



INVESTIGATING THE DIFFICULTIES PUPILS IN MUKOBEKO MAXIMUM FACILITY FACE IN CONSTRUCTION AND LOCI

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Abstract—

The Zambia correctional service is one an institution that has incorporated Primary, Secondary and Tertiary education in the process of reforming inmates so that they can be reintegrated into the society as reformed individuals. The inmates who have opted to undertake secondary education are also taught mathematics where they learn topics such as construction and loci. However, the inmates' performance in the mathematical topic of construction and loci has been poor. The study sought to investigate the 'Challenges pupils in Mukobeko Maximum Facility face in construction and loci'. It was hoped that the solutions to the challenges that the inmates face in construction and Loci will be identified in order to provide the quality education to inmates.

The theoretical frame work guiding the research was based on van Hiele's levels of geometric thought. The theory represents some stages of geometrical thoughts which a student goes through to have a solid foundation and later on concrete by understanding geometrical related mathematics areas encouraging higher order thinking than mere memorizing. A purposive random sampling was used in identifying a school that had all types of inmates ranging from death row to remands. The study was carried out in Mukobeko Maximum Correctional facility in Kabwe in a classroom setting. The population sample was 25 inmates' students, 5 education supervisors and 5 teachers of mathematics. The instruments were pilot tested to estimate their reliability. SPSS version 20.0 and Microsoft excel was used to analyze data that was collected.

The findings of the research were that students had difficulties in practicing construction and loci exercises at their spare time due to strict use of mathematical sets, Poor methodology used in mathematics, few qualified teachers of mathematics, teaching and learning materials were also a challenge. Motivation and erratic examination fees' payment were equally challenges that were identified.

The challenges faced by learners were to be tackled by training of teachers in mathematics either in methodology or tertiary, upgrading the School and library building, increasing class periods, Motivating teachers and learners, counselling to teachers and learners.

The findings are expected to be useful to students, teachers, policy makers and the Zambia Correctional Service as the research will assist in identifying a teaching/learning technique which may improve the quality of education in Correctional facilities and the country at large.

Index Terms—Construction and Loci, Mukobeko Maximum Prison, **Circumstantial Children, Condemn prisoner.**



1 INTRODUCTION

The history of education in Zambia Correctional Service can be traced as far as 1945 where regular classes were held at Lusaka Central Prison for Africans with the kindness of the Methodist Mission in supplying a teacher, [1]. This was later extended to African Prisoners in 1946 and 1949 to Livingstone Prison, Fort Jameson and Livingstone, Broken Hill, Ndola Prisons respectively. In 1950 the Katombora reformatory School was established in Livingstone with the purpose of trades' classes in building, a complete school curriculum, a grade system, the reformation of the nucleus of the reformatory staff, a system of returning discharged juvenile to their parents or guardian through the social welfare service.

The use of locus was popularized by the mathematician called Euclid who lived around 300 BC and was considered to be the father of geometry,[2]. Despite mathematics may be seen as too hard a subject for the prisoner to dip their education toe into unlike the creative subjects, which may seem an easier place to restart learning,

Therefore, the study mainly aimed at investigating the difficulties that pupils who are incarcerated face in a Mathematics topic called construction and loci whiles in Prison, and at the same time it wanted to reveal the cause as well as providing solutions to the Service on how best to offer Construction and loci:

1. To identify the difficulties that inmates experience in construction and loci.
2. To explore the cause of the difficulties students experience in construction and loci.
3. To offer solutions on how best to teach and learn construction and loci.

2 LITERATURE REVIEW

2.1 The concept of Construction and Loci to Inmates

Mathematics is one vital subject that inmates must acquire before being released from any Correctional Centre. This is so because it is one subject apart from English which is an entry requirement from a grade nine(9) and twelve(12) certificates to a lot of Job openings that an inmate will be exposed to after discharge and acquiring any skill whilst he was in prison. The inmates must however get a credit or better in mathematics Education amidst of imprisonment while a lot of his freedom and human rights are scrapped off from him/her. However, Construction and loci has been seen as a topic where learners get low marks in their topical tests, hence contributes to the poor performance in mathematics.

Apart from the sentence length, another factor that has contributed to less females being eligible for parole is the fact that in some prisons there is no education and skills training

for female prisoners, [3].

2.2 Teacher pedagogy and the correctional facility

The training of teachers is vital in any given situation[4]. The teachers need to be well vested with the knowledge and content that is up to date.

The aspect of teaching in a correctional facility is vital when the right and accurate teachers are positioned well with regards to their pedagogy[5].

3.0 Methodology

This research focused on descriptive survey design which involved mixed research methods of qualitative and quantitative approaches in data collection and analysis and it was conducted inside Mukobeko Maximum Security facility in Kabwe. This is Zambia's heavily secured Prison and the Second populated after Kamfinsa Correctional Center in Kitwe. Purposive sampling method was used in this research. The target population were Grade 12 learners, teachers of mathematics and the officers involved in the education unit. In this case study, the sample size included twenty five (25) learners and five (5) teachers of mathematics and five (5) education supervisors were used to find solutions to the research questions, hence all learners in G12 were selected and supervisors for them were also selected as respondents to the questionnaire. This questionnaire comprised of a structured questionnaires and Likert scale. The questionnaire was in two forms; one for the student to collect data pertaining the difficulties and their causes that learners face in construction and loci, and another questionnaires for teachers was aimed at gathering information on how they rate those difficulties that learners face in construction and loci and the form of guidance rendered to help the learners, while the achievement test (AT), was given to learners in order to find the difficulties they encountered in construction and loci. The camera was used to capture the learning environments that the learners used in their everyday learning activities. The observation form was used to enable the researcher get the true picture of what the learner go through during the learning process in the correctional centers.

