



Learner Centred Education in the Teaching of Grade 11 Biology in Ohakafiya Circuit Schools of Namibia

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Abstract

Namibia in recent time adopted the learner centred education (LCE) policy that is geared towards education for all. It is believed that it will enhance the achievement of the four goals of education namely: access, equity, quality, and democracy. This study is aimed at finding out how schools in Ohakafiya circuit in Namibia implement LCE policy, including the possible challenges and best practises in the application of LCE teaching approach. The study used the qualitative research method. Due to Covid-19 regulations, data was collected by means of telephonic interview. A total sample of 16 participants from 3 different schools were purposively selected and used. The research participants comprise of principals, Head of Departments, and teachers. The data collected were analysed by means of coding and generation of themes. The study found out that, the teachers still fail to grasp the contextual interpretation of LCE that negatively affects its application or implementation. The challenges that impede on the implementation of LCE include overcrowding in classrooms, work overload for teachers, and the lack of skills on the part of teachers to design and assess LCE activities. The study concluded that the teachers be provided with continuous empowerment and support, be provided with sample materials, and create regular platforms of sharing ideas and resources.

Keywords: *Learner Centred Education; Teacher Centred Education; Qualitative Research; Biology; Secondary School*

Introduction

This article reports on a study that was conducted between 2020 and 2021. The aim of this study was to find out how learner-centered learning (LCE) is implemented in the teaching of Biology, among Grade 11 learners in schools in the Ohakafiya Circuit, Ohangwena Region of Namibia. For a successful shift from teacher-centered learning (TCE) to learner-centered learning (LCE) all difficulties, challenges

and needs that may arise as a result should be identified and studied to find ways on how to minimise them (O' Sullivan, 2016). LCE is an ongoing, evolving process that cannot be implemented at once or during a given timeframe. In order to promote a reliable LCE, teachers need to be prepared so that they are able to incorporate perhaps implement LCE in their everyday lessons.

Background of Study

Bansberg (2003) asserts that learner-centered learning is an approach that over-look the interests of other stakeholders in education such as teachers and administrators and focus on the interests of learners. The approach has an influence on the curriculum design, teaching and learning contents, and assessment activities. LCE focuses on learners' individual capabilities and learning interests making the teachers as facilitators of learning rather than the only source of information as it was perceived by the traditional method, the TCE. Further to this, LCE respects each learner's view making it a unique teaching methodology. In LCE, learners have a choice on what they learn, at what pace and the method of assessment of their learning. Conversely, in TCE the teacher is at the centre of learning and learners adopt the passive role. The teacher chooses what the learners learn, how it will be learned, and how it is to be assessed (Garrett, 2008). In a LCE classroom there is a variety of activities in which the learners are involved hands-on, which are used to promote independent learning. It involves the creation of a suitable atmosphere in the classroom where different learning activities that promote self-motivation and self-discovery takes place.

LCE was widely adopted in the curriculum reform in Africa because it was perceived that it would promote democracy and human dignity (O'sullivan, 2016). Therefore, after Namibia gained its independence in 1990, the new Ministry of Education and Culture introduced a policy that requires the transition from the TCE method that has been in use for a period of time, to LCE. LCE is a philosophy and methodology of teaching which believes that knowledge is constructed whenever people interact with the real-world environment around them. They use the experience in the environment to create meaning that is projected to the outside world (Erwin, 2004). Evidence from Colclough (2012) and Zufi (2018) research reveal that LCE classroom gives higher yields than rote learning-based classroom.

