The Master’s degree programme for the Namibian teachers was implemented in the School of Applied Educational Science and Teacher Education during the years 2017-2018. This report provides a historical overview on the cooperation done between Finland and Namibia. Education and its developments in Namibia explain the purpose of the project. This report concludes and reviews the experiences of the project participants. The selected research papers are summaries of the teachers’ thesis reports.
TEACHERS OF THE FUTURE:
FINNISH-NAMIBIAN COLLABORATIVE
TEACHER EDUCATION
The Finnish national philosopher J.V. Snellman addressed that civilization of people through their own language, was the cornerstone of nation building and social and economic development of the country. Snellman’s thinking was adopted well by the first Finnish missionaries who arrived in Namibia in 1869 and began missionary work a year later in North-Central Namibia. A concrete indication of the interest of Finns to understand local people and their culture was learning their language. In 1876, a North Karelian missionary Pietari Kurvinen published the alphabet-book ABD Moshidonga, which meant that Oshiwambo had now become a literary language.

In addition to ecclesiastic work, systematic development of school and health care systems, and independency towards the German and South African colonial administrations were issues that promoted confidence in the Finnish missionaries, among the local people. Over the years, missionaries became part of the community.

The Namibian liberation struggle brought a new dimension to educational collaboration. A great number of Namibians had to leave their country and live in exile. Many found their way to Finland and to other Nordic countries, also. Some of them arrived to the present-day University of Eastern Finland. The most well known Namibians working or studying at the Joensuu campus of the University of Eastern Finland during the liberation struggle were the first Vice-Chancellor of the University of Namibia, Prof. Peter Katjavivi, and Dr. Frieda-Nela Williams who worked as the Permanent Secretary of the Ministry of Home Affairs in the mid-1990s. During his visit to Joensuu Professor Katjavivi was planning a curriculum for the planned history department of the University of Namibia that was still on the drawing table.

The arrival of Namibians into Finnish universities opened a new phase in Finnish-Namibian educational collaboration. Scholarships funded from the Finnish development cooperation funds enabled many talented young Namibians in exile to educate themselves to serve their country. After Namibia’s independence, Finnish-Namibian educational collaboration was extended to a new level. Restrictions related to mobility of students and researches were repealed enabling closer collaboration in research and student exchange. The University of Eastern Finland and the University of Namibia signed an agreement that extended collaboration from contacts of individual researchers to the institutional level. This agreement included both student and researcher exchange and has been successful for both parties.

For all nations, and particularly for young nations, capacity building is extremely important in all sectors of the society. The foundation for capacity building is a high-quality basic education, which was neglected in Africa including in Namibia, by the colonial powers. In independent Namibia, basic education has been developed systematically, which is also a very important equality factor. One way to meet the demand for qualified teachers are the commissioned teacher education programmes, that have been carried out at the University of Eastern Finland at the master’s level and at the University of Turku at the bachelor’s level. Realisation of the programmes...
has been based on generous funding received from the Namibian Student’s Financial Assistance Fund (NSFAF). This has been a very important programme for us, also, having taken collaboration in education to a new level between our countries. I am convinced that this programme is an encouraging example to widen and intensify collaboration between our countries in education and research.

At last, I would like to present my humble gratitude to all who have been planning and conducting this excellent programme, but without the financial support of NSFAF this programme would not have been realised. However, the Namibian students deserve the major thanks. You have worked hard under a tight schedule, succeeded well in your studies, and have survived two Finnish winters. Implementation of the study programme has also been an extremely fascinating learning process for us. We have learnt much from you. This programme has been an excellent continuum in the Finnish-Namibian cultural collaboration that has continued for almost 150 years. We are on the threshold of a new phase in our collaboration.
PREFACE

H.E. Bonny Haufiku, Ambassador of the Republic of Namibia to Finland

The development of education in Namibia is closely tied to the social and political changes that have taken place in Namibia since colonial times to the present day. The transformations process has included education systems reforms in Namibia and expansions, which transformed the populations linked with social, economic and religious interests of the missionaries, colonialists and adventurers to the spread of formal education across the country, including access to free education for all, the establishment of the University of Namibia, the inclusion of technical and vocational education and improved teacher training.

Namibia gained independence in 1990, but inherited a society characterised by deep inequality and disparity in quantity and quality of education, which was divided and segregated along tribal and ethnic and racial lines. This system was called Bantu education and was unsuitable for the development of Namibia.

In colonial times, there were few schools, with mostly an inferior education system characterised by a limited subject-offering and how far black persons were able to study. The Lutheran missionaries were the main providers of better education in Namibia. Finnish missionaries, apart from their focus of spreading the Gospel, started interacting with the Namibian people, taught them how to read and write in their local languages. They translated the Bible and Lutheran hymns into Oshindonga and Kwanyama, local languages in Namibia. All this historical information and data are in Finnish Evangelical Lutheran libraries and archives, at the University of Eastern Finland, Auala ELCIN library in Oniipa in Namibia and in the National Archives of Namibia in Windhoek.

In 1982, the Finnish Academy of Sciences funded research at Joensuu University on the history of Ovamboland, which is the history of northern Namibia. This led to a study funded by FINNIDA, the then development agency of the Finnish Ministry for Foreign Affairs on the possibilities on developing post-graduate education for Namibia, to prepare for the independent Namibia and the challenges to come.

Thus, the education and research relationship between Namibia and Finland started before independence and continued at independence in 1990, involving several education institutions. Several prominent Namibians benefited from this collaboration: our former Vice President was one of those who received scholarships from Finland and my brother Libolly Haufiku was another.

Until 1990, there had been no higher education in Namibia. Students like Professor Auala, the son of the first Namibian Lutheran Bishop, had to be sent out of the country, mainly to South Africa, Europe and the Americas to pursue and continue their education at university level. Many of our people were also denied the possibility, or could not afford to send their children out of the country.

After independence, the University of Namibia (UNAM) was established, as was the Polytechnic of Namibia that has recently been transformed to the Namibia University of Science and Technology (NUST). This was an exercise that was made possible through the help and assistance of development partners from the United
Nations, Finland, Sweden, Holland, Germany, Spain, Japan, France, the USA and many universities in Africa.

Although the two high institutions of learning had been established, they were confronted with several challenges, including the insufficiency of both human and financial resources. Teacher training was virtually non-existent. The students to be trained were products of an education system that was inherited by teachers, whom were mostly untrained. This resulted in a vicious cycle that is gradually being broken down through various interventions of the new Government in Namibia.

Although there has been considerable expansion and educational progress since independence, we should not just be content to count the numbers of schools, both primary and secondary, and high institutions set up after independence. Rather, we need to improve the modern required infrastructure needed for the quality educations provision, to increase the student knowledge base and to continuously improve education curricula and policy systems in order to effectively produce intellectual and technical competent human resources, starting at the pre-primary, primary, secondary up to universities or technical schools.

Namibia is a very large country, geographically speaking, and whereas the population is small, diverse and sparse, we have a responsibility, to provide education and services to everyone, hence the need for UNAM’s campuses in all the regions of Namibia. Furthermore, since the richness of Namibia lies in natural mineral resources, fisheries, agriculture and tourism, there is a great need to train specialists and create expertise to be able to harness these natural resources and add value to them, for the country and its people to benefit and to be competitive on the global market.

All improvements and any development start with education. Thus teachers are the key to this development and there is a great need to expand the number of proper qualified teachers to all corners of the country, emphasising on quality teaching, research, consultancy and community services to produce competent graduates to create a knowledge-based society. Teachers are the very key for this and to the upbringing of the future generations.
# TABLE OF CONTENTS

**FOREWORD** .......................................................... 5  
Professor Harri Siiskonen, Academic Rector, University of Eastern Finland

**PREFACE** .......................................................... 7  
H.E. Bonny Haufiku, Ambassador of the Republic of Namibia to Finland

**INTRODUCTION** .................................................. 11  
Sari Havu-Nuutinen and Roseanna Avento, University of Eastern Finland

**PART I: IMPLEMENTATION OF THE PROGRAMME** ................. 13

**BUILDING BRIDGES FOR LEARNING WITHIN A COMMISSIONED EDUCATION PROGRAMME** .................................................. 15  
Roseanna Avento, Global and Transnational Education Coordinator

**LEARNING PARTNERSHIPS: TUTORING AND SUPPORTING NAMIBIAN STUDENTS IN FINLAND** .................................................. 20  
Leevi Leppänen, Project Coordinator

**NAMIBIAN TEACHERS’ STUDYING EXPERIENCES IN FINLAND: RELEVANCE FOR PROFESSIONAL DEVELOPMENT** ................. 24  
Sari Havu-Nuutinen, Professor, Project Leader

**PART II: SELECTED RESEARCH PAPERS** ............................. 31

**TEACHERS’ PERCEPTIONS ON THE USE OF ICT IN TEACHING AND LEARNING: A CASE OF NAMIBIAN PRIMARY EDUCATION** .................................................. 33  
Malakia Jatileni and Cloneria N Jatileni

**INQUIRY-BASED LEARNING IN URBAN AND RURAL SCIENCE EDUCATION: A COMPARATIVE STUDY OF SCIENCE TEACHERS IN NAMIBIA** .................................................. 41  
Mirjam N.N. Sheehama

**THE ROLES OF PRIMARY TEACHERS IN THE NATIONAL CURRICULUM DESIGN AND DEVELOPMENT IN NAMIBIA** ................. 48  
Letisia Hidiwakusha
IN SEARCH OF QUALITY IN NAMIBIAN PRE-PRIMARY EDUCATION: TEACHERS’, PARENTS’ AND LEARNERS’ PERSPECTIVES .......... 53
Wisillyzeonlika Mlunga

EXPLICIT AND SYSTEMATIC PEDAGOGY IN MATHEMATICS EDUCATION IN NAMIBIAN PRIMARY SCHOOLS ................................. 60
Simson Fuma

THE EFFECT OF PHYSICAL LEARNING ENVIRONMENT ON THE QUALITY OF TEACHING AND LEARNING .............................................. 70
Fillemon S. Kauluma
INTRODUCTION

Sari Havu-Nuutinen and Roseanna Avento, University of Eastern Finland

Education has always played a significant role in Finnish-Namibian relations, with Finnish missionaries being the first providers of formal education and the strife for education playing a part in the national liberation struggle. While in current-day Namibia, education policy has been reformed to cater to providing compulsory and free education at primary level, a need for an increased number of trained and skilled teachers has been recognised, especially due to high learner to teacher ratios, high variation between regions in Namibia in terms of teacher deployment, among others. Focus is now being made on pre-service and in-service training.