4.0 Results

From figure 1 learners experienced challenges ranging from unstocked library, unaccess to computer lab, use of dormitories as classrooms, prohibition of mathematics instruments, Lack of most knowledgeable others (MKO), Use of exercise books instead of plain papers, poor methodology by teachers and lack of motivation.

2.3 Figures and Tables

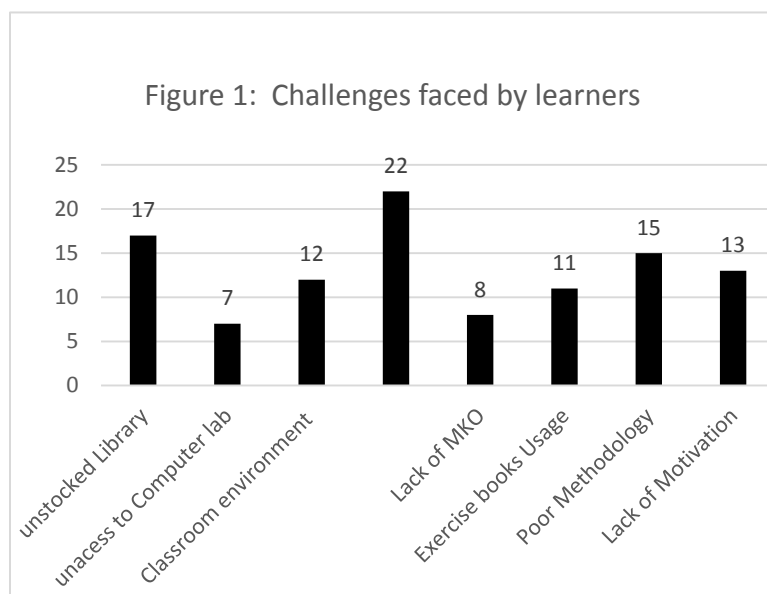


Table 1: Qualifications of Education supervisors attached to Maximum Correctional facility.

S/no.	Qualification	Education supervisors
1)	G12 Certificate	0
2)	College Diploma	4
3)	College Bachelor's degree	1
4)	College Masters' degree	0

5.0 Discussions

The challenges faced by learners were attributed by poor pedagogical content knowledge by teachers as a lot of teachers inside correctional facility did not attain tertiary education. The rules and regulations of a correctional facility did not allow learners to practice home work as mathematical instruments were seen to be a weapon that can be used to stab an officer or a fellow inmate. The inmates also were not motivated in promotional stages to stages such as red band, blue band or special stages. This gave prisoners no hope of being released hence felt demotivated to continue schooling while in prison. The issue of failure to provide teaching and learning aid by the Zambian government through the Correctional department was a great factor to the poor performance of learners.

Table 2: Shows the distribution of teachers and their teaching qualifications in various correctional sections.

Teachers	Condemn Section	Non Condemn	Total
Teaching at primary	3	16	19
Teaching at secondary	10	14	24
Attained tertiary education	2	1	3
Registered with TCZ	0	0	0
Having Practicing Certificate	0	0	0
Attached to other duties	1	2	3
TOTAL	16	29	39

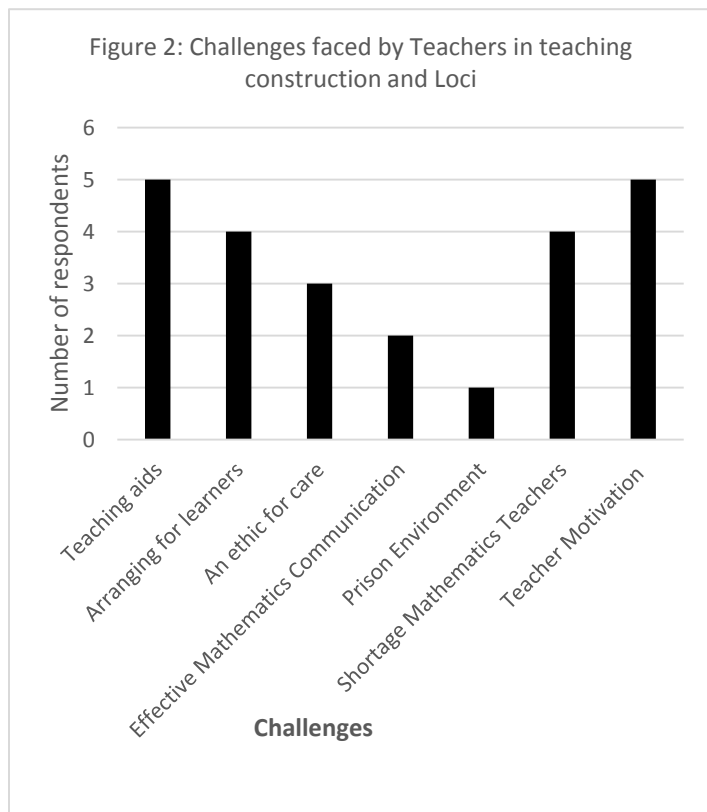
Teacher	Special Stage	Blue Band	Red Band	Cell Captain
Mathematics	0	0	1	1
Snr Science	1	0	0	0
Social Science	0	1	1	1
Primary	0	2	1	0
Total	1	3	3	2

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TABLE 3: Teachers in correctional facility with their different promotional stages.

N=9



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