The challenges of LCE implementation include lack of teachers and learners' interest, class size and the learners are not comfortable in working with others (Muyoyeta, 2016). Another challenge is getting all teachers and learners ready and to have the capacity to adjust to a new teaching and learning method. On the same note, LCE is hindered by factors such as lack of electricity, labs, library, computers, internet, and overcrowded classrooms (Garrett, 2008). Furthermore, there have also been differences in the interpretation of the LCE, which in return may have led to lack of uniformity in the implementation of the new method. Schools could not equally implement the LCE because some schools had enough resources like fully equipped laboratories, enough classrooms, experienced and qualified teachers while other schools do not have (MBESC, 2003; 2016). In a study conducted in Sub-Shara Africa, Nsengimana, Rugema Mugabo, Hiroaki and Nkundabakura (2020) found out that teachers in the region have a limited capacity in designing questions that require learners to judge and analyse a specific topic that can promote independent learning. More importantly, the teaching staff had to go through workshops and training to equip themselves with necessary skills to be able to create conducive learning environment that will allow the LCE to take place in their classrooms. However, Schweifurth (2013) indicates that teachers' training in developing countries does not promote LCE because it is more focused on the transferring of knowledge and rarely tackle the challenges that teachers face in a real classroom situation. Schweifurth concludes that although LCE is seriously encouraged, its implementation normally fails.

In Namibia, LCE was implemented in 1991 as a teaching approach that all schools in the country would adopt and implement. However, there have been different interpretations of what LCE entails and

how to implement it. The process of development of syllabus, textbooks, teaching materials, assessments, have therefore then been developed and were found not truly reflecting LCE. As a result, lesson presentations in classrooms and teachers' training colleges and university are not consistent in the promotion of LCE in the teacher's professional development. Problems identified include a thorough understanding of the principles on which LCE is based, with a lack of background understanding of the LCE theory. This could be solved by consistency and correlation between what is offered at the teacher training colleges and the curriculum, syllabus, assessment and teaching materials (Swart, 1999).

Since the introduction of LCE, there have been many challenges that could not allow a smooth transitional process. The already existing education materials were designed in line with TCE, so they do not provide room for LCE to be put into practice. The challenges that faced the curriculum developers include, the amendment of the syllabus, textbooks, classroom set-ups, teaching aids to be in line with the new method of teaching which is LCE (MEAC, 2013). Another challenge was getting all teachers and learners ready and to have the capacity to adjust to a new teaching and learning method. The teaching staff had to go through workshops and training to equip them with necessary skills to be able to create conducive learning environment that will allow the LCE to take place in their classrooms (Muyoyeta, 2018). The differences in the interpretation of the LCE, which in return may have led to lack of uniformity in the implementation of the new method is another challenge (MBESC, 2003). In the former education system, TCE advocated that the teacher is the only source of information that is passed to the learners. In other words, the teacher is authorised to decide on the content that should be learned, at what pace and how should it be learned (Weimer, 2012).

According to MEC (1990) learners who were used to "teacher-centred instruction had difficulties in adapting to the new way of teaching, that is, LCE. Accordingly, they felt pressured to participate and be involved hands-on during class presentations because they were comfortable with the passive role of the learners in TCE. It is also not designed according to the MDG 2015 and SDG for vision 2030. Simalumba (2015) indicates that teachers and other stakeholders in education do not have enough skills that would enable them to successfully implement LCE. Furthermore, Simalumba (2015) adds that the extent to which LCE is implemented cannot be fully measured and its success in providing quality education thereof.

Zhao et al's (2014) study about Business Studies students' performance can as well be used in advocating for the importance of LCE. According to Zhao et al. (2014), many learners fail Business Studies in Grade 12 because of poor implementation when it comes to LCE. Moreover, learners do not master the competencies on the practical aspects as required by the syllabus and teachers keep on explaining the content without providing opportunities for learners to think independently, to be creative on their own and take part in practical lessons. As stated by Blumberg (2009), the teachers do demonstrations while learners sit and observe without being involved themselves. Based on these views stated earlier, it is of the greatest importance that teachers are provided with the necessary skills, environment and resources that will enable them to provide learner-centred teaching and learning activities to the learners (Zhao et al., 2014). If teachers fully implement LCE, then learners will fully benefit from the approach because they will be given a chance to take charge of their own learning and acquire quality thinking skills.

Ohangwena Region where this study was conducted is struggling with the lack of classrooms owing to high population and few senior secondary schools. The expected teacher to student ratio is 1:35 (Hanse, 2017). In some schools, there are 45-55 learners per classroom. With such situations, much need to be done to ensure the full implementation of LCE because overcrowding can hamper the implementation and progress of LCE (Hamatwi, 2018). For one to fully implement LCE activities there should be a right number of learners in class.

