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EDITORIAL

The performance of the Science Foundation Programme (SFP) graduates in their 1st year of the degree programmes at UNAM from 2005 to 2016
Lahja Leena T. Nghipandulwa, Hileni M. Kapenda and Helena Miranda

The effects of concept mapping on primary school learners’ achievement in Natural Science in Windhoek, Khomas Region, Namibia
Jafet Shikongo Uugwanga and Hedwig Utjungrua Kandjeo-Marenga

Factors contributing to low teacher morale in secondary schools in the Oshana Educational Region, Namibia
Teofilus Nekongo Shavuka and Regina Mpingana Shikongo

Secondary school teachers’ perceptions of practical work in Biology in the Oshana Educational Region
Lahja Leena T. Nghipandulwa, Choshi D. Kasanda and Hileni M. Kapenda

The perceptions of principals regarding their working relationship with school board members in the Zambezi region, Namibia
Stanley Chombo Chombo

Relevance of performance indicators to schools’ academic improvement
Eugene L. Maemeko and Muzwa Mukwambo

Contributors’ List
Editorial

Welcome to the National Institute for Educational Development’s (NIED) 2020 Volume 28, Issue 2 of the journal Reform Forum. This volume includes six most recent articles contributed by our readers which include titles like: The performance of the Science Foundation Programme (SFP) graduates in their 1st year of the degree programmes at UNAM from 2005 to 2016; Factors contributing to low teacher morale in secondary schools in the Oshana Educational Region, Namibia; The perceptions of principals regarding their working relationship with school board members in the Zambezi region, Namibia; and Relevance of performance indicators to schools’ academic improvement. This latest publication fulfils NIED’s mission of dissemination of educational information, experiences and the results of studies which is an essential part of the Institute’s mandate, closely linked with its (teacher) training, research activities and curriculum development. We invite you to it down while you read this edition with great interest and think about contributing an article towards the next publication. The reader should visit our website: www.nied.edu.na where you will find the latest titles in the Reform Forum (all downloadable), as well as additional information on the Institute and its programme of activities.

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The Editorial Committee
The performance of the Science Foundation Programme (SFP) graduates in their 1st year of the degree programmes at UNAM from 2005 to 2016

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Abstract
This study investigated the performance of the SFP graduates in their 1st year of the degree programmes at UNAM from 2005 to 2016. The study used a quantitative research design. The population of the study consisted of the 1298 former students who had gone through the UNAM SFP from 2005 to 2016 at the Oshakati campus. The data were conveniently collected through document analysis from a sample of 128 former SFP students who went through the SFP at UNAM Oshakati Campus from 2005 to 2016. The researchers also analysed the University of Namibia Integrated Tertiary System (ITS) database to extract student data to find out how many former SFP students had registered for degree courses; and also to find out the performance of these students in their courses of study at UNAM. Data mining techniques were used to analyse the data from the respondents. Descriptive statistics, i.e., frequency tables were used to analyse the data on the performance of the SFP graduates in the 1st year degree programmes at UNAM.

The findings of the study showed that since the establishment of the SFP in 2005 at the Oshakati campus the SFP has been growing and attracting more students within Namibia. Further, more than half of the former SFP students had enrolled into UNAM degree or diploma programmes from 2006 to 2016. The findings also indicated that the SFP was meeting its mandate and achieving its goal and objectives of preparing students for the first year of their studies at tertiary institutions. The study recommends that further research be carried out to compare the performance of SFP students at UNAM and the direct entry Grade 12 students into university degree programmes, further a longitudinal study should be carried out to shed light on the performance of SFP graduates throughout their studies: from first year to their final year of studies.

Keywords: Science Foundation Programme, science related courses, tertiary institutions, performance of the SFP graduates, degree programmes, UNAM

Introduction and background
As in most African countries, formal education in Namibia prior to independence was limited and segregated. It was based upon ethnic, racial and tribal lines (Ministry of Education and Culture, 1993). Education provision in Namibia during the apartheid era was unfair, discriminatory and fragmented. At independence in March 1990, a new Ministry of Education, Culture, Youth and Sport was established, which developed a new teaching and learning paradigm meant to dismantle the previous regime's policy of segregation and inequality of access; it had to reflect the new government's priorities of equity, access, quality, and democracy in education (Angula, 1990). The University of Namibia (UNAM) joined the government in responding to the educational needs of disadvantaged learners; especially those in rural and remote regions in the country. Accordingly, in 2005, the UNAM Senate approved the establishment of the Science Foundation Programme (SFP) at the Oshakati campus, “to redress the inequities of the past; resolving the constraints to the expansion of the University caused by the weak academic preparation of students and widening access and at the same time maintaining the standards and quality of its academic programmes” (Naukushu, 2005, p. 23).
The SFP is a one-year full time face-to-face programme. Students enrol for five compulsory examinable subjects: English, Mathematics, Biology, Chemistry, and Physics (Chirimbana, 2014). The SFP is offered to Grade 12 certificate holders who show potential to pursue a degree in science-related fields but do not meet the UNAM entry requirements of 25 minimum points in five subjects. The main aim of the SFP is to prepare students from marginalized communities for the first year of studies at tertiary institutions. The admission criteria of the SFP are a minimum of 22 points in the best five National Senior Secondary Certificate (NSSC) subjects or an equivalent Grade 12 qualification: English (minimum E), Mathematics (minimum E), Biology (minimum D), and Physical Science (minimum D). On successful completion of the above five subjects, students can then enrol in mathematics and science-related fields at UNAM. The minimum pass for a SFP student to be admitted to a degree programme is a 60% (C) average score (University of Namibia, 2005).

Problem statement
Since the introduction of the SFP at UNAM Oshakati campus in 2005, no study has been carried out to evaluate this programme and to find out how the former SFP students performed in their first year of studies at UNAM. There is therefore a need to assess the effectiveness of the SFP in preparing students for their first year of study in science degrees at UNAM. It is against this background that this study was carried out to investigate the performance of the SFP graduates in their 1st year of the degree programmes at UNAM from 2005 to 2016.

Theoretical framework
This study is underpinned by the programme evaluation theory (Bickman, 2012). The evaluation theory can be used to provide a conceptual framework for monitoring, for evaluation, or for an integrated monitoring and evaluation framework. It is very useful to bring together existing evidence about a programme, and to clarify where there is agreement and disagreement about how a programme is understood to work, and where there are gaps in the evidence. It can be used for a single evaluation, for planning cluster evaluations of different projects funded under a single programme, or to bring together evidence from multiple evaluations and research (Benjamin & Greene, 2009).

A programme evaluation generates information about programme effectiveness and how to improve programmes; programme evaluation supports evidence-informed decision-making (Funnell & Rogers, 2011). The researchers used the programme evaluation theory to assess the effectiveness of the SFP in preparing students for tertiary education. In this study the theory was used to gain information that might inform the stakeholders, responsible for the establishment of the SFP at the UNAM Oshakati campus, and whether this programme was achieving its objectives of widening access, equity and equality to higher education of the previously disadvantaged and/or marginalised groups by preparing them for the first year of their studies in science-related degree programmes at UNAM.

Literature review
Generally, bridging courses are used as an alternative entry to university studies, and as such are designed to identify academically talented but underprepared high school graduates who want to pursue degree studies (Grayson, 1997). According to Trigwell and Corrigan (2009), preparatory and bridging courses are those that fill a gap between knowledge, skills and attitudes of students wanting to enrol at a university and the actual requirements for a tertiary course. The SFP at the Oshakati Campus was developed to assist disadvantaged, underprepared and/or marginalised students, from remote secondary schools across the northern and central regions of Namibia, to enrol at UNAM for degree courses in science.

There has been a worldwide trend to broaden access to universities (Grayson, 1997). Like other developing countries, South Africa, and its neighbouring African states (Namibia included), suffer a serious skills shortage with a lack of suitably qualified manpower in the sciences. Identifying the potential in students from academically disadvantaged backgrounds to succeed in the sciences is a crucial factor for Southern African tertiary institutions. According to Donaldson and Lipsey (2004, p. 152) “during the last decade a variety of efforts were made to address the needs of school-leavers who were not ready to enrol for higher education. A route often chosen to address the needs of this group is by way of bridging courses”. The UNAM SFP which was developed to cater for Grade 12 school-leavers is a bridging programme.
The University of Namibia faced serious challenges in responding to the needs and demands of the disadvantaged society, often those living in rural areas and far outlying regions (Uugwanga, 2006). The establishment of the SFP at UNAM aligns with social accountability and equity imperatives of tertiary institutions, assists in addressing inequities in secondary education outcomes experienced by under-served communities and supports a widening participation agenda for tertiary education (Smith, 2018).

Many of the students who gain direct access to the university do so without the critical knowledge and skills required to comprehend the subject matter in sciences and mathematics in the first year. This is attributed to the fact that learners graduating from historically disadvantaged schools often do not attain the same level of understanding and educational achievement as the ones who attend well-resourced schools (Chirimbana, 2013).

Uugwanga (2006) observes that in South Africa, for instance, the bridging courses to higher education programmes aim at increasing graduation rates at public universities by giving promising students in mathematics, science, and agricultural fields an opportunity to learn, excel and contribute positively to economic growth. According to Pandor (2004), research has shown that students who access university programmes through foundation programmes stand a better chance to complete their studies in time compared to those who access universities with a Grade 12 qualification. This is because during the year that students do a SFP course they are equipped with enough expertise and experience necessary for them to do better in their selected degree programmes; this is not always done at Grade 12 level (Pandor, 2004).

Methodology
This study adopted a quantitative research design to investigate the performance of the SFP graduates in their 1st year of the degree programmes at UNAM from 2005 to 2016. The population of this study consisted of 1298 former UNAM SFP students from 2005 to 2016 at the Oshakati campus. Document analysis was used to collect information from the former SFP students who went through the SFP at UNAM Oshakati Campus from 2005 to 2016. Document analysis enabled the researchers to interpret, give voice and meaning around an assessment topic (Platt, 2001). Payne and Payne (2004) note that document analysis is a technique used to categorise, investigate, interpret, and identify the attributes of a certain variable.

The researchers analysed the University Integrated Tertiary System (ITS) database to extract students' data in order to find out how many former SFP students had registered for degree courses; and also to find out the performance of these students in their courses of study at UNAM. Data mining techniques were used to “… discover patterns and trends” (Nong, 2003, p. 23) in the collected information from the University ITS database using Oracle 9i software. The students’ marks for all subjects were extracted in order to find out the performance of the SFP graduates in their 1st year, of their study at UNAM. Payne and Payne (2004) assert that a key advantage in conducting documentary analysis is that it eliminates the effect that a researcher might have on a person or situation where the research is being conducted.

Data from data mining techniques were analysed using descriptive statistics. Frequency tables were used to analyse the data on the performance of the SFP graduates in the 1st year degree programmes at UNAM to determine the total number of former SFP students who were currently enrolled in degree programmes at UNAM. This information enabled the researchers to determine the performance of the SFP graduates in their 1st year of the degree programmes at UNAM from 2005 to 2016. Ethical clearance was granted by the UNAM Research Ethics Committee (UREC). Accordingly, the researchers were given access to the students' data from the UNAM system.

Results
Table 1 shows the intake of students into the SFP from 2005 to 2016 (University of Namibia, 2016).

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of students in the SFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>50</td>
</tr>
</tbody>
</table>
The researchers analysed the students' data from the University Integrated Tertiary System (ITS) database to find out how many former SFP students had registered so far, for which degree courses, under which Faculty or school, and the performance of these students in their courses of study at UNAM. Table 2 presents the performance of the SFP graduates in their first year of degree programmes at UNAM from 2005 to 2016. Also shown are the number of former SFP students by their field of study, the number that passed their first year, and the number that were not admitted to write the final examination in their first year of studies at UNAM.

Table 2: Performance of the SFP graduates in their 1st year of a degree programme study at UNAM from 2005 to 2016 (n=979)

<table>
<thead>
<tr>
<th>Faculty School Name</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &amp; NR</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>13</td>
<td>19</td>
<td>11</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>E &amp; MS</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>EDU</td>
<td>50</td>
<td>47</td>
<td>21</td>
<td>21</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>E &amp; IT</td>
<td>10</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>52</td>
<td>21</td>
</tr>
<tr>
<td>ES-U</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>10</td>
<td>16</td>
<td>11</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>SOC</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>SC</td>
<td>21</td>
<td>19</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>8</td>
<td>1</td>
<td>18</td>
<td>17</td>
<td>1</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>Grand Total</td>
<td>43</td>
<td>36</td>
<td>7</td>
<td>5</td>
<td>55</td>
<td>47</td>
<td>5</td>
<td>2</td>
<td>17</td>
<td>11</td>
<td>29</td>
<td>24</td>
</tr>
<tr>
<td>Progression rate</td>
<td>85%</td>
<td>85%</td>
<td>89%</td>
<td>50%</td>
<td>58%</td>
<td>42%</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
<td>86%</td>
<td>50%</td>
<td>93%</td>
</tr>
</tbody>
</table>

*Table 2: Information taken from University of Namibia (2016). UNAM database, 2005-2016

Key Table

<table>
<thead>
<tr>
<th>P</th>
<th>Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Fail</td>
</tr>
<tr>
<td>N</td>
<td>Not admitted to write the examination</td>
</tr>
<tr>
<td>E</td>
<td>Enrolled</td>
</tr>
</tbody>
</table>

Progression rate

Pass/enrolled x 100

A & NR | Agriculture & Natural Resources

E & MS | Economic & Management Science

EDU | Education
Table 3 compares the student intake in the SFP with the enrolment rate of UNAM degree or diploma courses from 2005 to 2016. Comparative data were used to find out how many former SFP students had enrolled at UNAM.

### Table 3: SFP student intake vs student enrolment in UNAM first year of study from 2006 to 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Student intake into the SFP (A)</th>
<th>Students enrolled into UNAM degree or diploma courses (B)</th>
<th>Percentage Progression rate into UNAM degree or diploma courses (B/A*100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>50</td>
<td>43</td>
<td>86</td>
</tr>
<tr>
<td>2007</td>
<td>60</td>
<td>55</td>
<td>92</td>
</tr>
<tr>
<td>2008</td>
<td>66</td>
<td>51</td>
<td>77</td>
</tr>
<tr>
<td>2009</td>
<td>72</td>
<td>61</td>
<td>85</td>
</tr>
<tr>
<td>2010</td>
<td>100</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>2011</td>
<td>120</td>
<td>92</td>
<td>77</td>
</tr>
<tr>
<td>2012</td>
<td>147</td>
<td>122</td>
<td>83</td>
</tr>
<tr>
<td>2013</td>
<td>130</td>
<td>92</td>
<td>71</td>
</tr>
<tr>
<td>2014</td>
<td>137</td>
<td>125</td>
<td>91</td>
</tr>
<tr>
<td>2015</td>
<td>141</td>
<td>135</td>
<td>96</td>
</tr>
<tr>
<td>2016</td>
<td>140</td>
<td>128</td>
<td>91</td>
</tr>
</tbody>
</table>

Table 3 shows that in 2015, 96% of the SFP students enrolled in UNAM degree or diploma courses; followed by 92% in 2007. During the period 2006 to 2016 more than half of SFP students enrolled in UNAM degree or diploma courses. Comparative data in Table 4 show the total enrolments of the SFP students in their first year at UNAM against their total passes, and progression rates into the second year of their studies from 2006 to 2016.

### Table 4: Total enrolment, number passes and student progression rates from year 1 to year 2 of their studies from 2006 to 2016.

<table>
<thead>
<tr>
<th>Years (1st year)</th>
<th>Enrolment rate</th>
<th>Number Passing</th>
<th>Progression rate% 1st to 2nd year of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>43</td>
<td>36</td>
<td>84</td>
</tr>
<tr>
<td>2007</td>
<td>55</td>
<td>47</td>
<td>85</td>
</tr>
<tr>
<td>2008</td>
<td>51</td>
<td>45</td>
<td>88</td>
</tr>
<tr>
<td>2009</td>
<td>61</td>
<td>55</td>
<td>90</td>
</tr>
<tr>
<td>2010</td>
<td>75</td>
<td>66</td>
<td>88</td>
</tr>
<tr>
<td>2011</td>
<td>92</td>
<td>82</td>
<td>89</td>
</tr>
<tr>
<td>2012</td>
<td>122</td>
<td>110</td>
<td>90</td>
</tr>
<tr>
<td>2013</td>
<td>92</td>
<td>79</td>
<td>86</td>
</tr>
<tr>
<td>2014</td>
<td>125</td>
<td>113</td>
<td>90</td>
</tr>
<tr>
<td>2015</td>
<td>135</td>
<td>120</td>
<td>89</td>
</tr>
<tr>
<td>2016</td>
<td>128</td>
<td>113</td>
<td>88</td>
</tr>
</tbody>
</table>
Table 4 shows that from 2006 to 2016 most students passed their first year at UNAM and progressed to the second year of their studies. The highest progression rate of 90% from 1st year to 2nd year occurred in 2009, 2012 and 2014.

Discussion of the results
When the SFP was launched in 2005 at the Oshakati campus there were only 50 students (Naukusku, 2012; Chirimbana, 2014). The student numbers have increased since then to 135 in 2016 (see Table 1). This shows the perceived programme’s relevance in the lives of the potential SFP students and as alternative entry to UNAM and other tertiary institutions in the country.

In 2015, 96% of the former SFP students enrolled in UNAM degree or diploma courses, followed by 92% in 2007 (see Table 2). As evident in Table 2, more than half of the former SFP students enrolled into UNAM degree or diploma courses from 2006 to 2016. This seems to suggest that the programme was clearly attaining its objective of offering an alternative route of entry to UNAM degree and diploma programmes.

Indeed, Table 3 suggests that the SFP was meeting its mandate and achieving its goal and objectives of preparing students for first year of their studies at UNAM. Each year more students progressed into their second year of studies. The high students’ progression rates over the years from first year at UNAM into their second year of studies could be attributed to the efficient manner in which the SFP prepared them for the first year of their study at UNAM. What happens to the former SFP students’ progression from the second year onwards has little to do with the SFP preparations. The SFP is meant to help students enrol in courses at UNAM and succeed in their first year of study. It is reasonable to assume that the SFP laid a strong educational foundation for these students to succeed at UNAM since the former SFP students seem to be doing well in their first year studies at UNAM.

