Challenges Encountered In the Historical Development of Education for Persons with Visual Impairments in Kenya (1945-2013)

Muigai Solomon Chege, Geoffrey Karugu, Fatuma Chege

Department of Special Needs Education, Kenyatta University, P.O. Box 43844-00100 Nairobi, Kenya

Corresponding Author: Muigai Solomon Chege

Abstract: - The purpose of this study was to identify challenges encountered in the historical development of education for Persons with Visual Impairments in Kenya between 1945 and 2013. The study sampled three counties of Kenya namely: Nairobi city, Kiambu and Meru. Historical method was the main research approach. A historical method reconstructs the happenings of past in a particular context. Purposive sampling was used to select 11 participants who were interviewed. Documentary analysis and interviews were used to collect the raw data. The documents from which data were gathered were evaluated through external and internal criticisms to establish their genuineness and accuracy. The collected data were manually analyzed through a historical sequencing style of word narratives through comparisons and judgment. The study noted that the main challenge in the historical development of education for Persons with Visual Impairments was the financing of the relatively expensive instructional materials and specialized equipment and their maintenance. Notably, this challenge on financing has persisted to the present day suggesting that historical knowledge did not seem to inform contemporary planning of education for Persons with Visual Impairments. The main recommendation from this study is that; successive Kenya governments need to uptake historical lessons regarding the education for Persons with Visual Impairments and begin by increasing budgetary funds that are commensurate to the comparatively high costs of instructional materials, specialized equipment and their maintenance as a matter of key policy undertaking aimed at enhancing quality of education for all learners in an inclusive manner.

Key Words: Challenges, Education, Historical development and Persons with Visual Impairments

I. INTRODUCTION

According to Heward (2012) the education for Persons with Visual Impairments is a field with a history of more than 150 years. Today’s developments of this education were made possible by the contributions of many teachers and researchers who pioneered this component of educating persons with special needs. Heward also observed that numerous specialized teaching methods and curriculum materials have been developed in an effort to overcome the obstacles to learning presented by blindness. Advances in instructional methodology, and in particular, technology have greatly increased access to the general education curriculum and academic success among learners with visual impairments. He as well acknowledged the well documented history of the education for learners with Visual Impairments, with some of its key historical events and implications in developed countries such as United States of America, Britain and France, but notably with relatively less observations in developing countries that include Kenya.

Ministry of Education (MOE, 2009) acknowledge that in many countries, historically, the earliest Human Rights instrument to specifically address children with special educational needs including Persons with Visual Impairments is Article 26 of the United Nations Universal Declaration of Human Rights (1948). Here it is recognized that the intrinsic human value of education, is underpinned by strong moral and legal foundations. Hodkinson and Vickerman (2009) observed that the instigation of the 1989 United Nations Convention on the Rights of the child including Persons with Visual Impairments, marked the thirtieth anniversary of an earlier declaration in 1959, and the tenth anniversary of the International Year of the Child in 1979. As disability movement perspectives sought to assert their Human Rights to be included within society, this United Nations convention supported the inclusion of children with Special educational needs as an integral component of children’s development activities. Further, the Salamanca Statement (UNESCO, 1994) articulated that every child including Persons with Visual Impairments had a fundamental right to education. It also underscored state obligations in according children with special educational needs an opportunity to achieve and maintain an acceptable level of quality learning. The United Nations Convention (2006) on the Rights of Persons with Disabilities including Persons with Visual Impairments reiterated the trend towards inclusivity of these persons in everyday life within the international community (Fisher & Goodley, 2007) as cited in Hodkinson and Vickerman (2009). According to Klinghammer (1964), the greatest difficulties experienced by many persons with Visual Impairments towards adapting to their environments are the attitudes and behaviours of those around them. Such attitudes are influenced by the beliefs, superstitions and mythology that comprise the folklore of Visual Impairments. Widely held
stereotypes and misconceptions about them abound for example, sighted people considered people who are blind to have “nice”, “sweet” and “charming” personalities. In spite of this, Heward (2006) asserted that in most states in America and countries in Europe, the education of children with Visual Impairments is a high priority with schools and other programmes for children who are blind, having historically been established before those for other groups of children with disabilities. While in developing countries in Asia and Africa, this trend has caught up, it could be argued that it is because blindness is readily apparent to the observer and often evokes feelings of pity and sympathy. In the United States alone for example, more than 1,000 organizations provide special services for Persons with Visual Impairments (Heward, 2006).

