A COMPARATIVE STUDY ON THE SOCIO-EDUCATIONAL EXPERIENCES OF INDIVIDUALS LIVING WITH SEVERE DEAFNESS IN SOME MAINSTREAM AND SPECIAL INSTITUTIONS IN THE SOUTH WEST AND NORTH WEST REGIONS OF CAMEROON

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Abstract:

This paper reports a study that was carried out to investigate, in a comparative perspective, the Socio-educational experiences of individuals living with severe deafness in some mainstream and special schools in the South West and North West regions of Cameroon. In this study, data was collected using questionnaires distributed to a purposively sampled population of students with deafness (No=30), 15 from mainstream and 15 from special schools. The data was analyzed using descriptive and inferential statistics and the Pearson chi square to measure significant differences and similarities. Findings were highly diversified. Generally, the bulk of the students in both types of institutional placements were positive about their socio-educational experiences. Comparatively, findings in mainstream schools reveal that majority of the students do not benefit equal level of socio-educational experiential support like their non-disabled peers and peers with other categories of disabilities. Their socio educational experiences include limitation in: interaction with teachers; provision of visual resources; classroom communication strategies and peer acceptance. In contrast, their counterparts placed in special schools benefit from all such socio-educational experiential supports. On the other hand, learning and academic achievement of students with deafness were the same in both types of schools. In conclusion, the study suggests that school stakeholders should embark on the least restrictive environment placement that will promote the socio-educational experiences necessary for effective schooling and learning of all students living with severe deafness.

Keywords: socio-educational experiences, inclusive support, individual with deafness, mainstream school placement, special school placement

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1. Introduction

Hearing loss significantly influences the language and speech development of students living with deafness that negatively affects their academic achievement, social and emotional interaction, and cognitive milestones (Moores, 2001). In scientific and medical term, deafness generally refers to a physical characteristic in which a lack of sensitivity to sound is present (Innes, 1994; Jenkinson, 1997; Karchmer and Mitchell, 2003). Deafness usually ranges from profound deafness (90 dB - 120 dB) or severe hearing loss (60 dB - 90 dB). According to WHO (2012), hearing loss is the most common communication disorder affecting about 1-7/1000 births worldwide. The most affected areas are developing countries due to extensively poor health care systems. Environmental causes contribute to about 50-70% of cases, specifically meningitis in sub-Saharan Africa. The other 30-50% is attributed to genetic factors. Prevalence of hearing loss is highest in South Asia and sub-Saharan Africa, which are part of the low income regions or the developing world .This is attributed to poor health care systems where complications at birth as well as infections could result in loss of hearing in the new-born (WHO, 2012).

Deaf education is the education of students with a variety of hearing levels which addresses their differences and individual needs. This process involves individually-planned, systematically-monitored teaching methods, adaptive materials, accessible settings and other interventions, designed to help students achieve a higher level of success in the school and community (Lucker & Denzin, 1998; Knoors and Hermans, 2010). A number of countries have organizations to aid students living with deafness and focus on training teachers to teach these students, using a variety of approaches. Changes in recent years in the field of special education have significantly influenced the education of individuals living with deafness and those of hard of hearing.

The movements against segregation toward integration and, more recently, inclusion, have created the conditions for educational changes, not only in mainstreaming but in special education (Lambropoulou, Hadjikakou, & Vlachou, 2003).

In many countries, inclusion of children with disabilities, including those with hearing loss is a core element of educational policy. In the past, Schools for the Deaf and clubs served as the centre for Deaf culture. Traditions, stories, and values developed and were fostered in these settings. Initially, children with disabilities were often placed in heterogeneous "special education" classrooms, making it difficult for any of their difficulties to be addressed appropriately. In the 1970's and 1980s, the mainstreaming model began to be used more often as a result of the requirement to place children in the least restrictive environment (IDEA, 1975).

The drive to place children with disabilities including those with deafness in mainstream schools has been the educational initiative of some pioneer countries notably the US (IDEA, 1975) and the UK (The Warnock Report, 1978; DfES, 2001; 2004), thereafter via other countries across the globe under the auspices of UNESCO (UNESCO,1990; 1994) and other subsequent convention. The principles of Education for all (EFA) of UNESCO

(1990) is to enable all children to have access to education (whether in special and ordinary school) in order to acquire basic literacy and numeracy skills through compulsory primary education and secondary education across the globe. On the other hand, the UNESCO (1994) principle of Special Needs Education for inclusion is to enable all children in a given community to study in the same school setting within their neighbourhood.

As a signatory of these two international principles and other subsequent UNESCO conventions, the Cameroon government has been actively involved (with its partners of the private sector) in the schooling and learning of children with disabilities, including those living with deafness. Thus, Cameroon has put in place some policies, laws and support mechanisms in line with those conventions, although along sides some shortcomings, to promote the inclusion of these category of citizens in school and community settings.

This study, carried out in the South West and North West regions in Cameroon, investigates in a comparative perspective, the socio-educational experiences of students with deafness placed in some mainstream and special schools. In this regard, the study was aimed at identifying areas of strengths of the investigated institutions' socio-educational experiential support services to children with deafness in order to help improve on their wellness, learning progress and achievement in schools.

2. Society and background

2.1 Persons living with deafness in community and school settings in Cameroon
Cameroon is a multicultural society. Thus, Cameroonians have multiple traditional beliefs and practices that generally affect their perception of and interaction with persons with disabilities including those living with deafness. Some of these traditional practices embedded in superstitious beliefs underlie their negative attitudes towards these vulnerable persons and influence the way they are included in family, school and community life (CRI Project-Cameroon, 2010; Ndame, 2012; Yuh and Shey, 2008). Thus, in school settings, these community environmental factors of negative socio-cultural beliefs, practices and attitudes are exhibited by some teachers and non-disabled students towards the disabled. In addition, there are also personal factors like neuro-biological and sensory defects underlying deafness that impinge on the general performance of the deaf in day to day activities in school and community life (Ndame, 2015). Consequently, the disabled require socio-educational experiential supports in order to function like their non-disabled peers in schools.

In Cameroon, advocacy groups, training institutions, policy and legal frameworks set up by public and private stakeholders including lay bodies and religious foundations, all collaborate with some international development agencies (UNESCO, UNDP, UNICEF, international NGOs, among others) to help overcome the challenges of schooling and learning for learners in general and those living with disabilities in

particular in the national school system. However, despite some achievements of this supportive mechanism, it also has some setbacks and barriers which make effective inclusion difficult, if not practically impossible in some institutional and community settings (Ndame, 2012), especially for those living with deafness.

2.2 Special and inclusive education in Cameroon

The state of Cameroon, in collaboration with its national and international partners of the private sector (lay and religious bodies), run some special education institutions, teacher training education programs, university special education courses and Community vocational and rehabilitation programs to train teachers and inclusive support service providers who manage children with diverse categories of special needs including those with deafness in schools and communities. However, the shortcomings usually include limitation in human, material and financial resources (Ndame, 2015).

With the creation of the UNESCO Chair at the University of Buea that collaborates with the department of educational psychology and special education at the Faculty of Education, it has helped to enhance capacity building in special needs education, through long and short term courses, conduct action research, develop competence in the use of assistive technologies and implement inclusive education to assist all learners experiencing barriers to learning (Tchombe, 2015) in her UNESCO chair report of 2009-2015.

In another development, the Disability Act for children with disabilities was promulgated by the state of Cameroon in 1983 and revised in 2010. This law gives all children with disabilities, including the deaf, the right to be educated either in a special or mainstream school. It also makes provision for health, educational, social and psychological supports to persons with disabilities in schools and communities (MINAS, 1983; 2010). Despite these state dispositions, the choice of school placement for these categories of learners is usually determined by parents and the intensity of the child's disability. Generally, in the Cameroon education system, children with mild and moderate needs are placed in ordinary or mainstream schools while those with severe to complex needs in special schools. However, parents and their families are responsible for the choice of school placement for their children with disabilities including those living with deafness.