Conclusion and recommendations
It can be concluded from the document analysis presented in this paper that the SFP has been growing and attracting more students within Namibia due to its perceived relevance and as an alternative route into UNAM. It can also be concluded that more than half of the former SFP students were enrolled in UNAM degree or diploma courses for the years 2006 to 2016 showing the effectiveness of the programme in preparing students for entry into UNAM. Therefore, it can be concluded that the SFP has been effective in preparing students to take up further studies in science and science-related fields since the students were passing their first year of tertiary education at UNAM. Based on the study results, the researchers recommend that, further research should be carried out to assess the performance of SFP students at UNAM and the direct entry Grade 12 students into university degree programmes. A longitudinal study should be carried out to shed light on the performance of SFP graduates throughout their tertiary education studies: from first to final year of study.

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The effects of concept mapping on primary school learners’ achievement in Natural Science in Windhoek, Khomas Region, Namibia

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Abstract
The study investigated the effects of concept mapping on achievement among the Grade six learners in Natural Science. The study was conducted with 31 learners at Alpha Primary School and 34 learners at Omega Primary School. A quantitative approach in which the quasi-experimental design pre-test and post-test were used in order to find out the difference in learners’ understanding of “matter and its properties” when taught through concept mapping and traditional lecture methods. All learners were given the same pre-test on matter and its properties after which the experimental group was taught the content using the concept mapping method and the control group was taught using the traditional lecture method. The same post-test was administered to both groups. Both the pre-test and post-test and interventions were constructed, conducted and presented by the researcher. All learners were given the same pre-test to write on the first day of conducting the research at each school followed by the interventions for two weeks and then the same post-test on the last day of conducting the research. Each test had 22 items. The scores on both tests were analysed using SPSS data analysis.

The findings revealed that learners taught through concept mapping outperformed those who were taught through the traditional lecture method. The concept mapping group mean scores on the pre-test and post-test were 33.97 and 47.32 respectively, while the traditional lecture group had 20.29 and 27.94. This indicated a significant difference in the performance of the experimental group at 0.05 significant level and proved that concept mapping improves learners’ achievements in Natural Science. The study recommended that the use of concept mapping should be extended to other subject areas in order to enhance effective teaching and learning. And further research on concept mapping should be carried out on the implementation and application of concept mapping strategy in all science subjects including mathematics.

Keywords: concept mapping, conceptual understanding, science, science teaching, scientific concepts, traditional lecture

Introduction
The difficulty of teaching and learning in science is not unique to African countries but manifests itself in Western countries too, such as the United States of America (Ottevanger, van den Akker, & de Feiter, 2007). In Namibia, most teachers seem to focus on using the lecture method of teaching rather than new and innovative methods of teaching (Amoonga & Kasanda, 2011; Kapenda, Kandjeo-Marenga, & Kasanda, 2002). Kasanda (2005) conducted a study on problems that prevent effective development of the teaching of mathematics and science education in Namibia and Zambia in primary and secondary schools. The study found that teachers concentrated on teaching rules more than employing innovative teaching strategies in teaching science content. Amoonga and Kasanda (2011) also found that teachers in Namibian schools prefer to use the lecture method. The lecture method is not only used by Namibian teachers, but globally (Mwakapenda, 2006; Safdar, Hussain, Shah, & Rifat, 2012). Lubben, Kasanda, Gaoseb, Kandjeo-Marenga, Kapenda, and Campbell (2005) also found that the lecture method was preferred by many teachers since many teachers think that the lecture
strategy could contribute to rote learning and, thus, high retention of subject content by most learners and consequently high performance in examinations. There is therefore a need to use innovative teaching strategies such as “concept mapping” in teaching and learning science concepts rather than the lecture method in order to nurture learners’ scientific skills and understanding.

Notably, concept mapping is regarded as the most constructive teaching and learning method in developed and developing countries such as Finland (Hyvonen, 2011) and South Africa (Titus, 2013). In light of this, it is obvious that concept mapping has many positive effects on learners and teachers, as this method fosters meaningful learning instead of rote learning (Beigzadeh & Haghani, 2015) and has noticeable positive impacts on learners. In addition, concept mapping method provides learners with opportunities to operate at the main domains of learning.

Literature review
What is concept mapping?
Concept mapping is a teaching and learning tool derived from Ausubel’s learning theory which is used to help learners explain and generate individual understanding about certain concepts (Novak, 1990; Novak & Canas, 2008). According to Prediger (2008), cross-links or relationships between concepts in different domains of the concept map, for example, events or objects help learners to understand relationships amongst given concepts. The process of teaching and learning by using concept mapping, gives learners a structured space in which to reflect upon a specific theme and topic, that is “matter and its properties” (Elizabeth, 2013) and to scientifically clarify their ideas on that theme and topic. According to Vitale and Romance (1992), mastery of core science concepts could assist learners to improve in understanding and learning science. Elizabeth (2013) notes that concept mapping teaching strategy gives learners a clear understanding on how science concepts are inter-linked when learning through concept mapping rather than given the traditional lecture.

In addition, a concept map is a “graphical representation of the relationship among terms” (Vanides, Yin, Tomita, & Ruiz-Primo, 2005, p. 27). Canas & Novak (2009) and Vanides et al. (2005) define concept mapping as a graphical tool for organising and representing science concepts. In other words, learners tend to learn and perceive science concepts from concept maps in a visual manner that enables them to organise, remember, represent and recognise scientific concepts reasonably well. This means that specific concepts in concept mapping are connected together by arrows labelled with short phrases that describe the relationship between the two connected concepts. These connected concepts could be read as a sentence to describe the connection and relationship between these concepts. Ebenezer and Conner (cited in Safdar, Hussain, Shah, & Rifat, 2012) state that a concept mapping is a “semantic network showing the relationships among concepts in a hierarchical fashion” (p. 57). When concepts are written in a hierarchical approach, learners tend to remember them easily than when written in text format and that concepts in semantic network help learners and teachers to organise their thoughts and ideas in an orderly way.

Generally, teachers might use the concept mapping strategy in teaching science concepts for different reasons. Some teachers tend to use it in order to determine the nature of learners’ existing ideas on what they already know and what they need to be taught (Asan, 2007). Other teachers use concept maps in order to provide learners with opportunities to operate at all six levels of Bloom’s educational objectives of the cognitive domain (Safdar et al., 2012). Thus, allowing learners to engage with the subject matter at all levels of the cognitive domain. For example, Vanides, Yin, Tomita, and Ruiz-Primo (2005) conducted a study on using concept maps in the science classroom. They found that the concept mapping strategy provides learners with opportunities to:

- discover the connections between the science concepts;
- organise their thoughts in making sense of the science concepts;
- visualise the relationships between key concepts in a systematic way in learning science concepts;
- reflect on what they have learned in constructing meaning; and
- show their understanding of science concepts by illustrating what they have
learned in visual concept mapping (Vanides et al., p. 28).

It is, for the aforementioned reasons that teachers tend to use the concept mapping strategy in order to allow learners to discover the connections between the science concepts first and in so doing be able to understand the science concepts in a manner which is easy (Mwakapenda & Adler, 2003). For example, it becomes important for learners to connect and link concepts by using new linking words such as “formed by”, “can be changed to”, “taken up by”, “released from” in order to construct new understanding about the science concepts learners are taught (Asan, 2007). Moreover, such an exercise is used to determine the nature of learners’ existing knowledge and the acquisition of the taught concepts.

Despite the positive contributions earlier discussed, the use of the concept mapping strategy seems to have challenges too. Learners seem to experience many challenges when they are not properly introduced to how to use and/or present science concepts in a concept map hierarchy. Mwakapenda (2004) stated that learners may experience some challenges even if they were taught specific concepts, for example, some learners may not have understood the content well enough in order to be able to communicate the knowledge gained. In this case, the concept mapping strategy might prevent learners from meaningful learning or give learners an opportunity to understand science concepts as well as to critically and freely reflect on relationships between science concepts or ideas. Chiou (2008) conducted a study on the effect of the concept mapping strategy on the Taiwan University students’ learning, achievements and interests and found that nearly half of the students could not quickly adapt to the concept mapping strategy. Furthermore, it was indicated that a lack of familiarity with concept mapping technique could be frustrating and that the training of learners to use the concept mapping learning strategy can be tiresome and time-consuming.

Several studies have been conducted in the Namibian context in the field of science education on characteristics of practical work in science classrooms; post colonialism and globalisation in science education; the role of everyday contexts in learner-centred teaching; and the use of constructivism in teaching mathematics for understanding (Amoonga & Kasanda, 2011; Kapenda et al., 2002; Kasanda, 2005; Lubben, Kasanda, Gaoseb, Kandje-Marenga, Kapenda, & Campbell, 2005). Thus far, no study seems to have been conducted in Namibia on the uses of innovative teaching strategies such as the concept mapping strategy in teaching science.

Research problem
Concept mapping is one of the new innovation teaching strategies in teaching science subjects in schools. Although some studies (Amoonga & Kasanda, 2011; Asan, 2007; Lubben et al., 2005; Mwakapenda, 2006) consider the concept mapping teaching strategy to be an effective teaching strategy, not many teachers seem to be equipped in using this strategy during instruction (Crawford, 2007; Grosser, 2007).

In Namibia, the application of concept mapping in teaching is still a new teaching strategy and teachers are not well equipped to use it (Amoonga & Kasanda, 2011; Kapenda et al., 2002; Lubben et al., 2005). Therefore, Namibian science teachers seem to experience some problems, particularly in classrooms. It is also a new teaching strategy and teachers are not familiar with it. It seems to take time for teachers to shift from their usual lecture method to the concept mapping strategy and this shift might frustrate some teachers. If teachers are frustrated, then, they might not motivate learners for deeper and meaningful learning to take place. It is also possible that teachers may also find it difficult to get information on how to use concept mapping as compared to the lecture teaching strategy. Therefore, this study aimed at examining the effects of concept mapping by assessing Grade 6 learners’ understanding of the concept of “matter and its properties” taught through the concept mapping method as compared to the traditional lecture method.

Research question
The following is the main research question of the study:

1. What are the effects of concept mapping on understanding the concept of “matter and its properties” among Grade six learners in Khomas Region?

Hypothesis of the study
The following hypothesis was tested.
Methodology

Research design

A quasi-experimental design was used to collect numerical data in order to find out whether concept mapping could be used to enhance learners’ understanding. Learners at Omega Primary School were taught “matter and its properties” using the concept mapping method while learners at Alpha Primary School were taught the same content using the traditional lecture method. A pre-test was administered to the two groups at the onset of the study, and after the treatment, the same post-test was administered to them. This means that the same pre-test was written by all learners on the first day of conducting the research at each school followed by the interventions for two weeks and then the same post-test on the last day of conducting the research. Both the pre-test and post-test and interventions were constructed, conducted and presented by the researcher.

Population

The targeted population of this study consisted of forty-five (45) public senior primary schools offering Natural Science with one hundred and seventy-one (171) Grade 7 classes and five thousand one hundred and thirty (5130) learners in the Khomas region.

Sampling

A random sampling was used to select the two schools from the population. The two targeted schools were given pseudonym names as Alpha Primary School and Omega Primary School with a class of 31 and 34 learners respectively. At each school, one Grade six Natural Science class was randomly selected to participate in the study.

The researcher used the following criteria to select the schools: (a) the schools were not be adjacent to one another in order to reduce the possibilities of learners communicating to one another about how the teacher was instructing them and, thus, contaminating the data; (b) the schools were to be in the same circuit within the selected educational region; (c) the schools had to have internet connections to enable learners to access information as part of teaching and learning aids; and (d) the schools had to have a resourced library.

Research instruments

The pre-test and post-test were used to collect data from the learners in order to assess their understanding of science concepts on “matter and its properties”. The researcher gave these research instruments to his colleagues at work and two Senior Education Officers for Natural Science and Health Education to check the appropriateness and suitability of the items in order to maintain an audit trail for transparency (Newman, Lim, & Pineda, 2013). Learners at Alpha Primary School and Omega Primary School were pre-tested, followed by two weeks of instruction. The experimental class was taught the content using concept mapping method and the control class was taught the same content using the traditional lecture method. The instructions were then followed by a post-test. The pre-test and post-test questions were same and focused on evaporation, condensation, boiling, deposition, steam, water, ice, sublimation, melting, freezing and energy.

These 11 science concepts were used for both tests. The test questions were structured in such a way that they focused on the same concept for both the pre-test and post-test. Two types of lessons were prepared each day in advance, one as a traditional lecture and the other lesson involved the use of concept mapping method. The traditional lectures were offered at Alpha Primary School (control) while the concept mapping lessons were offered at Omega Primary School (experimental). During the treatment, learners were exposed to concept mapping on which they were taught and wrote the summaries using concept mapping.

Data analysis

The paired samples t-test (at significant level of 0.05) was used to measure the groups’ performance on the pre-test and post-test separately; and also to compare the two groups’ mean scores on the post-test to know
whether there was a difference in their mean scores and whether the treatment administered was effective. The p and t values were determined on the pre- and post-tests in order to compare the means of the experimental and control groups.

**Findings**
The results presented herein were an attempt to find out whether learners in the experimental group performed better than those in the control group at probability (p) level of 0.05. Hence, the following hypothesis was tested.

- **H₀**: There is no significant difference between the achievement scores of the Grade six learners who are taught “matter and its properties” using concept mapping method and those taught using the traditional lecture method.
- **H₁**: There is a significant difference between the achievement scores of the Grade six learners who are exposed to concept mapping on “matter and its properties” and those taught using the traditional lecture method.

A t-test was used to determine whether there was a significant difference (at the alpha level of 0.05) on the administered pre-test and post-test between the mean scores of the control group (31 learners) and the experimental group (34 learners). The p and t values for the two-tailed test were calculated on the pre-test and post-test scores. Tables 1, 2 and 3 show the paired samples t-test results of the traditional lecture group and concept mapping group.

**Table 1: Pre-test and post-test results of the control group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD.</th>
<th>df</th>
<th>t</th>
<th>Sig.(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control group</td>
<td>Pre-test</td>
<td>31</td>
<td>20.29</td>
<td>6.95</td>
<td>30</td>
<td>-2.830</td>
<td>.348</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>31</td>
<td>27.94</td>
<td>14.60</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p>0.05

The results in Table 1 reveal that the control (traditional lecture) group’s mean (M) score = 20.29 and Standard Deviation (SD) = 6.95 on the pre-test and M = 27.94 and SD = 14.60 on the post-test. The control group’s scores on the pre-test and post-test indicate a t(30) = -2.830, p = 0.348, t_critical = 2.042. The control group’s scores improved after instruction. Further, the results show that there was a significant difference in their control group’s performance during the pre- and post-test.

**Table 2: Pre- and post-test results of experimental group**

<table>
<thead>
<tr>
<th>Group</th>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD.</th>
<th>df</th>
<th>t</th>
<th>Sig.(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Pre-test</td>
<td>34</td>
<td>33.97</td>
<td>14.40</td>
<td>33</td>
<td>-4.574</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>34</td>
<td>47.32</td>
<td>21.51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p<0.05

As seen in Table 2, the experimental group’s mean (M) score = 33.97 and Standard Deviation (SD) = 14.40 on the pre-test and M = 47.32 and SD = 21.51 on the post-test. The t-test for the experimental group’s pre-test and post-test scores are t(33) = -4.574, p = 0.000, t_critical = 2.035. The experimental group’s performance after the use of the concept mapping method was higher than that on the pre-test.

**Table 3: Post-test results of the control and experimental groups**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD.</th>
<th>df</th>
<th>t</th>
<th>Sig.(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test</td>
<td>Control</td>
<td>31</td>
<td>27.94</td>
<td>14.60</td>
<td>63</td>
<td>-4.190</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>34</td>
<td>47.32</td>
<td>21.51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p<0.05
Table 3 indicates that the experimental group achieved higher scores $M = 47.32$, $SD = 21.51$ as compared to the control group $M = 27.94$, $SD = 14.60$ on the post-test. The t-test value of the post-test scores of the control and experimental groups was $t(63) = -4.190$, $p = .000$, $t_{critical} = 1.998$. The experimental group’s performance seems to suggest that concept mapping had a positive impact on learners’ achievement on the topic of “matter and its properties”.

**Discussion**

The mean scores of the two groups on the pre-test were different. The traditional lecture (control) group’s mean was 20.29 as compared to 33.97 of the concept mapping (experimental) group. The results show better performance by the experimental group on both the pre-test and post-test than the control group. This seems to indicate that teaching learners using concept mapping method produced better results than using the traditional lecture method.

The findings provide empirical evidence (Safdar et al., 2012; Tolley, Johnson, & Koszalka, 2012; Wambugu & Changeiyo, 2008). Therefore, concept mapping could be considered as an excellent teaching and learning strategy that could allow learners and teachers to engage in extended science discourses, organise and structure subjects’ content (Krause, Kelly, Tasooji, Corkins, Baker, & Purzer, 2010).

Overall results seem to show learners who were taught through concept mapping out-performed learners who were taught through the traditional lecture method. It was found that concept mapping had a positive impact on learners’ performance. Chiou (2008) argues that concept mapping strategy has the capability to enhance learners’ understanding and engaging them in the teaching and learning activities with positive results. In addition, using concept mapping might not be easy because the learners are unfamiliar with the strategy and might carried out to adapt to it especially if the concept is not well explained to them (Mwakapenda, 2004). Learners seem frustrated and lose interest when they spend much of their time struggling with the work that they do not understand well (Chiou, 2008; Elhelou, 1997; Krause et al., 2010).

However, it is important to provide opportunities to learners to participate and discuss science concepts during instruction in order for them to clarify their understanding of the concepts (Stoica, Moraru, & Miron, 2011). For the learners to achieve high academic standards and improve achievement in core subjects including science, the correct reading of instructions should be prioritised (Shaver, Cuevas, Lee, & Avalos, 2007).

**Conclusion and recommendations**

The curiosity behind the research question of this study was answered in terms of learners’ achievements through the intervention (concept mapping). Despite the challenges, concept mapping strategy might prove as effective and useful teaching strategy of science concepts that promote meaningful learning among the learners. The concept mapping strategy can enhance learners’ thinking capacity and promote scientific skills. As a result, learners’ achievement is improved. However, concept mapping strategy itself would not be successful in teaching and learning without the interest and seriousness of teachers and learners. Therefore, teachers and learners should be encouraged to use concept mapping for effective teaching and learning of science. The study therefore recommends that:

1. The use of concept mapping should be extended to other subject areas in order to enhance effective teaching and learning.
2. Further research on concept mapping should be carried out on the implementation and application of concept mapping strategy in all science subjects including mathematics.

