WHY TEACHERS OF SCIENCE STILL BECOME A CENTRE IN THE LESSONS DESPITE HAVING PREPARED A LESSON PLAN THAT COULD PROMOTE ACTIVE LEARNING: A CASE STUDY AT SECONDARY SCHOOL IN ZAMBIA

Clara Kosamu Namayanga¹, Goro Sato²

¹ Ministry of General Education (ZAMBIA)
² Japan International Cooperation Agency (ZAMBIA)

Abstract

Zambia launched its revised curriculum for basic education in January 2014. This change brought a shift in the focus of instruction from the teacher to the learner. It meant that the role of a teacher in the classroom changed from being a centre of the lesson to the role of the facilitator. Teacher’s main role is now thought to coordinate the learners as they choose what they want to learn and how they want to learn it. Being the head of department at one of the secondary schools in Lusaka, a capital of Zambia, and supervisor of science teachers, it has been observed that the teachers in natural sciences department had sufficient skills to prepare lesson plans that could promote active learning of learners, however, it was still seen they tend to give many instructions to learners during lessons despite the emphasis on their role as facilitators.

Based on this situation, this paper set an objective to investigate why teachers of science still become a centre of lesson despite having prepared a lesson plan that could promote active learning of learners.

In the study, 14 teachers of science at Lusaka boy’s secondary school were asked to prepare two lesson plans each that could promote active learning. After preparing lesson plans, they were requested to teach their own lessons, while the researchers observed. At the end of each lesson, researchers had interviews with each teacher concerning the approaches used and the effects of such approaches on learners as their reflections.

Through the analysis of lesson plans, it was found that 25 out of 28 lesson plans included activities that could promote active learning or active involvement of learners in the lessons, while 3 lesson plans were prepared in the manner that teachers became the centre of the lessons. When it came to teaching, learners’ active learning was observed in 5 lessons, while the teachers became the centre of the lessons and the learners were on the receiving end in the 23 lessons. The gap between lesson planning and lesson delivery were observed in the other aspects of the lesson. In the interviews with the teachers on why the differences were seen between lesson planning and implementation, the teachers confessed negative attitudes towards active learning such as lack of knowledge on active learning, too much time consuming and undermining learners’ abilities to develop new ideas.

To be able to effectively deliver lessons that promotes active learning the teachers needed to spend more time in the preparation stage to be able to understand the condition of the learner and to be able to plan the lesson practically interacting with instruction materials and teaching and learning materials, this will improve the time allocation to all activities that promote active learning. Moreover, the teachers need to change their negative attitude towards active learning to be able to give the learners a chance to develop abilities to generate new ideas as they develop their own knowledge.

The research revealed that, even though the new curriculum required teachers to change their way of teaching from traditional way to the ways that enhanced active learning of learners, the teachers in schools did not have sufficient skills of aligning the classroom interactions with the demands of the curriculum.

1 INTRODUCTION

The government of Zambia through the ministry of general education launched its revised curriculum on 12th January 2014. This change was in effort to revise and tailor the school curriculum to the changing educational needs. In addition, the revised curriculum was meant to enhance learners’ performance in order to satisfy the demands and needs of society. Borroman [1] makes it clear that
education is the process by which individuals gain knowledge, skills, values, habits and attitudes, hence great need for content and knowledge to be revised for the success of society as a whole. Other than to enhance learner performance and address societal needs, the revised curriculum seeks to develop in the teachers’ general skill and approaches that will engage learners in intellectual work. In the same vain the curriculum seeks to provide guidance and direction to educational instruction for the intended purpose of the learning process. According to teacher’s curriculum implementation guide framework [2], the vision of the revised curriculum is that it should make a real difference to learners both in school and in their lives. The desire of the Zambian Government is that the learners should be active participants in learning and leaving with others. This is supported by the vision of the Zambian government to attain a prosperous middle income status by 2030 [3]. Mc Comb et al [4] makes it clear that learners finds the learning process more meaningful when the topics are relevant to their lives, needs and interests and when they are actively engaged in creating understanding and connecting to knowledge. This means that teachers should keep the vision in mind in their interactions with learners so that they can contribute to the achievement of the nation’s vision in everything they do. It is for this reason that the curriculum should be effectively interpreted and implemented by the teachers of science to achieve its intended purpose.

