning of the 18th Century, humanitarian had come to terms that it was possible to educate the blind. With the efforts of Valentine Hauy, a French government employee academic institutions for the blind emerged in the French territory thereby stimulating urgent focus to a sustainable teaching method in teaching reading, music and the sciences at both expressive and receptive levels. The modification by Louis Braille in 1824 from the Charles Barbier’s
raised dots was very timely therefore. Braille made use of six raised dots was very timely. Therefore, Braille made use of six raised dots arranged in cells of three rows of two (Anumonye, 1998, Ayoku, 2006, and Encarta Kids, 2009). Dots are arranged in different combinations that blind people feel with their fingertips. The patterns formed a code that spelled out letters, words, numbers and symbolized concepts. In Ayoku, (2006), he asserts that Braille have contractions which make it more complex than the print code as they have multiple meanings and require more time to read especially for learners who became blind adventitiously or with sizeable remnant of sight.

Ordinarily, the popularization of Braille did not come into fore until the beginning of 20th century when the code was acceptable in the United States. The argument before the three different embossed-type systems emerged: the English Braille which was closer to the Original French Braille, American Braille, which assigned Braille signs to the letters of the alphabets on the basis of how often each letter was used in the language; and the New York point in which dots are arranged in cells two dots high and one to four dots long.


In Nigeria, the usual negative attitudes to the blind were prevalent until when institutions for the blind were established by missionaries in the late 1930s and the period of the 1940s (NERDC, 1989). In the North, the Sudan Interior Mission (SIM) established an eye hospital supported with a school in Kano, while the Sudan United Mission School for Blind children was opened in 1953. In the West, similar institution was established by the Baptist. The Royal Commonwealth Society for the Blind with headquarters in London initiated three other organs in Kaduna, Ikeja and a national advisory council organ. Eventually, the government through a legislative Act in 1948 produced grants to Local Authorities and agencies. In 1960, the Federal Government built Pacelli School for the Blind in Lagos and handed it over to the Catholic Mission. Even though the inception of Braille in Nigeria did not coincide with the world all over, the benefits and subsequent applications of the initiative are well felt in our education sector in Nigeria.

The impacts of the continued institutionalization led to sustenance and popularization of the use of Braille with the blind in Nigeria. This, no doubt should be expected knowing the strong socio-educational linkages existing between Nigeria and the United Kingdom. With the inception of the education of the blind in Nigeria, the school had been a catchment avenue for the blind. The same is also true for Braille reading and writing for those so privileged to go to school.
The Concept of Inclusive Education

As mentioned at the inception of this paper, one other factor that could not stand the test of time was the “setting” within which services were offered to learners. This same factor gave rise to what is today known as:

Inclusive Education: Also, the observable trends in outstanding global issues in education since the middle ‘70s has cumulatively pointed in the direction of what is today widely known as the policy of Inclusive Education. It focuses essentially around the milieu of human right to development vis-à-vis education; the need to focus on meeting individual needs as against a normative perception of needs which are mainly disability driven and the justification for every arm of the environment to be conducive in fashion to meet these wide varieties of needs. The historical entry point to this stage dated back the declaration of Universal Primary Education (UPE) in 1976; 1980 as The International Year for Disabled Persons (IYDP) and decade for persons with special needs ranging from 1981-1989. These declarations to a large extent contributed to the global awareness for what it takes to develop every segment of society. It is then logical that what followed in 1990 at the World Conference on Education For All, in Jomtien, Thailand as an evaluation framework overview for education had to come out with the ‘Jomtien Declaration’ for which aim was to:

Meeting the basic needs of all children, youths, and adults and to reverse the serious decline in basic services observed in many countries during the recent years. (Inter-Agency Commission, p.1).

In 1994, the principle of Inclusive Education was adopted at the World Conference on Special Needs Education: Access & Quality (UNESCO, Ministry of Education and Science, Spain 1994) and restated again at the World Education Forum (World Education Forum, Dakar, Senegal, 2000) and supported by the UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities. In recent times, the UN Convention on the Rights of Persons with Disabilities (2006) – Article 24 states that:

parties …shall ensure that…persons with disabilities can access an inclusive, quality and free primary education on an equal basis with others in the communities in which they live… receive the support required within the general education system to facilitate their effective education… are able to access tertiary education, vocational training, adult education and lifelong learning…

What then is Inclusive Education?

