

The Study of Accessibility of the Physical Environment of Primary Schools to Implement Inclusive Education: The Case of Addis Ababa, Ethiopia

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Abstract

The purpose of this study was to describe the accessibility of physical environment of the primary schools to implement inclusive education including students with sensory and physical impairments: the case of Addis Ababa, Ethiopia. The present study is significant in contributing to the development of inclusive education in Ethiopia, as physical environment of schools is essential for student's learning and supports official policy. Seventy schools out of the total of 728 schools were randomly selected from ten sub cities to answer what is the status of accessibility of physical environment of primary schools to implement inclusive education? Multiple methods of data collection including observation, unstructured interviews, photographing, and questionnaires were used with the total of 1052 participants (592 teachers and 460 students) who were selected using simple random sampling methods. The research design used was mixed research design (both quantitative and qualitative research method). Pilot study was also carried out and validity and reliability of the instruments were determined. In this study, SPSS software was used to process data and for analysis. Hence, percentage, mean, standard deviation and T-test were used to analyze the collected data. Thus, current results show that schools' physical environment were not found accessible to implement inclusive education. Hence, accessibility issue should be given adequate attention.

Keywords: Physical environment; accessibility; inclusive education; primary school; implement; students

Introduction

Inclusive education emphasizes the importance of a school's physical environment. According to Martha, Lawrence, Ian and Claire (2014) the school's physical environment refers to the buildings, grounds and equipment in and surrounding the school such as: the building design and location; the provision of natural light and adequate shade; the creation of space for physical activity and facilities for learning and healthy eating. On the other hand, Martha et al. (2014) indicated that the social environment of the school is a combination of the quality of the relationships among and between staff and students. It is about building quality connections among and between all the key stakeholders in a school community (Martha et al., 2014). The school's environments can be seen from physical and social dimensions. The physical environment of schools, which is a focus of this study consists of objects and spaces in which the person interacts; whereas, the social environment consists of social groups (Kielhofner, 1995).

School Leadership Program Tool Kit (2010) stated that accessibility refers to how available something is to everyone. When something is accessible, everyone has the opportunity to use it or to participate in it. Accessibility happens when we discover and break down the barriers and create opportunities for everyone to participate fully in their school and community. For instance, something that can be used by everyone, such as an automatic door, a ramp or wide hallway, is considered accessible. However, if everyone cannot use something, such as a door, staircase or hallway, it is considered inaccessible.

National and Community Service (2004) stated that when most people hear the word “accessibility” they think only in terms of ramps, automatic doors, and elevators. However, while these provide some access, accessibility refers to all the features that make an environment accessible. Not only are accessibility standards designed to assist and benefit persons with a wide range of impairments, including hearing loss, cognition, and visual impairments, but accessible design benefits everyone. For example, wider doors and levered handles make it easier for everyone to negotiate doorways. Signage requirements make it easier for everyone to see and understand, signs and directory give everyone full information where to go (Enabling Education Network Asia Newsletter, Issue 4, 2007).

It is in an accessible and impartial physical environment of a school that learning takes place among all learners including those with any kind of impairment (Lyons, 2001; 2012). According to Hutchings, Arch and Olsen (2008; 2011), the physical environment of the school allows or blocks access depending on the person-environment fit. For instance, some school buildings allow all to enter through the front door, some welcome typical students at the front door and direct others to a back entrance and some turn away most students with impairments. Therefore, the physical environments of a school need to be architecturally accessible to all students including those with and without impairments). Dianne, Elizabeth and Anne (2001); Department for Education and Skills (2003a) stated that facilitating inclusive school physical environments requires ensuring physical access, opportunity for optimal learning and social experiences, and a nurturing climate. Without these elements in place, all students, particularly those students with impairments are denied full participation and an equitable educational experience. Deborah and Brazil (2001) noted that physical environment of school may have barriers that include structural barriers in the built environment, such as flights of stairs, inaccessible toilets, inaccessible library and laboratories, and inaccessible entrances.

The school’s physical environment is the base of a quality education. For example, according to Berner, (1993) a school searching for ways to address the educational needs of all students, especially those with impairments and special needs, the accessible or inclusively designed school’s building itself is a good start. Therefore, the school should provide an environment that is welcoming, safe and suitable for

the educational needs of all students, including those with special educational needs and impairments. For instance, the school buildings and grounds should be designed to enable all members of the school community to enter and move around the building. In other words, adapting school physical environments and infrastructures for accessibility to all learners is needed (Rose & Emmanuel, 2014). As a result, all students can enjoy and participate in all aspects of school life to the best of their abilities and interests.

