I, MUSONDA MOSES, declare that this thesis represents my own work and that it has not been previously submitted for a degree at this or any other university.

Signed: …….

Date: ……..

APPROVAL

This thesis of MUSONDA MOSES is approved as fulfilling the requirements for the award of the degree of Master of Education in Science Education by the University of Zambia.

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ABSTRACT

This study aimed at identifying which topics pupils perceived as difficult to learn in high school biology based on high schools in Kasama and Mungwi districts. It also examined the reasons for these difficulties and came up with recommendations on how to overcome the difficulties. Eleven heads of departments, 19 biology teachers and 451 high school pupils constituted the sample. The data were collected through questionnaires and semi-structured interviews. All the heads of departments, biology teachers and pupils completed the questionnaire. The 19 biology teachers and 66 out of 451 pupils attended the follow-up oral interviews. Results of the study revealed that the most difficult topics in descending order of difficulty were; Mendelian genetics, mitosis and meiosis, genes and chromosomes, DNA synthesis, skeletal system and evolution. The identified the reasons why pupils experienced challenges in learning the above topics as the following: the topics were characterized by complex terms; teachers were not conducting practical laboratory work but taught theoretically; lack of teaching and learning resources including suitable text books and failure by the teachers to use ICT in the classroom. The study also established that neither pupils nor teachers had access to internet facilities at the schools. Some teachers failed to handle the difficult topics as evidenced by their poor explanation of concepts, and some of the teachers did not have the right qualification to handle senior classes. Gender differences were identified as having an impact on the pupils' perception of learning difficulties. The teachers of biology agreed that gender had an effect on the pupils' perception of learning difficulties but they did not agreed on which gender had a better or a more positive perception of learning difficulties. The study established that a variety of teaching strategies would help pupils learn the difficult topics effectively well. These strategies included: strict lesson planning by teachers, use of adequate teaching and learning resources, incorporating ICT in the classroom, promoting active learner-centred teaching strategies and employing effective communication skills characterised by clear explanations coupled with real-life practical examples. The study also showed that the biology teachers would lessen pupils' learning challenges through motivating their pupils, administering remedial work to slow learners, revising the difficult topics with pupils, and giving to pupils some written assignments or research work followed by a feedback on such work.

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List of Acronyms and Abbreviations

MoE - Ministry of Education.

HOD - Head of Department.

CPD - Continuing Professional Development.

ICT - Information and Communication Technology

DNA - DeoxyriboNucleic Acid.

DVD - Digital Video Disc

CD - Compact Disc

SESO - Senior Education Standards Officer

DESO - District Education Standards Officer

ESO - Education Standards Officer

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