Problem Statement

The results in Biology for the secondary schools in Ohakafiya Circuit have been unsatisfactory with a range of below 40% as provided by the Ministry of Education, the Grade 12 national results analysis (2014-2018) (DNEA Result Analysis, 2014-2019) (Shapaka, 2020). The researchers believe, with the LCE in place, performance of learners was supposed to be above average, but it is not the case with Biology at the mentioned circuit. This prompted the researchers to conduct a study and assess the implementation of LCE in Biology, particularly for Grade 11.

Despite poor results in Biology, no research has been conducted on examining the implementation of LCE in enhancing effective learning in Biology, Grade 11 in Ohakafiya Circuit, Ohangwena Region. However, most of the studies conducted were about LCE implementation in general but not necessary on its effects on a specific subject, like Biology. Therefore, this study is unique and the first of its kind to examine the implementation of LCE in enhancing effective learning in Biology, Grade 11 in Ohakafiya Circuit because previously there were no secondary phases. The first secondary school with grades (11-12) was introduced in 2013 (Hamatwi, 2016). The question this article thus seeks to answer is *what are the impacts and challenges of LCE implementation on teaching Biology, Grade 11 in Ohakafiya Circuit?*

Literature Review

Impacts of Learner-Centred Education on the Implementation in Teaching Biology

Weimer (2012) conducted a study aimed at finding out if LCE approach can make a difference in learning. The findings indicated that students who were exposed to the LCE showed progress in acquiring the following skills: decision-making and problem-solving skills, discover new information and found solutions rather than waiting for the teacher to feed them with information. They become valuable team players who know how to discuss, co-operate, and positively deal with others in a group.

Learners' perceptions and value they attach to their own learning situation is a major aspect that dictates the mode of teaching approach that would be used for their learning. Some researchers (for example, Wallhead, 2004) pointed out an interdependent relationship between learner centred lessons and the development of deep approach to learning. Learners who are excited and have a positive view of the learning environment are stimulated to learn; they see a need to get involved and learn in a best possible way because they understand that learning will benefit them in a long run (Brown, 2003). Their curiosity is aroused by the classroom activities, and they see the classroom as a non-threatening safe environment for them to freely explore and learn new information. Brown adds that, learners who see learning from a negative perspective fail to see the importance of learning. They struggle to keep up with the activities and gain the necessary skills and they lack intrinsic motivation. They are threatened by the deep approach to learning and feel overwhelmed by the classroom environment. They are more likely to prefer the surface approach to learning (Means & Olson, 1995).

In Mwangi's (2014) study on how LCE strategies influence the learning of Biology students in Kenya, he found out that only 5% of teachers carried out a number of experiments in their daily Biology lessons, 70% do not include projects in the lesson presentations and only about 30% of teachers involve learners in designing experiments occasionally. This indicates that most of the lessons are still teacher-centred because learners are not given opportunities to be actively involved in practical lessons. Despite the need to implement learner-centred approach effectively, there are numerous challenges that hamper the process. These include the lack of qualified science teachers who have the capacity to implement LCE, lack of laboratory apparatus, lack of infrastructures, lack of funds, insufficient time provided for practical activities (Owimo, Ahmad & Yungungu, 2014). Many students fail Biology because of

insufficient textbooks, insufficient laboratory equipment, as well as dysfunctional laboratories which cause learners to be less exposed to practical activities (Muyoyeta, 2018).

Gosling (2003) case study in which he used a combination of teaching and learning methods found out that all the participants preferred the lesson where the teacher provided most of the learning content and many could not do well in lessons where they were given a chance to interact with the peers and the teacher. However, he pointed out that they performed better when they were given a chance to discuss in groups (Gosling, 2003). The study also indicated that it is a challenge to implement LCE because it demands efforts and hard work from both teachers and learners and through proper guidance from teachers, learners were able to adapt to the new learning approach. He added that it was a challenge to ensure effective use of the LCE approach because learners had different backgrounds and different cultural beliefs. This requires the teacher to have a clear understanding of each individual learning need. This enables the teachers to plan the lesson that is addressing the learning needs of each and every learner (Gosling, 2003).