Essentially, Kenya’s 2009 population census statistics indicated that there were a total of 331,594 persons who were visually challenged in the Republic of Kenya. Out of this total, 153,783 were males while 177,811 were females. This 331,594 figure represented about one percent (1%) of the total population of Kenya and was part of four percent (4%) of all Persons with Disabilities in Kenya. It is also the second largest group of persons with impairments after those with physical impairments. These statistics are crucial for planning in education, social accountability and rationalization of economic needs and education for Persons with Visual Impairments (Government of Kenya, 2010). In this regard, a clear and logical documentation of the historical development of education for Persons with Visual Impairments called for a systematic analysis that prompted the researcher to carry out this study with the overall aim of explaining the present status of the component of education for Persons with Visual Impairments in Kenya.

A study by Orinda (2008) in Kisumu and Nyando districts of Kenya, 1945 to 2003, using questionnaires, interview schedules, observation checklists and written/documents sources. The study established general challenges that face special education in Kisumu and Nyando districts as lack of physical facilities, lack of qualified personnel, negative attitude by non-disabled persons, and lack of funding, access and participation by Person with Disabilities in education. These challenges appear for all categories of disabilities. However, this study focused on only the aspect of the challenges in the historical development of education for Person with Visual Impairments.

Oketch (2009) conducted a historical research to compare special education systems in Kenya, Britain, and Nigeria using document analysis and interview schedules. The study established that in Kenya, there is lack of parental participation, children are taken to school and left under the care of teachers, teachers are overwhelmed by the large numbers in classes, lack identified assessment strategies that can be used to evaluate needs of children, poor technology, corruption, parents are forced to pay their children’s fees which is sometimes impossible due to the level of poverty and lack of individualized education programmes to treat children individually to meet their needs. Historical challenges that have faced Persons with Disabilities as revealed by studies generally have been general and not disaggregated to focus on various disabilities and specifically there is no direct focus on Visual Impairments. These two reasons made this study necessary in order to analyse and document the historical development of education for Persons with Visual Impairments in Kenya.

II. THE PURPOSE OF THE STUDY

The purpose of this study was to identify challenges encountered in the historical development of education for Persons with Visual Impairments in Kenya between 1945 and 2013.

III. RESEARCH METHODOLOGY

This study was premised on a historical design which is qualitative in nature. According to Cohen and Manion (1995), historical studies enable a researcher to reconstruct what was done in the past in a particular respect. A historical research does not depend on direct observation or experimentation, but makes use of reports made in the past by others that cannot be repeated. It seeks data from personal experiences, memories and observations of others, from documents and records and triangulates the various types of data to validate or corroborate the historical facts. The study was conducted in Nairobi City, Kiambu and Meru counties of Kenya which were purposively selected based on the fact that they were among the early counties of Kenya with some of the oldest institutions and programmes that began the education for Persons with Visual Impairments from 1945 onwards which were aimed to be churches, schools, training institutes, societies, rights/awareness organizations.

Eleven (11) study participants whom the researcher called key participants were purposively selected to be interviewed. They were selected on the basis of being knowledgeable in the area of visual impairments, were teachers of Persons with Visual Impairments and were coordinating activities of education for Persons with Visual Impairments in their institutions either as teachers, principals or heads of departments and therefore, reliable and truthful to narrate required historical evidence for this study. Selection of the twenty-one (21) documents with historical facts on the development of education for Persons with Visual Impairments formed the second study sample from which data were collected. Documents were selected on the basis of their credibility to provide only data for the area being studied.

As for the qualitative data sets of the interview guide and the documentary and relics data generated from the observation checklist with questions, the researcher immersed himself into the two data sets (notes), read and re-read them until themes clearly emerged. He then systematically analysed the notes manually on foolscaps giving the comments/points correct interpretation. Skills like sorting, shuffling, ordering, classifying, synthesizing, evaluating, frequency tables, use of
plates, word narratives, quotes and excerpts were used in order to interpret and explain clearly the two data set notes entailed by the study. Analysis was also presented in part by examples, in part by assertions such as: “most participants,” “nearly all the participants,” “all the participants” among others. The researcher also analysed data by replaying the recorded information from study participants at various points to get correct versions of excerpts and words when quoting verbal texts of oral reports from study participants.