However, National and Community Service (2004); and Janyne, Joan and Marc (2002) stated that, many schools are inaccessible to students, particularly those with physical impairments due to lack of barrier free environment. Similarly, Hannah et al. (2012) indicated that one of the barriers to education for children with impairments is inaccessible education environment, such as inaccessible school buildings and facilities due to lack of ramp, lack of accessible and suitable private sanitary facilities, which is a primary cause for high-dropout rates.

Regarding the supportive educational facilities, Boniface (2014) noted that, the physical facilities of school help to enhance the learning of the students. Hence, research shows that availability and accessibility of the supportive physical facilities including drinking water, electricity; toilets, furniture, playgrounds, libraries, laboratory, resource room all of which have a significant positive influence on the performance of the students and their achievement (Shami & Hussain, 2005). The student’s height and other dimensions must be taken into account when designing or purchasing drinking fountains, toilet stalls, lavatories, sinks, and fixed or built-seats and tables in the laboratory and library.

The availability and accessibility of the physical facilities of school assist in enhancing the learning or educational outcomes of all students including those with impairments and special needs. Hence, the quality and standard of education both curricula and co-curricular activities offered in a school should be mainly determined by provision, adequacy, utilization and management of educational physical facilities. However, schools that do not have good or adequate physical facilities do not produce good results, and/or produce students with low levels of learning. This is especially true in developing countries. In the following section, the issues of

learners with impairments and special needs are presented.

Educational importance of the study

The purpose of this study is meant to describe the accessibility status of primary schools' physical environment in implementing inclusive education in Addis Ababa. Hence, this research is significant in its contribution to the development of inclusive education in Ethiopia in general and Addis Ababa in particular. This is because, the output of this research is expected to help increase the number of school buildings that would enable all students to enter through the same door, attend the same classes, and navigate the same halls side by side. As a result, the number of students attending the school would increase due to an inclusive school design that creates accessibility for all students with or without impairments and those with special needs.

In line with the reviewed literature, the researcher answered the following research questions. To what extent is the physical environment of the primary schools accessible for all students including students with sensory and physical impairment? Is there a significant difference between physical environments of schools' defined as inclusive and non-inclusive in Addis Ababa? What is the significant difference between teachers' and students' perception on physical environments of the schools?

Methodology and Research Design

Mixed research design uses both the quantitative (more specifically descriptive survey method) and qualitative techniques within the same frame work (LeCompte, 1993). Hence, to achieve the purpose of this study that was to describe the current status of primary schools' physical environment to implement inclusive education in Addis Ababa Mixed Research was employed. In other words, the study adopted a concurrent mixed method approach where the researchers collected both quantitative and qualitative data at the same time and then integrated the information in the interpretation of the overall results.

Research Setting and Participants

The setting of this research study was in elementary schools of Addis Ababa city in 10 sub-cities. This study was carried out in selected primary schools, grades 1-8, located in 5 sub-cities out of the 10 sub-

cities. The target population for this study was comprised all primary (private, public, NGOs, government, missionary, church, mosque, and foreign community) schools in ten sub cities of the total of 728 primary schools in which 40 schools are defined that they are practicing inclusive education policy. All teachers, schools' principals and students with and without impairments in all regular primary schools where inclusive education has been practiced and not practiced too were included in the target population.

Concerning selection of participants, five sub-cities out of the ten total sub-cities in Addis Ababa were selected using simple random method. In this case, an up-dated list of all primary schools in five sub cities was obtained from the Addis Ababa City Administrative Education Bureau. In all five sub-cities, equal number of sample schools were given (i.e., 14 schools for each sub-city) and were drawn based on quota system, of 10% of the total population was taken. Hence, seventy schools (four from those defined as inclusive schools and sixty six from these defined as non-inclusive schools) were selected using simple random sampling method.

From the population of 728 primary schools, 592 teachers (300 males and 292 females) who are working in 70 schools were selected through simple random sampling techniques. Out of 592 teachers, 64 of them, two teachers from each grade level (from grade one to grade eight) were from schools where inclusive education is practiced. From the same population, 45,983 (98.95%) of students without impairments who are currently attending their classes and 484 (1.04%) of students with different impairments, 460 students (202 males and 258 females, in which 96 (20.9%) of them are with different impairments) were also selected based on simple random sampling, in which 64 students (i.e., 8 students from each school, from grade 5-8) were also drawn from schools where inclusive education is practiced. In addition, purposive sampling was used for the participants of the 70 schools' principals (59 males and 11 females). In general, 1122 participants, of whom 561 of them were females, were involved in the study.