On the same note, the findings by O'Connor (2014) emphasised that in learner-centered learning, the focus is placed on the learner during the learning session and put the interests of the learners first. The researcher further asserts that when the learner is the focus of the teaching process, learning becomes more meaningful to the participant that creates a better understanding of the lesson. The learners should be provided with activities that they are able to tackle on their own without getting stuck. According to McCabe (2014), activities should include real life examples or situations that learners can relate to and this will encourage more participation and interactions.

The Use of Learner Centred Activities in Biology

According to Kagan (2001), Biology is a science subject that requires a scientific approach. Learners should look for information by carrying out observations, doing practical experiments in laboratories, collect information from different sources, recording of observations and findings, analysing data and finally draw conclusions. Millar (2009) asserts that the laboratory activities have the following positive effects to the learners; practical experiments broaden the learners' understanding of a certain scientific topic. He added that, laboratory activities promote the learners' ability to design and carry out investigation where they are expected to gather information, judge, interpret, explore, manipulate and write conclusions. Furthermore, he added that the experience in the laboratory helps the learners to learn how to use different tools and lab equipment. Finally, the laboratory promotes the learners' interpersonal relationship skills. Similarly, Mwangi (2013) whose writing was about Biology practical lessons indicated that, in Biology practical lessons, students need to be provided with a better understanding of science and how getting involved in lessons can benefit their own learning. Accordingly, practical exercises can develop cognitive learning skills in students and group work ethics among learners.

Chang and Brickman (2018) wrote that the effectiveness of the group work activities can also be negatively affected by individuals who have dominating personalities because they will want only their ideas to be followed. This may result in some member losing interest and end up not contributing to the discussions. Hayes (2006) and Owodunni and Potokri (2016) equate group work to simulations. For them, simulation entails using scenarios whereby learners are given the opportunity to experience the reality of the situation; it will allow them to gain a deeper understanding of how it feels to go through such a situation because of the tendency of seeing the situation as entertainment. Behrendt and Franklin (2014) and Marbach-Ad and Rietschel (2012) typifies excursions and field trips as examples of these situation in science. In the view of these authors, excursions are trips taken by students with the purpose of observing a new environment different from their own and collect information and sample for experiments. Field trips expand the learners' awareness of their own community because they are afforded the opportunity to observe rather than being told or read from books about how the environment looks like. On the other

hand, Hayes (2006) maintains that simulations may not achieve their intended purpose if it is not carefully executed. Owing to its entertainment part, the learners may put much emphasis on making it fun and interesting at the expense of the purpose of learning.

In their case study focusing on the process by which Biology instructors shift from teacher-centred to learner-centred teaching, Marbach-Ad and Rietschel (2012) report that LCE teaching is focused on learning, and what the learners are doing is the main concern of the teacher. Wiener (2013) lists out five principles of LCE activities. They include activities that engage learners in their learning. The activities should empower and motivate students by providing them with so much power over their own learning. Moreover, the activities should be able to encourage collaboration and foster a learning culture, that is; to guide students to reflect on what they learnt and explain how they learned it; lastly, to thoroughly teach students the skills on how to learn. Fink (2015) asserts that teachers should design activities that allow them to change their roles from being experts who deliver knowledge to a teacher facilitator, giving some degree of control over the learning process to students.

Methodology

The qualitative research method approach and a phenomenology research design were used to conduct the study. The qualitative research approach was chosen because it has the potential to make the researchers to fully understand the participants' views and thoughts (Daymon & Holloway, 2002). In accordance with the postulation of Creswell (2013), the phenomenological research design helped us (the researchers) focus and get first-hand information from individuals/participants who have a direct involvement of an event or situation. This was our desire.