**References**


from http://cmap.ihmc.us/docs/concept_map.html


Factors contributing to low teacher morale in secondary schools in the Oshana Educational Region, Namibia

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Abstract
This study sought to explore the factors that contribute to low teachers’ morale in secondary schools in the Oshana Educational Region, Namibia. The study was guided by the following research questions: What are the factors that contribute to low teacher morale in secondary schools in the Oshana Educational Region?; How does teachers’ low morale influence their execution of duties in secondary schools in the Oshana Educational Region?; How does low teacher morale influence the academic performance of learners in secondary schools in the Oshana Educational Region?; Which factors can be put in place to raise teachers’ morale in secondary schools in the Oshana Educational Region? A qualitative exploratory design was used to explore the lived contextual experiences of teachers, in order to determine the factors contributing to low teachers’ morale. A purposive sampling technique was used to select twenty (20) teachers from four (4) selected secondary schools in the Oshana Educational Region. The study used an interview with open-ended questions to collect data from the participants.

The qualitative data from open ended questions were organised into themes and sub-themes. The majority of the participants revealed that there was low morale amongst teachers in secondary schools in Oshana Educational Region. The factors contributing to low teacher morale in secondary schools were: work environment, school leadership, learners’ interest in their education, parental involvement in education and admission policies. The study concluded that as a result of the above-mentioned factors, teachers suffer from low morale therefore, influencing the academic performance of learners in secondary schools in the Oshana Educational Region. The study recommends that the Ministry of Education, Arts and Culture should recognise the efforts of teachers, improve the work environment for teachers, as well as to strengthen personal and professional development programmes for teachers and school principals.

Keywords: teacher morale, factors, environment, performance, learners

Background
After Namibia attained its independence in 1990, education became a focal area for the Government of the Republic of Namibia (GRN). The Government paid attention to education, ensuring that there were enough funds allocated to the education sector. Education is considered a priority for every citizen of the Republic of Namibia, and it is clearly stated in Article 20 of the Namibian Constitution that “all persons shall have right to education” (Ministry of Information and Communication Technology, 2015, p.12). The then Ministry of Education and Culture (1993) placed emphasis on access, equity, quality and democracy within the Namibian education system to ensure that citizens not only receive education as their constitutional right, but that which is of quality and is significant in life. However, with increased access, as one of the major goals of educational reform (Ministry of Education and Culture, 1993), the education system expanded rapidly. This led to an increase in the number of learners, consequently resulting in a shortage of teachers.

Although a large number of teachers graduate from tertiary teacher training institutions, there is also a high number of teachers leaving the profession, and more who intend to leave the profession in anticipation for such an opportunity (Janik & Rothmann, 2015). The shortage of teachers is not attributed to the lack of supply but as a result of retention problem. Recruiting more teachers
is not the solution to filling the vacancies that schools are experiencing; instead the Ministry should attend to the issues that are influencing teachers to leave, thereby finding solutions that will effectively solve the problem of low teacher morale (Haukongo, 2016). Mackenzie (2007) notes that teacher morale has become a widely discussed phenomenon; it is a multidimensional concept that includes the influence of the job situation, the attitudes of individuals, the spirit of the organisation, and the managerial climate (Devi & Mani, 2010). Although the topic of teacher morale is not discussed directly in schools, the day to day activities of schools show that there is a growing concern about low teacher morale. George, Louw and Badenhorst (2008) explain that morale is the concept determined by a person’s perception that treatment has been fair and consistent, opinions are valued, and work is meaningful.

Steyn (2014) opines that teacher morale can have a positive effect on learner behaviour and learning; raising teacher morale levels makes teaching more pleasant for teachers, and it also makes learning more pleasant for the learners, creating a favourable learning environment. In addition to these, Govindrajan (2012) confirms that where morale is high, schools are likely to have an increase in student achievement. Equally, low levels of satisfaction and morale can lead to reduced teacher productivity and burnout, which is associated with a loss of concern for, and detachment from co-workers, reduced quality of teaching, depression, greater use of sick leave, efforts to leave the profession, and a cynical and dehumanised perception of learners. DeAngelis and Presley (2011) assert that compared to most occupations, teaching has a relatively high turnover rate. It is also an occupation that loses many of its newly trained members early in their careers. In fact, as many as 39% leave teaching altogether in the first five years due to job dissatisfaction, or the desire to seek better jobs or other careers, making the overall amount of turnover accounted for by retirement relatively minor. There is a number of reasons why teachers decide to change schools, teaching assignments – or in some cases, leave teaching completely. Haukongo’s (2016) survey found that teachers in Oshana Region were not motivated to teach, thus resulting in low morale.

Teachers leaving the profession in Namibian schools have become a national problem, reflecting significantly and negatively on the quality and stability of the education system. According to Education Information Management System (2015) in 2015 alone 8.4% of teachers in Oshana Region left the profession while 0.1% transferred to other regions. Nationally, the teaching profession lost 10.4% of the teachers. Smith (2018) in a newspaper article wrote that the Ministry of Education was experiencing an acute shortage of teachers. All these shortages and high attrition rates can be a result of low teacher morale. In this study, the researcher explored the various factors that contribute to low teacher morale in secondary schools in the Oshana Educational Region in order to establish evidence-based strategies to improve and raise the morale of teachers.

**Statement of the problem**

Over the past five years, there has been a notable increase in the number of teachers at secondary schools in the Oshana region leaving the profession to join other sectors of the economy. In 2015, more than 250 secondary school teachers left the profession or transferred to other regions (Ministry of Education, Arts and Culture, 2016). Haukongo’s (2016) survey reveals that teachers in Oshana Region are not motivated to teach, thus resulting in low morale. Additionally, there has been media reports (Tjihenuna, 2016), claiming that secondary school teachers showed low morale, as they were no longer displaying eagerness to teach. Equally, it is observed that at several meetings, stakeholders in education raised concerns and complaints that teachers display some signs of low levels of morale compared to past years (Kambowe, 2016).

Management of the region as well as the inspectorate organised several team building exercises and refresher workshops in an effort to boost teachers’ morale. However, it is observed that, some teachers are still displaying some signs of low morale, which becomes worrisome to the management of the region as well as the schools. The management has been looking for a solution and searching for the contributing factors to the issue of low teacher morale. Therefore, the purpose of this study was to explore the factors contributing to low teachers’ morale at secondary schools in the Oshana Educational Region.
Research questions
This study was guided by the following research questions:

1. What are the factors that contribute to low teacher morale in secondary schools in the Oshana Educational Region?
2. How does teachers’ low morale influence their execution of duties in secondary schools in the Oshana Educational Region?
3. How does low teacher morale influence the academic performance of the learners in secondary schools in the Oshana Educational Region?
4. What are the strategies put in place to raise teacher morale in secondary schools in the Oshana Educational Region?

Significance of the study
This study is important because it might find ways to improve and maintain teacher morale in secondary schools in the Oshana Educational Region. The study might provide insight into factors that contribute to low teacher morale in secondary schools in Oshana region. Moreover, this study is significant to teachers, parents, learners and the Ministry of Education, Arts and Culture. Teachers might benefit in the sense that if factors contributing to low morale are identified and remedied, their work environment will become conducive. Learners might benefit in that if teachers’ morale is boosted, teachers will stay much longer in the profession, and this will make learners perform well in their studies. The Ministry will benefit in that if teacher morale is raised, more teachers will remain in the profession and teacher replacements will be reduced. It might also help the Ministry of Education, Arts and Culture to implement strategies in order to raise or maintain high teacher morale.

Literature review
Teacher morale is one of the factors that affect the realization of the teaching objectives, motivation and academic achievement of students. It is imperative to note that teacher morale is an important part of any school. Several studies have been conducted globally on teacher morale. Eger and Habib (2015) conducted studies in Singapore, Japan, Finland and Turkey and found that teacher morale has an effect on students’ achievement. It was also found that school principals expressed a high morale and motivation for their teachers in developed countries. The study also indicated that students’ achievements were mostly affected in Turkey by low teacher morale (Eger & Habib, 2015). Santos (2012) noted that teacher morale and job satisfaction across America was at its lowest point in 25 years. Furthermore, Moris (2019) noted that education reform across America has a negative influence on teacher morale. Skaalvik and Skaalvik (2014) indicated that education policies, mandates and technologies that promise to revolutionize teaching and education result in increased teacher stress. This led to a decline in teacher morale in Oklahoma. According to Foster (2015), many countries such as the United Kingdom (UK) are facing difficulties in recruiting good quality graduates to take up roles as teachers. Teachers in the United Kingdom are faced with challenges such as increased testing, professional development and administration tasks which negatively affect teacher morale and retention rates. Furthermore, Foster (2015) noted that although the teachers are overloaded, remuneration for the extra burden is rarely forthcoming and therefore teachers suffer from low morale. Holden (2017) conducted a study in China on teacher morale that revealed positive and negative factors related to teacher morale at an international school. Positive factors included providing support to new teachers, such as language lessons and cultural orientation; benefits; a strong sense of mission; a sense of community; and opportunities for professional growth. Negative factors included lack of recognition for extra duties, personality of the leader, and leadership transition. A study conducted in South Africa by Shalem and Hoadley (2009) noted that low teacher morale, coupled with extremely poor schooling outcomes for students as measured on standardized tests have increasingly been reported in the media in South Africa. The systemic evaluation (Department of Education 2003 as cited in Shalem & Hoadley, 2009) and the educator workload in South Africa (Chisholm et al., 2005) have reported low morale, frustration and anger and a growing desire to leave the profession amongst teachers. Newspapers have also reported widely on teachers’ inability to cope and low morale.

Low teacher morale and teacher attrition are related. This is noted by Quartz (2008) who wrote that teachers are demotivated by a
perception of little control over their posting, transfer or promotion and hence leads to lower teacher morale and increases attrition. A study conducted by Amutenya (2016) on teacher attrition in Khomas Region, Namibia found that there were a number of factors that contributed to attrition. The factors identified include ill-disciplined learners, heavy workload of teachers, poor school leadership practices, too much administrative work and lack of professional development. Few studies have been conducted in Namibia that address the issue of teacher morale therefore this study is important and will provide useful information regarding low teacher morale in secondary schools in the Oshana Educational Region.

Theoretical framework
The researcher used Herzberg’s Hygiene-Motivation Theory (Two Factor Theory) as the theoretical framework of the study. Islam and Ali (2013) highlighted that this theory is important for explaining the factors that may influence staff morale. Herzberg’s Hygiene-Motivation Theory explains more strongly that there is a difference between factors causing job satisfaction and those causing job dissatisfaction. Factors such as lack of support from administration, dissatisfaction with salary and benefits, dissatisfaction with job responsibilities, heavy teaching loads, and frustration due to poor results and problematic student behaviour could be factors causing job dissatisfaction and lead to teachers’ low morale (Barnett, Kenhoo, Menarch, & Washington, 2008). The researcher’s choice of Herzberg’s theory emanates from the fact that if teachers’ growth needs to know and understand their working conditions and their responsibilities are not satisfied and supported, the teachers will not feel comfortable to remain working for the same school or even the whole Ministry (Mukayi & Malefu, 2012). Studies have found that growth needs are never completely satisfied. In fact, the more the person is able to meet the need to know and understand the world, the greater the motivation (George, Louw, & Badenhorst, 2008).

Methodology
This study followed a qualitative exploratory research design. Mason (2010) noted that qualitative research design is based on methods of analysis, explanation and argument building which involve understandings of complexity, detail and context. In this study, it was necessary to have a deeper understanding of the complexity, detail and context of the different factors that have a bearing on the level of morale amongst teachers. Therefore, this necessitated the employment of a qualitative research design. The study followed an exploratory design to explore the lived contextual experiences of teachers to try to ascertain those factors which have lowered their morale. Through the qualitative exploratory design, the researcher was able to dig deep and generate rich data from the lived experiences of the teachers, and how they have interacted with the various factors which have influenced their morale.

The population of this research consisted of fourteen Secondary Schools in Oshana Educational Region. This study used purposive sampling to select four (4) out of fourteen (14) Secondary Schools in Oshana Educational Region. Furthermore, this study used stratified purposive sampling where the researcher located five (5) individual teachers who had taught for one year and above at each of the four (4) Secondary Schools. Data were collected from twenty (20) secondary school teachers in Oshana Educational Region.

This study used an interview guide for teachers as a tool for data collection because interviews are the main mode for data collection in qualitative research. This study only used the structured interviews because the researcher had a specified set of questions that would elicit the same information from the participants. For this study data were analysed by means of content analysis. According to Creswell (2012), the method of content analysis involves the comparing, contrasting, and categorising data in order to draw meaning. This method was helpful to the researcher in identifying patterns, ideas and themes that emerged from the data (Neuman, 2011). The data were first transcribed verbatim and coded, and then analysed using identified themes from the participants’ views. The researcher then divided the text data into meaningful inductive categories guided by the research questions and the interview themes.

Findings
Factors contributing to low teacher morale in secondary schools
The main question of this study sought to find out about the factors that are contributing to low teacher morale in secondary schools in the
Oshana Education Region. The participants’ views on the factors contributing to low teacher morale are summarised into the following themes with their sub-themes: work environment, admission policies, and learners’ interest in their education, school leadership and parental involvement. According to Sharma (2016) a healthy school environment and high teacher morale tend to be related. The findings from the study revealed that the environment under which teachers work was one of the factors affecting teacher morale. Teacher P14 explained that:

*The classrooms are not motivating; some look very old they look like places that have been abandoned thousands of years back. We also have a lack of laboratories and libraries that can be resourceful to both us and our learners.*

The school environment of the schools which participated in this study can be described by Eboka (2016) as threatening and non-supportive for teachers to carry out their work. The findings of this study highlighted that the participant noted an uncompetitive salary for teachers as one of the factors demoralising them. Teacher P3 stated that:

*I am always on the lookout for better paying jobs because I am not motivated by salary to remain as a teacher. Sometimes you want to live a good life like other people in other professions but you cannot just afford.*

According to Bennell and Akyeampong (2007) teachers’ salaries in most countries do not cover basic household needs. The study found that salaries motivated teachers to stay in or leave the profession. Furthermore, the participants in this study identified lack of promotions as one of the factors contributing to low teacher morale. Teacher P1 indicated that:

*I have been teaching for more than fifteen years and always applied for promotions yet I am never selected. This has led me to feeling unrecognised and therefore I becoming demoralised as a result.*

Blackwell (2009) and Govindarajan’s (2012) studies highlighted that the lack of teacher recognition year after year was one of the factors which had resulted in poor morale among teachers. Another factor that this research found to contribute to the low teacher morale in Secondary Schools in the Oshana Educational Region was the admission policies for Secondary Schools. Teacher P2 mentioned that:

*I do not know what to be done but admission requirements should not allow some schools to select only the best performers. Teachers at some schools are forever blamed by society for poor results but I do not think they are always at fault.*

Robertson (2017) found that the school character is built through the morale of the teachers. As a result of the admission policies, some schools were labelled as “poor performing schools” thus, not allowing them to attract and admit the best learners. In the end, teachers may suffer from low morale thus negatively affecting the character of the school. The low interest of learners in their education was indicated to contribute to low teachers morale in secondary schools in the Oshana Educational Region. Participants in this study also indicated that learners portrayed indiscipline and they lacked commitment to their school work. Teacher P6 said that:

*Some learners do not do their exercises and homework which shows that they are not committed to their school work.*

Whereas, teacher P2 stated that:

*In worst cases of bad behaviour, some learners have threatened to beat up teachers. Such incidences of extreme bad behaviour by learners towards teachers would negatively affect the teachers’ love and motivation in the profession.*

A study done by DeAngelis and Presley (2011) concludes that learners related problems such as poor discipline, laziness and high absenteeism contribute to low teacher morale. Participants in this study lamented the lack of proper leadership and supervision from immediate supervisors and school principals as one of the factors which demoralize the teachers. Teacher P3 alluded that:

*There is poor communication between school management and teachers. Teachers feel like they are not part of it all but just to implement guidelines put in place by school management.*
Bogler’s (2005) study concluded that the leadership style of the school principal has a powerful influence on the environment of the school, the attitudes of the teachers and staff, and the achievement of the students.

Lastly on the factors contributing to low teacher morale identified by this study was involvement of parents. Teacher P4 narrated that:

**Most parents are not very supportive of their children’s education. This is demoralizing to teachers because without parental support, it becomes difficult for teachers to control learners at school.**

Whereas, teacher P16 indicated that:

**Most of the learners admitted in Secondary Schools do not come from the surrounding areas therefore most of them are either accommodated in the hostels, live with relatives close to schools or even rent. And parents are just seen in the first day of school and disappear.**

It is clear from the findings of this study that parents of learners schooling in Secondary Schools in the Oshana Educational Region were not fully involved in their children’s education which then made it difficult for the teachers and therefore led to low morale for teachers. A study by Erlendsdóttir (2010) on the effects of parental involvement in education in Namibia concluded that when parents stay involved with their children’s education, it impacts positively on the academic achievement of the learners.

**The effect of low morale on teacher performance**

The second question for this study sought to find out how low morale for teachers influences their performance and execution of their duties in secondary schools in the Oshana Educational Region. The effects identified by the participants of this study were: withdrawal from tasks, poor assessment and lack of proper lesson preparations. This is what teacher P14 said:

**One can tell that teachers have low morale because most teachers do not want to be involved in school activities. Those that used to take part in extramural activities such as sports and others no longer take part.**

Similarly, teacher P1 narrated that:

**Whenever there are school events or school activities taking place, most teachers will always have an excuse for them not to attend or else some teachers will come and even leave earlier.**

The results of the study indicated that as a consequence of low morale, teachers were unhappy at school. The study also found that poor morale among teachers had negative effects on the way they handled their duties. Teacher P9 stated that:

**Teachers with low morale do not give feedback on assessments to the learners on time and they give much less work to their learners and in most cases they make use of learners to write summaries for others.**

Steyn (2014) wrote that organizations with a higher staff morale display improved productivity, improved performance and creativity, reduced number of days taken for leave, higher attention to detail, a safer workplace, and an increased quality of work. Rowland (2008) revealed that when teachers have a positive morale then they have an unbelievable positive influence on the pupils and the school environment. The quality of lessons they deliver will impact the pupils in a way that learners will love school and be motivated to study hard.

**Effects of low teacher morale on academic performance**

The third question of this study looked at the effects of low teacher morale on academic performance of the learners. One of the effects identified was that teachers with low morale failed to complete the syllabus. Teacher P7 revealed that:

**A teacher with low morale can hardly achieve the basic competencies; thus, academic performance for the learners will be low because the final examination covers the syllabus and not just what the teachers covered.**

Whereas, teacher P3 stated that:

**We have two years to cover the syllabi at senior secondary level but some colleagues**
still do not cover it fully. Is that not a sign that the teacher is not motivated to work hard. In the end learners suffer.