Defined from different perspectives, but aggregating into one focal point, inclusion can be viewed as:
The schooling of every child or learner in a neighbourhood regular school, without any distinction as to their physical, sensory or mental differences, but making adaptations in the school environment wherever possible. (Obani, 2006a, xv)

The UNESCO (2001) clarification on the subject on inclusion is that:

It is a process of addressing and responding to diversity of needs of all learners through increasing participation in learning, cultures, and communities, and reducing exclusion within and from education.

The Centre for Studies on Inclusive Education (2002:7) in their opinion asserted that:

The ultimate goal of inclusion is that no child should be denied inclusion in mainstream education provision; and that this provision should offer full range of support or specialist services necessary to give all children their full entitlement to a broad and balanced education.

Other impetus warranting the present shift in thinking emanated from the fact that the segregated individuals are definitely going to function in the same society from which they had been estranged during development. for all (children regardless of their physical, intellectual, social, emotional, linguistic or other conditions, including disabled and gifted children, street and hawking children, children from remote or nomadic populations, children from other disadvantaged or marginalized areas or groups) to be included as envisaged, an environment for participation must be conducive. Among the factors to be considered for a learner with blindness in contact with visual content with very limited whatsoever. This is the vital place Braille reading and writing in the education of the blind.

The Scope of Braille Utilization Coverage

Even though the education of the blind historical had some success story using such tactile devices such as embossed letters, wood carvings, string glued or otherwise fastened to paper, writing on waxed tablets, letters pinpricked into felt, and any other method that could permit the blind to “see” (Gearheart, 1980) through their hands, the Braille had far reaching sustainable benefitted their reading and writing abilities.

This latter exploration which commenced in the 19th Century with the codes of Barbier, modifications of Louis Braille and the bureaucratic support of Hauy, the French administrator or the education of the blind, a platform for a continuous development of Braille for socio-educational purposes had been laid. Originally, the focus was a way out for dictation, writing, and reading in English language, which is more developmental initiative in the languages. Further initiatives spread to include Mathematic, Computer, Music and the Science. At present, Braille adaptation is in
existence for most local dialects provided either by missionaries or their orthographies developed by linguists and professionals researching into the area of Braille.

To further create a more inclusive environment, other forms of social applications have been popularized in Braille production. These among others, include:

1. Wrist watches with Braille labeling.
2. Calculators with both Braille labeling and voice activation
3. Diagrams
4. Maps
5. Braille labeled keyboard
6. Elevator labeling
7. GSM (on which figure 5 is labeled for tactile recognition)
8. Aircraft, toilet doors, key holders, etc are labeled
9. Calendars
10. Newspapers production in Braille
11. Currency notes with Braille notations, etc.

In terms of production of Braille, there are personalized production in forms of slates and stylus which comes in different sizes. The use of Perkin’s Braille is common even though it is costly and bulky to convey around. A new innovation in terms of computerized Braille production with the use of an embosser has become available in the market. The advantage is that the processes of input device, conversion and production can be integrated in a one all production.

**Status of Braille Potentials and Production in Nigeria**

Since the essence of inclusion is to offer optimal opportunities to learners with visual impairment and others with tendencies to be marginalized, the status of Braille in the society should basically focus on how supportive it is in the society. The emphasis should include the school setting and beyond the school setting (Smith; 2000, and Jurmang; 2009). A critical assessment however shows that there are institutions which to some extent are fast tracking the dynamics of Braille potential and development while there exist gaps which are yet to be filled calling for urgent attention. A brief initiative will be undertaken to identify accordingly.

1. The content of Braille is recognized as a major component of the education of the blind in all the states of the federation and it is taught accordingly with varied level of expertise. Braille is no doubt a recognized component of the school curricula.

2. At the level of teacher preparation, intended practitioners are exposed to Braille before they go to the classroom to teach. Worthy of note at this level are:
   a. The Universities of Ibadan, Jos, Calabar, Uyo and Bayero University, Kano.
b. The only College of Education for training special education teacher in African is also a centre of excellence in the issues of Braille development in the country.