In the core of education, the teacher is seen to be a key player in the interpretation and implementation of the curriculum for learning to take place effectively. Responsibility to address the needs created by the revised curriculum lies in the hands of the classroom interactions. It is for this reason that the teacher should understand the expectations of the curriculum to be able to interpret it effectively.

The school revised curriculum changed the focus of approach from objectivity to subjectivity. This change brought a shift in the focus of instruction from teacher centeredness to learner centeredness. This meant that the role of a teacher in the classroom changed from being the centre of the lessons to the role of the facilitator. The role of the facilitator inactive learning classrooms is to encourage the learners to do more discovery learning and to learn from each other, the facilitator focuses on constructing authentic, real-life tasks that motivate learner involvement and participation [5]. This means that as the facilitators of the learning process, the teacher must provide learners with necessary teaching and learning materials needed to master specific lesson outcomes that include content knowledge, skills and values. Furthermore the teachers need to design and implement lesson plans that provide engaging learners in activities that promotes critical thinking to enhance learners understanding of subject content. For this to be possible the teacher’s role is to just coordinate the learners as they choose what they want to learn and how they want to learn it [6]. It is therefore important the teacher pays much attention to the aspects of the lesson plan to be able to successfully plan and implement a lesson that promotes active learning.

In the old objective base school curriculum, the teachers in secondary schools were expected to dominate during the lesson and they were the main source of knowledge. It was believed that the teacher was the only one that had content knowledge and the learners were viewed to be empty tins that were to be filled with knowledge from the teacher. This meant that the learners waited upon the teacher to transfer knowledge and did not make any effort to be creative and innovative as no critical thinking was promoted. This resulted in the learner not being creative or innovative as they were not allowed to think making it impossible to address the needs of the learners. More over in this old school curriculum, focus was on the content knowledge only, as the skills and values were not a centre of focus. With the revision of the curriculum, focus has shifted as the emphasis has shifted from traditional teaching towards active learning. This paradigm shift has encouraged moving power from the teacher to the learner, treating the learner as a co-creator in the teaching and learning process [7]. This means that, in the revised curriculum the role of the teacher has changed as the teacher is expected to facilitate the learning process to be able to allow the learners to develop three learning outcomes that include knowledge, skills and values. In this vain the teacher is expected to develop lesson plans that will promote active learning. Active learning has been defined most simply as approaches to learning in which learners choose not only what to study but also how and why that topic might be of interest [6]. This means that the learner must be seen to dominate in during active learning to increase understanding that will improve their performance and the teacher’s role is to take a low profile and facilitate the learning process.

Despite the revision of the curriculum, poor performance of learners at grade 9 and grade 12 levels have been of great concern. Examination Council of Zambia (ECZ), examinations performance review [8] makes it clear that the performance of learners in 2016 in science and biology subjects has reduced despite the revision of the curriculum. For the past four years, the Zambian teachers have
been using the revised curriculum to be able to impart knowledge, skill and values in the learners. Despite the curriculum being revised and the focus of learning approaches promoting active learning, the learners have still continued performing poorly in science and biology subjects. The problem is why is the performance of learners still poor despite the change in approach of teaching and learning as expected with the revised curriculum. The question facing the educational community revolves around what process will be used and how to make the revision effective and sustainable.

Being the head of department and supervisor of 14 science teachers it was been observed that the science teachers in the natural sciences department were able to prepare lesson plans that were including active learning but were still seen giving learning instructions during lessons despite the emphasis by ministry of general education on their role as facilitators. It is for this reason that the researcher saw it necessary to investigate why teachers of science still become a centre in the lessons despite having prepared a lesson plan that could promote active learning.