Data Collection Instruments

In order to obtain pertinent information for the study, it was important to use various data gathering tools. Accordingly, four different instruments were used to gather relevant data for both quantitative and

qualitative research of this study. Namely: questionnaire, unstructured interview, photographing, and observation checklist were employed.

Pilot Study

It is absolutely crucial to pilot the instruments in order to test how long it takes to complete the questionnaire, to check whether all questions and instructions that were clear and to try to expose any items that would not generate usable data and to check the validity and reliability of an instrument (Thomas, 2001). Hence, the samples of the pilot study were randomly selected from the five other sub cities that were not included in the main study and consisted of 30 participants for each questionnaire. The questionnaires which were developed by researcher were administered to the school's directors, teachers and students.

Validity and Reliability

Validity is established using both a team of experts and a field test (Norland, 1990; Dillman, 2000 cited in The Pennsylvania State University, 2006). Colin and Julie (2006) stated that construct validity is used to ensure that the measure is actually measure what it is intended to measure (i.e. the construct), and not other variables. According to them, using a panel of experts familiar with the construct is a way in which this type of validity can be assessed. The experts can examine the items and decide what that specific item is intended to measure. Hence, to ensure the validity of the questionnaires, the questionnaires were presented to experts who were four PhD holders. One is from abroad (Finland), the other two professionals are from the Department of Special Needs Education of Addis Ababa University, and the other one is from the Department of Statistics at Haramaya University. In addition, one local staff with the rank of lecturer from the Language Department in Adama Science and Technology University was involved in commenting on language aspects of the questionnaires. In the light of their opinion, necessary amendments were made with regard to number of questions, content, language and format of the tool, prior to data collection

In addition, pilot test of the questionnaires was also carried out. Norland(1990) stated that reliability and validity of an instrument could be established by using a pilot test by collecting data from 20-30 subjects that will not be included in the main study.

Hence, the researcher collected data from total of 90 participants to test students', teachers' and principals' questionnaires by taking 30 participants for each questionnaire. The collected data for the pilot test was analyzed by using Statistical Package for Social Sciences, version 20.0 and Cronbach's alpha coefficient was calculated. The calculated Cronbach's alpha coefficient in pilot test was 0.75, 0.80, and 0.82 of students', teachers' and schools' principals' questionnaires respectively. So, internal consistency among the items was found moderate, within normal range. This is in line with what, Sushil and Verma (2010) stated, that if a test has a strong internal consistency, most measurement experts agree that it should show only moderate correlation among items (i.e., 0.70 to 0.90).

Procedures

Before developing the instruments, related literature was thoroughly examined. Then, based on literature and the researcher's experience, structured closed ended questionnaires were developed by the researchers in English. The researcher developed the instrument because no standardized questionnaires that met the specific objectives of this study could be found. Then, the questionnaire was given for comment to professionals and modified based on their comments by adding new items and removing of some items. Next considering the difficulty of the English language for the respondents or for clarity, the questionnaire was translated into local languages (i.e., Amharic,) by the language experts before pilot testing. Then, the translation of the Amharic versions back to English was done by independent experts. The difference that was appeared in the forward and backward translations was corrected by the translators jointly and rewritten accordingly.

Before pilot test was administered, the researcher obtained a list of all sub- cities and all school in Addis Ababa. Next, the questionnaires that were developed by the researcher were tested in a pilot study that was carried out by taking 30 participants for each questionnaire). The feedback obtained from the pilot test was only used to refine the questionnaires to incorporate the new ones and to delete items that had deficiencies. In this case, before administering the questionnaires for the main study, the validity and reliability of the questionnaires was calculated and Cronbach's alpha was 0.75, 0.80 and 0.82 for students, principals and teachers respectively. Similarly, the Cronbach's alpha for the main study was calculated and found 0.82, 0.90 and

Table 1: *Descriptive statistics of accessibility scores of teacher participants' perceptions on current physical environment of schools*

Dependent variable	N	Mean	SD	minimum	maximum
Accessibility	592	28.94	6.18	14	44

The results of the data analysis are presented in line with the research questions as to what extent the physical environment of the primary schools is accessible for all students including students with sensory and physical impairment? Hence, to examine the perceptions of teachers about accessibility issue of the schools' physical environment for all students including students with different impairment, an accessibility scale containing 9 items with five – point responses was administered to selected sample participants of 592 teachers. Based on the responses given for accessibility items of the scale, the individuals' mean scores were computed. Hence, as shown in

the above Table 1, participants score ranged from 14 to 44. The mean score for the teachers on accessibility issue scale was equal to 28.94. This is high mean score compared to cut off mean score considering 3 as midpoint on five point Likert scale (i.e., 3 x 9 items = 27 as average). This was taken as a reference and it indicated that most teachers who participated in this study seem to have an idea of schools that are inaccessible for all students including those with some kinds of impairments like sensory and physical impairments as the mean score (28.94) is relatively higher than the cut off mean score which is 27.