The target population of the study was Biology teachers, Science head of departments and principals from secondary schools in Ohakafiya Circuit. From this population, the sampled participants were accessed or selected. To access the participants and as well collect data, typical case sampling method was used. Baran (2016) asserts that typical case sampling chooses the participants that meet the certain criteria. The schools chosen are all secondary schools in Ohakafiya Circuit and they offer Biology at senior grades. The data were collected from three principals, three HODs, ten teachers from the three different secondary schools in Ohakafira Circuit. In each school, one biology teacher was selected except for one of the schools (school A) where an additional teacher was selected because the school is bigger than others. In sum, three secondary schools were selected on the following basis: (1) They all offer Biology subject at a secondary level in Ohakafira Circuit. (2) Their end of year Grade 12 results have been below average. (3) The schools are located in the same area which is easily accessible. A total of sixteen participants took part in the study.

Data was obtained through semi structured interview. For the interview, an interview schedule which is made up of open-ended questions was designed and used. This allowed the participants to answer without restrictions. To adhere to ethical issues on confidentiality, the identity of schools and participants are withheld. The schools and participants were given codes in the presentation of data. School A: has Principal A, HOD A, Teachers A1, A2, A3, A4 while the second school has Code B and the third School has Code C.

Presentation of Data and Findings

Obtained data which was by means of interviews were read and analysed thoroughly and primary themes were generated. In accordance with the writing of Hatch (2002), the data were read repeatedly, and categorised topics, looking for patterns and relationship that emerged from the data similarities and differences. The findings were categorised into the two main themes following themes identified in

conjunction with the research question, and the literature review. The themes identified are (1) the extent of LCE implementation during Biology lessons and (2) the use of activities in the teaching process.

The Extent of LCE Implementation During Biology Lessons

Almost every participant had knowledge about the new teaching approach that is adopted by the Ministry of Education. They could all explain about what LCE entails. Nevertheless, to the question that deals with the practicality of LCE in their lessons, whether they fully engage their lessons in the learner-centred approach, the majority are not accurately sure whether what they do in their lessons really conform to the set standards of LCE. There are a number of implications, the participants indicated they have a direct influence on the implementation of LCE in their own teaching. On the question of to what extent do they use LCE approach during their teaching of Biology the participants had this to say:

Teacher A1, *“one needs more time to prepare an LCE lesson because it has to be designed in a way that promotes independent learning of learners that require careful planning.”*

Teacher A2 *“When you want to finish a topic quickly, sometimes you take the easy way out which is retreating to the traditional approach of TCE. One can only plan a successful LCE lesson if he has a sound knowledge of the subject. There are some topics I stick to TCE because LCE gives too much freedom to learners who will challenge you with lots of questions you cannot answer.”*

Teacher A3 *“My lessons include both LCE and TCE. It depends on the topic presented; some do not fit for LCE.”*

Teacher A4 *“Two years course of Biology is a lot, and forces them to ignore the LCE aspects of lesson so that they can cover more content in a limited time.”*

Teacher B1 *“LCE lesson presentation uses more time. As a result, less is covered in more time, in a learner-centred classroom. Learners need time to discuss, explore, present, demonstrate, debate etc. All these opportunities use up much time of the lesson.”*

Teacher B2 *“the standardised scheme of work on how much content is to be covered per term also put them under pressure to complete the content required one has to ignore the LCE aspects as they consume more time.”*

Teacher B3 *“I try by all means to incorporate LCE in my teaching and when I am behind schedule of the content to be covered, I use weekends or school holidays to cover the content required, LCE require patience and more time.”*

Teacher C1, *“sometimes I give freedom to the learners to explore and research on a new material on their own. I send them to the library on their own and later they report back and discuss their findings.”*

Teacher C2, *“My learners seem to be so much exposed to TCE from the previous grades. This hinders the progress of LCE in my class because the learners prefer to sit and listen to the teacher rather than actively participate in the lesson. I actually have to force them to do activities independently and the result is sometimes discouraging.”*

Teacher C3 *“It is not easy to give differential lessons according to the different learning abilities of the learners as this consumes time. The gifted learners will complete tasks on time, while other may struggle to complete within the given timeframe.”*

HOD A *“The curriculum has more content to be covered, teachers normally rush through the content and this does not give room to fully present LCE based lessons.”*