The year 2014, saw the first collaboration on teacher education between Namibia and the University of Eastern Finland (UEF), which piloted the Master’s Degree Programme (MDP) in Primary Education with 6 Namibian teacher trainers from the University of Namibia. The programme was such a success, that it was integrated into the international master’s degree programme offering at UEF’s Philosophical Faculty, thereby giving a boost to internationalisation at UEF as well as to Namibia in form of newly trained scholars.

In 2016, UEF entered into negotiations, through Finland University (a company co-owned by UEF, University of Tampere and University of Turku) with the Namibian government for a commissioned master’s level programme targeted to Namibian teachers. The MDP in Primary Education was best suitable, especially as the pilot had just ended and UEF could develop the programme well, from the lessons learnt. Student selection in Namibia was conducted by academics of UEF’s School of Applied Education Science and Teacher Education and a new phase started with the arrival of 25 Namibian teacher students in January 2017.

The work described in this book gives you, dear reader, a glimpse into different aspects of the programme, from various perspectives. We believe that not only has the collaboration succeeded in its ultimate goal of providing in academic training to Namibian teachers, but also other positive ripple effects have taken place: exchange of multicultural information, increased awareness of Namibia, and stronger Finnish-Namibian academic ties. A good number of people, local educational organisations and other stakeholders have been involved in this collaboration. Now in the final steps of the programme, we can see stronger and tighter relationships between academia, communities and society, where Finnish-Namibian interests form the foundation.

The programme has been an enormous effort of the staff of the School of Applied Educational Science and Teacher Education. Some of the courses have been modified to meet the Namibian circumstances better and teachers have demonstrated flexibility. The quality of UEF teacher education has been manifested and there are vast possibilities to develop internationality in teacher education in the future.

No programme can succeed without support from management. The programme implementation has been very well supported by the UEF Rector, Academic Rector, the Dean of the Philosophical Faculty and the Head of the School of Applied
Educational Science and Teacher Education. Dedication of the university management has empowered us to work further to reach our final goal and to congratulate the 25 new master’s degree holders from UEF.

To the students that are graduating and returning to Namibia, we wish you well. We wish you success in all endeavours. We have seen you grow and flourish into critical thinkers, capable of renewing and creating activities and systems that can help you and your schools in Namibia and most importantly, the children that you will teach.
PART I:
IMPLEMENTATION OF THE PROGRAMME
GOING BACK TO THE ROOTS

The long standing friendship between Finland and Namibia has and still provides a strong foundation for collaboration in education, which both nations have recognised and prioritised in their development policies - education has been recognized as a pillar of the society. Until independence, Lutheran missionaries were the main providers of education in Namibia. In the 1870s, Finnish missionaries began interacting with Namibians in Ovamboland, teaching Namibians to read, while they wrote and collected a lot of information on Namibia and her people (Erkkilä & Siiskonen, 1992). The work and activities of the Finnish Evangelical Lutheran Mission (FELM) in Namibia was therefore the foundation for research on the history of Namibia and especially her northern regions. Historical data from this era has been collated and is available for researchers at FELM (Helsinki), the National Archives of Finland (Helsinki), at the University of Eastern Finland (UEF), Auala Elc library (Oniipa) and at the National Archives of Namibia (Windhoek) (Erkkilä and Siiskonen, 1992).

Education and research relations between Namibia and Finland has involved several prominent Namibian figures, for instance Vice-President of Namibia Hon. Dr. Nickey Iyambo, forced to exile South-African-ruled Namibia, received a stipend from the International Student Organisation, gaining a degree in Political Science from the University of Helsinki in 1970 and then moving on to Medicine in 1980 (Merikallio & Ruokanen, 2015). Furthermore, collaboration has encompassed several education institutions in Finland, but Joensuu University (now UEF) has always had strong links with Namibia on several fronts.

In 1982, the Finnish Academy of Sciences funded research at the Joensuu University on the History of Ovamboland, under the leadership of Associate Professor Seppo Rytkönen and researchers Martti Eirola (Oulu University), Märtä Salokoski (Helsinki University) and Harri Siiskonen (Joensuu University) (Erkkilä & Siiskonen, 1992). This led to a study, funded by FINNIDA (the then development agency of the Ministry of Foreign Affairs of Finland (MFA)) on the possibilities for developing post-graduate education for Namibians. The study recommended the establishment of an education and research programme for Namibian students focusing on societal challenges and three doctoral dissertations were completed including that of a Namibian scholar who studied in Joensuu, Frieda-Nela Williams (Erkkilä & Siiskonen, 1992; Karanko 2008).

In the beginning of the 1990s, the Professional Development Centre of Joensuu University implemented a course on Internationalization of Teacher Education, whose focus was on African culture and Namibia, in particular. Forestry related research was also initiated and focused on German and South African forestry research in
Namibia and the relationship between Namibians and forests and their use, which then expanded to research on utilisation of community land (Karanko, 2008).

By the end of 1991, two Namibia related doctoral dissertations had been completed at Joensuu University as well as 2 licentiate dissertations and roughly 10 Master’s and Bachelor’s theses (Erkkilä & Siiskonen, 1992). Joensuu University and Helsinki University also joined hands to conduct research on population development (Karanko, 2008), later widening to encompass research on the spread of HIV/AIDS and its socio-economic and cultural effects on local communities.

Students from different disciplines were encouraged to enter Namibia research through different Namibia related seminars and exercises during courses. Through support from the MFA as well as the Student Union at the Joensuu University, stipends were provided to facilitate the possibility of Namibian students to gain access to research and study material at the Joensuu University (Erkkilä & Siiskonen, 1992).

In 1997, the University of Joensuu and the University of Namibia (UNAM) entered into a partnership agreement to facilitate student mobility and research cooperation where the main focuses were on rural development and gender issues, but also covered education, culture, history, environmental sciences, fisheries, energy and information technology (Erkkilä & Siiskonen, 1992). Two years later the, then, Pro Vice-Chancellor of UNAM, Professor Peter Katjavivi was awarded an Honorory Doctorate by the University of Joensuu.

Current Pro Vice-Chancellor of UNAM, Dr. Kenneth Matengu was an exchange student of human geography at the University of Joensuu in the academic year 2000-2001, after which he continued his studies in Joensuu, earning a Master’s degree in Social Sciences (Human Geography) in 2001 and later, in 2006, also earned his Doctorate degree in Social Sciences.

**TURNING CHALLENGES IN TEACHER EDUCATION INTO OPPORTUNITIES FOR COLLABORATION**

In 2008, it was recognized that Namibian primary education was still undergoing challenges due to the major changes in the 1990s. Transitioning from an apartheid system to a new educational system and curriculum with a very short adaptation period, led to very high demands on teachers and learners, alike, in terms of pedagogy, delivery of curricula, performance, and so on.

When English was introduced as the language of instruction, it lead to many inadequacies in learning, since English was only introduced during the third year of school. Bilingual teaching and learning has been challenging to develop as has the development of student skills in reading, mathematics and basic science. Furthermore, while dropout rates in primary school were declining overall, the dropout rate for 10th graders was still at 40%, which radically reduced the number of potential students moving on to tertiary education and higher education.

It was recognised that these challenges were in part due to poor teacher training and a lack of teaching material. Further, little research was being done on the Namibian school system and pedagogy, which could enhance the running of schools and teacher education. Teacher education then emerged as a key area for development in upgrading the entire education system and dealing with the disparities in quality of schools and learners in different parts of the country.

A feasibility study was commissioned by the Ministry of Foreign Affairs of Finland (MFA) in 2008, recommended priorities for development as: (1) cooperation in curricula
development, (2) development of early childhood and pre-primary education and (3) capacity building for research in teacher education and education. The results actually led to Finnish-Namibian collaboration in training of medical doctors, implemented by the University of Oulu and UNAM. Teacher education collaboration was enacted only later. Namibian legislation had been amended, requiring that all teacher trainers hold an academic master’s degree and that compulsory free basic education was offered. A pilot master-level training programme was initiated at UEF for six Namibian teachers in the field of primary education in 2014. This was a blended learning programme, focusing on international educational policy, pedagogic approaches and primary-level teaching (UEF Bulletin, 2016). The programme was so successful that UEF adopted the programme as one of the tracks within its Philosophical Faculty, open to all students, and it was this programme that form the roots of the current commissioned MDP in Primary Education.

THE PILLARS THAT HOLD THE BRIDGES

The establishment of the Embassy of the Republic of Namibia in Helsinki in 2014, was a major step to deepening collaboration between Finland and Namibia. Under the leadership of H.E. Bonny Haufiku and Counsellor Ingrid Tjizo, the Embassy advanced collaboration in education with resolve and determination. Ambassador Haufiku led the visit of the Minister of Higher Education, Training and Innovation of Namibia Hon. Dr. Itah Kandjii-Murangi in 2016, to UEF and she underlined the need for Namibia to focus on training of teachers and on the health care sector (UEF, 2016). In 2016, the Namibian Students’ Financial Assistance Fund (NSFAF) commissioned two programmes from Finland University for training of teachers. Finland University is a company, co-owned by UEF, University of Tampere and University of Turku, which functions as the contracting agency for the universities, where commissioned education is concerned. The first programme was to be implemented at the University of Turku, in its Rauma Unit and would focus on the training of 24 students for a bachelor level degree in education, while the second programme was to be implemented at UEF at its Joensuu Campus and focus on the training of 25 students for a master level degree in education.