### IV. STUDY RESULTS AND DISCUSSIONS

This study was to identify challenges that have faced the historical development of education for Persons with Visual Impairments in Kenya between 1945 and 2013. For this, the researcher conducted documentary analysis whose data was triangulated with the data from interviews of the study participants. Documentary data was generated from the twenty-one (21) documents selected for the study.

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Title code of selected document</th>
<th>Frequency</th>
<th>Type of challenges cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19</td>
<td>19</td>
<td>Inadequate instructional, specialized materials and infrastructural facilities</td>
</tr>
<tr>
<td>2</td>
<td>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 15 and 21</td>
<td>13</td>
<td>Expensive instructional materials and costly maintenance</td>
</tr>
<tr>
<td>3</td>
<td>1, 2, 3, 4, 5, 6, 7, 8, 9 and 11</td>
<td>10</td>
<td>Unfriendly curriculum</td>
</tr>
<tr>
<td>4</td>
<td>1, 2, 3, 4, 5, 6, 7, 10, 12 and 14</td>
<td>10</td>
<td>Shortage of trained personnel to teach PWVIs</td>
</tr>
<tr>
<td>5</td>
<td>1, 2, 3, 4, 5, 6, 7, 8, 13 and 16</td>
<td>10</td>
<td>Negative attitudes and ignorance of parents with children with VIs</td>
</tr>
<tr>
<td>6</td>
<td>1, 2, 3, 4, 5, 6, 7 and 8</td>
<td>8</td>
<td>Lack of comprehensive government policies</td>
</tr>
<tr>
<td>7</td>
<td>1, 2, 3, 4, 6, 7 and 8</td>
<td>7</td>
<td>Inadequate funds for renovating existing facilities and equipment</td>
</tr>
<tr>
<td>8</td>
<td>1, 2, 4 and 5</td>
<td>4</td>
<td>Inadequate supervision and monitoring of VIs programmes</td>
</tr>
<tr>
<td>9</td>
<td>1, 2, 3 and 11</td>
<td>4</td>
<td>Institutions for VIs not headed by personnel trained on VIs</td>
</tr>
<tr>
<td>10</td>
<td>16 and 20</td>
<td>2</td>
<td>Low school transition rates of PWVIs</td>
</tr>
<tr>
<td>11</td>
<td>1 and 2</td>
<td>2</td>
<td>Lack of advocacy and awareness creation regarding PWVIs</td>
</tr>
<tr>
<td>12</td>
<td>1 and 2</td>
<td>2</td>
<td>Inadequate data on PWVIs</td>
</tr>
</tbody>
</table>

Table 1:1 indicates that the major challenge in the historical development of education for Persons with Visual Impairments in Kenya between 1945 and 2013 entailed inadequate instructional materials, special equipment and infrastructural facilities that were inappropriate to the needs of the specific learners. This was mentioned in nineteen out of the thirty-two study documents which the researcher analysed during data gathering. The lack of well-designed instructional materials to motivate learners presented challenges to the learners who were denied possibilities of physical interaction and manipulation which help learners with Visual Impairments to think in more ways that are complex (Piaget, 1985). The National Special Needs Education Policy Framework (MOE 2009) lamented on the inadequacy of instructional materials, specialized equipment and infrastructural facilities stating that:

*There is inadequate provision of appropriate teaching and learning materials for SNE because most of the materials available in the market are mainly developed for the regular curricula and regular students. The limited availability of curriculum support materials also limits the ability of teachers in SNE to employ a variety of content, teaching and learning activities for effective curriculum delivery.* (Page 25)

The second major challenge faced in the historical development of education for Persons with Visual Impairments in Kenya were; expensive teaching and learning materials as well as unavailability of spare parts for special equipment used by Person with Visual Impairments when learning. The third was curriculum for Persons with Visual Impairments that was not responsive to their learning needs. Regarding expensive teaching and learning materials and special equipment, MOE (2009) indicates that:

*The high cost of special equipment for learners with special needs (PWVIs included) remains a hindrance to the government’s goal to provide education for all in line with the global goal of universal primary education (UPE). Teachers and support staff in schools and units which have learners with special needs and disabilities should be serviced on needs assessment and maintenance of specialized equipment and technological devices.* (Page 25)

With regard to unfriendly curriculum, MOE (2009) points out that:
The curriculum and support materials for these learners come later when their counterparts in regular school set up are already familiar with the curriculum contents and requirements. These delays make students lag behind in the syllabus implementation which adversely affects their performance in schools. In some cases, by the time curriculum is designed for them, new changes may be again taking shape in the same curriculum hence the vicious cycle. (Page 27)

The existence of negative attitude of parents with children with Visual Impairments was stated in ten out of the thirty-two study documents that were analyzed (Table 1.1). According to Aiken (1970), attitude refers to a learned predisposition on or tendency on the part of an individual to respond positively or negatively to some object, situation, concept or another person.

In this context, Randiki (2002) explains:

"The negative attitudes of the society towards persons with disabilities (PWVIs included) have persisted throughout the history of special needs education. It is the negative attitude, which has made children with special needs and their families to be segregated. Due to negative attitude, the earliest names of people with special needs had negative connotations/labels e.g. Cripple, Dumb, Idiot, Moron or Imbecile. These names were abusive, derogative and dehumanizing. (Page 4/5)"

This finding support Orinda (2008) who observed that one of the challenges facing Special Needs Education was negative attitude by non-disabled persons. Other challenges found in the analysed study documents that have affected the historical development of education for PWVIs included: shortage of trained personnel to teach Persons with Visual Impairments; inadequate funds; inadequate supervision and monitoring of special education programmes for PWVIs; inadequate data on the number of Person with Visual Impairments and lack of advocacy and awareness creation regarding Persons with Visual Impairments. There was also lack of policy guideline for which the MOE (2009) acknowledged by highlighting that: lack of clear policy guidelines for the provision of Special Needs Education including that of PWVIs, had resulted in situations where special schools and training institutions were established without proper coordination. Thus,

"Poor coordination of activities of SNE service providers has led to duplication, substandard and unregulated provision of services to learners with special needs and disabilities. Major challenges have been in the areas of staffing, training, quality assurance, research, examinations, curriculum development and teaching/learning materials that have rendered SNE to be provided on the basis of circulars and general education policy and statements, which have not been translated into a comprehensive policy. The government is aware of this challenge and has recommended in various policy documents the need for developing a comprehensive SNE policy. (Page 17)"

Reports of study participants on challenges that have faced the historical development of education for PWVIs in Kenya between 1945 and 2013. Perceptual data was gathered through interviews from the eleven study participants (11) following an interview guide.

<table>
<thead>
<tr>
<th>S./No.</th>
<th>Category of participant</th>
<th>Frequency</th>
<th>Perceptions regarding challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A, B, C, D, E, F, G, H, J, K and L</td>
<td>11</td>
<td>High cost of instructional materials/ equipment and costly maintenance</td>
</tr>
<tr>
<td>2</td>
<td>A, B, C, D, E, F, G, H, J, K and L</td>
<td>11</td>
<td>Frequent curriculum reviews of education for PWVIs</td>
</tr>
<tr>
<td>3</td>
<td>A, B, C, D, E, F, G, H, J and L</td>
<td>10</td>
<td>Shortage of trained personnel to teach learners with VI</td>
</tr>
<tr>
<td>4</td>
<td>A, B, C, D, E, F, H, J, K and L</td>
<td>10</td>
<td>Inadequate funds for renovating existing facilities</td>
</tr>
<tr>
<td>5</td>
<td>B, C, D, E and G</td>
<td>6</td>
<td>Negative attitudes and ignorance of parents of children with VI</td>
</tr>
<tr>
<td>6</td>
<td>B, D, E and J</td>
<td>4</td>
<td>Inadequate instructional materials/equipment and facilities of education of PWVIs</td>
</tr>
<tr>
<td>7</td>
<td>D, E, H and L</td>
<td>4</td>
<td>Institution for PWVIs not headed by personnel trained in VI</td>
</tr>
<tr>
<td>8</td>
<td>B, G and K</td>
<td>3</td>
<td>Lack of sponsors for the needy learners with VI</td>
</tr>
<tr>
<td>9</td>
<td>A, C and E</td>
<td>3</td>
<td>Lack of policy to guide education for PWVIs</td>
</tr>
<tr>
<td>10</td>
<td>B, E and F</td>
<td>3</td>
<td>Inadequate nation statistics on exact number of PWVIs</td>
</tr>
<tr>
<td>11</td>
<td>E and L</td>
<td>2</td>
<td>Lack of practical daily living skills and Braille literacy</td>
</tr>
<tr>
<td>12</td>
<td>E and J</td>
<td>2</td>
<td>Low transition rate of PWVIs from primary, secondary to university</td>
</tr>
</tbody>
</table>