2.3 Circumstances of children with special needs and staff training in Cameroon

An overview of historical development of the education system in Cameroon over the past three decades reveals that much effort has been deployed by various stakeholders to promote the education of children with disabilities in special and mainstream schools. However, at the national and institutional levels, there have been many setbacks that include absence of basic statistics on children with special needs in schools, lack of common assessment frame to identify children with SEN and the intensity of their disabilities as well as expertise in school psychology and specialized health professional

services to assess and support children with different categories of disabilities (Ndame, 2012) including those living with deafness.

Similarly, in the area of staff training, the state of Cameron and its partners of the private sectors alongside some international development agencies like UNESCO, UNICEF, WHO, Save the child, Plan International, Sight savers among others, have been working collaboratively to enhance the training of teachers and social and educational support to children with special needs, sometimes alongside their schools and families. However, the staff training sector is still wanting because the focus, especially in schools, has been more on generic special education services with limited specialized services. In addition, since over the past three decades, there has been previously limited number of well-trained specialized professionals. Hence, the bulk of the pioneer cohorts of specialized teachers in the field of special education in Cameroon were just volunteer workers with some limited short term seminar, workshop and conference training knowledge and skills in their area of specialism (hearing, visual, behavioural and cognitive impairments). However, over the last decade, most of the training institutions have moved into staff specialized training orientation. With this new perspective as afore-mentioned about the UNESCO chair at the University of Buea alongside other national staff training institutions, there are now many emerging specialist areas (namely visual, hearing, learning disability, among many others). Thus, the contemporary outstanding problem in the field being lack of equipment and assistive technology devices. Consequently, professionalism and teacher identity development in most areas of the national education system is now evident in Cameroon (Ndame, 2019). However, in line with the UNESCO guidelines, much is still to be done as outlined by Titanji (2008) by school administrators to enhance education for all in Cameroon.

In terms of schooling for the deaf in Cameroon, while there are many ordinary and mainstream schools (with lack of or limited specialist human, material and financial resources) that accommodate children with deafness, there are very few specialized schools for the deaf, with average quantity of specialist human, material and financial resources mostly provided by the private sector. Thus, as highlighted by the Cameroon Post line Newspaper (2010), the state of Cameroon still has to address the issues of schooling and learning for the deaf.

This backdrop gives an overview of Cameroon's educational services for the disabled in general and those living with deafness in particular. In this regard, this research was carried out, in a comparative perspective, to examine strategies used in placing and managing such a category of learners in some mainstream and special schools, the strengths exhibited in providing the target socio-educational experiences and suggestions on how to help improve upon such experiential services.

2.4 Literature review on the Socio-educational experiences of the deaf
In this study, the literature review was done in line with the main objectives of the study namely: differential effect of mainstream and special school on peer acceptance and

friendship; placement and teacher/students interactive behaviours ; placement and the availability and use of visual materials in mainstream and special schools; differential effect of classroom communication strategies in mainstream and special schools on classroom participation; placement and academic performance of students living with deafness in mainstream and special schools. Due to its lengthy nature and lack of space, the literature review could not be provided here.

In conclusion of the literature review, it is evident that many previous empirical studies have been carried out on socio-educational experiences of learners with deafness placed in many mainstream and special school systems across the world. The studies have raised and attempted to resolve a series of issues on the social and educational experiences, as well as the advantages and disadvantages in placing children with severe to profound deafness in both types of school settings.

However, in terms of weaknesses, on the one hand, most of the studies have focused on only a single aspect, that is, either the social, educational or psychological experience of accommodating such category of learners in mainstream or special schools. On the other hand, others have examined only one of such aspects in a comparative perspective within both types of school settings in different school systems the world over. Consequently, there is still a gap in literature on the issues of combining social and educational experiences for such category of learners in both types of school settings, especially in the context of Cameroon. Hence, the present study was carried out to fill the gap in literature and contribute in knowledge in inclusive education on social and educational accommodation of learners with deafness in the context of some Cameroon's mainstream and special schools.

3. Research scope, aims and questions

3.1 Scope of the study

Geographically the study was carried out in some (public and private) mainstream and specialized schools accommodating learners with deafness in the South West and North West Regions of Cameroon. Content wise, the study was focused on examining, in a comparative perspective, social and educational accommodation of students with deafness in mainstream and special schools.

The aim of this study was to investigate issues of good practices emanating from the socio-educational experiences of such category of learners in order to help facilitate and improve upon their accommodation into the national school system.

Figure 1: Conceptual diagram of the study
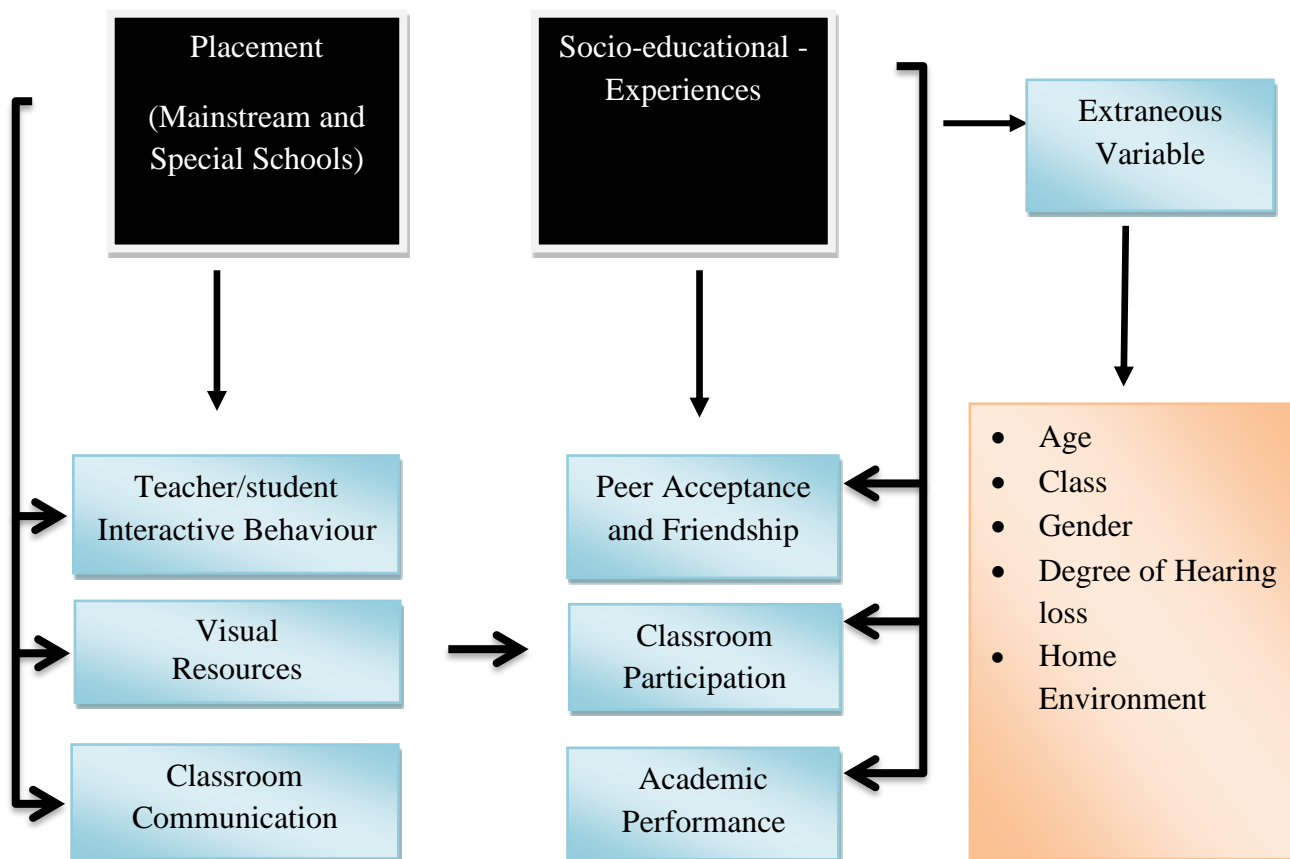
3.2 Research questions

1) To what extent do peer acceptance and friendship affect the placement of students living with deafness in mainstream or special schools?
2) To what extent does the placement of these students in mainstream or special schools affect their interactive behavior with teachers?
3) To what extent do mainstream and special schools provide visual materials to enhance the cognitive behavior of students living with deafness?
4) To what extent do classroom communication strategies in mainstream or special schools affect their classroom participation?
5) To what extent does mainstream or special school placement affects the academic performance of students living with deafness?