Having started in 2017, both programmes have proved to be intense, dynamic and collaborative with partnerships created collaborating with not only university schools but also local municipality schools, and local communities and parishes in Finland. Both programmes collaborate closely, for example, a summer camp was organised for students from both programmes and the master level students have even mentored bachelor level students in some sessions. Furthermore, the coordination teams in both programmes, in both universities, work very closely together sharing information, exchanging ideas and experiences and have also coincided reporting to the funders as well as shared resources. This has been fundamental in providing support to the students.

Collaboration with the Finnish-Namibian Society, the Finnish-South Africa Society and the Namibians in Finland and individual persons who are linked to Namibia, has been invaluable. Not only have these organisations and persons been a valuable source of information regarding networks in Namibia and Finland, they have also provided support to the students, to the coordinators and implementing institutions on cultural nuances, experiences and practices that are important to consider in everyday implementation of the any international collaboration, be it commissioned or not.
Whereas this was a commissioned programme, these stakeholders also acted as actors of external quality control, reminding UEF that Namibia had made a considerable investment and was expecting a good return and nothing less than these organisations and stakeholders foster in their long and historical collaborations, was going to be good enough.

PARTNERSHIPS CREATING NEW PATHWAYS FOR COLLABORATION

While Finland and Namibia share a long history in education cooperation, there are still many roads to travel on ahead. While her economy has grown and harped over many other African nations, Namibia still needs skilled experts. The higher education sector in Namibia is also still developing, even though private higher education institutions have been established, and UNAM and the Namibia University for Science and Technology (NUST) are still growing.

Namibians need to be the drivers of change, innovators and nurture knowledge-creation to develop their country. Collaboration with Finnish and Namibian higher education can accelerate the development of bilateral business and economic relations, whereby the needs of business and entrepreneurship are considered when developing and creating curricula and designing research.

This commissioned programme has had a profound impact, in terms of new networks and partnerships being formed. Knowledge of Namibian culture and tourism have been spread to different stakeholder groups and communities as the students interact with other people, and as their teachers and others who interact with them, interact with others. The arrival of the Namibian students in Joensuu has even propelled other African students to unite in different activities and the UEF now has an official African Students’ Association.

UEF and the City of Joensuu, the Student Union, the Student Health Care Services and the Joensuu Parish have also come together like never before, to provide support to the international student community, fostering internationalisation in mutual collaboration independent of the background organisation.

Collaboration in education in the healthcare sector between UEF and Namibia is also developing simultaneously. UEF and UNAM are also starting collaboration relating to social pharmacy and capacity building at the School of Pharmacy at UNAM (UEF, 2017). It would be naïve to assume that emerging activities would be independent of any other collaboration that was enacted earlier. Building of relationships has taken decades and has taken a deeper turn.

Perhaps the most rewarding part of the partnerships and bridges that have been built and which has supported learning and teaching, is friendships. Friendships between the Namibian students in Joensuu, between them and their counterparts in Rauma, between the students and teachers, between the teachers, between teachers, coordinators and administration, between all the former and the different stakeholders. For we are nothing, without the friendships we make and the trust we build together. Harnessing the power of the bridges that have been built, will definitely require fostering and nurturing these friendships and trust.

Many universities and universities of applied sciences in Finland that are active in Namibia are now more than ever communicating more, exchanging information more and hopefully, as we move to the future, will implement more activities together. The
space for open collaboration exists and certainly in countries as small as Namibia and Finland, shared resources go a long way. Perhaps then, more academic-business and entrepreneurship partnerships can also be developed within the realm of Finnish-Namibian collaboration.

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LEARNING PARTNERSHIPS: TUTORING AND SUPPORTING NAMIBIAN STUDENTS IN FINLAND

Leevi Leppänen, Project Coordinator

INTRODUCTION

In university, people come together to share their culture, beliefs, ideas, thoughts and experiences with each other so that together we can learn more about the universe and ourselves. Finnish universities would not be the same place without international students who truly make the university a global meeting place for ideas and experiences from different kinds of people from all over the world.

When I was asked to coordinate the Namibian project in January, 2017, I was excited to become a part of something new and different. At first, I did not even realise that the Namibian project would be the first commissioned master’s degree programme implemented in Finland, through Finland University. It is not easy to prepare for something new and that was also the case with the Namibian project. However, the initial difficulties were quickly overcome, and in overall, most of the project flew by smoothly.

The master’s degree programme would last two years, and that time would include many tutoring sessions, meetings and other events with the 25 Namibian teacher students. It was an honour to witness the students’ learning process during the two years they spent in Finland and I also became a learner myself in how to tutor and support university students. These two years taught me a great deal of how to support and aid a student throughout university studies and in achieving a master’s degree.

THE BEGINNING: LEARNING FAST AND EXCEL CHARTS

It was a milder than normal January that would welcome to Finland, the 25 Namibian teacher students pursuing a master’s degree in education. Recovering from the initial shock of living and studying in Finland took no longer than a few months, and the initial disorientation the students felt soon vanished with the help of university orientation as well as tutoring and support from the project staff. I was part of the team led by Professor Sari Havu-Nuutinen and co-coordinated by Roseanna Avento. Together with the students, we would plan the steps towards the MA in education.

It was our job to ensure that the students would not have to return home empty-handed but could benefit from Finnish university-level teacher education and bring back home solid educational know-how and skills. Such a task could not succeed without many tutoring sessions and discussions with the students.

I first met all of the 25 Namibian teacher students in an introductory workshop, where we took a look at university study tools to help the students to get started with their studies. The students had already had about a month to adjust to Finland and
had already taken orientation courses, so they were already acquainted with some of the basics of studying in the UEF. My job description was to counsel and tutor the students on their studies and to support them in their everyday life in Joensuu.

We became more acquainted as we met individually to discuss the students’ studies and their plans and life in Finland. In the beginning of the students’ studies, the discussions, meeting face-to-face with the students, formed the core of the mentoring and guidance which would facilitate the way for the students’ primary objective: a master’s degree in education. The impression that I got from these tutoring sessions was that if something was hazy or confusing for the students or if they had misunderstood something, then that would become clear and solved and the student could once again continue her/his studies without hindrance or uncertainty.

The tutoring sessions in practice meant that I would meet 1–3 students and together we would review the students’ study progress by looking at excel charts that displayed the students’ studies for all the four semesters in 2017–2018. The students could then use the charts for later reference in keeping up with their study goals. Many more excel charts were made during the project to follow the students’ progress and these charts would prove fundamental in facilitating the students’ study success. To summarize, Excel was one of the most important tools in making the study path clear for the students.

Like all students who start their university studies, the Namibian students also had to accumulate lots of new information, and they were trying to make sense of all the incoming knowledge. There was confusion, there was disorientation. However, the students had already become acquainted with studying at a university in other countries and were already quite well-versed in developing the necessary learning skills. They were fast-learners and within a few months were much more independent in their studies and the foreign had become familiar.

The first months in Finland flew by as the students struggled through the cold weather and were getting acquainted with the unfamiliar. Some spent more time getting to know Joensuu aside from rigorous studying and some spent more time on their studies so that they would not have to study so much in the coming semesters. Both strategies proved effective as those students who fell behind in their studies managed to catch up in the second year. Every students’ progress was monitored closely so that the project staff always knew the students’ individual situation and could provide more tutoring for those students who needed it. Although we followed the students’ progress a lot, it was done together with the students so that they would know where they were with their studies at that moment and what they should do next to be able to complete the degree in time. I believe that one of the pillars of the students’ fluent progress was the feeling of not being at a loss and always knowing what to do next.

A YEAR OF LIVING EDUCATIONALLY

After the first spring, the students were already independent and knew what they were doing. We had developed a good learning partnership where the students could rely on my help if they needed anything and I knew how to help them. Such a partnership made the students’ life in Joensuu easier and less stressful. They would not be overburdened with problems that were not related to studying and could focus on their studies and the eventual graduation. This is not to say that the students’ life
during their time in Finland would have been free of problems. There were a few crises and traumatic events, even, but these dark moments could not dishearten students who were so big-hearted to begin with.

The students were motivated to learn and to participate from the get-go and their motivation remained high throughout the two-year-education. One explanation for the students’ good spirits is the continuous support they received from the project staff so that they never needed to overcome obstacles that were insurmountable. The Namibian students’ position is quite different from that of the other university students who do not usually receive as much continuous support and have to maneuver through their studies more independently. The Namibian students’ success then speaks for how useful and important the increased support of amanuenses, study counsellors, educational psychologists, tutors and other university community can be. If the university is to fulfill its goals as an educational institution and a forum for global learning, it needs a solid backbone, a foundation which keeps the separate cells of learning and the individual learners together.

The students were already experienced in teaching when they came to study as master’s degree teachers. The year after the first spring of their studies would professionalize the teachers even further, and many were the courses that would aid in that. The curriculum for the MDP in Primary Education comprises obligatory major and orientation studies and optional other studies. All in all, the students’ studies were varied and they found courses suited to their individual tastes from the pool of available UEF courses. However, there were disappointments too, since many interesting courses were either not available to international students either in terms of language (Finnish only) or study right. From the available courses, the students would select courses, for instance, from the fields of education, psychology, geography and theology.