1.1 Statement of the Problem
The revision of the curriculum was meant to tailor the teaching and learning process in order to improve learner’s performance to be able to meet the needs of the society. Despite the revision of the curriculum, poor performance of learners at grade 9 and grade 12 levels have been of great concern. For the past four years, the Zambian teachers have been using the revised curriculum to be able to impart knowledge, skill and values in the learners. Despite the curriculum being revised and the focus of learning approaches promoting active learning, the learners have still continued performing poorly in science and biology subjects. The problem is why is the performance of learners still poor despite the change in approach of teaching and learning as expected with the revised curriculum

1.2 Objectives of the research
The objective of this paper is to investigate why teachers of science still become the centre of lessons despite having prepared a lesson plan that promotes active learning.

Specific objectives
1. To establish whether teachers of science practically develop the lesson plans that promotes active learning.
2. To investigate why teachers of science fail to deliver lesson plans that promote active learning?
3. To explore factors that determines the success of implementing the lesson plan that promotes active learning as in the revised curriculum.

1.3 Research questions
1. Do the teachers of science practically prepare the lesson plans that promote active learning?
2. Do the teachers of science deliver lesson plans that promote active learning?
3. What factors must be considered in order to successfully deliver the lesson plan that promotes active learning as per expectation in the revised curriculum?

1.4 Significance of the study
This study is seen to be significant as it will be used to identify the challenges that the teachers of science face during the interpretation of the revised curriculum and will help develop possible solutions that will improve the quality of lesson planning and delivery to be able to promote active learning during the lessons in secondary schools in Zambia. It will further establish the aspects of the lesson plan that are significant for a successful delivery of the science lesson

2 METHODOLOGY

2.1 Sample Population
This research was carried out over a period of seven months (two terms). 14 trained teachers of science with age ranging from 29 years to 46 years old at Lusaka boy’s secondary school. Out of the 14 teachers, 5 were males while the 9 were female. 3 were degree holders while 11 were diploma
holders. The teaching experiences ranged from 8 years to 31 years. Out of the 28 lesson plans, eight (8) were for integrated science lessons at junior secondary level, 10 were for biology at senior secondary level and the other 10 were for physical science at senior secondary level. To be able to interpret the revised curriculum, the teachers received in-service training by the personal from curriculum development centre.

2.2 Data collection

The 14 teachers were asked to prepare two lesson plans each that could promote active learning. After preparing lesson plans, they were requested to teach their own lessons, while the researcher observed. The first lesson plans were prepared by individual teachers of science in the absence of the researcher and the researcher only observed the lessons during lesson delivery. At the end of each lesson the researcher had interviews and discussions with each teacher of science to understand the aspects of the lesson.

For the second lesson plan prepared by the 14 teachers, the researcher observed each teacher from the preparation stage of the lesson plan to the delivery stage of the lesson plan in order to establish the course of the gaps observed in the first lessons. Again at the end of each lesson delivery the researcher interviewed each teacher concerning the prepared and taught science lessons.

2.3 Data analysis

The following abilities and skills were investigated in the teachers of science

**Ability to analyse the Condition of the learners;** The researcher observed the teachers during the lesson planning to be able to confirm whether the teachers were referring to the syllabus of lower grades to develop prerequisite knowledge expected in the learners. The lesson plans were also examined to establish whether the pre-requisite knowledge was indicated on the each of the lesson planned. During lesson delivery the researcher observed the learners participation to establish whether the learners had the pre-requisite knowledge required for the development and building up of the intended new knowledge

**Ability to consult Instruction materials;** the researcher observed the teachers during lesson planning to find out if the teachers were referring to the text books. Also the researcher examined the lesson plans to identify the number of lesson plans that had text books indicated on them as reference materials. The researcher further observed and interviewed the teachers whether they consulted the syllabi during the lesson preparation to establish whether they were able to determine the vital instruction materials necessary for the preparation of the lesson.