4. Research methodology

The quantitative descriptive survey design (Amin, 2005) was used in this study.

4.1 Sampling population and techniques
The target population of the study included all government or public, private and lay private mainstream and special schools accommodating students with severe deafness in

the South West and North West Regions of Cameroon. The accessible population included all students with severe deafness in the investigated institutions. Participants were 30 students living with deafness in six mainstream schools and two special schools for the deaf. These students were confirmed as being "deaf "through medical reports obtained from their parents and the schools for the Deaf.

Table 1: Distribution of the sample

S/N	Name of School and Location	Type of School	No. of Students with Deafness
1	Bilingual Grammar School Molyko, Buea	Mainstream school	2
2	Government Teacher Training College Buea	Mainstream school	2
3	Buea School for the Deaf	Special school	11
4	Ephphatha Institute for the Deaf Kumba	Special school	4
5	Baptist Comprehensive High School Njinikejem Belo, Bamenda	Mainstream school	5
6	Holy Rosary Integrated Comprehensive College Mendankwe, Bamenda	Mainstream school	4
7	Government Bilingual High School Limbe	Mainstream school	1
8	Government High School Ekona	Mainstream school	1
Total			**30**

4.2 Sampling techniques

This table consists of the socio-demographic details of the respondents. The respondents were selected from eight post primary institutions in some five different towns in Cameroon through purposive sampling techniques. Their choice was based on similar characteristics or traits of deafness, schooling in mainstream and special setting, class grades as well as having encountered similar experiences with teachers, peers and school environments among others as presented in the table above.

Table 2: Socio-demographic Characteristic of Respondents

Towns	Frequency	Percentage
Buea	14	46.7
Limbe	01	3.3
Muyuka	01	3.3
Kumba	05	16.7
Bamenda	09	30
Total	**30**	**100**
Placement options	**Frequency**	**Percentage**
Mainstream School	15	50
Special School	15	50

Total	**30**	**100**
Class Size	**Frequency**	**Percentage**
1-20	15	50
20-40	0	0
40 and above	15	50
Total	**30**	**100**
Class/level	**Frequency**	**Percentage**
Form Four	04	13.3
Form Five	20	66.7
Lower Sixth	04	13.3
Upper Sixth	02	6.7
Total	**30**	**100**
Gender	**Frequency**	**Percentage**
Female	15	50
Male	15	50
Total	**30**	**100**
Age	**Frequency**	**Percentage**
16-18	13	43.3
19-22	10	33.3
23 and above	7	23.4
Total	**30**	**100**
Hearing Ability	**Frequency**	**Percentage**
Severe Disabilities	30	100
Total	**30**	**100**
Preferred mode of communication	**Frequency**	**Percentage**
Sign language	26	86.7
Oral	1	3.3
Neutral	3	10
Total	**30**	**100**

4.3 Research instruments

Questionnaires were used for data collection to measure peer acceptance and friendship, teacher/student interactive behaviour, the use of visual materials/clues, communication strategies. Test scores of the students were collected on the questionnaires and used to measure academic achievements (mainly in English Language). In addition, the Questionnaire on Teacher Interaction (QTI) and The Classroom Participation Questionnaire (CPQ) ((Passini, Molinari & Speltini, 2015), validated in previous studies were modified prior to its adaptation to the context of this study. The survey instrument was designed using a Likert Categorical Scale to measure the above variables. The thirty (30) questionnaire items were distributed to students, while their academic performance was measured by comparing test scores and percentages of students in English language in the investigated institutions.

4.4 Validity and reliability of the instrument

To ensure validity of the instruments, the questionnaires were designed in line with the specific objectives of the study, reviewed by some peers and approved by the supervisor.

To ensure reliability, a pilot study was conducted on ten students in form two and three classes which were not part of the accessible population of the study in the Buea School for the Deaf, thereafter adjustments were made before use. The reliability was calculated between pre-testing and comparative testing of the final study of the conceptual components using the Cronbach's coefficient alpha. Although Alpha was 0.481 for the third component 'the availability of visual materials', this value became 0.5 when rounded up to a decimal place. Nana (2012) explained that reliability is satisfactory when Alpha is 0.5 or more.

4.5 Administration of the instrument

The questionnaires were personally administered by the researcher who equally interpreted and explained the questions to the respondents in sign language for better responses and to minimize possible infiltrations of findings.

4.6 Method of data analysis

Both descriptive and inferential statistics (SPSS) were used to analyse the data collected in this study in accordance with the pictorial representation of the relationship between two quantitative variables (Fraenkel and Norman, 2000). In addition, the Pearson chi square goodness of fit test was used to determine significant difference between two variables with table value ($P> =0.05$) for accepted null hypothesis and table value ($P<=0.05$) for rejected null hypothesis. The formula for calculating chi square is:

$$X^2 = \sum \left(\frac{Observed - expected}{expected} \right)^2$$

Bar charts and frequencies were used to provide detailed descriptive and quantitative analyses between the perceived difference in the social and educational experiences of students living with deafness in mainstream and special school placements. Percentages were equally used to give a comparative analysis of the academic performance of the students in both mainstream and special school placements. Percentages were calculated as follows:

$$Percentage = \frac{Number\ of\ Responses\ x\ 100}{Sample\ Size\ 1}$$

In addition, the mean average was calculated using the formula below:

$$\frac{\sum fx}{\sum f}$$

4.7 Presentation and interpretation of the analysed data

Research Question 1: To what Extent are Peer Acceptance and Friendship Affected by the Placement of students living with deafness in Mainstream and Special schools?
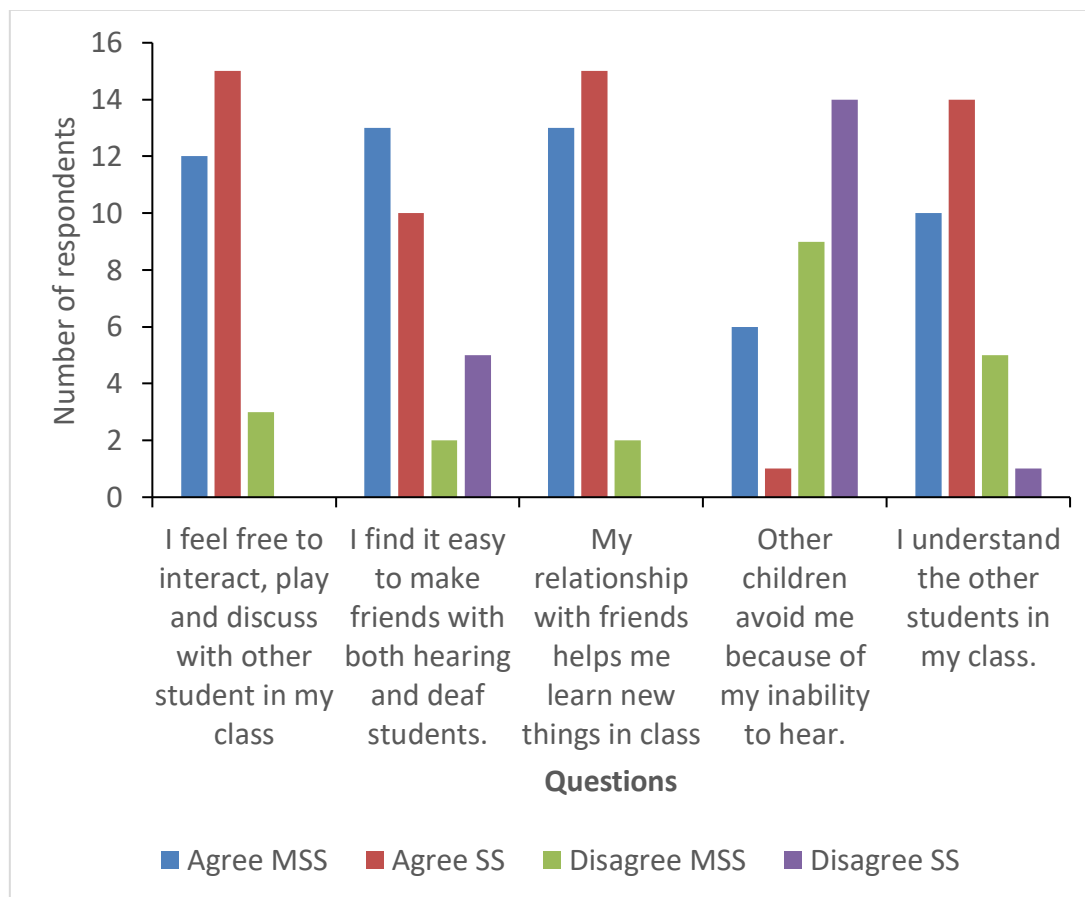

Figure 2: Descriptive Analyses of Peer Acceptance
and Friendship in Mainstream and Special Schools

Data analyzed and interpreted from figure 2 above reveal that majority of students from both mainstream (80%) and special (100%) schools find it easy to interact, play and discuss with friends although comparatively higher in special than mainstream schools. In contrast, the level of easiness to make friendship was found to be higher among students living with deafness in mainstream than in special schools. Furthermore, peer relationship is perceived as influencing learning less in most mainstream (86.6%) and more in special (100%) school respondents. A minimal level of peer avoidance or negative attitude towards the various categories of learners with deafness (severe, profound and complex needs) was registered in both school placements even though higher in mainstream than in special schools. In addition, the rate of mutual understanding was found to be higher in special schools (93.3%) than in mainstream schools (33.3%).

The analysis emerging from the above bar chart, suggest that, although the majority of students placed in both types of institutions indicate similar positive responses about peer acceptance and friendship, there are some differential opinions at

the level of accommodating them in various aspects of schooling, learning and achievement as evident in the subsequent sections of this study.

Research Question 2: Does the placement of students living with deafness in mainstream or special schools affect their interactive behavior with teachers?
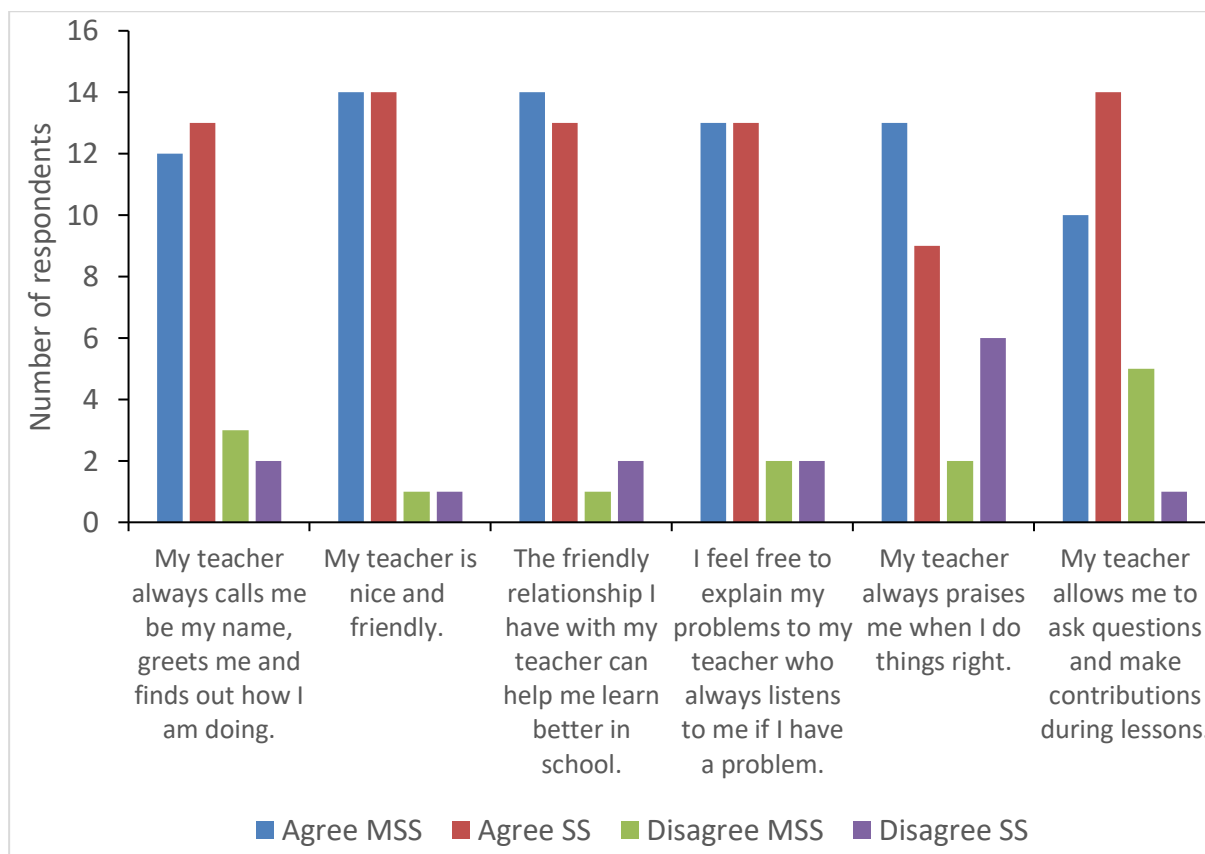

Figure 3: Descriptive Analyses of Teacher/Students
Interactive Behaviour in Mainstream and Special Schools

The analyzed data from figure 3 suggest that a greater proportion of students (80%) in mainstream and (86.6%) in special school placements agreed that their teacher showed concern, was nice and friendly and that the relationship they had with their teachers helped to enhance their learning. A bulk of the students from both school placements equally agreed that their teachers praised and motivated them and, they allowed them to ask and answer questions in class. Thus, the overall responses on positive teacher interactive behavior with students were slightly higher. A close look at the bar charts unveils that majority of the responses from both types of the investigated schools were positive about their interactive behaviours with their teachers. However, the bars show that only 2 out of 6 items were equally proportionate in both school placements (Teacher's friendliness/ receptiveness and student's ability to freely explain their problems to their teacher). The rest of the items were unequal across both types of school placements. Teachers in special schools were seen to show more concern (call

students by names, greeted them and found out about their well-being). Generally, mainstream teachers praised and motivated students distinctively at a higher rate than special schools. At the level of classroom interaction, teachers' decision to allow students with deafness to participate in lesson activities (asking and answering questions and making contributions) was far higher in special (93.3%) than in mainstream (66.6%) schools.

Thus, the analyzed data under this section indicate that there is a differential level of experience in student/teacher's interactive behaviours in both mainstream and special school placements.