I also got to see the students every now and then outside the office, and these are the memories that I cherish the most. We made a few trips together to other cities such as Kuopio and Jyväskylä to resolve study permit issues, to visit schools and attend a conference. These experiences let me see the students in different roles than just as a university student, and I started to see some of the differences and similarities between the Finnish and Namibian cultures. It became clear how good-hearted and kind the Namibian students are and if they were to give a good impression of the people of Namibia, they succeeded in that.

**MASTERS IN EDUCATION**

The final part of the teacher students’ studies consisted of mainly the thesis and wrapping up some of the loose ends. The students had progressed steadily in their studies over the year, and those who had fallen behind at some point, managed to pick up the pace and complete the missing courses. Since the students’ motivation remained high, they pulled through most of the courses without problems, and the main critique that they came to have was that they would have wanted to learn more than it was possible to teach in a particular course.

My main duty had been to help the students to complete their degree requirements on time. By autumn 2018, the students had completed most of the obligatory and optional studies and could focus all of their energy into their thesis projects. No more tutoring was needed at this point: the students were expert UEF students and knew
their way around the study system. It was clear that the students already had home in their hearts and minds in autumn and were satisfied with the amount of learning they had received from the university.

CONCLUSION

Establishing strong learning partnerships between project staff and students from the very beginning of the project forms a solid foundation for guiding students through their studies successfully. Students can depend on that they will be supported through challenges and problems that might lay in their study path and that they are being guided towards their personal goals. The guidance and support maintains students’ motivation and makes it easier for students to stay focused on the primary learning goals and lessens stress and doubt over one’s study performance.

What have we achieved and learned during these two years in MDP in Primary Education? The teachers now have a master’s degree in education to take back home and a complete new set of knowledge and skills which can be used for the benediction of the people of Namibia and to pursue future research interests. The university has more experience in how to establish similar projects in the future and what kinds of resources are needed. It is clear that the staff needs more education and more employees are needed to successfully manage similar projects. We are all lucky and blessed to have been invited into this project and been able to share some of the moments of the past two years together. We will continue towards our own missions, more empowered, more wise, more skilled and most importantly, more educated.
NAMIBIAN TEACHERS’ STUDYING EXPERIENCES IN FINLAND: RELEVANCE FOR PROFESSIONAL DEVELOPMENT

Sari Havu-Nuutinen, Professor, Project Leader

INTRODUCTION

It has been indicated by several research (Kalin, Cepi & Steh, 2017; Wardoyo, Herdiani & Sulikah, 2017) that teachers’ roles in societal and educational outcomes are highly related to their skills and abilities to implement educational and instructional activities in educational communities and in their classroom settings. Additionally, teachers have to meet several expectations on the societal level with the role and status of their involvement, engagement and possibilities for education varying across countries (Wardoyo et al., 2017), albeit their learning and professional development have been seen as significant and continuously fostered and required by several stakeholders (Baley, 2016).

This article focuses on the master’s degree programme that was initiated by the Namibian government, to strengthen teacher educational degrees in the country. The constitution in Namibia guarantees the right to education, compulsory and free primary education for all citizens by the year 2013 (Article 20 of Namibian constitution). This change has influenced different developments in the Namibian schools as well as in teacher education. Teacher education campuses emerged at the University of Namibia by 2012 and resulted in unequal distribution of qualified teachers across the regions in Namibia. To increase teacher qualifications, the Namibian government has financed groups of students to study abroad schemes. A group of teachers was sent to upgrade their degree and study at the University of Eastern Finland (UEF) to develop their competences to work as teachers. The teacher students’ experiences of their studies are reviewed as part of the process of teacher learning and professional development (Hargreaves, 2000).

TEACHER STUDIES AND PROFESSIONAL DEVELOPMENT

Teacher studies and professional development start already in basic teacher education, where basic skills and knowledge needed to become a teacher are taught and learnt. However, further development often requires independent willingness of teachers, to increase their pedagogical competence and to participate in the different forms of teacher training or studies (Wardoyo et al., 2017). Teachers in different life phases have different reasons for their learning experiences varying from individual growth to work management (Louws, Meirink, van Veen & van Driel, 2017). Furthermore, there exist several approaches to how teacher learning programmes could be organised to achieve the objectives of the training. First, the educational programmes should be contently focused to reach the adequate level of teacher understanding. Programmes
must directly relate to current skills and understandings of teachers (Birman, Desimone, Garet, & Porter, 2000) and their prior knowledge relating to the content should be recognised (Cohen, Hill, & Kennedy, 2002). When the levels of studying contents are reasonable, and teachers have a feeling of engagement and ownership, the training becomes more encouraging to them. This does not suggest a focus on teacher-driven contents, but rather, more inquiry-based activities. (Birman et al., 2000.)

Teacher studying experiences have indicated that extended professional development experiences, rather than one-time sessions, increase teacher engagement and provide more opportunities for active learning. Coherence with their daily activities is seen as significant (Birman et al., 2000). Additionally, teacher collaboration and peer-reflection is seen as a crucial element of a good studying experience. When teachers have a chance to share their experiences, their professional development becomes more evident. (Louws et al., 2017.)

A recent metareview of teacher professional development (Postholm, 2012) reveals several factors such as personal, organisational and societal factors that are involved in teacher learning. In this paper, teacher experiences are reflected upon in terms of these factors, to better understand the learning processes of the teachers.

AIMS

The aim of this article is to review the feedback of Namibian teachers regarding how they experienced their master’s degree studies in Finland. The students’ reflections are analysed to respond to the following questions:

1. What is the motivation for their studies abroad?
2. What are the encouraging issues they have experienced during the programme?
3. What are the concerns of their experiences of their studies during the programme?

CONTEXT OF THE CASE, DATA AND DATA ANALYSIS

Twenty-five qualified junior and senior primary teachers with varying teacher experience, either years long or very short, participated in a master’s degree programme in primary education at UEF. All teachers had completed their basic teacher qualification and had a bachelor’s degree in education. Their participation in the programme was voluntary and they applied for entrance into the programme through the Namibian Students’ Financial Assistance Fund (NSFAF). Representatives of UEF’s Philosophical Faculty selected students based on the level of qualifications, motivation letters and interviews. The master’s degree programme, 120 ECTS in total, consists of orientation studies, major studies (content and methodological studies) and other studies (studies of special interest). The programme was approved as an international degree programme at UEF and followed the same approved contents and objectives as other masters’ degree programmes in the Philosophical Faculty.

Data was collected from responses of feedback surveys created by UEF administrative and academic staff. Electronic questionnaires were sent to the teachers every quarter (Table 1) to follow their experiences, success and receive feedback. Open questions and likert type statements were used to gather teachers’ experiences of the studies. The survey questions focused on the themes such as motivation and interest...
towards studies, expectations of the studies, and reflection of experiences taking into consideration their expectations (see Belay, 2017; Kalin et al., 2017; Wabule, 2016).

Table 1. Data collection periods and number of the participants

<table>
<thead>
<tr>
<th>Time period of the surveys</th>
<th>Number of participants</th>
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<tbody>
<tr>
<td>1.1.-31.3.2017</td>
<td>24</td>
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<td>1.4.-31.5.2017</td>
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<td>1.6.-31.9.2017</td>
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<td>1.10.-31.12.2017</td>
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<td>1.4.-30.6.2018</td>
<td>16</td>
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<tr>
<td>1.7.-31.9.2018</td>
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Open questions were collected and combined from the surveys using content analysis. The initial data driven codes were created and re-organised into the themes. The themes were initiated on the basis of the understanding of teacher professional development: personal, institutional and societal factors.

**TEACHER STUDYING EXPERIENCES**

**Teacher motivation for studying abroad**

Teacher motivation to apply to the programme congregate on personal and societal factors. Most of the teachers were motivated to upgrade their qualification to the master level. Teachers were willing to become teachers who possess a better understanding of pedagogy and skills to implement pedagogy in the classroom. The majority of the teachers indicated a need for life-long learning in personal life and the opportunity to participate in the programme was taken to achieve this.

“I wanted to further my studies and get the knowledge, skills that will allow me to get a competent qualification in the teaching profession (Student 1)”.

Motivation was also supported by societal factors. Teachers wanted to come and study in Finland because of their curiosity to see and experience the Finnish educational system. Many teachers mentioned that the Finnish educational system was highlighted several times in their basic teacher education and they had read about the good outcomes in Finland.

“The fact that Finland is one of the countries with the best Universities in the world (Student 20)”.

In addition, teachers were motivated to start their training because of the support from the Namibian society. Teachers received financial support from the Namibian government and their study leaves were approved by regional stakeholders,
specifically in cases when teachers had a continuous contract in their school. Societal support allowed for the organisation of study leaves and the professional lives of the teachers, collectively instead of independently.

Teacher motivation towards their studies was constant over two years. Teachers continued to enjoy their studies and there were no clear signs of lack of motivation. Some teachers did not provide feedback over the second study year, which may be interpreted as a lack of motivation, although, some teachers did not spend very much time in Finland in the second study year, but completed their studies in Namibia.

Encouraging factors experienced by teachers during the programme

Teachers very eagerly started their studies and we were able to indicate several factors that encouraged their professional development at the beginning of the studies. As a personal factor, teachers mentioned time control and effectiveness of the studies. Finnish higher education routines encouraged teachers into accuracy and punctuality, which are more flexible in their home country.

At institutional level, teachers were supported by open policy and democracy, which was evident at the very beginning phase. Teachers enjoyed having clear instructions and consistency in the courses they participated in. Teacher-student collaboration was a strong factor supporting their own understanding of the concepts of teaching and learning. Teachers became convinced on how pleasant and communal collaboration between their lecturers support their studies.

After the second quarter, encouraging experiences were focused on personal and social experiences. Teachers highlighted that they were interested in their good study results and good success in their studies. In this phase, independency turned into a strength of the studies. Teachers enjoyed the independency and possibilities to regulate their schedule themselves.