A study done by Perumal (2011) suggested that teacher morale impacts directly on delivery of lessons, teacher effectiveness and leadership, student attitudes, behaviour and discipline, as well as student performance. The participants noted that as a result of low teacher morale the teachers lost interest in their learners, they also lost interest in their work and this affected the academic performance of the learners. Teacher P1 indicated that:

Teachers with low morale ignore the needs of learners and cannot treat learners fairly thus affecting learners psychologically, leading to poor performance.

The findings of this study supports that of Yong and Yue (2007) who found that a person that has low morale has internal reactions such as confusion, insecurity and frustrations. These reactions will influence how an individual behaves at work and carry out his/her duties. No one is able to work well if he/she has such internal reactions as a result of low morale.

Strategies to maintain teacher morale

Finally, this study sought to find out the strategies that secondary schools use in order for teachers to have high morale. This study revealed that Secondary Schools in Oshana Educational Region had strategies put in place to ensure that teachers maintained high morale. Participants were asked to give some of the strategies used in their schools in order to maintain good morale for teachers at their schools. Chungsup and Jarrod (2012) concluded that teachers need to be motivated in order to be productive. The teachers indicated that award ceremonies organised by the schools helped them to have good morale. Teacher P6 said the following:

My morale after the award ceremony is always very high but after some days it starts to go down. Perhaps I do not know how to maintain a high morale. And people from outside really help us to build a good morale. The different strategies that they use are really helpful to our morale.

All the schools that took part in this study held an award ceremony which was a good thing. It gives teachers new energy to carry out their duties. Some participants of this study stated that one of the strategies used in schools was motivational speeches from different people and team building exercises.

Devi and Mani (2010) wrote that teachers need to be publicly supported, provided with the right resources and minimize stressors in schools. Motivational speeches are a good public support that can raise teachers’ morale. When the school environment is healthy, teachers have high morale, the relationship with colleagues and their learners is improved and this positively impacts on student morale and academic performance. Participants identified good communication as one of the strategies in the schools. This is what teacher P3 narrated:

Good communication is one of the strategies to raise the morale for teachers and make them feel recognised. When teachers are well informed and allowed to get involved in the activities of the school it serves as a motivation and in turn raise their morale.

The study further highlighted that most of the Secondary Schools maintained good communication through information sharing gatherings (briefings) and by holding staff meetings at least once every term. Chungsup and Jarrod (2012) in their study noted that if teachers were motivated they would all have a high morale which would lead to increased productivity. Although there were a few strategies put in place in Secondary Schools in the Oshana Educational Region to maintain good morale for teachers, some respondents indicated that these strategies were not very effective thus teachers still experienced poor morale in the secondary schools.

Conclusion

The study revealed that the participants in this study believed that there was low morale amongst secondary school teachers in the Oshana Educational Region and that it was very important for secondary school teachers to have high morale. Added to this, the participants in this study indicated that the factors contributing to low teacher morale were: the unfavourable working environment which included lack of facilities, teachers’ salaries and lack of promotions. Furthermore, admission policies, learners’ interest in their education, school leadership and parental
involvement in the education of their children were listed as factors contributing to low teacher morale in secondary schools in the Oshana Educational Region. Moreover, low teacher morale affects the performance of the teachers’ duties and it also has a greater influence on the academic performance of learners.

Finally, the study revealed that there were a number of strategies put in place in secondary schools in the Oshana Educational Region to raise teachers’ morale although participants felt that the strategies needed to be reviewed and new ones introduced to add to the existing ones because the existing ones seemed not to be effective. The strategies identified were: prize giving ceremonies; motivational speeches; delegation of tasks to make teachers feel that they were part of the team and efforts to improve the working environment in the schools.

References


Secondary school teachers’ perceptions of practical work in Biology in the Oshana Educational Region

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Abstract

The aim of this study was to investigate the Biology teachers’ perceptions of the importance of practical work in selected secondary schools in the Oshana Education Region (OER). The study also sought to find out whether the selected secondary schools in the OER had all the necessary resources needed to conduct meaningful practical lessons in Biology. This study sought to answer the following research questions: What are the Secondary School teachers’ perceptions of the importance of practical work in Biology in Oshana Education Region?, and Do Secondary Schools in Oshana education region have all the necessary resources for conducting practical lessons in Biology? This study was situated in the qualitative and quantitative research paradigms. The population consisted of all Biology teachers at Grade 11 and 12 levels in OER. Eight Secondary Schools in the OER were randomly selected to take part in this study. A sample comprising 23 Biology teachers was chosen purposively from the 8 Secondary Schools. A questionnaire and an observation schedule were used to collect the data from the sample.

Descriptive statistics were used to analyse quantitative data and included frequency tables, graphs and pie charts. Qualitative data were categorised into themes that emerged from the data. The findings showed that 69.9% of the Biology teachers did not have a laboratory specifically for conducting Biology practicals and carried out their practicals in a common laboratory, used for both Physical Science and Biology or in their classrooms. Two of the nine teachers observed did not bother to carry out practical work and taught Biology theoretically which disadvantaged learners on Paper 3, alternative to course work paper. The findings also showed that 66.6% of the teachers did not carry out practicals in Biology. They claimed to be doing so, but in actual sense there were not much practical work taking place in those schools. Four out of the six observed teachers were doing demonstrations only.

The findings also showed that the materials necessary for carrying out practical work were not available in the Biology classrooms or laboratories. This was evident from the non-availability of practical manuals for both teachers and learners resulting in the use of teacher made hand-outs. This situation needs to be seriously addressed if practical work is to become popular among the learners and the teachers in the OER in Namibia. The Ministry of Education through Biology Advisory Teachers should seriously address the lack of laboratory space and laboratory resources to ensure the conduct of practicals in schools in the OER. Biology Teachers should be encouraged to borrow materials for conducting practicals from neighbouring schools in cases where their schools do not have the necessary resources for conducting practicals in Biology.

Keywords: practical work, laboratories, teachers’ perceptions, resources

Introduction

After independence, the Ministry of Education and Culture in Namibia introduced a new educational system, aimed at “reviewing inequality and inequity within the education system” (Ministry of Education and Culture, 1993, p. 5). The main aim of the educational system was to equip students with the necessary knowledge, skills and attitudes that could enable them to enter institutions of higher learning in and outside Namibia and meet the country’s social and economic demands.

According to the Ministry of Education (2009a), the examiners’ reports on Biology
Practical Examination Paper 3 shows that Namibian learners have continued to perform poorly countrywide in comparison to Papers 1 and 2. The examiners’ reports further point out that it is clear from the candidates’ answers that only a few schools follow a practical approach to the teaching of Biology. It was against this background that a mixed methods study was carried out in order to find out the perceptions of Biology teachers to practical work in selected secondary schools in the Oshana Education Region (OER). The study also sought to find out whether the selected secondary schools in the OER had all the necessary resources needed to conduct meaningful practical lessons in Biology.

Research questions
This study sought to answer the following questions:

1. How do Biology teachers in Oshana Education Region perceive the use of practical work during instruction?
2. Do Secondary Schools in Oshana education region have all the necessary resources for conducting practical lessons in Biology including the existence of dedicated laboratories?

The findings of this study might help change the attitudes of Biology teachers toward practical work. This might result in learners performing well on Paper 3.

Theoretical framework and literature review
This study was based on the constructivist theory. Constructivists view learning as an active process whereby learners learn to discover principles, concepts and facts for themselves. The instructor and the learners are equally involved in learning from each other (Wooffolk, 2004). Crawford (1996) indicates that social constructivists, such as Vygotsky, emphasize the importance of the learner being actively involved in the learning process so that he/she can construct his/her own understanding. It is believed that learners with different skills and backgrounds need to collaborate on tasks, such as when they are doing practical work in order to arrive at a shared understanding of the truth in a specific field.

The term “constructivist teaching” is commonly used in the teaching and learning environments (Ritchie & Rigano, 1996). The teacher according to the constructivist theory is not seen as responsible for constructing knowledge for the learners but rather is denoted by the many responsibilities given to him/her during instruction in mediating meaning at the inter-mental plane in the classroom. Thus, the teacher’s role becomes that of a guide provocateur, creator of opportunity and co-developer of understanding with learners. The instructional practices of the Biology teachers should therefore assist learners to acquire the process skills (Ritchie & Rigano, 1996). Ever since experimental Science was advocated in the sixteenth century (Klainin, 1995), it has been well accepted that practical or empirical work is the major task of scientists. Thus, in order to educate our future leaders in science, there is a widespread belief that students should learn science by doing what scientists do (Klainin, 1995). Learning of Science therefore is seen by most Science educators as likely to be more effective if the child is involved in practical activities and takes an active part in the learning process. Practical work has been a prominent feature of school Science teaching from the late nineteenth century when Science was established as part of the curriculum of schooling in a number of countries (Klainin, 1995).

The curriculum innovation of the 1950s which started in the United States of America and Europe rapidly spread throughout the world and greatly changed the way science was taught. Practical work refers to laboratory activities that include lectures, group experiments, and teacher demonstrations where learners are involved in handling and observing real objects and materials (Millar, Le Marechals, & Tibergnien, 1999). Teachers should therefore provide opportunities for learners to handle materials, observe events, handle observation results and be able to draw conclusions.

In this paper, practical work refers to an activity that promotes active learner participation in learning. This definition does not only mean hands-on activity involving equipment, but also encompasses a range of other ways of working, including teacher demonstration, group discussion of problems and their solutions, interaction between students, and between students and teachers. It may also involve individual activity such as measurement, observation and investigation.
Thus practical work can take different forms from experiments to pencil and paper activity and might take place in the laboratory, class or elsewhere. Namibia has included a practical work component in the teaching and learning of science (Ministry of Education and Culture, 1993). Learners in grades 11 and 12 are expected to do practical work in Physical Science and Biology. In grade 12, learners are assessed on practical skills in Paper 3 which is an alternative to course work in Biology. The inclusion of practical work is clearly stipulated in the Biology syllabus (Ministry of Education, 2009a).

The value of practical work has long been recognized at the secondary school level. Many teachers acknowledge the value of learning by doing rather than just being shown or told (Driver & Braund, 2015). If students can be allowed to do practical work in Biology, then this could help them understand the content better, because students learn better by doing. They will remember better something that they have done with their own hands. This was further emphasized by Hodson (2018) who said that practical work is an essential component of science and vocational subjects teaching. It is therefore advisable that students should be prepared with mastery of the skills required for practical work so that they will be ready for assessment. Hodson (2018) further added that in practical work the candidate performs certain activities in order to discover something as yet unknown, to test a hypothesis or to check an already known fact. In order to perform these activities, the candidate has to learn the skills required for practical work, which includes preparing and performing experiments and processing the results obtained.

Newman (undated, p.2) wrote: “We observed classes who studied chemistry and found that with few exceptions pupils enjoyed what they are doing in the laboratory even if difficulties arose in the procedures or even if students became aware that they didn’t understand what was happening, it didn’t seem to matter”. On the other hand, Woolnough and Allsop (1985, p. 201) noted that, “Many science teachers recognized the importance of practical work. They believed that pupils should have first-hand practical experience in laboratories in order to acquire skills in handling apparatus, to measure and to illustrate concepts and principles”. Having first-hand information will allow students to apply the skills acquired during practical work when they become scientists in future. Ramorogo (2010) explored teachers’ perceptions of practical work in Biology in secondary schools in Botswana. He found that in large classes, the shortage of laboratories and the lack of laboratory assistants were serious impediments to teachers in involving students in meaningful practical activities. On the other hand, Leach and Paulsen (2015) reviewed the use of practical work in science education in different countries. They found that in many countries, teachers spent or claimed that they spent considerable amounts of time in supervising laboratory work. However, they found that the bulk of science assessment was traditionally non-practical.

**Methodology**

This research used the mixed methods to collect both qualitative and quantitative data from the respondents. Qualitative inquiry aids the researchers to find out the views of individuals experiencing a particular phenomenon from their point of view (Patton, 2017). One of the strengths of the qualitative inquiry is the active interaction of the researcher with the subjects of the study (Henning, van Kensburg, & Smith 2004). Part of the data in this study was gathered by means of observations, this according to Strauss and Corbin (1998) is a technique normally associated with qualitative methods which involves close contact between the researcher and the research participants. The quantitative inquiry on the other hand relies on the collection of numerical data. It relies on collecting data based on precise measurement using structured and validated data collection instruments (Johnson & Christensen, 2008). In this study the frequency of use of practical work and facilities in schools had been quantified to find out to what extent these hindered the use of practical work in Namibian secondary schools in Biology.

The two research designs were combined in this study in order to understand the social phenomenon from the participants’ perspectives. Accordingly, participant observation was used to collect data from the respondents during practical lessons. The quantitative aspect was helpful in finding out about the practical resources such as apparatus and laboratories availability at the selected secondary schools. The population of this study consisted of all 13 secondary schools in
the Oshana Education Region which offered Biology as a subject at Grade 11 and 12 levels. Eight Secondary Schools in the region were randomly selected to take part in this study. A sample comprising 23 Biology teachers was then chosen purposively from the 8 secondary schools. Two research instruments were used to collect data for this study. These were a questionnaire and an observation schedule. Descriptive statistics were used to analyse quantitative data and included frequency tables, graphs and pie charts. Qualitative data were categorised into themes that emerged from the data.

Findings and discussion
The Biology teachers’ perceptions of practical work and the conditions of the laboratories in which they carried out the practical work in Biology in the OER are presented in this section of the paper.

Teachers’ perceptions of practical work
The development of teachers’ favourable attitudes towards science has often been listed as one of the important goals of science teaching. Students enjoy laboratory work in some courses and that it generally results in positive and improved attitudes towards science, and interest in the sciences (Hofstein, 1998).

Table 1: Teachers’ perceptions of practical work in Biology

<table>
<thead>
<tr>
<th>Statement</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical prove theory in Biology, and make Biology an interesting subject</td>
<td>6</td>
</tr>
<tr>
<td>Practical promote learners understanding of the topics better, and stimulate interest in the subject</td>
<td>5</td>
</tr>
<tr>
<td>Practical yield better results in Biology and prepare learners to answer questions in Paper 3 at the national level</td>
<td>2</td>
</tr>
<tr>
<td>Slow learners understand the content better; master the content through investigations and observations</td>
<td>3</td>
</tr>
<tr>
<td>Learners learn better when they see and touch objects, they don’t forget what they saw, and it reinforces the content</td>
<td>4</td>
</tr>
<tr>
<td>Learners develop skills on handling and organizing apparatus and materials and following instructions</td>
<td>3</td>
</tr>
</tbody>
</table>

The results in Table 1 show that the Biology teachers in this study were aware of the importance of practical work and what its aims were and why it was necessary in the teaching and learning of Biology. As indicated by Clackson and Wright (1992), Gott and Duggan (1995), and Leach and Paulsen (2015), a teacher’s belief or conception of practical work can impact directly on the way she/he arranges practical work. Teachers should therefore have a clear understanding of what practical work entails and the purposes it serves. Having a clear understanding about the nature of practical work might help the teachers to plan teachable practical activities.

Although the teachers viewed practical work as important in the teaching and learning of Biology, the class observations showed that, only nine (39.1%) of the teachers carried out practical work. The rest of the teachers did not do practical work. Some of the reasons given for not carrying out practical work by the teachers were: “It was time consuming to prepare practical than teaching lessons”, “Practicals prescribed in the syllabus were not familiar to the teacher”, and “Practicals were frustrating especially if equipments were not enough”.

Teachers were also asked about what their learners did at the end of each practical lesson. Figure 1 presents their responses.

Figure 1 shows that one (4%) of the Biology teachers indicated that their learners answered post laboratory questions at the end of the practical lesson. Two (9%) of the teachers said that their learners wrote a practical report, 14 (61%) of the teachers said learners answered post laboratory questions and also wrote a practical report while six (26%) of the teachers, said that their learners did not write anything at the end of the practical lesson. The Ministry of Education (2006, 2007) Examiners’ Reports show that practical examinations remained the biggest challenge within the Namibian education system. Learners continued to have problems in performing successfully in practical examinations due to lack of high-level procedural and conceptual skills. The lack of practical assessment of learners after practical lessons could be one of the reasons also.

Teachers were further asked to indicate what should be the role of the learners during the practical lesson. Six (26.1%) of the teachers said that it was “to handle the materials, observe and record their findings”. Eleven (47.8%) said the role of the learners was to carry out the practical themselves following the right procedures and then answering post laboratory questions. Two (8.7%) of the teachers on the other hand indicated that it was “to observe teachers demonstrating for them in order to answer the questions, and ask for clarity from the teacher”. The remaining 4 (17.4%) of the teachers said that “it was to follow the instructions carefully, write down the results and draw conclusions”. Students need to be involved in practical activities that will enhance their acquisition of higher-order process skills rather than the lower-order thinking skills (Lake, 2004; Savage, 1998).

Sometimes some form of data-handling that was never used in class is examined extensively in the end of year practical examinations (Keiler & Woolnough, 2002). Learners should therefore be active participants during practical lessons. They should do the practical themselves under the teachers’ supervision and they should be the ones handling the apparatus during the practical if they are to be successful in the Paper 3 examination. It is interesting to note that, the teachers did not allow learners to do practical
work on their own. In six practical lessons observed, the teachers were doing the practical work themselves. In three other cases the teachers used two learners to demonstrate the practical work, while other learners observed. Most of the learners were not actively involved during the observed practical lessons.

Hofstein, Novon, Kipnis, and Mamlok-Naaman (2005) noted that students involved in carrying out a task may perform better than those that were not involved. Therefore, it is important that all learners take an active role during the practical lessons so that they can acquire practical skills. In a country where many learners may not have a scientific background that will help them develop the skill and knowledge of the scientific world, it must be seen as a serious opportunity lost if this experience is not provided in the school environment (Ministry of Education, 2009c).

Presence of resources for carrying out practical work
Existence of laboratory manual and/or materials for carrying out practical work. Theses necessary for successful practical work that will yield desired results. Both teachers and learners need these materials to ensure learning takes place. Accordingly, the Biology teachers were asked to indicate whether these materials existed in their schools for effective carrying out of Biology practical work.