HOD B *“Lessons are too short to accommodate LCE lessons.”*

HOD C *“Some of the teachers lack patience to plan and present LCE lessons; hence, prefer reading from the textbook and explain the content to the learners.”*

Principal A *“As I observe the lesson presentation of teachers at school, a handful of teachers uses LCE, although I have noticed that our teachers lack a variety of teaching styles. They get comfortable with one method and stick to that.”*

Principal B, *“I know my teacher uses LCE but I cannot guarantee that it is used to its full extent. Some of our teachers have limited subject content that can limit their potential in implementing LCE to the fullest.”*

Principal C *“Some teachers still do not fully understand the LCE notion because they just come to the class and give some topics to be discussed then leave the class shortly after that and come back when it finished. Who guide the learners in the teacher’s absence?”*

A number of participants have indicated that lesson time is not enough, it does not allow them to exercise LCE otherwise they will not complete the learning content stipulated by the syllabus. Teacher A1 stated that LCE needs thorough preparations that consume time. Teacher A2, said the lesson duration does not allow the different activities in the lesson, limited time made him revert to TCE to be able to cover a topic quickly. This is supported by Teacher A4 who said she ignored other aspects of the lesson just to enable her to cover more. Teacher B1 and B2 echoed the same sentiments when she said the aspects of implementing LCE in the lesson requires time, the opportunities given to learners to discuss and investigate need more time. Teacher C3 also stated LCE requires differential teaching based on the individual learners’ needs. The designing of teaching styles to suit the learners’ different capability is a time-consuming exercise. This is in line with Teacher B3 who said LCE need patience and more time. Further to this, Teacher B3 said she incorporates LCE in her teaching and if time does not allow her to complete the required learning content on time, she uses weekends and holidays to complete her syllabus. HOD 3 added that the duration of lessons is not enough for LCE.

Regardless the views of the teachers and HOD as illuminated above, Principal A stress teachers lack variety in their teaching. For this reason, they get comfortable in one teaching style which they stick to. Further to this, principal A disclose that most teachers do not know much about LCE and on account of that they are not eager to use variety of teaching materials as LCE demands. The view of HOD C supports principal A’s view because she thinks teachers lack patience to practice LCE. For Principal B, he is not convinced that teachers use LCE fully. Teacher A3 believes that there are some topics that are not easy to present in a LCE seem to agree with principal B conviction. Referring to himself, Teacher A3 said he looks at the learning content in order to decide which teaching methodology to use. Teacher C2 said the learners cannot function in LCE setup, because they are not exposed to it.

The Use of Activities in the Teaching Process

Participants of this research disclose that the impact of LCE can be seen in and how activities are used in the teaching process. In our analysis of the obtained data, we realise that different types of activities take place whilst lessons take place. The types of activities that take place signal in one way or the other the impact of LCE. Below are some of the excerpts of the participants that speak to their use of activities in their lessons:

Teacher A1, *“The activities that I use often are group discussion and slides on overhead projector. Laboratory practical is done occasionally due to limited materials. The only topic in Biology that has materials and we do it in the lab is food tests. Other practical, I only teach the steps involved in conducting it without actual doing it.”*

Teacher A2, *“I use field trips around the school, for the topic of diversity of living organisms, and written assignments plus, tests and homework.”*

Teacher A3, *“My lesson presentations normally consist of question and answer style. Normally I just give tests at the end of each unit and I give homework sometimes.”*

Teacher A4, *“Due to limited resources most of the teaching tools are not applicable to our school. I cannot give tasks that require learners to go and search for information because the school does not have a library, no computer lab. So the only sources of information for my learners are the textbooks and any materials I provide them with. I use local examples on topics plants and animals, give regular tests.”*

Teacher B1, *“Test, topic tasks, downloads You-tube videos and watch on the overhead projector, group work discussions.”*

Teacher B2, *“Group written work, peer teaching, tests; we take one trip to coastal towns of Walvis Bay and Swakopmund to study the marine ecosystem.”*