Social interaction with other teachers became an inspiring factor during the first semester of the studies and continued throughout the studies. Students were inspired to share their studying experiences and reflect on them in regards of Namibian education. Social challenges in the group was reported only once by one teacher.

The independency and control of own studies was reinforced over the second study year. Teachers continuously enjoyed the opportunity to monitor their studies and focus on the contents of their personal interest. Support and warm interaction with their lecturers was systematically mentioned as an encouraging experience.

Concerns of teacher experiences of studies during the programme

At the beginning of the studies, several teachers suffered from the lack of contact lessons in the study programme. Teachers were expecting more knowledge transfer from university experts and some teachers claimed that they cannot learn anything without contact teaching. Teachers were suffering from the significant amount of individual assignments without contact teaching.

"the negative about my studies are the exam without contact because they are not helping me in any way because i feel at least there should be lectures to explain the concept that we don’t understand (Student 16)".
All discouraging experiences in the beginning of the programme were institutional factors. Several teachers were struggling with the given guidelines in the study modules and the purpose for the studies was not clear during the first period of the studies. Student were not sufficiently aware of the content of the studies and some students did not find the contents of the program interesting in regards to their previous studies.

After the second quarter, studies became increasingly challenging for the teachers and several of them suffered from the the lack of studying skills. Teachers recognised that they do have enough time or their time management skills were not adequate for monitoring their studies. In addition, the independency increased this challenge among some of the teachers. As an institutional factor, the teachers were expecting more individual feedback and support for their studies from the lecturers. Theses concerns emerged continuously over the study years.

During the second studying year the students’ negative experiences reflected some cultural factors. Teachers became frustrated with language barriers. Teachers faced challenges to communicate with their lecturers and in the feedback, report these as ‘some difficulties of communication with the lecturers’. In addition, the cold weather seemed to become more challenging after first year and teachers complained about the weather regularly over the last study year. The third cultural barrier was linked to difficulties to meet local people and build friendships with them. As a personal factor, the workload on some of the courses remained discouraging continuously.

“Apart from the cold weather, I sometimes did like when a lecture say that we should just write anything about the course. Read any book and write. I find it difficult, because perhaps my interest would not really correlate with the course (student 16)”.

Discouraging institutional factors became evident more often during the second study year. Teachers were often disappointed about the lack of individual feedback about their course works and their requests for more precise evaluation criteria of their studies were reported systematically over the second study year.

**DISCUSSION AND CONCLUSION**

Personal growth and improvement were a clear outcome of the programme. The teachers’ ultimate aim was to upgrade their degree and develop as a teacher. The Finnish experience provided an opportunity to learn personally. Many teachers aimed to develop their pedagogical skills, which is a common goal of continous professional development in teaching (Louws et al., 2017). Together with personal growth, the teachers, very often, reflected on their experiences in terms of Namibian education and were willing to share their knowledge with other students.

Societal developments were significantly reflected upon by the teachers. Teachers were gathering knowledge and skills, which they could adapt to their everyday work and share with local colleagues. These societal level reflections consisted of many indicators that can help develop education in the teachers’ home country, Namibia. This could be understood as a contextual factor of professional learning, in which teachers aim for professional development is influenced by school cultures (see Louws et al., 2017).
Teacher independency and autonomy increased throughout the studies. At the beginning of the studies, several teachers reflected on independency and individual assignments as a negative experience, but as they proceeded with the studies, their reflections changed and became more positive. At the end of the studies one of the most common strengths mentioned about the studies was freedom and autonomy. Teachers enjoyed concentrating on their own special interests and progressing according to their own schedules. It seems that having an ownership of their studies, and having a feeling of engagement supported their motivation and the learning experiences (see Birman et al., 2000).

One of the encouraging factors of the teacher experiences was the power of the social community. Teachers had continuous support from colleagues working in the same field and in same circumstances. This enabled an arena for potential reflections and learning outcomes. On the other hand, communication and collaboration with the lecturers increased the significance of social factors of teacher learning. Sharing ideas and experience with different members of the community provides supporting viewpoints for professional learning (see Postholm, 2012).

Effective teacher development programmes should have a strong focus on the teachers’ content knowledge and their prior understanding (Cohen, Hill & Kennedy, 2002). This argument became evident in the programme since some teachers suffered from the lack of specific content studies and opportunity to merge them into their previous studies and existing understanding.

This teacher education programme has indicated the significance of teacher learning over several stages of training. This group of teachers has gained personal experiences, but the power of the group capital can allow these individual experiences to be implemented broadly on an organisational, and also societal level.

REFERENCES


PART II:
SELECTED RESEARCH PAPERS
TEACHERS’ PERCEPTIONS ON THE USE OF ICT IN TEACHING AND LEARNING: A CASE OF NAMIBIAN PRIMARY EDUCATION

Malakia Jatileni and Cloneria N Jatileni

ABSTRACT

The study aims to investigate the Namibian primary school teachers’ perception on the use of Information Communication Technology (ICT) in education. Further, the study explores ICT use in classrooms and the criterion used by teachers when selecting ICT for teaching. Additionally, the study examines the effect of gender on the use of ICT in teaching and learning. A self-administered questionnaire was used to collect data anonymously from primary schools Omusati Region in the northern part of Namibia. 90 teachers participated, and the quantitative data was descriptively and inferentially analysed using Statistical Package of Social Science (SPSS) software from IBM. The qualitative data was discussed along with the quantitative findings. Findings indicate that participants agreed that ICT usage in schools improves teaching and learning. Additionally, notwithstanding the challenges of ICT integration in education, there is a moderate use of ICT in classrooms. Regarding the selection criterion, teachers choose ICT in teaching and learning based on administrative and pedagogical purposes. Furthermore, the study shows that the use of ICT by male teachers is significantly higher than by female teachers. Disparity is associated with sociocultural beliefs regarding ICT use as mannish, inborn stigma of male superiority, and female inferiority complex, technophobic and insufficient technical skills. This research work contributes to the domain of research that seeks to promote ICT integration in the education sector.

INTRODUCTION

Background

The fast advances of Information and Communication Technology (ICT), in recent times, has correspondingly revolutionised the educational sector into making teaching and learning flexible. Despite the challenges associated with ICT integration in education, ICT has provided flexibilities in teaching and learning. For instance, with the use of ICT, learners can learn and collaborate among themselves for the purpose of progression in knowledge, skills and understanding of the lesson objectives (Kizlik, 2008). With this relevance, the emergence of educational technology research has considerably delved into evaluating the influence of using ICT in teaching and learning through research. Research in the domain are mostly concerned with the impact of
ICT on students’ academic engagement and performance (Youssef & Dahmani, 2008; Kolog, Tweneboah, Devine, & Adusei, 2018).

The United Nation’s (UN) 2030 Agenda for sustainable development requires UN member countries to implement ICT as a way of promoting national development. Under the goal 17 of the UN international policy framework, the UN recognizes the importance of ICT as a tool for national buildings. Through effective integration of ICT, the UN aims to enhance international cooperation and access to science, technology, and innovation (STI). What is more, the agenda aims “to promote the development, transfer, dissemination, and diffusion of environmentally sound technologies to developing countries on favourable terms” (UN, 2015, p.31). This implies that the UN agenda for 2030 intends to entirely “operationalise the technology bank and STI capacity building mechanism for the least developed countries by 2030. This is to enhance the use of enabling technology, in particular ICT” (UN, 2015, p.31). In line with the aforementioned strategies, there are five distinct development areas of ICT on which the Namibian education is grounded. These development areas are investigation and development of suitable ICT solutions, distribution of ICT infrastructure, maintenance and support of ICT, ICT integration and ICT literacy (Ministry of Education, 2005). As a result, Namibia prioritises that by 2022, all schools should be covered by broadband infrastructure and ensure optimum use of ICT across the education sector (Ministry of Economic Planning, 2017). In the Namibian National Curriculum for Basic Education, the Ministry of Education (MoE) encourages teachers to use learning materials to facilitate and develop a knowledge-based society by equipping learners with knowledge and skills. Learning through ICT contributes to the foundation of knowledge-based society in developing the pupil’s understanding of knowledge and skills acquisition. Additionally, the use of ICT tools allows pupils to develop skills that can be used in processing and presenting of information in the school settings (MoE, 2010).

The Article 20 Section 1 of the Namibian Constitution makes it a prerogative that all persons must have the right to education (Ministry of Justice, 1990). Similarly, Article 53 of Part IX in the Namibian Education Acts (16/2001) advocates for compulsory free education to all Namibian children from 7 to 16 years (MoE, 2001). Right after Namibian independence in 1990, the Ministry of Education Sport and Culture (MoESC) recognised access, equity, quality, democracy and lifelong learning as five major goals toward education for all (MoESC, 1993). It is of these goals that strategic objectives of the National Strategic Plan of Action (2017-2022) were crafted to fast track the realisation of quality and provision of ICT in education (Ministry of Education Arts and Culture, 2017). This is coupled with capacity building on the need to augment productive use of ICT in education. In the same vein, the Agenda 2063 of the African Union (AU) aspires Africa to be a prosperous continent endowed with “well educated and skilled citizens, underpinned by STI for a knowledge-based society is the norm” (AU, 2015, p.2). Furthermore, with the roadmap and collective vision of the Agenda 2063, the AU Commission in 2015 commits to speed-up action in the quest “to connect Africa through world-class Infrastructure, including interconnectivity between island states and the mainland, and with a concerted push to finance and implement the major infrastructure projects” (AU, 2015, p.5). Therefore, ICT infrastructural development is one of the top priorities. The idea is to transform Africa into “a continent on equal footing with the rest of the world as an information society, an integrated e-economy where every government, business and citizen have access to reliable and affordable ICT services by increasing broadband penetration by 10% by 2018, broadband
connectivity by 20% points and providing access to ICT to children in schools by 2016⁷ (AU, 2015, p.16).