All 23 (100%) teachers indicated that their learners did not have a practical work manual that could guide their work. This was also confirmed during the observations of practical lessons. None of the learners had a laboratory manual. When asked to indicate how they got around the lack of a laboratory manual, the majority (20 out of 23) of the teachers said that they often prepared handouts for their learners to use during the practical and also that they used textbooks as a guide for the practical. In fact, it was found during practical lesson observations that some teachers were using the syllabus as a guide for practical work.

If learners are not given a practical manual, they might not consider practical work to be important in the learning of Science. Preparing practical manuals might save teachers a lot of time and effort, instead of preparing a separate handout for each practical lesson. It might take time for the teacher to write the procedures on the chalkboard, the time that they are supposed to use in order to do the practical with their learners. For those that were using the textbook as a guide for the practical lesson, textbooks might not have clear instructions, and some of the prescribed practicals in the syllabus might not be in those textbooks. The other problem with using the textbooks might be that the books might not be enough for all learners, as most secondary schools do not usually have enough textbooks for all the learners to use as a guide during the practical lesson.

In order to find out the conditions of the place where the Biology teachers carried out practical work in OER, the Biology teachers were asked whether laboratories existed in their schools. Sixteen (69.6%) of the respondents indicated that a laboratory dedicated for the teaching of Biology practicals existed in their schools while seven (30.4%) said they used an ordinary classroom. With respect to the conditions of the laboratories, the respondents’ answers are given in Table 2.

<table>
<thead>
<tr>
<th>Condition of laboratory</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory was a bit too old without posters to support the practical</td>
<td>2</td>
</tr>
<tr>
<td>Big but empty, it does not have stools for learners to sit on, tables not enough, learners standing, benches not enough</td>
<td>2</td>
</tr>
<tr>
<td>Laboratory was in a good condition, with enough benches and chairs for learners</td>
<td>1</td>
</tr>
<tr>
<td>Laboratory was very small and not neat, it was old.</td>
<td>1</td>
</tr>
</tbody>
</table>

The six observed practical lessons took place in laboratories which were old, dilapidated and as such not conducive for practical work. Of the five laboratories only one was conducive for practical work. It is important that the practical learning environment is conducive for learning if teachers and learners are to become interested in practical work. Teachers were further asked to state whether their schools had sufficient materials for conducting practicals in Biology. All 23 Biology teachers indicated that their schools did not have sufficient materials for conducting practicals in Biology. According to Crawford (2000, p. 916), “increasing costs of equipments and consumables for laboratories have put science
laboratories in universities and schools in a pathetic condition”. The high cost of scientific equipment and infrastructure facilities required for science laboratories have resulted in several educational institutions being hesitant to put basic science subjects on their priority list (Crawford, 2000). This might also be the case in most of the Namibian schools as indicated by the teachers’ responses. It was also observed that in all the nine practical lessons observed, there were not enough apparatus and equipment for all the learners to use. Learners shared the apparatus and equipment in three practical lessons observed. In the other two, the laboratory apparatus were for the teachers’ use only, while in the remaining four practical lessons, there were no apparatus at all. For those schools that had apparatus, the researcher observed that most of the apparatus were in good working condition, a few were old and dusty indicating that they had not been used for a long time and some chemicals had long expired and thus could not be used during practicals.

The lack of essential laboratory resources tended to limit how much practical work could be done in secondary schools (Kandjeo-Marenga, 2008). Lack of resources can limit the number of practicals that can be carried out in Biology, in secondary schools. The researcher is of the view that the Ministry of Education and the Biology teachers should work together in order to ensure that there are enough practical resources at all secondary schools offering Biology. Improvising should be encouraged among Biology teachers in the conduct of practical work. Insufficiency of materials for conducting practicals, prevents teachers from allowing all their learners from doing the practicals themselves. In other words, teachers might be forced to do demonstrations only, instead of allowing their learners to do practicals on their own. Furthermore, this might also prevent teachers from carrying out all the practicals that were stipulated in the syllabus, which in turn might disadvantage the learners on the Alternative to Practical Work examination paper. To the question of whether the equipment was for teachers use only or enough to be used by the learners as well.

Ten (43%) of the teachers indicated that the equipment were for both teachers and learners while the remaining 13 teachers (57%) responded that there was only enough equipment for teachers to do practical work. If the schools do not have equipment for conducting practical work, for both the teachers and learners, teachers might be forced to do demonstrations only and might not allow learners to handle the equipment themselves. These findings are similar to those by Maboyi and Dekkers (2003) who found that almost all the Natural Science teachers in their study in South Africa preferred teacher demonstrations because of the lack of laboratories and laboratory equipment among others. On the question whether there were enough equipment for all learners to carry out practical work in Biology, all 23 teachers responded that the equipment was not enough for all the learners. All learners were supposed to be active participants during the practical lesson; they were supposed to be handling the apparatus themselves. If equipments are not enough for all learners, this might prevent some learners from participating during the practical lesson.

The Namibian Senior Secondary Certificate for Ordinary Level Biology Syllabus (Ministry of Education, 2009b, p. 27), states that, “learners should get practical (experimental and investigative) skills and abilities that will allow them to be able to follow a sequence of instructions; use appropriate techniques; handle apparatus/materials competently and have due regard for safety”. Learners can only learn how to handle the apparatus or the materials if there are materials to be handled at their schools. If the apparatus are not enough, teachers might be forced to do demonstrations and learners will be forced to observe only. As such they might not be able to learn how to handle the apparatus when doing practicals. There is also a need for a different approach to timetabling in Secondary Schools such as where not everyone (teachers and learners) is in the laboratory at the same time, or a project based assisted learning where learners liaise with their teachers when they are available. The results in this section show that most secondary schools in the Oshana Educational Region did not have well stocked laboratories. Further, the laboratories did not have enough resources for conducting practicals.

Conclusion
This study found that not all the Biology teachers were doing practicals in Biology even though they said they did. The teachers did not allow their learners to do the practicals themselves even though they were expected to
do practical work under the teachers’ supervision. This might be one of the reasons why learners performed poorly on Paper 3. The study also found that both teachers and learners did not have Biology practical manuals to guide in the conduct of practicals. Without a practical guide for both the teachers and the learners, learners might not take practicals seriously and this might affect their performance on Paper 3. Furthermore, the study found that learners in some of the schools were not assessed at the end of the practical lessons, to determine whether they had understood the practical and to familiarise the learners with the questions format in Paper 3. This might have adverse impact on learners’ performance on Paper 3.

Not all schools in the Oshana Educational Region had laboratories for conducting practical work in Biology. Some were too old while some did not have tables and chairs for learners. Without a laboratory for conducting practicals in Biology, teachers might not do practicals with their learners which will contribute to poor performance on Paper 3. Further, the secondary schools in the Oshana Education region did not have the necessary resources, apparatus and equipment for both the teachers and the learners to use during the Biology practical lessons.

Recommendations
In light of the findings of this study, the following recommendations are made:

Ministry of Education
There is a need for the Ministry of Education to budget for the building and equipping of Biology laboratories at secondary schools.

Advisory teachers
The Biology Advisory teachers should visit secondary schools regularly in order to identify the problems that teachers are facing in conducting practical work. In this way they will be able to assist Biology teachers in conducting practicals and in ordering required consumables and equipment.

Teacher training institutions
Teacher Training institutions should train teachers on how to conduct practical work in Biology.

Biology teachers
The Biology teachers should borrow materials from neighbouring schools for conducting practicals in Biology if they lack these at their schools.

Biology teachers should inform the Biology Advisory Teachers where their schools do not have the necessary resources for conducting the practicals in Biology. In this way the Advisory Teachers might organise the needed resources for conducting practicals.

School management
School Management should organise bazaars, fundraising activities and any other money raising events in order to generate funds for buying equipment and chemicals that will help teachers to carry out practicals in Biology.

Suggestion for further research
A longitudinal study should be carried out that would shed more light on the nature of Biology practical work in Namibian secondary school classes. There is need to conduct a countrywide study that will shed more light on why Biology teachers are not conducting practical work at the secondary school level.

References


The perceptions of principals regarding their working relationship with school board members in the Zambezi region, Namibia

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Abstract: The purpose of this study was to explore the perceptions of principals regarding their working relationship with school board members (SBMs) in the Zambezi region of Namibia. The study was located in the interpretive paradigm, where a qualitative case study approach to the research problem was employed. The researcher selected five schools, as sites to explore the research problem. It is important to mention that the findings of the study cannot be generalized to all schools in Namibia, since the research was limited to five schools in the Zambezi region only. The findings revealed that the majority of principals perceived their working relationship with SBMs as collegial. In order for principals to work in harmony with SBMs, it is essential to have well-defined roles, as well as to treat everyone fairly and respectfully. This relationship can be fruitful if principals and SBMs understand their roles and responsibilities well so that they can perform to the best of their abilities. To ensure that a sustainable working relationship exists between the principal and SBMs, consultative engagement is recommended. Principals should learn to trust SBMs to regain trust and positive feelings that can improve relations and teamwork.

Keywords: school board members, parents, principals, teachers, learners’ representative council, Namibia

Introduction
The development of trusting working relationships is a critical leadership factor in the improvement of a school and can facilitate its enhancement (Wise, Bradshaw & Cartwright, 2013). Walkley (2012) defines ‘relationship’ as the interaction between key groups and individuals who contribute to the governance of a school. Relationships are good when they are respectful, harmonious, trusting and productive. Kladifko (2013) reiterates that a school board should build a relationship of trust and effective interpersonal communication with the principal.

This study focused on the perceptions of principals regarding their working relationships with SBMs in the Zambezi region, of Namibia. Modisaotsile (2012, p. 4) points out that the school board (SB) “must ensure that the school is governed in the best interests of all the stakeholders and should put the interests of the school before any personal interests”. Bagarette (2012) points out that, although emphasis is placed on the school board by legislation to be in a good working relationship with the principal, in practice, trust is also expected from the principals for the effective functioning of the school. Botha (2012) acknowledges that principals must ensure that they render all the necessary assistance to SBMs to enable them to perform their duties effectively. The Namibian principal must promote the best interests of the school as mandated by the Education Act, Act 16 of 2001 of Namibia.

Statement of the problem
The researcher observed that most of the challenges experienced in schools in the Zambezi region of Namibia seemed to be due to the lack of a trusting working relationship between the principals and SBMs. This situation observed in schools prompted the researcher to embark on this study; furthermore, it appears that very little research has been conducted on the perceptions of principals regarding their working relationship with SBMs in the Zambezi region and Namibia at large. The lack of a trusting working relationship may have far-reaching consequences, not only for principals and SBMs, but also for the teaching and learning process. By embarking on this study, the researcher aimed to find out the perceptions of school principals regarding their working
relationship with SBMs in the Zambezi region. The researcher believes that this study might change the perceptions of principals, who do not seem to have a trusting working relationship with SBMs when executing their functions as mandated by the Education Act, Act 16 of 2001 (Ministry of Basic Education, Sport and Culture, 2001) of Namibia in the Zambezi region.

**Research question**
The following research question was addressed in this study:

1. What are the perceptions of principals regarding their working relationships with SBMs in the Zambezi region?

**Literature review**

**Working relationships between principals and SBMs**

Bagarette (2012) questions whether the cooperation between principals and SBMs is successful or not, since there are numerous reports on power struggles attributed to the principal’s privileged position of having more knowledge of policies and regulations when compared to the SBMs. It is important to note that principals in public schools are responsible for professional management (Xaba & Nhlapo, 2014). This means that the principal represents, and must protect, the interests of the employer. They affirm that the principal should assist the school board with the performance of its functions and responsibilities in terms of policy and legislation. However, Mncube and Mafora (2013) and Mohapi and Netshitangani (2018) point out that there is some uncertainty regarding the roles, as the legislated functions do not provide a clear distinction between principals and SBMs. This means that there are some overlaps between some roles where some SBMs tend to insist on being involved in the professional management of the school. In addition, such unclear boundaries and resultant encroachment on the roles of others engender conflict and tension that impact the relationship between principals and SBMs. This observation is supported by Onderi and Makori (2012) who state that tensions and conflicts are likely to occur when roles and responsibilities are either not clearly defined or overlapping, or when a certain group go beyond their mandate. When there are uncertainties in the role definitions in a school or unclear boundaries of responsibilities, the stage is set for interpersonal friction between the principal and SBMs.

The studies of both Doty (2012) and Mohapi and Netshitangani (2018) indicate that both the principals and SBMs have not been working in an ideal situation, leading to the tension between them to have intensified the pressure of the two leadership roles and have resulted in their strained relationship. This is supported by Bayat, Louw and Rena (2014, p. 354) who argue that “some SBMs are not working properly because they do not have the necessary skills and they are not sure regarding their roles and responsibilities”. This happens mostly in rural communities where resources are few and SBMs cannot read and write.

**Composition of the school board (SB) in Namibia**

In accordance with the Ministry of Basic Education, Sport and Culture (2001) and Ministry of Education, Arts and Culture (2016), the membership of the SB depends on the size of the school. It consists of not less than five and not more than 13 voting members. These members include parents with children at the school, but who are not employed there (parents must be in the majority). In addition, school teachers and the principal of the school are members of the school board. Moreover, two learners at the school, nominated by the LRC are members of the school board. However, this is applicable in secondary schools only. Primary schools are encouraged to create platforms for learner participation in school governance. Matsepe (2014) states that the reasons advocated for the participation of learners in secondary school governance are that at present schools exist in a democratic era and the term democracy implies participation of all stakeholders in matters that affect them. In addition, it is believed that, if learners are part of governing bodies, they would be part of decisions made to run the schools; therefore, they would have ownership of decisions and obviously stand a better chance to convince fellow members of the student body regarding the good intentions of decisions by the board.

The Ministry of Basic Education, Sport and Culture (2001) and Ministry of Education, Arts and Culture (2016) prescribe that a school board must elect office bearers among its members to serve as chairperson, secretary and treasurer. They stress that a principal, teacher or learner of the school must not serve as
chairperson of the school board. In addition, the principal becomes a school board member by virtue of her or his position in the school. However, it is stated that a school board chairperson is elected for a period of three years and only one of the parents is elected as the chairperson.

The responsibilities of the school board in Namibia

The Ministry of Basic Education, Sport and Culture (2001) and Ministry of Education, Arts and Culture (2016) in Namibia provide seven main responsibilities of the school board. The first responsibility of the school board is the development of the school development plan (SDP), vision and policies of the school. A school development plan is a school strategy of the way that the school board and the school think they will maintain good standards and improve the quality of teaching and learning over a period of 1 to 3 years. Thus, a school development plan starts with a vision of where the school wants to be in a certain period of time and in respect of the role it plays.

The second responsibility of the school board is to recommend the appointment, transfer and promotion of teachers and other staff members at the school (Dibete, 2015; Onderi & Makori, 2012). It is the responsibility of the school board to see to it that the recruitment, transfer and promotion of staff members are conducted openly, fairly and procedurally. Therefore, in order to appoint a teacher or other staff members, the school board takes the following actions:

- Ensure that all the vacant posts at the school are widely advertised in the appropriate media (radio, newspaper).
- Establish the strengths and weaknesses of the applicants.
- Interview short-listed candidates.
- Recommend or reject the appointment of a teacher on the grounds of qualifications and/or experience.

If the correct procedures have not been followed in the appointment of a teacher and other staff members at the school, or the school board was not consulted, the board can raise an objection.

The third responsibility is to develop the school infrastructure (Onderi & Makori, 2012). It is important to note that government funding is limited to develop enough of the school’s infrastructure, which requires community involvement. Thus, the school board needs to work together with the community to help the development of the school’s infrastructure. The school board can organize community members to carry out building projects, such as building a school library and school hall. Other infrastructure development that the school board can partake in could be erecting a fence around the school, building toilets and buying equipment, such as a photocopier, duplicator, TV-set and computer. In addition, the school board can engage in extending classrooms or adding additional classrooms and setting up sports fields. It is also important to acknowledge that, subject to the restrictions endorsed by the Permanent Secretary and upon conditions as the school board may determine, the reasonable use of the school facilities for community purposes can be permitted (Ministry of Basic Education, Sport and Culture, 2001).

The fourth responsibility is to promote school welfare, which has to do with order and discipline. It is important to note that promoting school welfare means that the school board should ensure a favorable environment for effective teaching and learning. This may be attained when the principal, teachers and learners are friendly towards one another and visitors. In addition, the principal should be able to exercise discipline, study hard, use school resources well, be time-conscious and use time effectively. There should also be clear pointers that the school management is sound and teaching and learning are effective so that everyone at the school is proud. Other social welfare matters that can be promoted by the school board at school include programmes on HIV and AIDS, one of the leading causes of death in Namibia and have caused enormous challenges to the education sector (Libuku, 2014).

The fifth responsibility of the school board is to communicate with parents and the community (Ehren, Honingh, Hooge & O’Hara, 2016; Lorentzen, 2013; Ministry of Education, Arts and Culture, 2016). It is worth noting that parent members are voted on to the school board to represent parents and the community at large. Therefore, they should arrange regular meetings with parents to inform them about their school by means of letters to parents, parent meetings and through the media. Other opportunities that SBMs can utilize to share information with community
members or update the traditional leaders on education matters for their support are at regular meetings hosted by local traditional leaders. An example of information communicated to parents and the community can include a report on progress made and new plans of the school (updating parents or the community on school development plans), as well as ascertain people’s needs and their perceptions of the performance of the school board and the school as such:

● Mobilizing support for school developmental activities;
● Convincing people to take an active role in school activities;
● Highlighting the performance of their school;
● Providing information on HIV and AIDS;
● Securing the support of traditional leaders and the community for school issues.

The sixth responsibility of the school board is to establish committees (Ministry of Education, Arts and Culture, 2016). School boards can hardly execute their functions alone, without making use of the expertise, time and energy of others. It is, therefore, imperative for SBMs to draw from the expertise of other community members or parents. For example, they can call in a medical doctor to talk to the teachers and learners about school health. They can request a social worker to talk about the abuse and neglect of children or they can call in an accountant to provide training in managing the school’s financial resources.

The seventh responsibility of the school board is to manage finances (Lorentzen, 2013; Ministry of Education, Arts and Culture, 2016). This is also one of the key responsibilities of the school board. Managing money is not an easy matter; it requires someone who oversees whether the money is being spent wisely according to specified procedures. The school board should play the role of an overseer, and the finance committee of the school board can play a key role in managing the school’s finances by preparing the budget, which the school board can approve or reject. In addition, the Ministry of Education, Arts and Culture (2016) stresses that a school requires finances to run its affairs effectively and meet its obligations to the community.