Teacher B3, *“I use topic task, written homework, tests, field trip in the school environment, give printed materials and explain.”*

Teacher C1, *“Tests, group discussions, projects, few laboratory practical, that are limited to the availability of material.”*

Teacher C2, *“We take trips to other well-resourced schools to conduct our practical. I make use of tests, assignments, and pair work too.”*

Teacher C3, *“Group work, test, assignments, explain on printed notes, revise past question papers, lab practical, experiments.”*

HOD A *“The schools are poorly resourced, the teacher are left with less options on the teaching activities, they mainly use test, assignments, lecturing method, homework.”*

HOD B, *“The teachers use printed notes for learners, presentation on overhead projectors, give test and laboratory experiments.”*

HOD C, *“Teachers through my office borrow or as for donations of lab equipment and apparatus to conduct practical activities. They give tests and assignments, group work discussions. Take learners for tours to other regions and also field trips in the surrounding.”*

Principal A, *“Teachers mainly provide printed materials and use them for lesson presentation, tests, group work, and homework.”*

Principal B, *“Activities include presentation of videos or slides on overhead projector, tests, projects and homework, the school has a library and computer lab buildings but they are empty. If they were stocked, they would allow a chance of using different varieties of teaching activities.”*

Principal C, "Teachers use, tests, homework, tours, and practical in the laboratories."

From the data collected, it is quite clear that these three schools do not use a variety of activities. Almost every participant uses tests, assignments, homework and group work (Teacher A1, A3, A4, B1, B3, C1, C3, HOD A and Principal, A). Teachers A1, B1 and Principal B indicated that they use the overhead projectors to present slides and also to present the You-tube videos. Teacher A1, C2 and HOD B, mentioned of the practical in the laboratories but cited a lack of materials, equipment as a big threat to the conduct of experiments and investigations at school. Teachers A1 said the unavailability of resources make her present practical activities theoretically without conducting the actual practical. They also indicated that they borrow materials from other school or alternatively, travel to those schools to use their laboratories, materials and apparatus. Teacher C1 and A1 added that the use of practical activity depends on the availability of materials.

Other methods used include field trips in the surrounding environment (Teacher A2 and HOD C). Other teachers also take the learner on educational tours to other coastal regions (HOD C, Teacher A2 and B2). Other listed methods are the use of print materials, pair work, projects and the use of past question papers. Principal B pointed out the empty buildings of library and laboratories that could have increased the chance of variety of teaching methods. Learners could be assigned to search for information in the library or on the internet but now there are no means of accessing different sources of information apart from the resources that the teacher provides to the learners (Teacher A4).

Discussion of The Findings

The Extent of LCE Incorporation During Biology Lessons

The effect of time on the LCE implementation is evident in the extent of LCE incorporation or implementation during biology lessons. The responses of the participants directly or indirectly compared the LCE to TCE. Both can hardly be separated by the participants because they are opposite of each other which is either used at any given time. When one does not use LCE then he or she is using TCE. This is the reason why most of the participants intermittently talked about TCE or mentioned it in their conversations.

The majority of participants indicated lack of enough time as the main obstacle in the implementation of LCE in their lessons. Findings indicated that teachers prefer TCE approach over the LCE approach because the TCE is faster. Therefore, time consumption is one of the impacts of LCE. For some participants, there is less time consumed when the learners are not given opportunities to do something in class. Other participants said the time allocated per lesson is short and does not also allow the use of LCE. They indicated that they use TCE to rush through the content whenever they are behind schedule with their syllabus. One participant also added that the preparation of an LCE lesson needs much time. Another participant also acknowledged the constraint by stating that she uses weekend and holidays to complete her syllabus on time. The idea of provision of time is stated by Diseth (2007), saying learners also need more time to complete a task, because if they are overwhelmed by the due date or too much limited time, they will be frustrated by the teaching approach. They will not enjoy the teaching style and it may lead to withdrawal and non-participant which is detrimental to the success of LCE. In the light of this finding, it becomes glaring that another impact of the LCE is availing learners room and platform to enjoy the lesson because LCE teaching style is supposed to be enjoyed by learners and can as well help to improve the academic performance of student because they tend to perform better when practical subject of which Biology is one when they are given a chance to discuss their learning activities in groups (Gosling, 2003; Owodunni & Potokri, 2016).