Table 1.2 reveals that all the eleven study participants stated that instructional materials and specialized equipment used by Persons with Visual Impairments were expensive. The maintenance of specialized equipment was also costly. One
male study participant from study site E had reported that one
Braille machine cost Ksh75, 000 at the time of conducting this
study. Another male participant at study site C also reported
that once the Braille machines broke down; their spare parts
were hard to come by. This was especially so for the old
Braille machines which had been bought from America.
Getting money to buy the spare parts and even importing them
was a problem. Thus, they had become obsolete and some
were no longer in use for over 25 years (at site C) at the time
of carrying out this study. This had led to shortage of Braille
machines in the schools leading to poor performance of
learners with Visual Impairments. In addition, a Thermoform
machine which is used for duplicating Braille papers for use
by the totally blind during their examinations was reported to
cost slightly more than Ksh 300,000 by the male participant at
study site C. That institution (site C) required at least two such
machines. Kochung (2003) corroborates this information by
having outlined the Unit costs of educating children with:
visual, hearing, mental, physical, speech and language and
defool-blindness handicaps and those who are gifted and
talented. (Pages 100-107)

The male study participant at site C between age-range of 41-
60 years also observed that the lack of a functional
thermoform machine in that institution tends to stall down
educational progress as noted in the following interview
cert:

Without a thermoform machine, learners with VIIs
cannot sit any examinations. Learning materials for totally
blind learners are the most expensive compared to those
of other disability categories. For a single totally blind learner
to learn, he/she requires a Brailler machine which cost about
Ksh75, 000, Braille papers, Braillons papers, Braille Text
books, Cuberrithms, an adapted table and a chair. The cost of
all these added up together is slightly over Ksh 300,000 for a
single totally blind learner. This reflects a high per capita
cost for such learners. (Interviewed on 8/7/2013)

That high cost of materials and equipment had made learners
with Visual Impairments in schools to accrue huge debts
which they had incessantly been unable to pay. Participants
who were head teachers/principals reported that a good
number of learners with blindness had come from very poor
families. Such learners were unable to raise and pay the yearly
fees demanded by the schools. Hence, they defaulted in fees
payments but they were not sent home in order to avoid
interrupting their learning. According to MOE (2009), the
high cost of special equipment for learners with special needs
and disabilities, Person with Visual Impairments included;
remains a great hindrance to the government’s goal to provide
Education for All.

The historical challenge of frequent curriculum reviews for
the education of Persons with Visual Impairments at Kenya
Institute of Curriculum Development (KICD) was cited by all
the interview (study) participants. They reported that the
frequent curriculum reviews by the Ministry of Education for
various subjects had been noted to affect the continuity of the
education for Persons with Visual Impairments. They felt it
was unnecessary since text books for learners with VIIs were
expensive and a syllabus change rendered Brailled Text books
obsolescence leading to resource wastage.