Table 2: *Descriptive statistics of accessibility scores of student participants perception on current physical environment*

Dependent variable	N	Mean	SD	minimum	maximum
Accessibility	460	59.90	6.03	34	85

The results of the data mentioned in table 2 are presented in line with the research questions as to what extent the physical environment of the primary schools accessible for all students including students with sensory and physical impairment? Hence, to examine the perception of students about accessibility issue of the schools for all students including students with different impairments, an accessibility scale containing 28 items with three – point responses was administered to total sample participants of 460 students. Based on the responses given for accessibility items of the scale, the individuals' mean scores were computed. As shown in the above table 2, participants score ranged from 34 to 85. The mean score for the students on accessibility issue scale was equal to 59.90, SD= 6.03. This is high mean score compared to cutoff mean score considering 2 as midpoint on three point Likert scale (i.e., 2 x 28 items = 56 as average. This indicates that in general, students who participated in

this study seem to have an idea of schools that are inaccessible for all students including those with some kinds of impairments like sensory and physical impairments since the mean score (59.90) is higher than the cutoff mean score (56).

Data analysis of comparison of accessibility scores of teacher participants are presented in line with the research question, is there a significant difference between physical environments of schools' defined as inclusive and non-inclusive in Addis Ababa? The comparison results are presented below:

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The comparison results are presented below

Table 3: *Comparison of accessibility scores of teacher participants*

Variable	N	Mean	SD	t	df	Sig. (2-tailed)
Inclusive school	64	25.187	3.741	-.882	589	.381
Non inclusive school	528	25.611	2.526			

Note: not significant ($P>0.05$)

An independent sample t-test (see Table 3) was used to compare perceptions between inclusive and non-inclusive school teacher respondents on accessibility issues for all students including those with some kinds of impairments. The finding indicated that

there was no statistically significant difference between inclusive schools' (M= 25.187, SD= 3.741) and non-inclusive schools' (M=25.611, SD= 2.526) respondents on perceptions of schools are inaccessible, $t = -.882$, $df= 589$, $p > .05(.381)$.

Table 4: *Comparison of accessibility of school scores of student participants*

Variable	N	Mean	SD	t	df	Sig. (2-tailed)
Inclusive school	64	53.203	7.200	1.597	458	.063
Non inclusive school	396	51.691	5.802			

Note: not significant ($P>0.05$)

An independent sample t-test was used to assess the mean difference between groups on the accessibility of physical environment of schools defined as inclusive and non inclusive schools students' perceptions. Accordingly, there is no a meaningful difference between inclusive schools (M=53.203, SD= 7.200) and non inclusive schools (M=51.691,

SD=5.802) ($t=1.597$, $df=458$, $p>.05(.063)$ of students' perceptions on accessibility of schools' physical environment.

In line with research question-Is there a significant difference between teachers' and students' perception on physical environments of the schools?

Table 5: *Comparisons of accessibility scores of teacher and student participants*

Variable	N	Mean	SD	t	df	Sig. (2-tailed)
Students	460	9.710	1.863	-.902	1050	.317
Teachers	592	9.792	.586			

Note: not significant ($P>0.05$)

An independent sample t-test was used to assess the mean difference between groups on the accessibility issue of schools' physical environment between students' and teachers' perceptions. Accordingly, students' perceptions (M=9.710, SD= 1.863) and teachers' perceptions (M=9.792, SD=.586), ($t= -.902$, $df=1050$, $p>.05(.317)$ of accessibility did not significantly differ.

inclusive and non-inclusive schools in terms of both accessibility issues in terms of concrete physical environment related to gateway, which allows all students, including those with impairments, particularly students with physical impairments to enter easily through the main gate of the school, building, entrances of the classrooms, supportive educational physical environment, offices, and accessibility in terms of information, which includes both printed/written form and Braille.