**Characteristics of an effective school board**

Ehren, Honingh, Hooge and O’Hara (2016) provide five characteristics of an effective school board:

- Commitment to a clear and shared vision and goals for student achievement and quality instruction that trickle down to the classroom. The school board should ensure that goals for student achievement include specific targets and standards and are the highest priority in all schools without the distraction of other goals and initiatives.

- Effective use of data. Rhim (2013) states that data use is the foundation of meaningful planning and holding principals accountable. High quality school boards are, therefore, data savvy. Thus, effective school boards monitor and utilize data to drive continuous improvement even when the information is negative. In addition, they analyse and discuss trends of dropout rates, test scores and student needs on a monthly basis to identify specific student needs and justify decisions based on those data without ascribing blame or drawing emotional responses.

- Strong accountability and transparent evaluation. Effective school boards evaluate and hold their principals accountable for shared goals, mutually agreed upon procedures and the progress of students. In addition, they support decisions that develop the improvement of student achievement rather than the daily management of the school.

- Collaborative relationships and mutual trust with staff and the community. It is important to note that school boards should have a trusting and collaborative relationship with their principals and engage in a collegial policy-making process that emphasizes the need to find solutions and develop consensus among SBMs and other leaders on the identification and implementation of improvement strategies.

- Political and organizational stability. The choices regarding goals and resources remain stable over longer periods of time, and effective school boards and principals have long-term service records, meeting goals and aligning resources to these goals and showing stability in the governance of schools.

In its induction and training manual, the governance manual (GM) South Africa
Foundation (Department of Education, 2012) sets out other characteristics that make an effective school board. The characteristics are applicable to school boards in Namibia. They include:

1. **Working as a team**
   Building an effective team requires regular attendance and energetic commitment from all governors and appreciating what each member of the school board has to offer, sharing the workload, showing respect for colleagues and their differing opinions and being a loyal team member.

2. **Good relationship with the school principal**
   It is important to establish a good working relationship between the school board and the principal. Each party must have a clear understanding of its respective role. For example, the school board is responsible for deciding the framework for the conduct and development of the school. Within this context, the governing body should respect the position of the principal as the professional leader of the school and the person accountable for the day-to-day management and administration of the school.

3. **Effective time management and delegation**
   School boards should identify the priority issues in which they need to be directly involved, including decisions that, according to law, must be taken by the full school board, and delegate the remainder to the committees, working groups or individuals. Equally, the school board should also set clear terms of reference for such delegation, so that everyone knows what they are expected to do and how and when they should report back in full.

4. **Effective meetings**
   To make the best use of time at meetings, the school board should carefully plan the agenda to focus on the most important items. It is important for the school board to choose a secretary who can organize meetings and papers efficiently, as well as provide information and procedural advice. In addition, the secretary should ensure that decisions are properly taken and clearly understood. Furthermore, the secretary should ensure that minutes are clear and sets out points for action.

5. **Knowing the school**
   SBMs should come to know their school through visits organized in close co-operation with the principal to talk to pupils, staff and other stakeholders.

6. **Training and development**
   School boards need to take their own development seriously in order to help their schools. According to the South Africa Department of Education (2012), school boards should consider their training and support needs carefully and be prepared to attend training programmes organized by the Department of Education. In addition, SBMs should visit other schools to discuss their activities and allocate funds for the training of the whole school board. This is supported by the Ministry of Education, Arts and Culture (2016) which affirms that it is important to train new and current SBMs in school governance on a continuous basis in order to enhance their capacity to support schools. It, furthermore, asserts that training of SBMs is particularly due to the changing nature of issues affecting our society, in general, and our schools, in particular. Similarly, Rhim (2013) and Nwosu and Chukwuere (2017) stress that training provides SBMs with opportunities to learn about their key roles and responsibilities, as well as more substantive content related to education policy and practice.

   Furthermore, the governance manual for primary schools (Department of Education and Skills, 2015) outlines some modules that are covered in the training of SBMs as follows: the school board as a corporate entity – its functions, roles and the school board in action. Other modules in the training manual of SBMs are; procedures governing the appointment of staff in schools; school board finances and the role of treasurer. It is also, worth noting that legal issues, policies and procedures arising from legislation, guidelines and circulars are some of the modules covered during school board training. Moreover, the child protection and anti-bullying procedures, as well as data protection are among the modules covered by the school board in their training. It is, however, important for SBMs to avail themselves for such training when it is made available.
The role of the principal in relation to the school board

The Ministry of Education, Arts and Culture (2016) states that every principal must show leadership and be able to manage a school. The school leadership requires a principal to give direction to the school so that the function and purpose of the school can be fulfilled. It is, however, important to note that the principal’s relationship with the school board is influenced by the school’s values and mission, as well as by the school board’s constitution. As a key institution for effective governance and support of the school, the school board is at the disposal of the principal. In addition, the principal is morally and legally obliged to cooperate with the school board in the best interest of the school.

Furthermore, the principal is an important person in the school community and is accountable to parents, learners, the committees and the school community at large. The principal is a representative of the Ministry of Education and, therefore, must lead by example and set high standards for himself/herself (Ministry of Education, Arts and Culture, 2016). Xaba and Nhlapo (2014) affirm that the principal is responsible for the professional management of the school. In matters of school governance, the principal is answerable to his/her employer by assisting the school board with the performance of its functions and responsibilities in terms of policy and legislation.

Balyer (2012) states that the functions of the principal include issues, such as organizational development, managing decision making, systemic planning, designing a safe atmosphere and environment, managing the curriculum, preparing the school schedule, supporting teachers’ professional development and financial school activities. The Ministry of Education, Arts and Culture (2016) and Mestry (2017) posit that the work of the principal involves overseeing the day-to-day administration and supervision of all the aspects of the school. He/she has to implement the school curriculum and the Ministry’s policies. In addition, the principal is responsible for delegating responsibility to ensure effective administration and management. Equally, the principal should encourage the professional and personal development of teaching and non-teaching staff. Similarly, the principal is responsible for finding solutions to problems experienced, as well as ensuring the overall welfare of all at the school. Furthermore, the principal is responsible for creating an atmosphere conducive to the learners’ personal development, a sense of responsibility and self-discipline. Besides this, principals can improve the teaching and learning environment by creating conditions conducive to improved curriculum management. They are responsible for creating a positive school climate, motivating teachers and learners, as well as to manage resources effectively to enhance best instructional practices. They play an important role in the development and maintenance of academic standards, which include the knowledge and skills that learners are expected to learn in a subject and in each Grade. Important to mention is that the principal is responsible for reporting to parents through the school board and parent meetings and inviting parents to meetings. Moreover, the principal deals with disciplinary matters involving learners and teachers. Lastly, the principal is responsible for attending meetings and seeking support for his school from various people and authorities.

Nzoka and Orodho (2014) affirm that the role of the principal should be that of an advisor to students, teachers and the community. They state that the principal should be in a position to identify possible threats against retention rates and reverse the situation. In addition, the principal needs to act as a counselor to not only the students but also parents and teachers because this could assist all parties interested in the educational life of the learners in order for them to appreciate the need to be educated. The principal should endeavour to provide the best school climate to entice students to complete their schooling by making school free from violence, threats, intimidation, hatred and witch-hunting. He/she should develop a rich co-curriculum and remedial interventions for slow learners in order to avoid repetition, frustration and dropout. Naidoo, Mncube and Potokri (2015) point out that the principal should be seen as a fundamental agent of transformation, creating space for deliberation and dialogue so that all stakeholders are actively involved in the school governing body. They stress that training or capacity building for all representatives of stakeholders on the SGB is recommended.
Partnership theory
The partnership theory was employed as a framework in this study. According to Bloomfield and Nguyen (2015), the term, partnership, commonly means notions of sustained relationship and equal exchange, as well as reciprocity and mutuality achieved through a process of negotiation of a relationship in terms of a common purpose, forms and practice. Bagarette (2012) defines a partnership as a number of people who have a common goal and co-operate with one another by contributing something of value to the relationship, with the aim of making a profit. The success of a partnership depends on mutual trust, as well as respect, among the partners. Therefore, partners have joint control and authority over the business and are jointly liable for the partnership debts.

Gross, Haines, Hill, Francis, Blue-Banning, and Turnbull (2015) acknowledge that business partnerships are developed with a wide range of local and national for-profit businesses. In Namibia, public schools are managed along business principles, except that the aim is not profit, but rather quality teaching and learning outcomes displayed by the teachers and learners. Just like in a business, the Education Act, Act 16 of 2001 of Namibia anticipates a partnership based on trust between the school board and the principal to serve the best interests of the school. The Education Act, Act 16 of 2001 of Namibia and Ministry of Education, Arts and Culture (2016) envisage a partnership based on a trust relationship between the school board and the principal to serve the best interests of the school. Bagarette (2012) emphasizes that a partnership is a vehicle for engagement. He, furthermore, notes that through a partnership, one is confronted with the different realities and forms of knowledge each partner brings to the relationship. New realities and forms of knowledge may consequently emerge. Thus, the mutual trust and respect between the partners are essential for the success of the partnership.

Success factors of the partnership theory in schools
Hushie (2016) outlines the many factors contributing to the success of a partnership in other low and middle-income countries (LMICs). These success factors are explained from a health perspective. However, they are applicable in the education context and especially in the partnership between principals and SBMs in Namibia.

The success factors of partnership include:
- The development of new relationships by adopting, implementing education needs-based approaches and evidence-based interventions at the school;
- The commitment of principals and SBMs to mobilize internal and external resources and support for effective teaching and learning;
- The utilization of a memorandum of understanding to formalize expectations for collaborative relationship;
- The task of making school development planning and implementation a collaborative process by involving principals and SBMs, as well as other key stakeholders of the school, from start up to the end and ensuring that monitoring and evaluation are continuous processes in order to identify school needs and issues, as well as to engage in continuous school improvement;
- The sharing of accurate and timely information between the principals and SBMs, as well as stakeholders, donors and
the public, to ensure more effective school outcomes.

In addition,Muijs (2015) delineates four factors that facilitate successful partnership at schools between principals and SBMs, namely:

1. **Strong focus on a limited number of goals**
   In order to make the relationship between principals and SBMs work, these partners need to agree on clear, shared goals and should have a common focus. The goals and focus of the school have to be shared with other partners and not just be the views of one partner.

2. **Trust and personal relationships**
   Trust is seen as important, not just in creating the conditions that allow schools to accept support and work together effectively, but also in creating a culture of openness towards mistakes and weaknesses. In addition, trust is about personal relationships between principals and SBMs.

3. **Mutual benefits**
   Muijs (2015) notes that partnerships benefit from the perception that each partner gains from the relationship. Principals and SBMs can benefit from the ability to learn from good practice in the school, as well as from the professional development emerging from the school.

4. **A phased approach**
   A phased approach is followed in most effective partnerships. Support needs to be intensive in the early phases of the partnership, but can often become increasingly hands-off over time as capacity in the school develops.

   Mavuso and Duku (2014) state that partnership in education has been regarded as a great phenomenon internationally. Partnership is seen as a relationship between principals and SBMs and as a means for promoting learners’ achievements. It has also been viewed as a means by which the principals and SBMs are in constant interaction with each other in an endeavour to improve the academic achievement of learners. This theory might help principals and SBMs to create support that might enable learners to succeed. It might bring together principals and SBMs, as well as create a forum in which diverse ideas can be concretized into solid, effective educational programmes. According to the partnership theory, there will be open dialogue between principals and SBMs, during which conversation, discussion and deep listening will take place. In addition, principals and SBMs will foster social creativity, which is necessary for the establishment of novel ways of interacting with each other. Furthermore, this theory will also foster the communication and cooperation that is essential for principals and SBMs.

**Research paradigm**

This research is located within the interpretive paradigm. In this study, the participants in the research were principals in the Zambezi region. The way in which principals responded in this study depended largely on their experiences and circumstances, as well as their contexts. According to an interpretive paradigm, principals in this study constructed and merged their own subjective and intersubjective meanings as they interacted with the world around them (Okeke & van Wyk, 2015). This paradigm was applied successfully in this study to explore the perceptions of principals regarding their working relationships with SBMs in the Zambezi region.

**Research approach**

A qualitative research approach was employed. Mills and Gay (2016, p. 25) define a qualitative research approach as “the collection, analysis and interpretation of comprehensive narrative and visual (i.e. non-numerical) data to gain insights into a particular phenomenon of interest”. An effort to understand the principals’ perceptions regarding their working relationships with SBMs was made by entering the research participants’ setting to interview them and give meaning. This process included continuous engagement with principals to the point of data saturation.

**Research design**

A qualitative case study approach was employed. According to Yin (2014), a case study is an empirical inquiry that examines a contemporary phenomenon in depth and within its real-world context, especially when the boundaries between the case and the context may not be clearly evident. Best and Kahn (2014) posit that a case study examines a social unit as a whole. Given the nature of the study, the researcher employed a case study approach to explore the perceptions of principals regarding their working relationships with
SBMs in the Zambezi region. A case study approach was appropriate in this study because it answered descriptive and explanatory questions (Mills & Gay, 2016).

Data collection strategies

Population
To solve the problem in this study, the researcher narrowed the population so that only principals from the Zambezi region formed part of the study. To be more specific, the researcher worked with principals of primary, combined and secondary schools in the Zambezi region.

Sample
Okeke and van Wyk (2015) define a sample as a set of respondents or participants carefully chosen from a larger population for the purpose of conducting research. Bertram and Christiansen (2014) affirm that sampling involves making decisions regarding which people, settings, events or behaviors to include in the study.

The researcher decided on how many principals would participate in the study. Purposive sampling was employed in this study to select five school principals to explore their perceptions regarding their working relationships with SBMs in the Zambezi region. The five principals were selected because they represented the Ministry of Education at the school, as ex-officio members of the school board (Ministry of Education, Arts and Culture, 2016). Xaba and Nhlapo (2014) affirm that the principal is responsible for the professional management of the school. This entails that, in matters of school governance, the principal is answerable to his/her employer by assisting the school board on the performance of its functions and responsibilities in terms of policy and legislation.

Data collection technique
The researcher utilized interviews as data collecting technique in this study.

Interviews
For the purpose of this study, the researcher interviewed five principals in order to explore their perceptions regarding their working relationship with SBMs in the Zambezi region. Interviews with principals were conducted at their respective schools. All interviews with the five principals were conducted in their offices. The interviews were appropriate to explore the perceptions of principals regarding their working relationships with SBMs in the Zambezi region of Namibia. Specifically, semi-structured interviews were employed as this type of interview is commonly utilized in research projects to corroborate data emerging from other data sources (Maree, 2016). The researcher prepared the semi-structured interview questions for principals beforehand, and included them in letters written to participants to enable them to prepare in advance for the scheduled interviews. In the letters, the researcher informed participants that the interviews were going to be recorded and that they were to last for twenty minutes. It is important to mention that, in the letters, the researcher informed participants that their identities in the study were going to be protected. The researcher later provided participants with transcribed interviews for verification.

Data analysis
A qualitative data analysis (QDA) was employed in this study to analyse the data based on an “interpretative philosophy that is aimed at examining meaningful and symbolic content of meaning of a specific phenomenon by analysing their perceptions, attitudes, understanding, knowledge, values, feelings and experiences in an attempt to approximate their construction of the phenomenon” (Maree, 2016, p. 109). QDA was the method best suited to explore the perceptions of principals regarding their working relationships with SBMs in the Zambezi region of Namibia. For the purpose of this study, the researcher analysed transcripts of interviews of the five principals.

Findings
In this section, the researcher reports on the findings derived from comments during the interviews with principals in the Zambezi region of Namibia. In the process of data presentation, the researcher ensured that the voices of the participants were not lost. The researcher utilized verbatim and substantial quotations, as well as italics to indicate the responses of participants throughout the data presentation.
Table 1: Profiles of principals

<table>
<thead>
<tr>
<th>Principals</th>
<th>Age</th>
<th>Gender</th>
<th>Qualification</th>
<th>Experience (Years)</th>
<th>School location</th>
<th># of learners</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>43</td>
<td>Male</td>
<td>BEd (Hons)</td>
<td>11</td>
<td>Rural</td>
<td>581</td>
<td>Yes</td>
</tr>
<tr>
<td>Samuel</td>
<td>54</td>
<td>Male</td>
<td>BEd (Hons)</td>
<td>1 yr. six months</td>
<td>Rural</td>
<td>659</td>
<td>No</td>
</tr>
<tr>
<td>Peter</td>
<td>42</td>
<td>Male</td>
<td>BEd (Hons)</td>
<td>9</td>
<td>Urban</td>
<td>970</td>
<td>No</td>
</tr>
<tr>
<td>Luke</td>
<td>44</td>
<td>Male</td>
<td>BEd (Hons)</td>
<td>5</td>
<td>Urban</td>
<td>710</td>
<td>No</td>
</tr>
<tr>
<td>John</td>
<td>45</td>
<td>Male</td>
<td>BEd (Hons)</td>
<td>17</td>
<td>Rural</td>
<td>449</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The data presented in Table 1 indicate that all five principals interviewed were male. Their ages ranged from 42 to 54 years. With the exception of one principal with experience of one year and six months, the other principals who participated in this study had much experience as ex-officio members of the school board in the Zambezi region. The principal with one year and six months’ experience was the oldest of the participating principals. The researcher, employed pseudonyms for all research participants that formed part of the study.

Findings from interviews
This section provides a detailed analysis of the data that were gathered from interviews. The findings are guided by the research question of the study and are discussed under the common theme of working together.

Research question: What are the perceptions of principals regarding their working relationships with SBMs in the Zambezi region?

1. Perceptions of principals regarding parent SBMs
In this section, the researcher presents the findings derived from the comments of the principals regarding their perceptions of parent members of the SBMs.

- Category 1: Collegial working relationship
The principals described their working relationship with parent members of the SBMs as generally positive. They stated that parent SBMs were important stakeholders in the education of the learners. They noted, further, that parent SBMs played an important role in the discipline of learners at the school. All principals concurred that parent SBMs were actively involved in a wide range of activities at the school. They particularly pointed out their involvement in attending school board meetings. This is evident from the response of Peter, during the interview:

> My working relationship with parent SBMs is very fine. When we meet during school board meetings, they air their views and raise their concerns. We totally corporate with each other during the school board meetings.

In the same vein, Luke affirmed that:

> So far I have not experienced any challenge with the parent SBMs, they are always positive. They are always there when we invite them for school board meetings or for whatever issue that we need from them. We are working together in a positive way. So my working relationship with them is good.