The international benchmark, ICT competency framework for teachers, set by the United Nations Education, Scientific and Cultural Organization (UNESCO) in collaboration with various industrial leaders and global subject experts earmarked competencies necessary for teachers to teach effectively with ICT. The framework stresses and focus on teachers’ competencies in ICT. Most importantly the willingness to use ICT to help learners become collaborative learners, problem solvers, creative learners are through effective utilization of ICT. This, in turn, transforms students into effective citizens and members of the workforce towards sustainable development in this ever-increasing era of Information Technologies. The framework to empower teachers is structured into three stages of successive teachers’ development which intend to nurture teachers’ perception towards the use of ICT in education. In the act of accelerating the activation of teachers’ perception on the use of ICT in teaching and learning, these stages include technology literacy, knowledge deepening and knowledge creation (UNESCO, 2011). Given the international and national agenda and inspirations toward quality education, the MoE in Namibia anticipates a paradigm shift away from ICT in education (provision of ICT) into ICT for education (the use of ICT). Therefore, in the first key area of the National Standards and Performance Indicators (NSPI) for Schools in Namibia, the MoE pledges to drive towards the attainment of human resources or intellectuals capable of effectively and efficiently use ICT in education (MoE, 2007). The current Namibian President Dr. Hage Geingob, through the Harambee Prosperity Plan (HPP), embraces effective use of ICT for education as a vibrant tool in building a knowledge-based Namibian house where no one feel left out (The Office of the President, 2016).

**Motivation and significance of the study**

This study seeks to investigate teachers’ perceptions on the use of ICT in teaching and learning within the Namibian context where primary schools were the target. Further, the research work explored the use of ICT in classrooms as well as the criterion that teachers use in selecting ICT tools for teaching. This study was inspired by several apprehensions or concerns within the educational domain that teachers seem unaware of the potential use of ICT in teaching and learning (Mselle, 2012; Ndibalema, 2014). According to Nihuka and Voogt (2011), several international studies are published to show that primary school teachers lack competencies on the use of ICT as a pedagogical tool necessary for teaching and learning. Thus, it is crucial to undertake this study to probe further into the Namibian primary school context. According to the ICT Policy for Namibian Education, the use of ICT does not only provide an advantage delivery of equitable education, but it improves the quality of education (MoE, 2005). Considering the fast development of ICT, Mathipa and Mukhari (2014) were certain that many educational systems would be formalising the integration of ICT in teaching and learning. This is particularly important for remote or physically challenged students who intend to access formal education with ease. Thus, schools should no longer continue to only be viewed as venues where knowledge is transmitted from the teachers to learners by using textbooks as the only source of information. Consequently, teachers are encouraged to integrate ICT into teaching. As the use of ICT is increasing in all sectors, Ghavifekr, Kunjappan,
Ramasamy and Anthony (2016) believe that its use in education has the potential to transform teaching for the perpetual knowledge-based society.

The current trends in education require a paradigm shift from the mere supply of ICT in education into a comprehensive use of ICT in education. However, the perceptions teachers hold towards the use of ICT in teaching and learning are the key determining factors to the success or failure of the use of ICT in education (Apeanti, 2014). As a result, it is vital for this study to gather information on the perceptions of the Namibian primary school teachers towards the use of ICT in classroom instructions. On the one hand, the results from this study are therefore helpful for curriculum developers and policy makers to make informed decisions as far as the provision and strategies for the use of ICT in teaching and learning are concerned. On the other hand, the results are also essential to teacher training institutions to intensify their training programmes in line with the training needs emerging from this study. Furthermore, the results will also help the Continuous Professional Development (CPD) unit to strategise on how to help teachers at schools in acquiring necessary ICT skills.

**METHODS**

This research work aimed to **firstly**, investigate the Namibian primary school teachers’ perception on the use of ICT in teaching and learning. **Secondly**, to explore the extent to which teachers use ICT in their classrooms. **Thirdly**, to examine criterion they used to select ICT for teaching. **Fourthly**, to examine effect of gender on the use of ICT in teaching and learning. To achieve the aims and objectives of this study, these framing research questions are formulated: RQ1: What perceptions do the Namibian primary school teachers hold about the use of ICT in teaching and learning? ; RQ2: To what extent do the Namibian primary school teachers use ICT in classrooms? ; RQ3: What criteria do Namibian primary school teachers use in deciding the type of technology to use? ; RQ4: Does the teachers’ perception on the use of ICT in teaching and learning have any effect on ICT usage in classroom? ; RQ5: Does gender affect the use of ICT in teaching and learning?

A mixed method was employed in this study because it gives credence to both qualitative and quantitative research approaches in the advancement of educational research (Teddlie & Sammons, 2010). An electronic questionnaire containing open- and close-ended questions was administered to primary school teachers across Omusati Region in the northern part of Namibia, for anonymous response. Prior to the dissemination, the questionnaire was first given out to experts including our supervisor to review. Thereafter, Cronbach alpha was employed to compute the reliability of the test item. The analysis of the quantitative part of the data collected from 90 respondent encapsulated the descriptive (Normality test, mean and standard deviation) and inferential (independent sample t-test, nonparametric (Mann-Whitney-test), Multiple Linear Regression and Pearson correlation) computation with the help of the SPSS software from IBM. The content of the qualitative data was discussed to buttress the quantitative findings.
RESULTS

The overall results exhibit positive perceptions teachers hold towards the use of ICT in teaching and learning (M = 4.23; SD = .770). However, notwithstanding challenges (inadequate ICT tools, and pedagogical training, electricity supply, internet connection, and negative connotation attached to the use of ICT) associated with the use of ICT, results show a moderate use of ICT in classrooms (M = 2.91, SD = 1.16). From the analysis, teachers use ICT based on the lesson objectives, learners’ learning needs and availability of the ICT tools at school. Additionally, a significant correlation (r = 0.587, n = 86, p < 0.01) was found between the use of ICT in classrooms and the selection criteria of the ICT tools for teaching and learning. Further, the results indicate that ICT usage in classrooms was greater for male (Mdn = 3.71) than for the female teachers (Mdn = 2.78, U = 525.500, p = .004, r = .308). This signifies that a statistical significance difference was found between gender on the use of ICT in classrooms. Disparity is attributed to sociocultural beliefs regarding ICT use as mannish, inborn stigma of male superiority, and female inferior complex in ICT, technophobic insufficient and technical skills.

DISCUSSION

The overall results as presented in section 3 have exhibited that Namibian primary school teachers hold positive perceptions towards the use of ICT in teaching and learning. The implication of this finding is that teachers appreciate the relevance of ICT in teaching and learning. Teachers in Namibia understand that when ICT is allowed in schools, teaching will be flexible and students’ performance will improve. With this finding, the government’s effort of integrating ICT in all schools in Namibia will be smooth as the majority hold a positive perception towards its integration in schools. Respondents in this research work regard ICT pedagogical training and teachers’ motivation as measures that can speedily boost their desire and ability to use ICT in teaching and learning. As a result, teachers recommend schools to prioritise ICT pedagogical training and teachers’ motivation in their School-Based Continuous Professional Development programmes. This finding is consistent with research findings by Buabeng-Andoh (2012) where CPD and teachers’ motivation at school level emerged as possible measures to tackle existing barriers such as lack of teacher ICT skills, lack of teacher confidence and lack of pedagogical teacher training. Similarly, Simon and Ngololo (2015) underscore the CPD programme as a vibrant mode through which Namibian teachers can be motivated, equipped, readied and updated with modern ICT skills necessary to cope with the current trends in education.

The results in the present study revealed a moderate use of ICT in classrooms where teachers are challenged by the inadequate ICT tools, and pedagogical training, electricity supply, internet connection, and negative connotation attached to the use of ICT. These challenges impede ICT integration in teaching and learning despite the positive perception that teachers hold on the relevance of ICT in education. In a related research work, Almani (2012) found that ICT tools are essential and useful in teaching and learning but majority of schools are without computers and networks or internet support. The findings also confirm the challenges raised by the Namibian’ Ministry of Economic Planning (2017) that the availability and access to telecommunication services in a larger part of the country has become a challenge because of irregular access to electricity and high unit costs for rolling out ICT infrastructure in a vast
geographic area. Hence, there is an urgent need for pre-emptive measures to mitigate challenges faced by teachers well before they negatively affect their perception towards the use of ICT in teaching and learning. Among the pre-emptive measures, we recommend for the government through the MoE to consider introducing the Bring Your Own Device (BYOD) strategy to schools. The proposed BYOD strategy refers to the “technological model where teachers and learners are at liberty to bring a personally ICT device with various educational apps and embedded features to use anywhere, any time for teaching and learning purposes” (Song, 2014, p.52).

In this study, the results show that teachers are guided by the lesson objectives, pedagogical activities, availability and learners’ need to decide on the ICT tools. With this finding, teachers in Namibia don’t just select any ICT tools for teaching and learning, rather teachers select or acquire ICT tools or software based on the intended objectives of the subject. For instance, teachers would acquire Microsoft office suite if they are to teach students a course in computer applications. These are still the expectations and perception of teachers in the use of ICT in teaching and learning. In a related study, Richards (2005) reported that teachers need to consider overall design elements when setting-up specific teaching and learning activities, criteria, and outcomes which exemplify effective ICT-supported learning. This result also concurs with those of Schmid (2012) who reported that teachers use ICT devices in classroom settings to meet their lesson objectives. This improves constructive classroom activities and implement a variety of different approaches in learning. On the gender disparities as narrated in section 3, the results suggest that the use of ICT by male teachers is relatively higher than their female counterparts. This translates into a statistical significant difference between gender on the use of ICT in classrooms. Such disparities between male and female on the use of ICT can be because of minimal to the lack of technical skills in ICT which would be preceded by sociocultural belief regarding ICT use as mannish. In addition, when such disparities are not addressed, credence is given to escalation of the inborn stigma of male superiority and female inferiority complex towards the use of ICT and subsequently have a significant impact on the female teachers becoming technophobic. Extant research has also reported that male teachers perceived confidence in the use of ICT than their female counterpart (Mahdi & Al-Dera, 2013).