Research Question 3: To what extent do mainstream and special schools provide visual materials to enhance the cognitive behavior of students living with profound deafness?
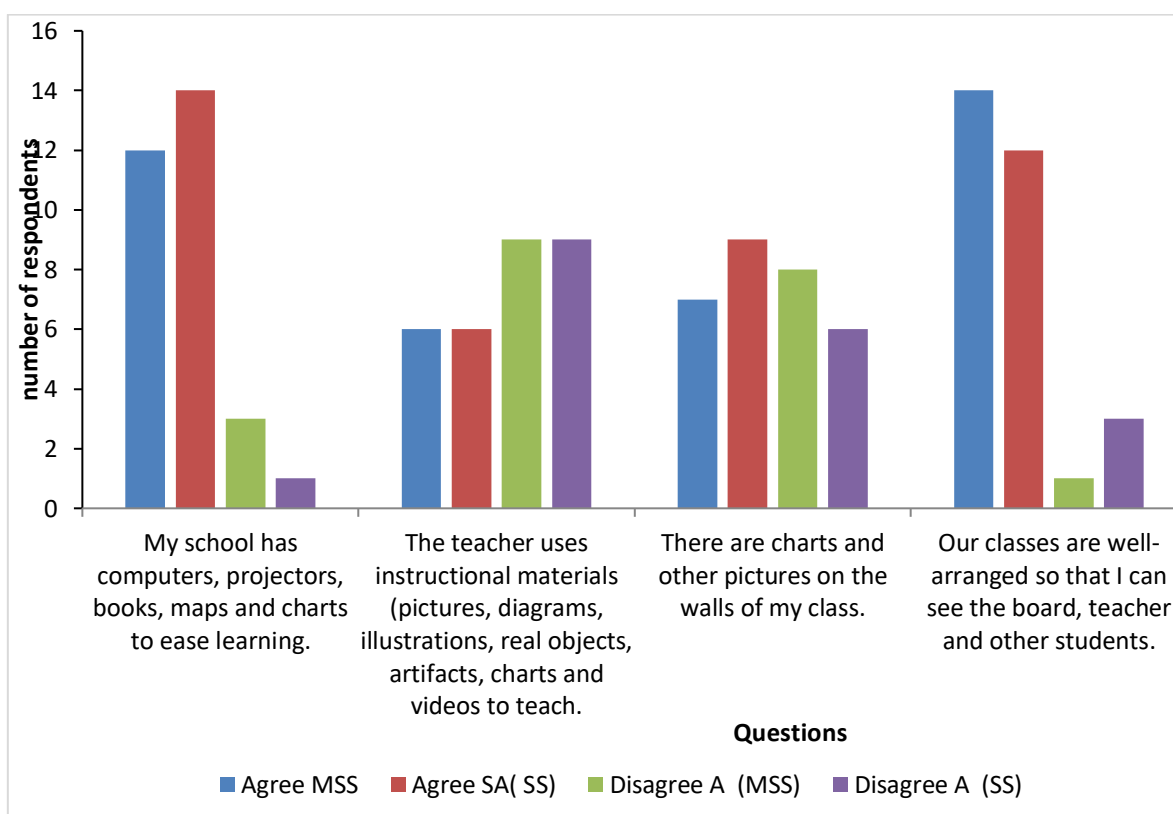

Figure 4: Descriptive Analysis Depicting the Perceived Difference in the Provision of Visual Materials and Clues in Mainstream and Special Schools
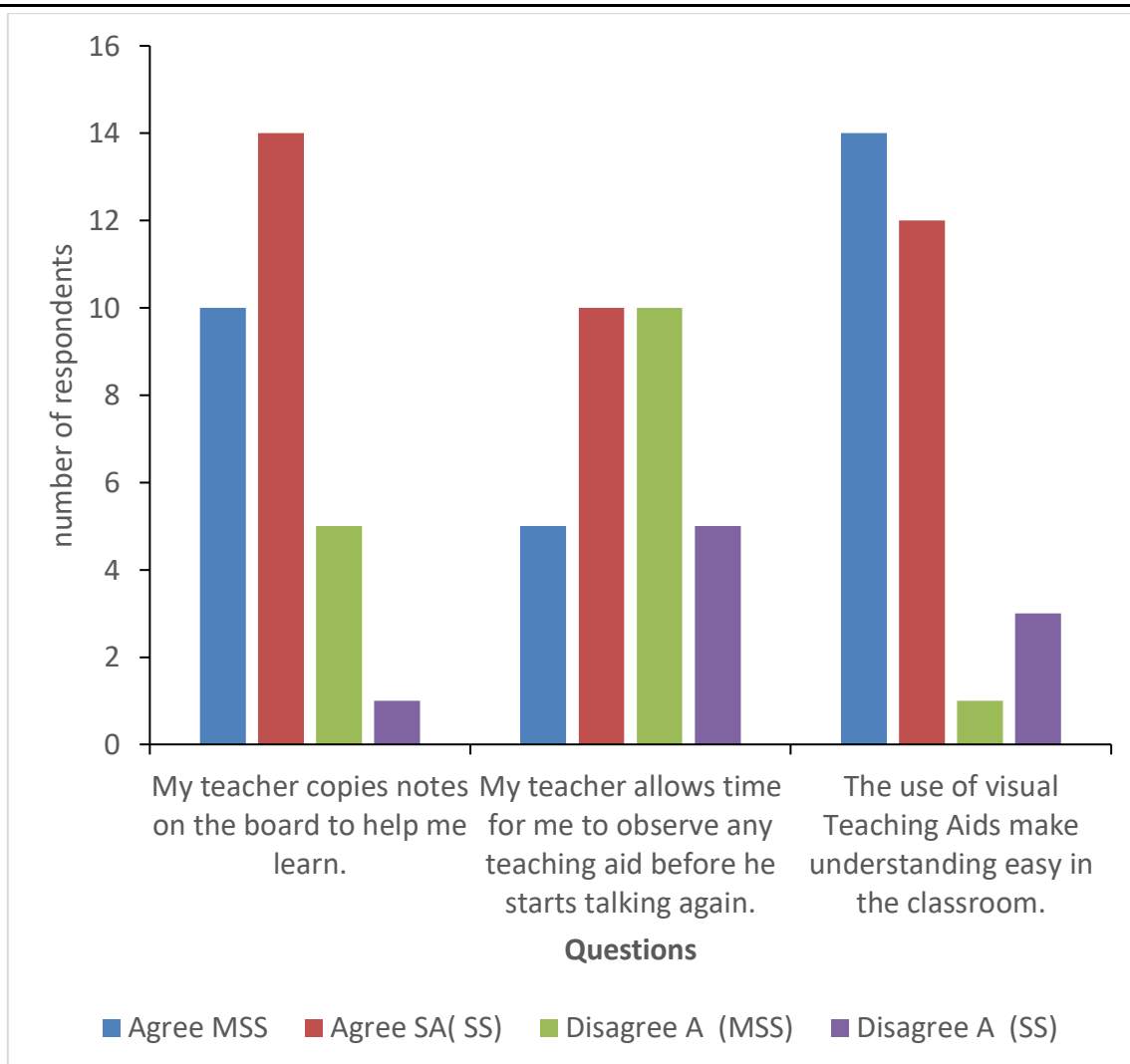
Figure 5: Descriptive Analysis Depicting the Perceived Difference in the Provision
and use of Visual Materials in Mainstream and Special School Classrooms

Summarily, the analyzed data in figures 4 and 5 above show that the rate of note copying by teachers on the board was far higher in special than in mainstream schools. More teachers in special schools allowed time for observation of teaching aids and a great proportion of students living with deafness in mainstream schools believed that the use of visual teaching aids facilitate learning. Special schools (93.3%) have a higher proportion than mainstream schools (80%), as far as the availability of visual instructional resources is concerned. The use of instructional visual materials in class is equally lower in mainstream (46.5%) than in special (53.3%) schools. In addition, it is discovered that there is a higher but unremarkable level of display of charts and pictures on walls in special than in mainstream schools. At the level of organizational arrangement of classrooms, mainstream schools (53.3%) were slightly better than special schools (40%). The two figures above clearly illustrate that most students in both types of institutions were averagely positive in their opinion on the availability and provision of visual

materials and clues in Mainstream (93.3%) and Special (86.6%) Schools. However, they indicated that their teachers seldom use those resources.