Although Samuel perceived his working relationship with parent SBMs as collegial and good, he stated that the problem arose when parent SBMs could not agree amongst themselves on a particular issue. He asserted that, as principal and ex-officio member of the school board, he would like parent SBMs to suggest some solutions to issues discussed. It was always difficult for them to come up with concrete solutions to school board issues. He stressed that the problem was among parent SBMs and not between them and the principal.

John also described his working relationship with parent SBMs as positive. He pointed out that the school board met three times a year, if there were no other immediate problems that necessitated them to convene before the end of the term. However, he normally faced a problem with some parent SBMs who did not attend school board
meetings. One principal said that, in most cases, parent SBMs gave excuses such as:

*I am very far; I am not in the Zambezi region.*

He stressed that especially if the parent SBMs are still young. When they are elected, they like to be SBMs. After some few months at home, they will opt to go and look for greener pasture. The principal continued to say that:

*It will be difficult to get hold of them. Therefore we prefer the older parent SBMs who are retired (laughing) because I know that they won’t go anywhere.*

The above shows that the principals perceived their working relationships with parent SBMs as Collegial and parent SBMs were perceived as important stakeholders in the education of the learners. They played an important role in the discipline of learners at the school. Data analysed revealed that the principals did not have problems with parent SBMs. However, the problem seemed to be amongst parent SBMs in finding solutions to school board issues.

Some parent SBMs did not attend school board meetings. This finding is in contrast with the characteristics of an effective school board, which advocates that building an effective team requires regular attendance to meetings and energetic commitment from all SBMs (Department of Education, 2012).

2. Perceptions of principals regarding teacher SBMs

In this section, the researcher presents the findings derived from the comments of principals regarding their perceptions of teacher SBMs. Below are the categories and findings that emerged from their responses.

- **Category 1: Collegial working relationship**

Most of the principals interviewed described their working relationship with teacher SBMs as collegial. Just as they observed their working relationships with parent SBMs, they stated that teacher SBMs were important stakeholders in the education of the learners. They asserted that, unlike some parent SBMs, teacher SBMs always attended school board meetings. This was evident from the response of Mark who stated that:

*I have very good teachers who are serving on the school board. They normally attend all our school board meetings without a problem. They do participate. If there is anything that they are not happy with at the school, they always raise such issues and we attend to them and then we move as a team.*

Peter supported this:

*Teacher SBMs always attend school board meetings. They air their views if they have a problem that concerns the school. Sometimes I meet teacher SBMs and discuss with them issues before we present them to other SBMs. So, the working relationship with teachers’ SBMs is fine.*

John emphasized that it was mandatory for teacher SBMs to attend school board meetings because they were always at school and it was seen as part of their job description. He stressed that teacher SBMs understood their role on the school board.

They were the people experiencing problems with the learners. If they were given such platform to look for solutions, they were very eager to come in as SBMs and try to sort out issues. In spite of that, Samuel, indicated that he had a good working relationship with the teacher SBMs. He stated that they would want to listen to the principal speaking during school board meetings, instead of them sharing the information with him.

Luke stated that there was one teacher SBM who did not seem to understand his role as a teacher representative on the school board. He said that:

*For him it was like he was elected on the school board to entirely oppose or defend teachers even if the teacher is wrong. As a SBM, representing teachers he just wanted to stand for the teachers in terms of covering their issues or misconducts, until I made it clear to him in the presence of all SBMs that as a school board we are all here for one purpose that is that of ensuring that the school functions properly. I told him that if there is a teacher who is having some shortcomings or whose work is not up-to-date it is the responsibility of the whole school board including the teacher representative on the school board to address such shortcomings. So*
the school board addressed that issue of the teacher representative on the school board and everyone condemned it.

The principals perceived their no working relationships with teacher SBMs as mutual. They were viewed as important stakeholders in the education of the learners and they always attended school board meetings. It was also said that some teacher SBMs did not participate in discussions during school board meetings. It was established from the principals that some teacher SBMs seemed to be opposing decisions taken by other SBMs in meetings and they tended to defend fellow teachers who were accused of misconduct at school board meetings.

3. Perceptions of principals regarding LRC’s serving on the school board

In this section, the researcher presents the findings derived from the comments of the principals regarding their perceptions of LRCs serving on the school board. Below are the categories and findings that emerged from their responses.

- Category 1: Collegial working relationship
  All five principals described their working relationships with LRCs serving on the school board as generally good. This can be seen from the response of Peter who affirmed that his working relationship with LRC’s serving on the school board was good. He stated that he had told the LRCs serving on the school board that they were elected to represent the welfare of other learners and that the school board was the highest decision making body in the school and that they should always present whatever issues were affecting them during school board meetings. He mentioned also that he normally encouraged LRCs to conduct meetings with other learners, so that when the school board held their meetings, they could present issues that were raised by learners during their meetings. This was evident from his response during the interview:

  *My working relationship with the LRCs on the school board is generally good. There is mutual respect, except that when you are a principal and you are dealing with learners even when you sit at the same table as collaborators on the school board meetings, they will still want to treat you as principal.*

  They do not take away that role of being a principal so that they can contribute freely in school board discussions. They will always remember that we are learners and we are talking to the principal. That is one problem that we have, that learners do not feel very free to contribute on the school board discussions, they think that the discussions are for adult members of the school board. Otherwise, I have a good relationship with learners on the school board (Acknowledged Samuel).

Although Mark and Luke mentioned that they had a good working relationship with LRCs on the school board, it was found that at their schools learners had not elected the LRC members. This implied that the two schools did not have LRC representatives on their respective school boards. The reason given by Mark, namely that the Ministry of Education advised that schools offering Grade 0 to Grade 10 should not elect LRCs, did not seem valid. The school where Peter was a principal had the same grades as where Mark was the principal but Peter’s school had elected LRCs. Nonetheless, the two schools did not have LRC representatives. Mark stated that:

*Normally I don’t always have problems with LRCs. our current SBMs that we have here were supposed to have a learner serving on the school board but because of their programmes, we normally exclude them. We only organize sessions whatever we discuss on the school board, we go out to the learners to explain to them. LRCs will always find it very difficult to be pulled out from classes to sit in school board meetings while they were supposed to be learning or while they were supposed to be on lunch. They normally advise that LRC’s representatives on the school board should be elected in schools having Grade 11 and 12 (senior secondary schools) and not schools that are having Grades 0 up to 10. Regardless of this challenge, the working relationship is always positive when it comes to learners.*

On the other hand, Luke stated that:

*Even though currently we do not have learners represented on the school board but in the coming days we are going to include learners on the school board. Those learners who were representing learners on the school board in the past before I came here, after they had left*
or completed their Grade 12 they were not replaced. We are working on that issue so that we can replace them. I do not think it will be a problem to include learners on the school board. It will just be a benefit on their side because they will be taking information or matters discussed on the school board to other learners whom they are representing.

This section presented the findings regarding the perceptions of principals about LRC’s serving on the school board. It was found that the principals perceived their working relationships with LRCs serving on the school board as good. The learners were perceived as important stakeholders who presented the concerns of other learners during school board meetings. The findings revealed that LRCs serving on the school board did not feel free to participate during school board discussions, thinking that such discussions were only for adult members on the school board. This concurs with the findings by Mncube and Harber (2013) who found that learners tend to be shy and find it difficult to express themselves on issues because they feel that they might insult their elders who are members of the school board.

The majority of principals perceived that they had a good working relationship with SBMs. They described their working relationship as generally collegial. SBMs were perceived as important stakeholders when it came to the education of the learners as they played an important role in the discipline of learners. These findings are in line with the characteristics of an effective school board as stated by Ehren et al (2016), namely that school boards should have a trusting and collaborative relationship with their principals, engage in a collegial policy making process that emphasizes the need to find solutions, as well as develop consensus among SBMs and other leaders on the identification and implementation of improvement strategies. The school board should ensure that goals for student achievement include specific targets and standards, and are the highest priority in all schools, without the distraction of other goals and initiatives. The findings also corroborate the partnership theory by Sibanda (2017), namely that in a partnership, the principal allows SBMs to make decisions and partners with them so that the policies and vision are followed according to plan. SBMs are able to take control and work as a team, and the principal works with them in a collegial manner.

This study revealed that the principals in this study perceived themselves as working together with SBMs in ensuring that schools achieved the targeted goals and objectives. This finding supports the finding by Ament (2013) who posits that working together is especially important for those who serve in public schools. The primary example of cooperation must come from the principal and the SBMs. Thus, those who govern schools must share a vision and clear expectations, as well as have the ability and courage to lead. Therefore, since education is a dynamic system and a collaborative process, principals and SBMs will have to work as a team to engage the public and to nurture a climate conducive to change. Bagarette (2012) reiterates that the partnership between principals and SBMs should be based on openness, cooperation, participation and accountability in order for the partners to work together in all spheres of management and governance to promote the best interest of the school. The finding of this study is in line with the partnership theory as stated by Muijs (2015) who argues that, in order to make the relationship between principals and SBMs work, these partners need to agree on clear, shared goals and should have a common focus.

Recommendations
In order for principals to work in harmony with SBMs, it is essential to have well-defined roles and treat everyone fairly and respectfully. Moreover, principals should always act
professionally and share critical and accurate information at the right time with everyone. This helps to avoid information asymmetry and can help prevent unnecessary conflicts. To ensure that a sustainable working relationship exists between the principal and SBMs, consultative engagement is recommended. In the case of a conflict, feuding parties are advised to prioritize compromise, accommodation, collaboration and put the organization above individual interests. Principals should learn to trust SBMs to regain trust and positive feelings that can improve relations and teamwork.

Conclusion
The aim of this study was to explore the perceptions of principals regarding their working relationships with SBMs in the Zambezi region of Namibia. This relationship can be fruitful if principals and SBMs understand their roles and responsibilities well so that they can perform to the best of their abilities. The findings of the study indicate that there is a collegial working relationship between principals and SBMs that is punctuated by a good flow of information.

References


Relevance of performance indicators to schools’ academic improvement

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Abstract
The performance of grade ten learners in the Zambezi Region of Namibia has been seen to be below standard. This came to light when performance indicators (PIs) were used as yardstick by which internal and external school evaluators assessed whole school performance in Namibia. This led to focus this case study on grade ten school performance of the mentioned region. To mitigate this, an exploration of teachers’ perception(s) of the relevance of performance indicators were sought to understand the academic improvement and development in two selected secondary schools. The case study dealt with two purposefully selected schools where one principal, two heads of departments and five teachers were selected from each participating school. Interviews and reflections were used to generate data. Analysis of data generated was framed by interpretive paradigm since the study was exploratory. The study found that teachers acknowledged the importance of PIs in improving teaching and learning and believed that they can help in improving the provision of quality education if fully implemented. Further, school principals experienced many challenges in the implementation of these PIs. Basing from the facts obtained in the study that PIs are vital for improving some parameters in schooling, we therefore recommend that some continuous professional development must be put in place to sensitize the implementers.

Key words: relevance, performance indicators, school improvement, development, perceptions

Introduction
The increase in the number of schools in Zambezi region shows government’s commitment towards the realisation of its goal of education access and provision for all children (Adkisson, 1995). This idea of access and provision of schooling is referred to in the Education Management Information System report (2005). However, this goal of access and provision, even though almost realised, it has emerged that poor academic performance in some schools still persist and this is prevalent in all grades in Namibia (Education Management Information System, 2005). For instance, in Namibia, in the Katima Mulilo circuit, in which two secondary schools were selected purposefully for this study, some discrepancies in performance were observed (Wikan, & Mostert, 2011). Despite this, the upgrading of schools to ensure quality and access to education has been ongoing for the past thirty years (Shikalepo, 2020).

Background
Although black Namibians were deprived of achieving better education by the colonial masters as Leu (1979) argues, a different pattern began to emerge gradually soon after Namibia’s independence in the provision of education for the different ethnic groupings (Ministry of Basic Education and Culture, 1993) soon after independence. Namibians began to receive some form of quality education within their different homelands when the new dispensation ejected the old curriculum and brought in a new one to suit Namibians’ needs (Cohen, 1994). The old curriculum was only suitable for preparing Namibians for their future role as labourers (Leu, 1979; Ministry of Basic Education and Culture, 1993).

Namibia’s new government brought some changes to ensure that education is equal and accessible to all. These changes were an effort geared towards improving the learning environment for the historically disadvantaged population. This new dispensation brought construction of new infrastructure and strengthening of the staff, supply of library facilities, textbooks and administrative and supervisory services (Meyer, 1998). These play an important role in ensuring quality and access to schooling for all (Angula, 1990).
Despite the effort to level the education terrain through addressing access and quality, performance of learners became compromised. To mitigate against this, implementation of performance indicators (PIs) was recommended. This signalled a period of fundamental change to school principals. As stakeholders in education, principals, heads of department and teachers in this new ‘era of change’ required the ability to envision an improved school and the spark to energise and lead staff to bring it about. The PIs were introduced to address the fragmented standards that existed in schools in the different regions of Namibia. However, these standards were not specifically defined (Ministry of Education, 2005). They aimed to enhance common standards across the country and to improve the quality of education at a national level (Ministry of Education, 2005).

**Statement of the problem**

When new infrastructures emerge in a schooling system, the expectation is it should not compromise the efficiency and performance of the activities of teaching and learning. Fry, Ketteridge and Marshall (2009) acknowledge that new changes aimed at addressing quality, equity, access and democracy must not compromise teaching and learning activities. When new changes come into effect they come with some suggestions on how performance can be regulated (Darling-Hammond, Fook, Cook–Harvey, Barron, & Osher, 2020). This might explain why in Namibia, the new dispensation introduced performance indicators to be used as a barometer to check on progress and development being done. Likewise, expansion of secondary schools needs effective leadership. Leaders needed are those who are professional and experienced. Professional leaders are needed in order to lead schools to cope with development and improvement for the progress of teachers’ job performance. This brings about good learning and teaching outcomes (Heffernan, 2020)

In practice school leaders interpret and enact their role in various ways depending on their individual personalities, the culture of their schools and the environment of which PIs can characterize such environments (James, Barbara, & Leiyou, 2003). Performance indicators according to Pinkus (2008) are that measurement that helps one appreciates how an institution is performing. This permits one to find out whether s/he is moving in the right direction with his/her strategy. However, lack of understanding of PIs and how they should be implemented seems to be a challenge and yet they play a role in improving performance. Nevertheless, the purposefully selected two schools performed better; therefore, this study focused on how these two purposefully selected schools achieved it; and explored perspectives of PIs to see their importance in order to make some informed recommendations so that other stakeholders should use them properly and value them for the sake of improving school performance.

**Literature review**

*An overview of the performance indicators*

The dictum of the National Standards and Performance Indicators (NSPIs) call for all schools to take quality assurance seriously, with particular emphasis on School self-evaluation (SSE), a process that encourages self-management (Ministry of Education, 2007b). The NSPIs are thus used by internal and external school evaluators to assess whole school performance. In order to familiarise staff members with the NSPIs, inspectors of education (IoEs) and advisory teachers (ATs) from Zambezi Region received training in 2005 before the NSPIs were to be implemented in schools in 2006 (Ministry of Education, 2005). Thereafter, the cascade model of training was adopted for the remaining IoEs, ATs and principals. The policy laid out by the NSPIs identifies seven key areas and 111 themes (aspects) of school life, and provides evaluators with 30 PIs (Ministry of Education, 2005). Taken together, the 111 themes are regarded as forming a holistic representation, and so the assumption is that everything traditionally associated with the concept of school life is covered by the NSPIs (Johannes, 2009). Therefore, the conclusion drawn was that if schools implement the prescriptions contained in the NSPIs, school performance is likely to improve, and Namibia will be able to provide quality education for her citizens, the ultimate goal of the Ministry of Education (Ministry of Education, 2005).

There are key areas for each indicator and these are also subdivided into a number of themes/aspects of school (Ministry of Education, 2005a:2). The NSPI policy requires both internal and external evaluators to use a four-point scale when assessing themes. As the
policy explains, “in each PIs illustrations are given in words of excellent performance (Level 4) in that part of the work of a school, and of a performance that shows more weaknesses than strengths” (Ministry of Education, 2005). According to the NSPIs, all schools in Namibia are required to conduct an annual self-evaluation, starting on the 15th October, and reaching completion before the middle of November (Ministry of Education, 2007b). The framework of this evaluation is given by a National Standards tool called School Self-Evaluation. The SSE was designed as an instrument to be used by all schools in Namibia, as the Ministry of Education (2007) states:

All schools in Namibia need to aim to become a level 4 school according to the standards set in the National Standards and Performance Indicators (NSPI). The SSE will assist management and the staff in evaluating the school’s overall performance improvement over a period of one year.

According to the NSPI policy, teachers are also required to conduct self-evaluations by using an instrument of similar design to the SSEs, known as Teacher Self-Evaluation, or TSE (Ministry of Education, 2007b). The TSE reveals what is expected of a teacher in Namibia and teachers are expected to conduct self-evaluations in an honest manner. Other tools available to schools include the School Development Plan (SDP), the Plan of Action for Academic Improvement (PAAI), and Classroom Observation Instrument (COI) for promotional subjects, junior primary education and non-promotional subjects (Ministry of Education, 2007b).

Another apparatus worth mentioning at this point is that Namibian schools are required by the Education and Training Sector Improvement Programme (ETSIP) to set annual performance targets before the end of January each year (Ministry of Education, 2007a). All of these tools, designed to aid in improving the overall quality of learning in Namibian schools, are part of the implementation of the NSPIs. These tools will be referred to frequently during the course of this study. The policy structure of the PIs is comprehensive and complex, and it makes principals chiefly responsible for the success of its implementation. Therefore, the success of the PIs’ policy in schools, in our view, depends on whether Namibian principals had developed the requisite leadership and management skills while at university or in a continuous professional development program.

The following table shows the 7 key areas and 30 PIs. The content covered by the policy of the PIs is comprehensive, so familiarity with its themes is essential for effective implementation and for the way its implementation is perceived and experienced by school principals in Namibia.

<table>
<thead>
<tr>
<th>7 Key areas of the PIs</th>
<th>30 Performance Indicators (PIs)</th>
</tr>
</thead>
</table>
| Provision of resources for the school and hostel | • Provision of human resources  
 • Provision of physical resources  
 • Provision of finance  
 • Provision of resources for hostel |
| Curriculum and attainment | • Implementation of the curriculum  
 • extra-curricular activities  
 • Intellectual attainment  
 • Personal and social development |
| Teaching and learning process | • Quality of the teaching process  
 • Suitability to learners’ needs  
 • Quality of the learning process  
 • Assessment and evaluation |
| The school as a social unit | • Morale of the school  
 • Effective use of time  
 • Values and norms  
 • Pastoral care and guidance  
 • Curricular and vocational guidance  
 • School discipline |
These themes are anchored on a particular schooling concepts related to PIs. The relationship of the schooling concepts with the idea of PIs are discussed in the section which follows.