The Application and Impact of LCE

It is revealed in this study that some teachers lack teaching methodology varieties because they get comfortable with one method of teaching and thus stick to that, and they give activities to the learners and leave the class without proper guidance of the learners. Whilst this act may be seen as laziness on the part of teachers who exercise this act, it is somehow helpful to the learners. Muyoyeta (2018) contend that in order to develop the independent thinking skills and make learners take charge of their learning they must be allowed to work on their own with little guidance from teachers. On the same note, Gentry, Sallie and Sanders (2013) posit that the teacher must acknowledge that learners have different intellectual abilities, and their interests also differ that is why the teaching styles should be varied to suit the different learning abilities of the learners. For this reason, the teacher should not apply one teaching style. The assertion of Gentry et al. (2013) concur with the view of participants. For example, Teacher A3 said he looks at the topic to decide whether to use TCE or LCE. This indicates that he believes that there are certain topics that are suitable for TCE or LCE only. This seems to suggest that the impact of LCE in teaching Biology will be more significant in some topics than other topics in the same subject.

Teachers' preference for either or both TCE and LCE depend on their subject content knowledge. This was divulged particularly by two participants. They said, teachers' lacking a sound subject content knowledge is a problem to the effectiveness of teaching methods or approach. This means that some teachers could be avoiding the LCE because they are not comfortable with the subject content themselves. One teacher who said, the use of LCE gives too much freedom to learners to start ask challenging questions. This reinforces the proclamation of Gentry, Sallie and Sanders (2013). Gentry et al. (2013) underline that learner(s) should be afforded a non-threatening environment to ask questions, critique and give their own judgements and discuss among themselves to find solutions to each other's questions.

Conclusion and Recommendation

This study unequivocally stresses that learner-centred teaching is not learning of learners on their own, but the teachers play a vital role in ensuring independent and effective learning. Therefore, the experience of both the learner and teacher are inimical to the success of LCE. On account of this, teachers must consider the experiences of learners as well as their needs and ideas if the objectives of LCE are to be achieved. This sentiment looks logical because if the learning process is about making learners relevant to themselves and society, then their experience which could serve as prior knowledge for every lesson must be part of the teaching and learning equation. Therefore, we (researchers) agree with existing literature that teachers should design their lessons in a way that make learners feel that they are part of the education process and to a significant extent feel that they are a force to reckon with in their own learning.

While we note the introduction of LCE in Namibia to be recent like in most African countries, we would like to suggest based on the paragraph above that the syllabus, textbooks, assessment, and examinations particularly for Biology which this study focused on be developed to align with the LCE in order for its implementation to be beneficial and less painstaking to all education stakeholders beyond the learner who is at the centre of the learning approach.

Teachers face numerous challenges that hamper a smooth implementation of LCE, ranging from, inability to acknowledge the importance and benefits of LCE owing to limited knowledge about its principles. Their understanding about LCE need to be enhanced so that they are able to incorporate or implement it in their teaching with ease. Inadequate teaching resources were also highlighted as a threat to the functioning of LCE. The participants request of ready-made sample learners' activities that will make their work easier rather than spend time struggling to create teaching resources must be noted. Overcrowded classroom, a hefty workload of teachers was raised too; the heavy workload put pressure on teachers, leaving them with limited time to thoroughly prepare their lesson in line with LCE. The

participants also talked about a congested syllabus content that needs more time than the one availed for teaching the content indicating that it forces them to rush through the content without taking time to involve the learners. They added that the inadequate support system from the advisory services, leaves them struggling on their own especially with content and the best ways of presenting the topics. The researchers believe that it is imperative that the teacher receives proper training and guidance for them to be well equipped for the implementation of LCE. More importantly, teachers need skills that will make them comfortable in the implementation of LCE. If the teachers are not sure of what to do then they will always avoid the LCE as a whole and the implementation of LCE will never be satisfactorily achieved.

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