Following the above responses and analyses, data suggest that mainstream and special schools' respondents were, to a greater extent, averagely positive with respect to the provision and availability of visual materials and clues. However, the wide instability between the respondents' views in both types of school placements, clearly reveal the difference in available Mainstream and Special School visual resources and to the extent they make them accessible to students living with deafness during learning.

Research Question 4: To what extent do classroom communication strategies in mainstream or special schools affect classroom participation of students living with deafness?
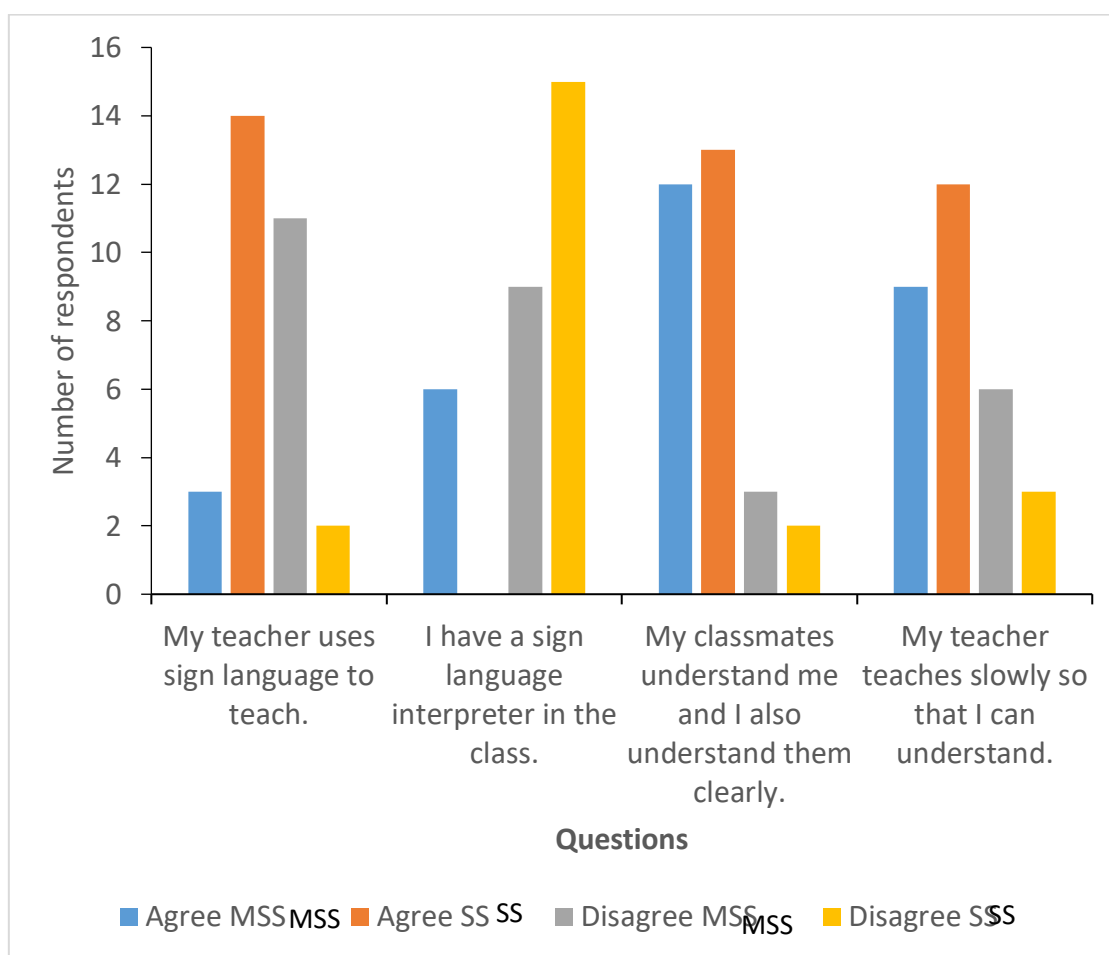

Figure 6: Analysis of perceived difference in Communication
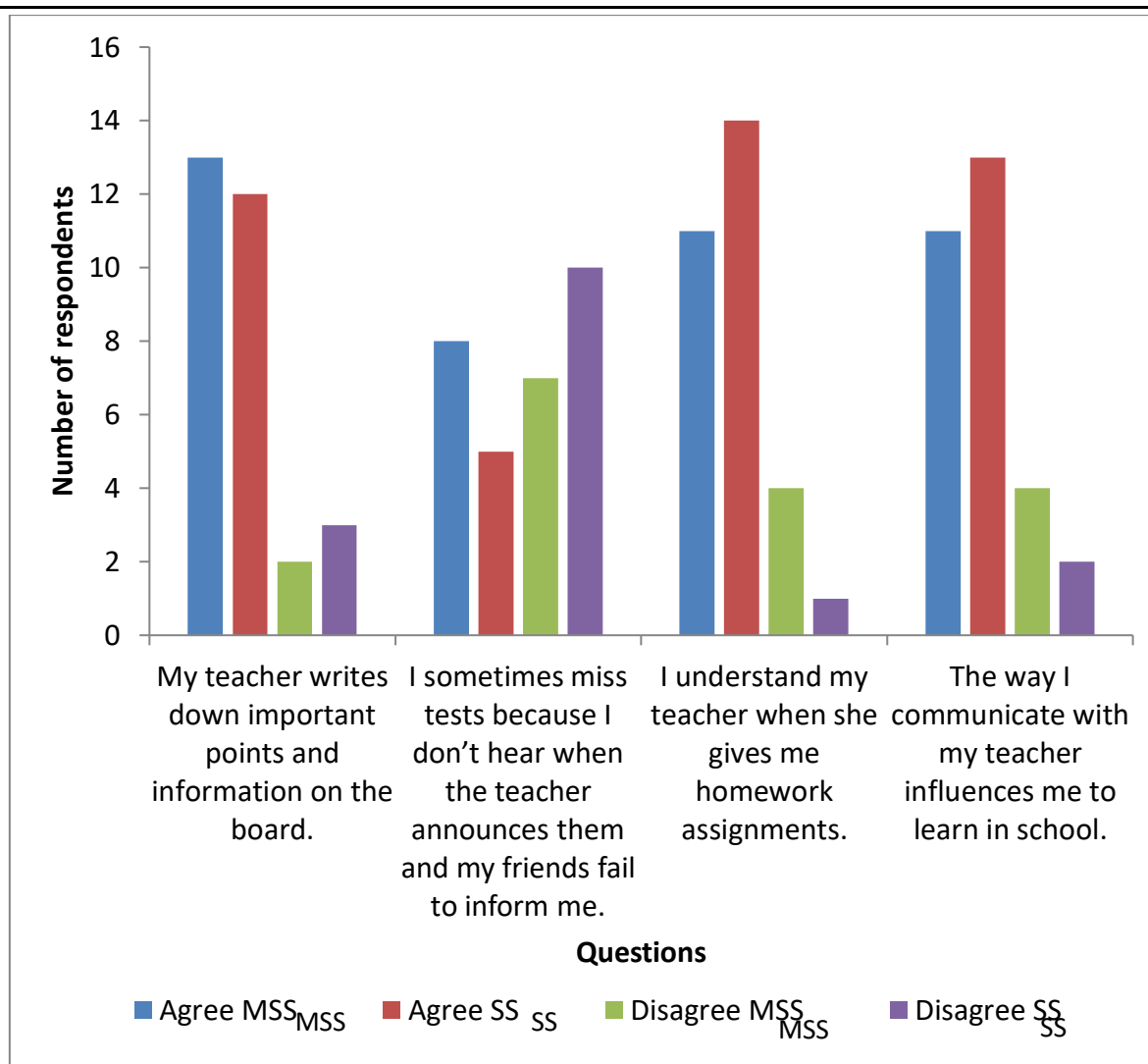Modes and Strategies in Mainstream and Special Schools