**Ability to management time;** all lesson plans were checked to find out if the time for each activity was indicated. During lesson delivery the time allocated for each stage of the lesson was analysed to determine whether it was adequate for the activities indicated. After each lesson the teacher was interviewed to investigate whether the lesson activities indicated on the lesson plans were performed during the preparation of the lesson to establish the time needed for each lesson activity.

**Identification of Teaching and learning materials;** the researcher observed all lesson plans prepared to investigate and lesson delivery to establish whether teaching and learning material were indicated on the lesson plan. The researcher also investigated whether the indicated teaching materials were necessary and used during the indicated activities. Also the researcher investigated whether the numbers of teaching and learning materials were adequate for all learners to be actively involved during the lesson. The researcher also observed to establish whether the indicated learning and teaching materials were readily available during the lesson implementation for the learners to use. The teachers were also asked on the criterion used to choose the identified teaching and learning aids indicated in the lesson plan.

**Questioning skills techniques and activities that promote active learning;** the lesson plans were analysed to find out if the key questions were indicated. During lesson delivery the researcher also observed to establish whether the indicated key questions were used to promote active learning. Also the lesson plans were analysed to find out how many lesson plans had activities that promoted active learning indicated. During the lesson delivery the researcher observed to find out if the indicated activities were actually done.
3 RESULTS AND DATA ANALYSIS

This chapter presents results and data analysis on the aspects of the lesson during lesson planning and lesson implementation. The 28 lesson plans were analyzed to investigate the aspects of the lesson plan indicated during the planning process and the lesson implementation process. The results of the study as indicated in the two tables and on the figure below outlines the abilities and gaps of the teachers of science during lesson planning and during lesson delivery.

Table 1. Observations made on the lesson plans

<table>
<thead>
<tr>
<th>Aspects of the lessons indicated on the lesson plan</th>
<th>Number of lesson plans with</th>
<th>Number of lesson plans without</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Pre-requisite knowledge</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>(2) Reference text books indicated on lesson plan</td>
<td>24</td>
<td>4</td>
</tr>
<tr>
<td>(3) Time allocation for lesson activities</td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td>(4) Teaching and learning materials needed for lesson implementation</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td>(5) Had a key question indicated that promotes critical thinking</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>(6) Activities that promote active learning</td>
<td>25</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 2. Observations made during lesson planning (LP) and lesson delivery (LD)

<table>
<thead>
<tr>
<th>Aspects of the lesson implemented during lesson planning(LP) and lesson delivery (LD)</th>
<th>Number of lesson implemented with</th>
<th>Number of lesson implemented without</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1-1) Accurate pre- requisite knowledge (LD)</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>(1-2) Used lower grades syllabi to prepare pre-requisite knowledge (LP)</td>
<td>0</td>
<td>28</td>
</tr>
<tr>
<td>(2-1) Actual reference text books used during lesson planning (LP)</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>(2-2) Consulted the syllabus during the lesson planning (LP)</td>
<td>2</td>
<td>26</td>
</tr>
<tr>
<td>(3-1) Accurate time allocation for lesson activities (LP)</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>(3-2) Actual time management during lesson delivery(LD)</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>(4) Teaching and learning materials needed for lesson delivery (available and with correct numbers)</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>(5) Had a key question used during the lesson delivery that promotes critical thinking (LD)</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>(6) Involved activities that promote active learning (LD)</td>
<td>5</td>
<td>23</td>
</tr>
</tbody>
</table>
Looking at the results the following abilities and gaps of the teachers were revealed.