**CONCLUSION**

In conclusion, the results show positive perception that primary school teachers hold on the use of ICT in teaching and learning. Despite the challenges associated with ICT integration in Namibian schools, teachers have demonstrated their willingness to use the available ICT tools for teaching and learning. In addition, teachers employ several administrative and pedagogical criteria in selecting ICT tools to use in teaching and learning. Lastly, male teachers are found to use ICT more than their female counterparts.
LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This thesis work was limited to teachers in the Namibian primary school in the Omusati Region. Thus, the results from this study cannot be generalised as the data was only collected from one out of fourteen educational regions. Therefore, in order to complete the teachers' views and generalize the findings, a similar research is needed in the other parts of the Namibian educational regions. Nevertheless, the findings are relevant for stakeholders of education towards the effective implementation of ICT in Namibian education. Further, the study was limited to the perception of teachers in the use of ICT in teaching and learning. This, therefore, goes to suggest that these researchers did not administer any treatment, such as providing ICT training to teachers, on the use of ICT in teaching and learning. We recommend that, future research in this subject would consider provision ICT pedagogical training to teachers. In this case, these researchers will be able to ascertain the real impact of ICT in teaching and learning through the collection of pre-test and post test data. Teachers' affect and psychological impact on the acceptance and use of ICT in teaching and learning was not thoroughly considered in the present research work. Research has shown that teachers' acceptance of ICT in teaching and learning is motivated by several factors. Among the factors, teachers' motivation and affective state are key. In future, we recommend that similar studies should investigate further the affective influence of teachers towards the use of ICT in teaching and learning.

Acknowledgements: A special thanks to the Namibian government for supporting our studies financially.

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INQUIRY-BASED LEARNING IN URBAN AND RURAL SCIENCE EDUCATION: A COMPARATIVE STUDY OF SCIENCE TEACHERS IN NAMIBIA

Mirjam N.N. Sheehama

ABSTRACT

The purpose of this study was to compare inquiry-based learning models that science teachers in urban and rural school practice. A convenience sampling was employed to select teachers from Khomas and Oshana regional schools. Data was quantitatively analysed using exploratory factor analysis and Mann-Whitney test. The results indicated that teachers in both provinces mostly practice structured and open inquiry. A remarkable difference was revealed in the results of the guided inquiry. Therefore, the study concluded that urban teachers made more use of guided inquiry compared to rural teachers because of factors such as teachers’ competencies, school cultures and parents’ expectation that contributes to teachers’ decision to use this technique.

INTRODUCTION

Science education comprises of subjects that require specific competencies to connect theory and practice. To foster these competencies, science teachers utilised various teaching methods such as inquiry-based learning [IBL]. IBL is a method that involves active learning, which begins with an authentic problem-based question to enhance the process of research in teaching and learning (Carfora & Blessinger, 2015).

IBL had not been introduced in schools’ curricula for countries internationally. For example, in England until the 20th century (Harlen, 2013). This act happened because educators were concerned with a strategy that respects and values students’ experiences, imagination and the urge to interact and inquire (Harlen, 2013). Notwithstanding the challenges, IBL has become the perennial focus of science learning in recent years (Lederman et al., 2014; Harlen, 2013) to discuss “science pedagogy, teaching, learning and curriculum foci” (Akcay & Yager, 2010, p. 2). According to the Project of Promoting Inquiry-based Learning in Mathematics and Science Education (PRIMAS, 2011) twelve European countries partake in a project with the aim of developing the policy; “contextualising the European policy space in support of inquiry-based learning in Mathematics and Science” (p.1). In Sub-Sahara Africa, learner-centred education [LCE] has been regarded as one of the most prestigious teaching strategy (Leyendecker & Chisholma, 2008), particularly in South Africa, LCE includes IBL that has been recommended and prescribed in science education curriculum to inform quality teaching and learning (Botha, 2016). Furthermore, LCE has been a teaching policy that Namibia adopted soon after independence in 1990 (Margo, 2004).
introduction of IBL features in the Namibian science syllabuses is emphasised in the revised curriculum, and it includes; carrying out observations, experimentations, investigations, analyses, data collection and handling apparatus (Life Science syllabus grade 8-9, 2017; Physical Science syllabus grade 8-9, 2017).

IBL researchers pointed out that the implementation of this pedagogical practice continues to be a challenge for science teachers (DiBiase & McDonald, 2011; Akhter & Saleem, 2015) and they remain hesitant to utilise it (Trautmann, MaKinster, & Avery, 2004; Asma, van Aalderen-Smeets, & Walma van der Molen, 2011). Furthermore, several science teachers that use IBL lack the correct practice and the proper instructional changes needed for different IBL models (Ackay & Yager, 2010). In Namibia, some science teachers were shown to have poor questioning techniques and skills, and they are still textbook oriented (Ninnes, 2011). Additionally, an observational study conducted in Namibia reported that some science teachers do not allow learners to take part in practical activities, but rather carry out activities themselves while learners observe (Nghipandulwa, 2012). Therefore, it can be believed that the culture of science today is not recognised to support IBL (DiBiase & McDonald, 2015) in practice. Moreover, most researchers had focused on the state-nation studies/comparison of IBL implementation and consequences, but systematic and statistical cultural background still need to be addressed and compared (Kang, 2017). It is due to this reasons that the study compared the extent to which urban and rural science teachers practice IBL models.

**RESEARCH QUESTION**

1. To what extent do urban and rural science teachers differ in the practice of inquiry-based learning models in Namibia?

**IMPLEMENTATION OF IBL MODELS**

**Structured inquiry** - Cavas, Holbrook, Kask, and Rannikmae (2013) stated that structured inquiry is regarded as a teaching strategy whereby teachers are active participants, and learners are passive. In other words, the “teacher establishes parameters and procedures for inquiry” (Alabdulkareem, 2017, p. 69). Hence, students receive little freedom to do the tasks themselves due to teachers’ directions of tasks (Cavas et al., 2013).

**Guided inquiry** - In this model, teachers take the lead in providing learners with the research problems and resources so that they can develop their methods to conduct activities and solve problems (Alabdulkareem, 2017; Warner & Myer, 2017). Millar (2004) argued that teachers have difficulties in coming up with enough projects for students to investigate which results in “investigations become routinised…the assessed investigation becomes almost the only investigation done” (p. 16).

**Open inquiry** - According to the National Research Council (1996) open inquiry model is only appropriate for students who experienced the first two models/levels because then they have demonstrated and mastered the design of investigations when provided with questions. Havu-Nuutinen, Sporea, and Sporea (2017) asserted that in this model teachers define the framework of the study and allowed students to consider various questions related to the topic of research and then design their procedures to collect data and draw their conclusions.
METHODOLOGY

The study made use of quantitative methodology which “involves collecting data so that information can be quantified and subjected to statistical treatments to support or refute” (Williams, 2007, p. 66) an alternate knowledge claim. The study employed a convenience sampling whereby the investigator uses naturally formed groups (Creswell, 2003) to select participants. Therefore, an electronic survey comprised of closed-ended questions was sent to secondary and upper primary science teachers with different qualifications and years of teaching experience from Khomas region urban schools (N= 63), and Oshana region rural schools (N= 47) via emails.

The questionnaire used was adopted and modified for this research from the study of Alabdulkareem (2017). Teachers answered on a four-point Likert scale that ranged from 1 (almost never) to 4 (almost always). Furthermore, the instrument was first piloted to a small sample of urban teachers (N = 13) and rural teachers (N=7) to acquire feedback on areas that they regarded as unclear (Ramnarain & Hlatswayo, 2018). The actual data was collected during the second semester of the schools from May 14, 2018 to June 30, 2018 after permission was granted from Khomas and Oshana regional directors.

The data was collected into a Statistical Package for Social Sciences [SPSS] 25.0 versions where Exploratory Factor Analysis [EFA] was conducted to reduce the variables into factors and detect the relationship between mean-sum variables (Muijs, 2011). Therefore, principal axis factoring was chosen as an extraction method, the varimax rotation as an appropriate statically properties and an eigenvalue greater than one.

The descriptive analysis was also done to calculate the mean [M], standard deviation [SD], kurtosis and skewness of the data. Additionally, a normality test was run to understand the distribution of data (Zahediasl & Ghasemi, 2012; Muijs, 2011) and to determine the kind of test needed to compare the scores of teachers in both provinces. This study made use of a Mann-Whitney test where the hypothesis was formally rejected at 95% confidence interval for a two-tailed probability value (p-value) so p < 0.05 (Gupta, 2012; Du Prel, Hommel, Rohring, & Blettner, 2009).

RESULTS

The Cronbach’s alpha for all the three factors was over .70 which showed a strong internal reliability (Muijs, 2011) of each scale.