It is also important to highlight the place of such institutions operating as a non-governmental organization with a focus to develop the utilization of Braille in the country. These include:
1. National Braille Council of Nigeria (NABRACON)
2. Anglo-Nigerian Welfare Association for the Blind (ANWAB)
3. NIGERWIVES (An Association of Wives of Nigeria with Anglo affiliation).

These associations are committed to training of personnel and the production of Braille materials and related materials especially for the school system to back up the inclusion programme in the country.

Other institutions with government backings are with such mandates which include adequate support for the education of the blind and Braille development in turn. Mention will be made of three of such institutions.

**Nigerian Education Research and Development Council (NERDC)**

NERDC was established mainly as the Education Think Tank of the nation. The Council undertakes issues of curriculum and research on behalf of the sector. The contributions in the area of Braille production include:
1. The publication of Braille Orthographies in Yoruba, Hausa, Igbo, Efik and Fulfulde.
2. Adaptation of the New 9-year Basic Education Curriculum (BEC) for learners with visual impairment.
3. 9-year Basic Education Curriculum in 3 Resources-Room Based Subjects:
   a. Braille Reading and Writing
   b. Orientation and Mobility, and
   c. Independent Life Skills
4. Ongoing Longitudinal researches on
   a. Inclusive Education and
   b. Assessment of the adapted BEC

These are operational researches aimed at getting appropriate feedback from the adaptation of the mainstream curricula and the inclusive model as commenced in September, 2008.

5. Awareness workshop for teachers on the Adapted BEC.
6. Braille production of questions for Unity school mainstreaming students with blindness.
Braille production of novels distributed to children with blindness to mark Children’s Day in May, 2005.

The School for the Blind, Gindiri, Plateau State is no doubt one of the leading centres known for grassroots development in Braille teaching and manual production in Nigeria. The Centre was established in the ‘50s to cater for the blind students mostly from the Northern Nigeria. The Centre has exerted so much influence on the landmark achievement recorded at the University of Jos. Even though the place is known for ready hands in manual Braille production, there are moves to introduce the computerized Braille production.

The Braille production capacity of Kebbi State Ministry of Education assisting the needs of the North Western part of the nation is worthy of note especially bearing in mind their exploit in the computerized Braille production.

From the foregoing, you would agree that there are remarkable achievements and sustainable organizations with the interest of Braille as it affects the blind. Notwithstanding, there are exiting gaps which we shall examine and suggests the way forward for creating an inclusive society for the blind in our society.

Conclusion

This paper traced the origin of Braille as an enabling means of rading, writing, dictation and the sciences including Mathematics and Technology. Even though there are other means of supporting the blind in accessing content, in form of tape recording, handwriting and typewriting, the use of the Braille was found most useful. Certain structures are on ground to also enhance the learning process, there are however rooms for improvement both at the individual and institutional level.

The Way Forward

1. Policy Initiatives: It is desirable that policy backup be given for production of Braille copies of every printed material in the nation. A ratio of 70:30:10 is recommended for print, Braille and large print respectively.

2. Research: One known characteristic of Braille learning, reading and writing is the similar nature of the notations which can be discouraging to both the blind and the sighted. It is advisable for the teaching strategies to be well conscious of these contra indicators. Research teams can also be constituted across areas of discipline e.g. Linguistics, Communication and Language Arts Specialists working with specialists drawn from Special Needs Education.

3. Community base early childhood education for the blind: The aim is to develop the psychomotor skills required in the early childhood years to adequately learn Braille. This is a ripe age for the introduction of the core content highlighted in the 3 Resources-Based Room curricula.
4. Establishment of Braille Production Centre
5. Create an enhanced Information Communication Technology in support building the capacity of the visually impaired.
7. News casting should verbalize at least 95% of news content
8. Publication of Newspapers in Braille
9. Pre-service and in-service training for teachers
10. Strengthen of non-governmental organizations
11. Encourage the blind learners to participate in public activities with a view to showcase their hidden talents
12. Encourage the blind to show adequate interest Braille reading and writing with the aid of NERDC curriculum
13. Popularize Braille reading through competition among the blind and the sighted
14. Interdisciplinary studies into the studies of the orthographies of Nigeria languages. The notations are not popularized hence the usual avoidance of the languages by students.
15. Official approval should be given for additional time required by the blind to complete public examinations.
16. Initiatives in local production of relevant materials where possible and import wavers where importation will be required.

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