### 3.1 Ability to Analyse the Condition of the Learners

From the 28 prepared lesson plans, 27 lesson plans had pre-requisite knowledge indicated. During the lesson planning process none of the teachers were seen consulting the lower grades syllabus to analyse the content covered in the previous grades on the same topic but just indicated the pre requisite knowledge from abstract with assumptions that the indicated knowledge was covered earlier by the learners. Also the teachers of science did not take time to learn and understand the background of learners during the lessons to be able to establish the condition of the learner in the classroom.

Out of the 28 lessons delivered, it was observed that only in the 3 lesson did the teachers assess whether the learners had the indicated expected pre-knowledge but was observed introducing the new content knowledge expected to be acquired by learners.

When consulted on how the teachers developed the pre-requisite knowledge, the teachers indicated that it is the teachers’ duty to predict the pre-requisite knowledge considering what is thought to be simple to the learners.

### 3.2 Ability to Consult Instruction Materials

During lesson planning it was observed that text books were just referred to during the preparation of 16 lesson plans but when the lesson plans were examined, results show that 24 lesson plans had reference text books indicated on them. During lesson planning none of the lesson plans had indicated the syllabus to be one of the reference materials even when 2 teachers were seen to consult the syllabus during the preparation of the lesson plans. Also it was observed that none of the teachers referred to the teachers’ guide curriculum framework both at planning and implementation stage.

### 3.3 Ability to Management Time

After analysing the lesson plans, it was observed that all the 28 the lesson plans had time allocated for every stage of the lesson plans. During lesson planning, only 3 lesson plans were allocated time correctly as the teachers performed the indicated activities to establish the actual time the learners may need for the intended activities. Moreover during lesson delivery it was noted that 23 out of 28 planned activities could not be done as per plan as the time allocated was not sufficient. The teacher was then seen to dominate the lesson to be able to increase the speed of lesson delivery. When each stage of the lesson time was analysed in relation to time allocation, it was observed that more time was allocated to teachers’ activities than pupil’s activities despite the lesson plan having more
activities for the learners. This meant that the teacher was expecting the learners to be engaged in lesson activities without considering the time allocated for each activity.

### 3.4 Identification of Teaching and Learning materials

From the 28 lessons observed, only 5 teachers used the indicated teaching materials even though the 23 had the teaching and learning materials indicated on the lesson plan. When the teaching and learning aids indicated were analysed, it was observed that some of the aids were not even necessary for the effective delivery of the planned lessons. The activities outlined for the learners did not require the use of some of the teaching and learning materials indicated. Also the availability, numbers and quantities were also not indicated in line with the type of method to be used. The teachers did not go to the laboratory to confirm if the needed materials were available for the indicated activities. During the lesson delivery the teaching and learning aids were not even available to be used. The teachers of science went to class without the indicated learning materials and only started to explain what was expected to be seen if the learners were to perform the practical activities. In some cases, the teacher started looking for the aids during lesson delivery. This delayed the progress of the lesson as some of the time was lost for preparation of these teaching and learning materials. Moreover the teachers were not able to identify the effective teaching and learning materials (textbooks, learning aids, apparatus, and syllabus) suitable for the effective implementation of the lesson plans. They were also observed to have difficulties in improvisation of learning and teaching materials during the lesson planning and delivery.

### 3.5 Questioning skills techniques and activities that promote active learning

Out of the 28 lesson plans, 21 had key questions indicated but during lesson delivery only 4 of the indicated questions were used to promote active learning.

When the 28 lesson plans were analysed by the researcher, it was observed that 25 out 28 lesson plans included activities that promoted active learning while 3 lesson plans included more activities for the teacher. During the lesson delivery only 5 lessons involved active learning while in the 23 lessons the science teachers became the centre of the lessons and the learners were on the receiving end.

The teaching approaches indicated in the lesson plans were those that promoted active learning. But during lesson implementation the method were seen not to be effective as most time the learners had difficulties to perform the prepared activities, this was as a result of the information gap which was created by the prediction of pre-requisite information by the teacher. In addition, the teaching and learning materials were not available to be used by learners. This made it difficult for the learners to perform the activities that promote active learning successfully as indicated.