Figure 7: Analysis of Classroom Communication
Strategies Mainstream and Special Schools

The analyzed data of the above figures 6 and 7 unveil that the use of sign language by teachers was far higher in special (93,3%) than in mainstream (20%) schools. As such, there was less need for interpreters. It equally suggests that most mainstream schools use the oral mode of communication and equally lack sign language interpreters. Students living with deafness are shown to understand classmates better in special schools than in mainstream. This is probably because the level of understanding of classmates was found to be slightly higher in special (86.6%) than in mainstream (80%) schools as seen on the bar chart. Also, seen on the bar chart was the fact that mainstream school teachers teach at a faster pace than special school teachers where more visual resources are used. More students in mainstream schools sometimes missed tests probably because of communication difficulties. A higher proportion of students in special schools (80%) understood their teachers in homework or assignments than those of mainstream schools (60%), while an equally higher proportion of students in special schools were said to be influenced by the manner of communication with their teachers.

Research Question 5: To what extent is the academic performance of students living with deafness affected by their placement in mainstream or special schools?

Table 3: Comparative Analyses of Academic
Performance in Special and Mainstream Schools

Mainstream Schools Percentages (MSS)	Frequency of Respondents	Special School Percentages (SS)	Frequency of Respondents	Mark Range
47.1	8	52.9	9	10-13
54.5	6	45.5	5	14-17
55.6	10	44.4	8	10-13
36.4	4	63.6	7	14-17
43.8	7	56.3	9	10-13
62.5	5	37.5	3	14-17
25.0	1	62.0	3	18-20

From the data analysed in Table 3 above, the study reveals that in the first term marks ranging 10-13, special school students scored a higher percentage (52.9%) whereas mainstreamed students scored a higher percentage (54.5%) in marks ranging from 14-17. The second term marks indicate that mainstreamed students scored a higher percentage (55.5%) in marks ranging from 10-13 while special school students scored higher marks (63.6%) ranging 14-17. Third term results unveil that Special School students scored a higher percentage (56.3%) in marks ranging 10-13 while Mainstream schools scored a higher percentage (62.5%) in marks ranging from 14 -17. Besides these, attainment in both types of schools recorded marks ranging 18-20, although the percentage in special schools was comparatively higher. The overall trend of attainment suggests that if subsequent marks were to be collected, more mainstream students would probably achieve higher marks ranging 18-20 due to constant rotation and almost equal fluctuations in marks, frequencies and percentages across both types of school placements. It is noteworthy that higher and lower percentages and frequencies as well as mark ranges equally alternate between both types of school placements in all the three terms. None of the school placements had a complete dominance in higher scores than the other in English language. Thus, findings suggest that there was no remarkable difference between the academic achievements of students in both mainstream and special school placement.

5. Summary of findings

In summary, the findings of this comparative study on socio-educational experiences of students living with severe deafness in mainstream and special school placements within some institutions in Cameroon include:

- Learners in both mainstream and special schools express their satisfaction for being placed in their respective school settings;
- Learners in special school placement benefit from interaction with teachers and provision of visual resources more than those in mainstream schools,

- Classroom communication strategies and peer acceptance experiences in mainstream schools are limited as compared to those in special schools;
- Learners with deafness in special schools benefit from more socio-educational experiential supports than those in mainstream schools;
- learning and academic achievement of students with deafness in both types of school placements were the same.

6. Discussion and conclusion

Research Objective 1: To investigate the extent to which peer acceptance and friendship of students living with deafness are affected by their placement in mainstream or special schools.

Following the findings of this study, objective 1 has been attained. The freedom of interaction, play, discussion and understanding of other students was found to be higher in special than in mainstream schools. More students in special schools believed that friendly relationships facilitated learning than in mainstream schools. The level of peer avoidance was found to be higher in mainstream than in special schools, even though a fewer proportion (less than average) agreed on having this experience. In contrast to the above aspect of this finding, students living with deafness in mainstream placements were found to have a greater level of socialization skills and to easily make friends with both students living with deafness and those with normal hearing as opposed to those in special schools. This finding is in line with that of Wilson (1997) who found that students living with deafness preferred a mixed placement because it afforded them the opportunity to have a well-rounded educational and social experience that they perceived met their developmental needs.

Generally, the finding under this objective revealed that students with severe to profound hearing loss, as exposed to the indicators of peer acceptance and friendship were to a greater extent positive following their responses. However, the level of peer acceptance and friendship was significantly different across mainstream and special schools. Special school students were found to be more positive about their peer acceptance and friendship than mainstream students. This difference might have resulted from lack of awareness and sensitivity by their peers and due to language of communication barriers because most of the students preferred sign language as their main mode of communication .The finding is in line with that of Musselman, Mootilal, and MacKay (1996) who found that regardless of placement, students living with deafness reported better adjustment with students with hearing loss than to hearing students. Similarly, the findings of Padden & Humphries, (1988), Dika and Singh (2002) and Wentzel (2003) also found that social skills were not lacking but unequal in both mainstream and special school placements for students with hearing loss.

Research Objective 2: To find out if their interactive behaviour with teachers is affected by their placement in mainstream or special schools

Findings from this section indicate that teachers in mainstream and in special schools were equally friendly and gave equal chances and freedom to all students to explain their personal problems. However, teachers in special schools were found to show more concern and called students by their names, greeted and sought to find out about their well-being. Similarly, classroom interaction rate in terms of allowing questioning and contributions was found to be far higher in special than in mainstream schools. However, it was also realized that mainstream school teachers praised and motivated students distinctively at a higher rate than those of special schools. This finding is in contrast with the report of the National Association of the Deaf (Lane, Hoffmeister and Bahan, 1996) which stated that special schools have a higher rate of teacher motivation than mainstream schools.

Findings of this section also disclose that there was a significant difference between the level of teacher/student interactive behaviour in mainstream and special schools as seen from pupils' perception of background indicators related to this point of view. The teacher/student interactive behaviours were, to a greater extent, equally positive in both school placements but the extent to which students interacted and the areas of interactions with their teachers were significantly different across the investigated mainstream and special schools. In this regard, special school teachers demonstrated a higher level of interactive skills such as showing care and concern, allowing questioning and discussions with students than the mainstream teachers. This is probably due to the fact that special teachers are specifically trained to cater for students living with deafness. On the contrary, Mainstream teachers were only found to be more skilled in the areas of praise and motivation. This finding is in line with that of Mmbaga (2002) which highlights areas of teachers interactions with students and those of Dugdale (2002), Whitaker (2004) and Eschenmann (1991) which examined the role of teachers praises and motivations of learners in schools.

Research Objective 3: To determine the extent to which mainstream or special schools provide visual material and equally make them accessible to enhance the cognitive behaviour students living with deafness.

Findings under this objective revealed that visual materials and time of using teaching aids were found to be more available in quality and quantity in special than in mainstream schools. Moreover, resources like charts and pictures were found to be displayed in a relative higher proportion on walls of special classes than in mainstream ones. Equally, the practice of lesson note writing on the board by teachers to facilitate learning was dominant in special schools. On the contrary, mainstream classes were found to be slightly more arranged than those in special schools for easy vision of materials. In addition, the conception that the use of visual teaching aids facilitated

understanding was higher among students living with deafness in mainstream than in special schools.