Nearly all study participants reported the historical challenge
of shortage of trained personnel to teach in institutions for
learners with Visual Impairments as exemplified by the views
of one male study participant at site B saying:

We need trained teachers or manpower and
especially teachers trained in special education to teach
learners with Visual Impairments. You know there is a
general concept that every teacher can teach these learners
but we need a teacher trained in the area of Visual
Impairments. We need teachers who are specially trained in
these areas and for the government to achieve inclusive
education, we need either in the curriculum or in teacher
training colleges to include SNE, not only elementary part of
it but intensive training. If you don’t train me how to teach
Braille in total, how do I go and teach it. If you don’t teach
me communication skills in the area of hearing impairment,
how do I go and communicate with those hearing impaired
learners? (Interviewed 2/7/13)

An inadequate fund to renovate existing physical facilities
was reported by nearly all of the study participants. A male
participant at study site C reported that most of the buildings in
that institution for Persons with Visual Impairments had
been built long time ago (67 years back from the time this
study was being conducted) by the missionaries. The
buildings needed renovation and even expansion due to large
and bulging enrolment. A female participant at study site A
confirmed that the sponsors and donors had noted their
finances were being misused. This had led to continued
withdrawal of sponsorship by donors. Ten out of the eleven
participants complained of inadequate funds for renovation of
schools’ physical facilities, hence why in some school study
sites buildings needed repair. During the study, there was
evidence of dilapidated residential buildings which required
urgent renovation especially on roofing as noted at school
study site C. These particular buildings used to belong to the
Kenya African Rifles (KAR) during the colonial time but at
the time of this study, they were used as staff houses.

Ignorance and negative attitude was noted by the male study
participant at site B as one of the worst form of the historical
challenges as some people and communities hide their
children with disabilities and fail to release them to go to
school. This is because such people do not find value in
children with disabilities or even in adults.

Table 1.2; also, reveal that slightly above a third of the
interview participants cited the challenges of inadequate
Learning materials, equipment and infrastructural facilities.
Three participants (2 males and a female at sites A, B, C) had
reported that many essential physical facilities in their
institutions needed to be built a new or existing ones required
renovations and redesigning. Such facilities included; pavements, toilets, buildings architectural designs such as stairs, small doors that caused mobility problems due to their unfavourable designs. Regarding inadequate learning materials for the blind, the male participant at site B reported: “Imagine for over 60 years of independence, Kenya cannot produce materials for the blind. Let them buy materials for them.” The participants also lamented that, policies that govern infrastructural status were ignored as the doors of the classrooms and dormitories at that site were opening inside while they ought to open outside. This had posed challenges as the learners with VIS had difficulties when opening the doors. In most of the times the learners were hit by such doors resulting in injuries.

These findings agreed with the findings of Kamere (2004) who found out that many essential facilities were lacking in the development of Special Needs Education for children with physical disabilities in Kenya. This also concurred the MOE (2009) observation on inadequate provision of appropriate teaching and learning materials for special needs education learners, including that of Persons with Visual Impairments.

Administration of institutions for Persons with VIS Impairments not being headed by personnel who were trained in the area of VISs was a historical challenge cited by four study participants namely; 2 males from sites B and F and 2 females from sites H and L. Institutions H and L were not headed by specialists of VIS field. Wairimu (2013) corroborated this for having noted that head teachers in some integrated primary schools for learners with VIS Impairments had not been specially trained in the area of VIS but in other Special Needs Education fields. Wairimu had noted that one of the sites was managed by a principal who had not been trained in the field of VIS Impairments. More so, Mugo (2007) had recommended that the head teachers who were experienced and trained on how to manage special schools for Persons with VIS Impairments be made to head all schools with integrated programmes for learners with VIS Impairments. In addition, Kochung Report (2003) had recommended over one decade earlier (2003-2013), that head teachers of special schools and units be holders of a minimum qualification of a diploma in Special Needs Education. This had not been implemented by 2007 which showed that the government had not adopted some recommendations made by previous education reports, yet, a trained head teacher is considered to have gained essential knowledge, skills and empathy required when handling issues of learners with VIS Impairments as opposed to one without the training.

V. CONCLUSION

Based on the findings that several main challenges emerged that have faced the historical development of education for Persons with VIS Impairments in Kenya between 1945 and 2013, it is logical to conclude that the genesis of these challenges is mainly due to a lack of a legal policy to coordinate the programmes of this education.

VI. RECOMMENDATIONS

- The study recommends that the government should learn a lesson in these challenges and re-examine sources of problems before they arise while ensuring the mistakes are not repeated.
- Due to the limited scope of this study, the researcher could not carry out an extensive research covering all aspects related to the education of Person with VIS Impairments and therefore, the study recommendations for further research on the historical development of education for the deaf blind and multiply handicapped which is related to the area of VIS impairments.

REFERENCES