During the interviews when the teachers were asked why the differences in planning and implementation stages of the lessons. The three teachers of science who had lesson plans with activities that promoted teachers as the centre of the lessons confessed that they did not understand the difference between the lessons that promotes active learning and the lessons that promotes teachers as a centre of the lessons. As for those teachers of science that prepared lessons that could promote active learning but failed in delivering them accordingly, they gave their reasons of failing to teach the planned activities that involved active lessons such as, the active learning activities were time consuming and if lessons were implemented as such could waste a lot of time and would make it impossible for the teacher to finish the syllabi. Also the teachers of science mentioned that the learners were used to the tradition way of learning were the teacher were the only source of knowledge and their role was just to listen and receive the information from the teacher and that learners had no abilities to generate their own knowledge even when given necessary materials and activities that support active lessons. Moreover the teachers of science mentioned that the classes were too big due to over enrolment of learners on average of 65 learners in a class which could not promote active learning. Further the teachers of science claimed that the teaching and learning materials were not enough to allow the each learner be involved in active learning. When asked why they prepared lesson plans that had activities the promoted active learning despite knowing they could not teach accordingly. The 14 teachers said that they prepared lessons that promoted active learning as expected for the purposes of record keeping as it was an expectation of the ministry of education.
4 DISCUSSION

4.1 Ability to Analyse the Condition of the Learners

One basic skill that the teacher must have is the ability to understand the condition of the learner. As noted in the results, 27 lesson plans had pre-requisite knowledge indicated but the lesson delivery the identification of pre-requisite knowledge was done in abstract on assumption that the predicted content was seen to be easy by the teacher. The question that follows is who is to learn in the lesson planned. Is it the teacher or the learner? If the lesson plan is prepared for the acquisition of knowledge, skills and values by the learner then it becomes a concern that the teacher should indicate their own pre-requisite knowledge. If the teacher does not understand the actual condition of the learner, it becomes almost impossible for such a teacher to successfully implement a lesson that promotes active learning as they will be a knowledge gap in the learner that will affect the rate at which the new content knowledge will be understood by the learner.

Looking at the results it is therefore clear that the teachers did not understand the condition of the learners to be able to establish the point of connection for the development for the new content knowledge. There was failure by teachers to bridge information gap between pre-requisite knowledge and new content knowledge to be learnt.

4.2 Ability to consult Instruction materials

During lesson planning it was observed that text books were just referred to during the preparation of 16 lesson plans but when the lesson plans were examined, results show that 24 lesson plans had reference text books indicated on them. The results show that only two teacher were seen consulting the syllabus and none of them consulted the teachers’ guide. Inadequate consultation of the syllabi and other instruction materials was the gap observed in the teachers of science, they were seen to prepare lesson plans using a text books and copying the methods to be used from the selected text books. They were seen to consult fewer reference materials.

The question becomes which instruction materials guides and directs the teacher on the expected outcomes of each lesson? If the teacher does not realise the importance of the syllabi and teachers guide, it is difficult for such a teacher to guide the learners effectively. There are more chances of such a teacher to mislead the learners as understanding of the expectations of the curriculum may not be understood by the teacher. They seem to have inadequate skills by the teacher to identify the vital instruction materials needed for the effective lesson planning.

4.3 Ability to Management Time

From the results, it is clear that all the lesson activities had time allocated to them but in most of the activities, the time allocated was not adequate to allow the learners perform the planned activities. Time management is a skill that every teacher must have for a successful planning and delivery of lessons that involves activities that promote active learning. If the teacher can prepare a lesson without trying the lesson activities indicated in the lesson plan, it becomes difficult for such a teacher to allocate the actual time needed to successfully deliver such a lesson. It is therefore important that the allocation of time be adequate and realistic to enable more time for the learners to develop their own knowledge during a lesson that promotes active learning.