**Theoretical conceptualisation of PIs and school improvement**

This section explains how different researchers conceptualise the concepts performance indicators and school improvement. The conceptualisation of a concept refers to how scholars understand and interpret a particular concept within a particular context hence the different conceptualisations by various writers in different places and under different circumstances.

**Performance indicators**

Although authors agree on some points about PIs, there are some points when they do not reach agreement. Hulpia and Valcke (2004) as well as Berzeteiou and Stavrou (1997) observe that performance indicators describe and analyse key aspects of schooling. PIs help to evaluate and monitor the quality of education. Furthermore, indicators provide at-a-glance results of current conditions and may augur future prospects. Cloete and Bunting (2004) define an indicator as a measure, usually in a qualitative form, of an aspect of an activity of a higher education institution or at any level. The measure may be ordinal or cardinal, absolute or comparative (Hulpia & Valcke, 2004). It thus includes the mechanical applications of formulae and can inform or can be derived from such informal subjective procedures as peer evaluations or reputational rankings. Indicators have a strong purpose in Namibian schools and the education system at large, as Akhavan (2004) states:

**Indicators are a place to stand on, a solid foundation on which to build a successful curriculum and literacy program that teaches children in ways that ensure their academic success. Effective indicators are also goals for students to meet in order to be proficient in reading, writing and maths (p. 46).**

Jeffrey (2002) shares similar sentiments when he contends that performance indicators act mainly as a form of accountability, particularly related to a systems approach that incorporates an input-output model. He feels that the performance management discourse prioritises the pursuit of excellence and accountability by focusing on the satisfaction to be gained from the achievement of goals and improvements in performance. Indicators for school improvement define the elements of whole school improvement which schools can put into effect at the elementary, middle and high school levels in order to produce the desired learning results. In the modern climate of high-stakes testing and educational accountability, the success of a school is measured by the school’s achievement of set performance indicators. A performance indicator has to point to the intended or planned consequences of the functioning of a system (Cloete & Bunting, 2004). Schools are not just following goals from the central government, but regionally and locally, schools are allowed to set their own standards to measure themselves on. Though we are talking about national indicators, schools in the Zambezi region have set themselves performance indicators for things such as the pass rate, the level of discipline, achievements in extramural activities and others. It is not quite possible or fair to have one-size-fits-all PIs, as the size and

| Management and leadership of the school and hostel | • Policy, planning and implementation  
• Curriculum and attainment  
• Administration  
• Leadership  
• Management of staff  
• Management of physical resources  
• Management of finance |
| Links with parents and community | • Links with parents  
• Links with the community |
| Links with other schools and the region | • Provision of resources for work with cluster  
• Effectiveness of cluster activities  
• Effectiveness of links with the region |
developmental level of the region, as well as how well resourced schools in the urban areas are compared to those in townships, should be taken into consideration. The idea of PI is originally a business concept, but has been infused into education because of the restructuring and international pressures endured over the years from capitalists and compliant governments (Hill, 2003).

School improvement on which PIs are anchored on, according to Hulpia and Valcke (2004) is a dynamic, planned and rational change process with structural and cultural aspects. It is a process that is planned along three stages, namely initiation, implementation and institutionalisation. Archer, Scherman, Coe, and Howie (2010) feel that monitoring school and learner achievement is an essential part of establishing practice for school improvement. Performance Indicators are very important and are necessary for any organisation or school to identify its Key Performance Indicators (KPI). A school for example, might consider the failure rate of its learners, this is when stakeholders need to revisit the PIs and see what is lacking. Identification of a performance indicator in anomaly might help the school understand its position in the performance discrepancy. Research on the role of vision in academic school performance that was conducted in the UK indicates that the individual marks of a nation-wide standard examination in grade 4 were used as the outcomes measurement for academic school performance (Diran, Zhang, KeGoh, Young, Lee, & Saw, 2010). Nick and Kevin (2009) attest that national drive towards excellence and equity is directly related to standards and performance. Such standards are determined through the assessments that furnish the ground for comparative evaluations of performance and potential.

Research questions
The following were the guiding questions in relation to the main purpose of this study.

Main research question:
The main research question in this study was:

1. What are teachers’ perception(s) of the relevance of performance indicators for schools’ academic improvement and development in two secondary schools in the Zambezi region of Namibia?

Sub-research questions:
To support the main question, the following sub-questions were also posed:

1. Are the indicators realistic according to the teachers’ perceptions?
2. Do the indicators really motivate teachers to improve the academic performance of their learners?

Significance of the study
The main purpose of this study was to find out teachers’ perception(s) of the relevance of performance indicators (PIs) for schools’ academic improvement in two schools in the Zambezi region. The understandings of PIs have the potential to motivate teachers to work hard. Also, the significance of this study might be to find out if those involved in implementing performance indicators understand how to go about doing it. In the case that they do not understand, some professional development programs can be recommended.

Research design and methodology
The approach to this paper was qualitative in nature. The choice of this research approach was to obtain data that would answer the research questions (McMillan & Schumacher, 2001). This was conducted by means of a multiple case study method. The case study method provides an opportunity to develop an in-depth understanding about the PIs and their potential to improve the academic performance of learners as well as motivating teachers to work hard.

For proximity and financial reasons, this study was carried out in two secondary schools only. This was so, because they were few and would thus give an accurate and correct description of the situation occurring in the two schools in the Zambezi educational region.

Population
A population is defined as a group of individuals or items that share similar features from which data can be generated and analysed (Gouverneur, 2015). The study population was used to come up with a sample. The schools and participants were purposefully selected.

Sample and sampling procedures
Five teachers, one principal and two Heads of Departments (HODs) per each sample school totalling to sixteen participants were
interviewed. These were chosen on the basis that they had been at the school for a period of more than five years and were more experienced. To ensure that participants were experienced, the researchers went into the records of these two schools. To align the study to the objective, performance of learners was checked in those classes in which better performance was witnessed. Teachers’ experiences were aligned to these performances and this explains why these teachers were selected.

Data were generated from schools’ principals and teachers in the sampled secondary schools in the region by means of semi-structured interviews and reflections. Participants were interviewed using interview tools and the data generated from these tools are tabulated in Table 2 below.

**Research findings**

**Data generated from interviews**

Table 2 presents data generated from the participants who were interviewed. Some 10 participants agreed and the remainder 6 did not agree that performance indicators had improved the academic performance of learners in their schools and motivated teachers to work hard. This data was then used to come up with two themes from data generated using interviews. These themes helped to answer the research question.

<table>
<thead>
<tr>
<th>Participants and schools categories (PIs helpful)</th>
<th>Participants and schools categories (PIs not helpful)</th>
</tr>
</thead>
<tbody>
<tr>
<td>For me I think the PIs are an important move by the government and I welcome them because these are like guidelines to me that show you the way to go as a teacher because one must have a target in life to know where you are going and how to reach there.</td>
<td>Well, the documents about the national standard are available at schools but we cannot interpret them fully and this seemed to have confused us even more because teachers are complaining that we are being overburdened with things we do not understand.</td>
</tr>
<tr>
<td>So for me these PIs directs me unlike in the previous days where we as teachers used just to plan lessons and using our schemes of work differently from what other colleagues in other schools or other regions are doing but now you will find that what we are doing here in Katima is what teachers in Omusati or Erongo regions are doing, and this is due to these national standards. This I can say has made us improve on learners’ performance to a certain extent.</td>
<td>Some felt that PIs were not beneficial to them at their school. They felt PIs are a burden as they came with too much paper work. Teachers are just busy with files that need to be covered to look neat, but are not paying much attention to what the syllabus requires them to do.</td>
</tr>
<tr>
<td>Planning for the success of the schools requires the team ensure that the necessary resources are at school and these are what is recommended in the PIs which the teachers, HODs and principals need to know.</td>
<td>This one also feel PIs were so destructive citing that: Like now as you were coming to interview me, I was just coming from class to offer a test this is because I am so afraid that if I don’t come back in the afternoon I might not complete my syllabus and my colleagues will surpass me.</td>
</tr>
</tbody>
</table>

Table 2 provides helpful and non-helpful PIs but to further check whether these responses are not biased we found it necessary to engage reflections. This allowed us to have data in which the participants gave their opinions without any interference from the researchers. It should be noted that participants had varied opinions regarding whether the PIs had improved the academic performance of learners in their schools.

**Data generated from reflections**

The participants were asked to reflect on whether performance indicators can improve the academic achievement of learners as well as helping teachers to work hard. Data generated from these reflections is displayed in Table 3. To present data from reflections concisely, it was found necessary to analyse the theme the data portrayed and then present all those ideas reflecting the same using one theme. On account of this it is made up of four themes all coming from the sixteen participants.
Table 3: Data generated from reflections from participants

<table>
<thead>
<tr>
<th>Excerpt</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI's are a good initiative from the government as far as I am concerned as they brought uniformity among schools in terms of the nitty gritties of assessments etc. PI's also aim at guiding schools on what is expected of them as far as teaching and learning is concerned.</td>
<td>Conforms to standards on uniformity</td>
</tr>
<tr>
<td>PI's and national standards help me to evaluate my work in the classroom, as well as what I do test my learners. More so, these standards also add value and quality to my work as this puts my work at par with other teachers in the whole country.</td>
<td>Value addition</td>
</tr>
<tr>
<td>One other advantage of the PI's is that if this year you scored 45% as we did last year, you will be forced to work hard the following year to get even the average of 50% and this is because you are being forced by your indicator. Every year you will not be comfortable operating under or below your set target so the PI's will remind you.</td>
<td>Encourages hard work</td>
</tr>
<tr>
<td>I think what is important for me as a teacher is just to focus on teaching the subject matter to my learners and not necessarily with the aid of the PI's. For me I feel PI's are not helpful</td>
<td>Focus on teaching only and without PI's</td>
</tr>
</tbody>
</table>

Table 3 shows data generated from reflections and interviews in themes from teachers in sampled schools on how they felt about these PI's. They explained what PI's do and how beneficial they are to their work as teachers.

Four themes in Table 3 were generated using interviews and also merged with those generated using reflections. For instance, PI's are helpful was found to be in agreement with the theme of conforming to the standards on uniformity. On the other hand the theme of PI's not helpful is aligned with teachers whose perception was they only concentrate on teaching. These themes were: (a) PI's conforms to standards on uniformity (b) PI's add value to a teachers work (c) PI's encourages teachers to work hard and (d) PI's can disturb the teaching process. So, these themes are discussed in relation to the stated research question.

**Theme 1: PI's conforms to standards on uniformity**

The study revealed that the information provided by schools' target settings, School Self-evaluation (SSEs), Teacher self-evaluation (TSEs), and School Development Plan (SDPs) is not adhered to when PI's are not in use. This is some of the revelations from some teachers in both schools. This is true since PI's were not thoroughly implemented. So, the bringing in of PI's enforced the teachers to conform to the standards which they are supposed to adhere to. This comes as a result of listening to the teachers' perception(s) of the relevance of performance indicators for schools' academic improvement and development in two secondary schools in the Zambezi region of Namibia. It should be noted that the above-mentioned four policies are not general policies, but are part of the PI policies. They are important in that they help every teacher to evaluate him- or herself in terms of academic performance. In case of TSE, it helps every teacher with regard to how he teaches, assesses learners and grades them. Target setting also assists a teacher and learners to anticipate how much he intends to achieve at the end of each semester in terms of performance. So, bringing in PI's helped teachers conform to the policies which they are supposed to observe in their practices. Finally, observing regulations emphasised in PI's helped teachers abandon negative views so that they engage in PI's to better performance. The SDP and the SSE mainly focus on evaluating the school(s) in terms of both physical and curriculum development.

**Theme 2 and 3: PI's add value to a teachers' work and encourages teachers to work hard respectively**

Theme 2 and 3 revealed the same idea; therefore, these two themes are combined and discussed. Theme 2 and 3 are revealed in the interviews with teachers as shown in Table 2 column one that the introduction of the PI's has to some extent improved the performance of learners in terms of results at both schools. This is one of the teachers' perception(s) of the relevance of performance indicators for schools' academic improvement and development in two secondary schools in the
Zambezi region. This already existing evidence that the results of both school 1 and 2 for the past three years have been improving and this is attributed to the serious monitoring and implementation of these PIs. Therefore, the conclusion that must be drawn from this study is that the implementation of the PIs has gradually succeeded in improving the two schools’ performance in terms of learners’ pass rates and motivating teachers to work hard. There is also a high degree of achievement in both schools in terms of improvement in the administration and leadership roles of principals and HODs, despite the fact that principals and teachers complained about too much administrative work being given to them.

**Theme 4: Teachers need to focus on teaching only disregarding PIs**

The study also found that some implementers (teachers) at both schools resisted the PIs, saying that they were not consulted during the development stage of the policy hence they do not have understanding of PIs. We see this negative perception from some of the teachers as attributed to lack of skills to implement PIs. As a result, we found it necessary to bring the continuous professional development programs. Its presence will help some of the teachers’ negative perception(s) of the relevance of performance indicators for schools’ academic improvement and development in two secondary schools in the Zambezi region. This resistance was caused by a number of factors. For example, teachers saw the lack of support from the Ministry of Education, in terms of both physical and human resources, as an incapacitating burden placed on them. This is evident when some teachers in the purposefully selected schools complained that they are without enough resources such as textbooks and writing materials for learners, furniture for learners and teachers which appear in Table 1.

**Discussion**

The discussions in this study are organised around the four themes which emerged. The themes served as a guide in our interpretation of how the data generated made us understand teachers’ perception(s) of the relevance of performance indicators for schools’ academic improvement and development in two secondary schools in the Zambezi Region of Namibia.

**PIs and their potential to improve the academic performance of schools**

The factors responsible for the two schools’ academic improvement as revealed in Table 2. In Table 2, the first column and last row are nothing else but the need to constantly check practice against PIs give in Table 1. This is the view held in the two schools where participants were interviewed and this motivated them to work hard. To our view, it seems as if these participants were constantly asking themselves in their practices “what do we need to do to bring about better performance at our schools?” As a result, these two schools were purposefully selected to see what made them perform better than other schools.

Performance indicators helped as an external drive or motivator to help each employee in the work place to use as a measurement of his performance as Pinkus (2008) suggests what PIS are. Also PIs were used to regulate practices at the two schools as Darling–Hammond, Fook, Cook–Harvey, Barron, and Osher (2020) view and not necessarily as a control mechanism. Darling – Hammond et al (2020) acted mainly as a form of accountability, particularly related to a system approach that incorporates an input-output model. Indicators for school improvement define the elements of whole school improvement that schools can put into effect at any level in order to produce desired learning results (Jeffrey, 2002; Cloete & Bunting, 2004). The measure we have mentioned above may be ordinal or cardinal, absolute or comparative.

Fullan (1992, p. 173) felt that “It is only when bottom-up and top-down forces interact and are mediated in purposeful directions that improvement occurs”. From the view of the HODs, principals and teachers they all supported the idea that PIs had really improved the academic performance of both schools and motivated the participants to work hard. On account of what was generated from the interviews and reflections we found that teachers’ perceptions on the relevance of performance indicators for schools’ academic improvement and development are more on the positive side. The participants valued what PIs can play if it is used correctly at workplaces. Based on the findings of this study, we made some recommendations as presented in the following section.
Recommendations
The recommendations below are put forward to suggest possible improvements in our educational change in the Katima Mulilo circuit where the study was carried out. Teachers play an important role in facilitating learning in schools and are expected to support learners in their learning process as well. This is only possible when they are provided with the necessary skills to improve the quality of their input (Arcaro, 1995; Wedell, 2009). Policy implementers such as school principals should be made aware and understand the PIs as they are the ones tasked with the responsibility of mediating them. Therefore, we recommend that intensive continuous professional development programs should be in place for all principals, heads of department, teachers, and school board members. Such an approach will help bring those with negative views about PIs to take positive view about PIs. Fullan (1991) argues that no matter how intensive the continuous professional development programs are, they may prove to be futile and their lessons may be discarded during the implementation stage if they are not supplemented by continuous in-service training. There is consequently a need for the education directorate in the region to provide continuous training to principals and teachers.

In addition, principals should conduct monitoring as prescribed in the guidelines for subject management in schools, and should solicit assistance from the inspectors of education (IoEs) and the advisory teachers (ATs) when the need arises. This is because the principals in the two schools studied frequently monitored teachers’ and learners’ work, and this is why their schools improved as revealed in Table 2 column 1. Therefore, this recommendation is there to encourage similar actions from some principals in other schools.

This study also revealed that both schools were under-resourced with regard to teaching-learning materials such as textbooks which is a requisite for the success of implementing PIs as recommended in Table 1 which shows the indicators which can act as a barometer for performance. Absence of such resources as emphasized by the 7 key areas and 30 PIs makes it difficult for the PIs to be successfully implemented unless if well planned as Hulpia and Valcke (2004) suggest. For example, principals and HODs in both schools found it difficult to observe their teachers in the classroom before the use of the PIs but later become easier when they started implementing them. This was evident since before PIs implementation, most learners shared textbooks and this made it hard for a teacher to present a lesson in a learner-centred way. However, with understanding of PIs, mechanisms, leadership in the two schools made effort to bring the necessary resources. Learner-centred before understanding PIs lacked since learners remained listening to the one reading for them instead of them reading on their own and this makes them active. Since it was found that lack of resources was attributed to lack of funds, we found it necessary to recommend that the Zambezi educational directorate should make more funds available for textbook purchases. Finally, teachers should also become more professional and innovative enough to supplement where the ministry cannot afford to fund.

Conclusion
The study revealed that there is a fundamental understanding of the relevance of the National Standards and Performance Indicators (NSPIs) in the two schools in Namibia situated in Zambezi Region. However, we cannot generalize that all the school stakeholders in Zambezi Region or Namibia understand the relevance of PIs.

The fact that the two principals saw the importance of the introduction of the PIs as a positive sign is because only when leadership is in support of an innovation can its objectives be realised (Johannes, 2009). Thus, the introduction of any educational initiative must be supported by the principal. This is in line with Westraad (2005, p. 49) who claims that “Projects having the active support of the principal were likely to fare well”.

References

References