Data gathered through observation, interviews, and photographing confirmed the inaccessibility of both

The accessibility issues related to routes to the school, entrances and exits of main gate, buildings, classroom, different offices, and supportive educational physical environment, was not found to be according to the prescribed parameters that would be suitable for both, inclusive and non-inclusive schools. But, routes to the schools were found better accessible than entrance to the school, and classrooms were more accessible than entrances to buildings. However, offices and other supportive educational physical environment like toilet, library, laboratory, dining room, pedagogical and creative centers were found very less accessible for students with physical impairments, especially for wheelchair user students due to nonexistence of ramp. The data also confirmed that none of the schools possess the numbers on rooms in Braille. This would create discomfort to the students with visual impairments. On the other hand there is no signage that shows the accessibility issue like international symbol and Braille in the study area. The directory board that gives full information to the customers regarding school, departments, and facilities, administrative and academic staff details were not placed at visible points. However, it will be more useful and advantageous to all the students including students with impairment if the management makes available the directory board of the school.

Discussion

The accessibility issues of actual physical schools' environment related to routes to schools, entrance to schools, buildings, classrooms, and offices are accessible as they are few in number with little variation among them. However, most of the entrances to buildings and offices in different schools are not accessible at all for those with physical impairment, especially for wheelchair user students due to nonexistence of ramp. In a similar vein, findings of researches like National and Community Service (2004) revealed that many schools were inaccessible to students, particularly those with physical impairments like wheelchair users, though they need an environment which is barrier free so as to move freely. Hannah et al. (2012) stated that one of the barriers to education for children with impairments is inaccessible education environment, such as inaccessible school buildings. Janyne, Joan and Marc (2002) also contend that, the majority of schools were physically inaccessible to many learners because of poor physical environment of the schools due to

lack of ramp. As such, most schools were not equipped to respond to special needs and on the other hand, they rather, pose blockage for learners who are with physical impairments, which in turn prevents them from getting into school.

On the other hand, the result of the second concept of accessibility issue is related to accessibility in terms of information like directory of the school, sign board of schools, room numbers, Braille and International Symbols, which were also analyzed in the current study. Most of the schools in the study area possess school directories, sign board of schools, and room numbers. However, there are some schools which lack this information. These are the schools that are inaccessible in terms of information for all students and this is particularly true for those students with hearing impairments. Nevertheless, the idea indicated in Eenet Asia Newsletter Issue 4, 2007 indicates that signage requirements make it easier for everyone to see and understand, signs and directory give everyone full information as to where to go. On the other hand, information related to Braille and International Symbol is not totally available in any single school. Hence, students with visual impairments lack much information due to lack of clear directory and clear information to navigate from place to place without difficulty or confusion. Thus, this situation contributes to dependence of students with visual impairments on others to move and locate important places in the schools.

Perceptions of inclusive and non-inclusive school teachers and students do not show any statistically significant difference. This implies that there is high tendency that schools are inaccessible for all students including those with sensory and physical impairments.

Conclusion and Recommendation

Based on the current study, it is possible to conclude that the accessibility issues related to routes to the school, entrances and exits of main gate, buildings, classroom, different offices, and supportive educational physical environment, were not according to the prescribed parameters that would be suitable for both, inclusive and non-inclusive schools. But, routes to the schools were found to be better accessible than entrance to the schools, classrooms, and buildings. However, offices and other supportive educational physical environment like toilet, library, laboratory, dining room, pedagogical and creative centers were found very less accessible for students

with physical impairments, particularly the wheelchair users due to lack of ramps. Even in those schools which have been trying to have ramps to make the classroom's environment accessible for wheelchair users, the ramps were not constructed to the standard to make the physical environment easily accessible for the wheelchair users, but on the other hand were very difficult.

Therefore, the big challenge for those students with physical impairments, particularly those of wheelchair users was the issue of inaccessibility to buildings, different offices and supportive educational physical environment rather than the accessibility issues of routes to school, entrance to school and classroom. But, inaccessibility to buildings indirectly means inaccessibility to classroom, where teaching-learning processes mainly take place. The accessibility issues in terms of information were such that most schools were found with clear directory boards, written school names and room numbers. However, none of the schools were found with information related to Braille and International Symbol for accessibility.

Hence, it is possible to recommend that creating accessible schools physical environment is mandatory. In addition to making the schools' physical environment accessible by building ramps, accessibility in terms of information is also needed. For instance, directories and route maps should be clearly written and placed in visible places. In addition, tactile and written materials indicating classrooms' numbers, floors' number and the like, should be presented at important places in Braille. In addition, tiles on the school's yard that covers walkways of blind students should be designed as they use their feet to sense the direction of tiles and walk to different important places.