Looking closely at the findings in this section, the level in which the mainstream and special schools provide visual materials and make them accessible to enhance the socio-educational experience and performance of students with deafness was significantly different in the investigated mainstream and special schools. Equally, the areas of provision were different across the placement institutions, although quasi-similar in some aspects. Findings under this section also indicate that the provision and availability of educational resources were somewhat averagely and fairly distributed in both types of placement institutions. However, from student responses, Special schools demonstrated a higher need of such resources to ensure that they enhance incidental learning and acquisition of the target socio-educational experiences of learners with deafness. As noted, special institutions equally provided more services including individual care, note taking support among others probably because their teachers are trained to be more supportive and sensitive to special needs of such category of learners. Previous research findings in line with this one include those of Myklebust (1964); Tharpe, Ashmead and Rothpletz (2002), Paivio (1971; 1986) and Mayer and Morena, (1998).

Research Objective 4: To evaluate the extent to which classroom communication strategies in either special or mainstream schools affect the classroom participation of students living with profound hearing loss.

The use of sign language by teachers was found to be far higher in special than in mainstream schools and there was probably less need for interpreters because none of these interpreters were found even in special schools. On the other hand, most mainstream schools used the oral mode of communication and equally lacked a considerable number of sign language interpreters which is quite essential for the placement of students with deafness in classrooms. Teachers in mainstream schools found it necessary to write down important points of each lesson on the black board than those in special schools. This was probably because they did not have sign language interpreters and thus, had to compensate their inability to communicate orally or manually with the students. Findings further suggest that students in special schools slightly understood their classmates better than those in mainstream schools. Equally, students living with deafness in mainstream institutions were seen to have a higher level of communication difficulties and as such, missed tests than their counterparts in special institutions. Another barrier that underlie communication and learning was that mainstream school teachers teach in a faster pace than their special school colleagues. Thus, learners understanding on how to go about school assignments was easier in special than in mainstream schools.

Generally, findings in this section suggest that the classroom communication strategies were, to a greater extent, equally positive in both school placements. However,

the areas of interactions and the extent to which students interacted and communicated with their teachers was significantly different across mainstream and special school placements. Special schools exhibited higher levels of communication strategies and demonstrated expertise in certain skills (interactive skills, communicative and sign language skills). This was probably related to the fact that most students living with deafness preferred sign language as their primary mode of communication and tend to understand each other better than in the mainstream schools where the use of sign language interpreters is absent. Nevertheless, mainstream teachers probably compensated their lack of specialized communication skills by frequently writing down key lesson points on the board more than their colleagues in special schools. Other previous findings on communication difficulties encountered by students living with deafness in school settings include the works of Kluwin & Stinson (1993), Foster and Elliot (1986), Musselman, Mootilal, and MacKay (1996).

Research Objective 5: To assess the extent to which the placement of students living with deafness in mainstream or special schools affects their academic performance.

Findings in this section disclose that students living with deafness, as exposed by the indicator (test marks) of academic performance, were averagely below 50% following the analyses of data from both types of investigated institutions. The level of academic performance was found to be relatively equal across mainstream and special schools. No outstanding difference was found between the academic achievement of these students in both types of institutions in all the three terms of the school year. Higher and lower percentages and frequencies and scored marks range alternated between both types of school placements in all the terms. Thus, none of the school placements dominated the other as far as higher and lower scores were concerned. The mean averages of percentages were not found to be different between mainstream and special schools. Other previous studies with similar findings include the works of Spencer and Marschark (2010), Powers,(2001) Stinson and Kluwin (2003) and Mootilal and MacKay (1996).

Generally, all the findings of this study as discussed above, are very significant to the target category of learners with deafness. They suggest that school placement in the least restrictive environment (appropriate mainstream or special school), provision of sufficient human, material/infrastructural and learning support resources are necessary in order to expose learners with severe deafness to the target socio-educational experiences. Such experiences are indispensable for their wellbeing, psychosocial development, learning and academic achievement in line with the school's educational goals and objectives. Findings also indicate that students living with severe deafness placed in special schools with adequate specialist human and material resources have advantage of progressing better academically than their counterparts in mainstream schools. On the other hand, those in mainstream schools, despite their limited exposure to specialist human and material resources, are already socializing with other disabled and non-disabled peers that represent community members. The latter placement

approach, despite its setbacks, is advantageous in facilitating the learners'' future integration into post-school community life.

Thus, the choice of institutional placement (mainstream or special school) for children with severe deafness is usually decided, after formal assessment, by themselves, in collaboration with parents, medical case assessor and school counsellor. In the investigated institutions of this study, the children with deafness are placed in the least restrictive environment (mainstream or special school) that is deemed appropriate to facilitate their acquisition of the target socio-educational experiences, that is, schooling opportunity and learning activities that enhance their effective learning progress, social development and academic achievement.

In most national education systems across the world, the accommodation of children with disabilities, including those with deafness, sometimes takes the form of exchange programs for staff and students between mainstream and special schools. It could also consists of building specialized support units in some mainstream schools, supported by a multi-agency taskforce, to enhance effective inclusion of learners with diverse categories and areas of severe to complex needs as evident in most developed countries of Europe and North America (Ndame, 2015). Most of these approaches which are usually culturally validated and contextually adopted in some developing countries in line with the UNESCO guidelines (UNESCO, 1990; 1994) are also gradually being introduced in Cameroon where this study was carried out.

6.1 Implication for practice

The study underlines the necessity of the investigated schools in particular and all schools in the national education system in general, to review their curricular and extra-curricular activities for students with deafness. The study also pinpoints the fact that such activities should incorporate issues of disability awareness sensitization, inclusive training and capacity building of school stakeholders like school leaders, teachers, parents, non-disabled learners, among others. The target goal will be to help enhance school socialization, classroom interaction and communication strategies including the use of sign language and diversified pedagogic support resources.

6.2 Conclusion

In conclusion, this study was focused on comparing the socio-educational experience of students with deafness placed in mainstream and special schools. The data collected, and analysed reveals that, students in both school placements had positive relations with their peers and teachers. They equally were averagely positive about the use of visual materials and to a greater extent positive about reliable communication strategies. Despite the high advantage on the overall attainment of the target socio-educational experiences by learners in special schools due to their specialized support resources, those of the mainstream schools are already exposed to non-disabled population of peers and teachers which is a prelude to their future inclusion (interaction with and insertion

into) the post-school community life. As examined by this study and suggested above, if the socio-educational experiences targeted in the investigated schools are appropriately managed, they will facilitate learning, progress and achievement of students with deafness in those school contexts as well as in others within the national school system.

About the Author

Lyonga Liengu Josephine is a professionally trained special and inclusive education lecturer, researcher and practitioner with Specialism in Hearing Impairment. She is holder of the following academic and professional qualifications: Teacher's Grade I Certificate (CAPIEMP) Cameroon; BEd Special Education, University of Buea, Cameroon and MEd Special Education (Hearing Impairment), University of Buea, Cameroon. Originally, she has some national and international working experiences through conference, workshop and seminar participation as well as teaching experience in some secondary schools including the Buea School for the Deaf where she taught literature in English and History in Sign Language for some years. Presently, she is lecturer, researcher and PhD candidate in the Department of Educational Psychology and Special Education at the Faculty of Education, University of Buea, Cameroon where she started working some years ago. She has research interests in Disability Studies, Special and Inclusive Education, Education for the Deaf and Teacher Education. She also has practical interests in Disability advocacy and prevention, Audiology, Multi-agency services through assessment and intervention for school and community inclusion of the disabled with emphasis on the hearing impaired. The above-mentioned academic background and professional experience have been very instrumental in enhancing her present research profile.

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