If a teacher can prepare a lesson plan with learner activities but overlook the need to allocate enough time for the implementation of such planned activities, then it becomes almost impossible for such a lesson to be implemented as per plan.

4.4 Identification of Teaching and learning materials

The results show that despite teaching and learning materials being indicated in 23 lesson plans, they were seen to be used in only 5 lessons. This was because the teachers only planned theoretically and did not go to the laboratory to physically check if the teaching materials were available and if they will be adequate for the activities to be performed by the learners. When interviewed on why the gap in planning and in delivery, the teachers said that they were planning for the records sake as they were expected to do so by the supervisors and they had no intensions of doing the practical activities during the lesson delivery. Such teachers give a wrong impression to the supervisors who monitor the teaching and learning process. It is therefore clear that the teachers had an understanding of what active learning is but has a negative attitude towards the implementation process.
4.5 Questioning skills techniques and activities that promote active learning

21 lesson plans had key questions indicated on the lesson plans but were observed being used effectively during the delivery of only 4 lessons. When it came to activities that promote active learning, the results show that only 5 lessons involved active learning despite having indicated the activities on the 25 lesson plans. When the teachers were interviewed why the gap, the teachers said that they had a knowledge of active learning of students, but they were used to conducting lecture type lessons, therefore, they were not able to find ways of giving opportunities for students to start thinking and developing their own ideas in the lessons. They thought in the lessons that students did not have the ability to generate their own ideas and comments in the activities as most of them were used to receiving teachers’ instructions and explanations during the lessons. Also the teacher indicated that the active learning were time consuming and if lessons were implemented as such could waste a lot of time and would make it impossible for the teacher to finish the syllabi. Based on the investigations, if a teacher undermines the learner’s abilities to generate new ideas and does not teach a lesson that promotes active learning it becomes difficult for such teacher to effectively interpret the revised curriculum to facilitate learners understanding of scientific concepts. Such incompetence has adverse effect on the acquisition of necessary knowledge, skills and values by learners. There seem not to be significant change in the classroom instruction despite the curriculum being revised, it is clear that teachers trained to teach teacher centred lessons had challenges to adjust the style of teaching to learner centred lesson.

5 CONCLUSION

The research established that most teachers who participated in the investigation seem to be able to prepare the lesson plans that promote active learning as they are able to indicate most aspects of the lesson plan but their preparation was not practical to be able to promote active leaning in lesson delivery. To be able to effectively deliver lessons that promotes active learning; (1) the teachers needed to spend more time in the preparation stage to be able to understand the condition of the learner. (2) The teachers are expected to allocate adequate time to all parts of the lesson plan to enable learners to accomplish all indicated activities on the lesson plan. (3) The teacher must practically perform the intended learner’s activities to be able to source the actual types and numbers of teaching and learning materials needed for each activity. (4) The teachers need to change their negative attitude towards active learning to be able to give the learners a chance to develop abilities to generate new ideas as they develop their own knowledge.

6 RECOMMENDATIONS

1 Teachers of science to interact more with instruction materials in order to increase the understanding of the revised curriculum which intend to promote active learning.
2 Teachers must spend more time in the preparation stage of the lesson plan to be able to understand the status of the learners and to prepare the activities practically that will be successfully implemented to promote active learning.
3 School based in-service must be promoted in institutions of learning that are needs driven to address issues of concern such as how to understand the condition of the learner, accurate preparation of learning materials and correct time allocation to the aspects of the lesson plan
4 The ministry of education must provide in-service training to the teacher in order to develop skills on how to practically plan the lesson to improve effect lesson delivery

ACKNOWLEDGEMENTS

We wish to thank our colleagues the teachers of science for being the sample for our research. This research would have been impossible without their active participation. We also want to extend our gratitude to the Japan based on JICA organisers and the Zambian Government for their efforts and financial support given during this study. We sincerely saying thank you as your efforts will definitely help a Zambian child.
REFERENCES