Limitation of the study

Though, the study will pave ways for other scholars to undertake intensive research on the issue, it was not free of limitations. Firstly, the research was not analyzed school by school; rather the seventy schools conditions were aggregated and analyzed together. In addition, schools were not analyzed based on background variables like private and government school, religious and non religious school. Secondly, the perceptions of Ministry of Education of Ethiopia, Education Bureau of Addis Ababa Administrative City were not included.

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References

1. Berner, M. M. (1993). Building Conditions, Parental Involvement, and Student Achievement in the District of Columbia Public School System. *Urban Education*, 28, 6-29.
2. Best, J. W., & Kahn, J. V. (1998). *Research in education* (8th ed.). Boston: Allyn and Bacon.
3. Creswell, J. W. (2009). *Research design. Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, Calif.: Sage Publications.
4. Deborah and Brazil (2001). *Learning and culture diversity in general education, intervention in school and clinic*, (37), 1, pp.23.
5. Department for Education and Skills (2003a). Building Schools for the Future: Consultation on a New Approach to Capital Investment. London: DfES.
6. Dianne L, Elizabeth B. and Anne S. (2001). A Framework to Guide Fundamental Change in Urban Schools. Retrieved May 27, 2008 from www.urbanschools.org.
7. Dillman, D.A. (2000). Mail and internet surveys: The Tailored Design Method. New York: John Wiley & Sons, Inc.
8. Hannah C., Gilles C., and Sandra B.(2012). Inclusive Education. France: A Handicap International Publication
9. Hutchings, B., Arch, M. & Olsen, R. V (2008). A school for Everyone: School Design to Support the Inclusion of Students with Disabilities. .New Jersey's Science and Technology University: Jersey Printing Associates, Inc.
10. Hutchings, B., Arch, M., & Olsen, R. V. (2011). A school for Everyone: School Design to Support the Inclusion of Students with Disabilities, Vol. 2. New Jersey's Science and Technology University: Jersey Printing Associates, Inc
11. Janyne P., Joan M, and Marc L,(2002). Barriers and Facilitators to Inclusive Education. Journal of Exceptional Children. Retrived from itari.in/categories/facilitators/ResearchbyFacilitatorsforSpecialChildren.pdf
12. Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.
13. Kielhofner, G.(1995). A model of human occupation (2nd edition). Baltimore, MD: Williams & Wilkins.
14. LeCompte, M., and Preissle, J., With Tesch, R. (1993). *Ethnography and Qualitative Design in Educational Research* (2nd edition). San Diego CA: Academic Press
15. Lyons, J (2012) "Do School Facilities Really Impact a Child's Education". An Introduction to the Issues. Retrieved January 24, 2012, from SchoolFacilities.com/pdf/school%20Facilities%20
16. Lyons, J. (2001). *Do schools facilities really impact a child's education?* Retrieved May27, 2008, from <http://www.coe.uga.edu/sdpl/articlesandpapers/lyons.htm>
17. Martha P., Lawrence L., Ian Y.and Claire B. (2014). Promoting Health in Schools: from Evidence to Action. *International Journal of Public Health*. Pp271-277
18. National and Community Service (2004) Architectural Barriers. Retrieved May 27, 2008 from www.education.gov.uk/publications/.../DH_40496PDF.pdf
19. Norland, E. V. (1990). Controlling error in evaluation instruments. *Journal of Extension*, [On-line], 28(2). Retrieved from <http://www.joe.org/joe/1990summer/rt2.html>
20. Physical Accessibility and Education. (2007, April). *Enabling Education Network Asia Newsletter, Issue 4*. Retrieved from <http://www.idp-europe.org/eenet>.
21. Punch K. (2000).Introduction to Social Research Quantitative and Qualitative Approaches. Australia: SAGE publications
22. Rose N. Uchem and Emmanuel S.Ngwa (2014). Inclusive Education Policy Implementation in Post-Apartheid South Africa: Lessons for Nigeria and Cameroon. *Journal of Education and Practice*. Vol.5, No.36

23. School Leadership Program Tool Kit (2010).
Building an Accessible and Inclusive School
Community. *Maryland: Baltimore*
24. Shami, P. A., & Hussain, K. S. (2005).
Quality of Education. Islamabad: Ministry
of Education, Academy of Education
Planning and Management.
25. Thomas, F. B. (2001). A General
Introduction to the Design of
Questionnaires for Survey Research. USA:
University of Leeds Press