Table 1. Cronbach’s alpha of EFA factors

<table>
<thead>
<tr>
<th>Factors</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1 (structured)</td>
<td>.764</td>
</tr>
<tr>
<td>Factor 2 (guided)</td>
<td>.723</td>
</tr>
<tr>
<td>Factor 3 (open)</td>
<td>.721</td>
</tr>
</tbody>
</table>

Structure inquiry - The results of the descriptive analysis showed that urban teachers had a high value (M = 3.35, SD = .47) than rural teachers (M =3.31, SD = .66). The normality test indicated that urban teachers had a skewness = -.329 (SE = .302), kurtosis = -.440 (SE = .595), p = .002 and rural teachers had a skewness = -1.546
(SE = .347), kurtosis = 3.152 (SE = .681), p = .000. Hence, data was not normally distributed and Mann-Whitney test was conducted. The results indicated that both urban and rural science teachers’ scores were the same (Mdn = 3.25) and was statistically insignificant (U = 1434.0, p = .776, r = -0.027). Therefore, the findings signify that teachers in both provinces equally utilised structured inquiry.

**Guided inquiry** - The descriptive results showed that urban science teachers had a high value (M = 3.99, SD = .57) than rural science teachers (M = 2.79, SD = .64). Data was not normally distributed for urban teachers; skewness = -.829 (SE = .302), kurtosis = .375 (SE = .595), p < .000 and rural teachers; skewness = -.541 (SE = .347), kurtosis = .575 (SE = .681), p = 127. These results did not satisfy the validity of a parametric test. Hence, a Mann-Whitney test was conducted. The results indicated that urban science teachers scores were greater (Mdn = 3.25) than rural science teachers (Mdn = 3.00), (U = 1039.5, p = .007, r = -0.26). In this model, the null hypothesis can be rejected because there is a significant difference in urban and rural science teachers’ practice of guided inquiry.

**Open inquiry** - The descriptive results showed that urban teachers had a high value (M = 3.35, SD = .53) than rural science teachers (M = 3.28, SD = .58). The results of a normality test did not satisfy the requirements of a parametric test. Urban teachers had a skewness = -1.461 (SE = .347), kurtosis = 3.671 (SE = .681), p < .000, and rural teachers had a skewness = -.503 (SE = .302), kurtosis = -.158 (SE = .595), p <.000. Mann-Whitney test was conducted, and the results indicated that both urban and rural science teachers scores was the same (Mdn = 3.33), (U = 1408.0, p = .65, r = 0.43). In this model, the null hypothesis can be accepted that there is no significant difference between urban and rural science teachers’ practice open inquiry.

**DISCUSSION AND CONCLUSION**

This study found that teachers in both provinces practiced IBL models. However, they differ in the level of implementation.

**Structured inquiry** - Both urban and rural science teachers tend to utilise this model similarly. The results indicated that teachers offer instructions on how students should obtain data and conduct their observations. These results aligned with the study of Trautmann, MaKinster, and Avery (2004) which regarded structured inquiry as a method to capture the curriculum content and prepare learners for examinations (Trautmann et al., 2004). In Namibia, learners are expected to write examinations every semester, which might explain why both urban and rural teachers responded high in this model and opted for the structured inquiry to prepare for the final exam. Ireland, Watters, Brownlee, and Lupton (2014) argued that structured inquiry does not necessarily measure students’ understanding of concepts, reasoning abilities as well as the application of the content in everyday life.

The findings also revealed that teachers provide step-by-step instructions for students as they develop investigations. Therefore, this level has a major influence on task procedures to help students collect evidence from their investigations (Trnova & Trna, 2010). According to the latter authors, structured inquiry is significant for students to develop skills that they would need at the later levels. Additionally, the study of Salim and Tiawa (2015) shared the same sentiment that the use of structured inquiry allowed students to use their intellectual which results in memorable learning that lasts in the long-term memory.
Guided inquiry - The results showed a remarkable and significant difference in the mean scores of urban and rural science teachers. The mean score of urban teachers was higher than for rural teachers. The urban teachers’ results aligned with the constructivism theory and the results of Dudu and Vhurumuku’s (2011) study which showed that teachers in towns tend to demonstrate tasks that are more practical. These results were evident because urban schools can have more exposure to community libraries where students can conduct their mini-investigations. The results of this study and Ramnarain and Schuster (2014) conducted in South African disadvantaged townships and privileged suburban, supports that suburban/urban teachers used guided inquiry more compared to township/rural schools. This is because of certain factors such as class size, teachers’ competencies, school cultures and parents’ expectation that contributes to teachers’ decision to use this technique/model of IBL (Ramnarain & Schuster, 2014).

Open inquiry - The findings for this model indicated that science teachers in both urban and rural schools offer students an opportunity to learn on their own by identifying data that they need to collect during investigations. The findings of high mean in this model correlated with the study of Songer, Lee, and McDonald (2002) conducted in the United States about the understanding of inquiry, the surveyed teachers indicated that most urban teachers value the use of inquiry because it allowed learners to master sophisticated ideas. In addition, the involvement in open inquiry provides a platform to experience everything (Songer et al., 2002). Hence, teachers are likely to plan research-oriented tasks that allow learners to explore science topics through planning their methods of data collection and draw their conclusions.

The results of this research contradicted the study of Dai, Gerbino, and Daley (2011) findings with 38 Chinese science teachers who considered open inquiry to be accompanied with several difficulties such as lack of abilities, and good learning styles/habits in students. Thus, they evaluated the system as unscientific (Dai et al., 2011). Furthermore, an open inquiry is regarded as a high-level model that requires proper preparation and time to conduct activities; thus, it is frequently considered as a waste of time (Kang, 2018; Trautmann et al., 2004).

The finding of this study can be concluded that urban and rural science teachers are more likely to implement structured and open inquiry similarly. But the urban science teachers tend to perform guided inquiry more compared to rural science teachers. This study can then accept the null hypothesis that there is no difference in how urban and rural science teachers practice structured and open inquiry. However, the alternative hypothesis revealed that urban and rural science teachers differ in the practice of guided inquiry.

LIMITATIONS

In this research, only questionnaires were used. Thus, participants answered on a Likert-scale which did not justify the IBL model practiced at the moment of the study. Hence, further researchers may observe the IBL model that teachers mostly use, and understand when, where and how the teachers conduct IBL. This study focused on the three models of IBL, but there are five models that teachers can implement. Therefore, future researchers may extend this study or use it as a stepping stone in investigating the rest of the IBL models. Furthermore, the study had limited time to collect data.
REFERENCES


THE ROLES OF PRIMARY TEACHERS IN THE NATIONAL CURRICULUM DESIGN AND DEVELOPMENT IN NAMIBIA

Letisia Hidiwakusha

ABSTRACT

This study sought to investigate the roles of primary teachers in the national curriculum design and development in Namibia. The study employed a quantitative research design, which used a purposive sampling to select a sample size of (N=60) teachers from three primary schools in Khomas region. A survey comprising closed- and open-ended questions was used to collect data. Descriptive statistics and qualitative content analysis were used to analyse the collected data. The findings of the study revealed 70.0% of teachers do not have any roles in the curriculum designing and development process. Hence, their main roles is to implement and facilitate the curriculum. However, few (13.3%) teachers have roles of planning, evaluating, advising and assisting fellow developers on the themes to be removed/included in the curriculum. The study further indicated that teachers’ roles in curriculum planning and development advocate the pedagogical process.

INTRODUCTION

The curriculum is the foundation of any education system; hence it is important to ensure that the development of the curriculum receives proper attention in order to provide quality education. According to the Namibian Ministry of Education (2015), curriculum is a coherent framework that “guide schools on how to organise the teaching-learning process to ensure that there is consistency in delivery of the subject content” (p.1). The national curriculum delineates the content children are to learn as it gives direction to planning, organising, and implementing the pedagogy. The process of curriculum development differs from country to country. In some countries like Finland and Sweden the national curriculum is decentralised, while in countries like Ghana, South Africa and Burkina Faso, it is centralised (Doğan & Altun, 2013). In Namibia, the national curriculum is developed from by National Institute for Educational Development (NIED), which is a government institution. Curriculum development process is an ongoing cycle which consist of four stages; planning, dissemination, implementation and evaluation (Carl, 2009). The curriculum development process helps educational stakeholders to discover new ways of providing more effective learning experiences. Prior studies revealed that teachers are the backbone and critical part of the curriculum committee (Carl, 2009; Kobiah, 2016). Therefore, it is essential to involve them in all the developmental stages of the curriculum.
TEACHERS’ ROLES IN CURRICULUM DESIGN AND DEVELOPMENT PROCESS

Curriculum quality depends on the participation of teachers in the developmental process since they are the principal role-players. Their knowledge, experience, ideologies and perceptions play a fundamental role in understanding how the curriculum can be designed and reformed (Bantwini, 2010). Furthermore, it is through curriculum development that teachers discover new ways of providing useful learning experiences to accomplish the task of educating the young ones (Doğan & Altun, 2013). According to Golden-Jubilee (2013), teachers play significant roles in the curriculum development process such as; planning, designing, interpreting, assessing, researching, making-decisions and evaluating the curriculum. Recent studies indicate that teachers provide useful information on the learners’ needs, learning objectives and themes to be incorporated/removed from the curriculum (Bantwini, 2010; Kobiah, 2016). However, though teachers are primary source and most effective practitioners in developing the curriculum, the majority are not involved in the planning process. This case is observed in Turkey were teachers have no roles in the curriculum development process as they are regarded as implementers and facilitators of the curriculum (Doğan & Altun, 2013). Bantwini (2010) reveals that although teachers’ roles are well stipulated in the South African educational policies, most of them are not incorporated in the designing and development process. Hence, teachers are neglected from the curriculum innovations process, which is worrisome in most of African countries. Hence, it is very imperative to involve teachers in the planning process because it enhances the pedagogy in schools (Carl, 2009). Teachers become well-informed, able to interpret and implement the curriculum effectively. As a result, curriculum objectives can be attained (Bakah, Voogt, & Pieters, 2012).

RESEARCH QUESTIONS

1. What are the roles of the primary teachers in curriculum design and development process?
2. How teachers’ roles in curriculum development affect the pedagogical process?

METHODS

Research design

The study employed a quantitative research design. According to Creswell (2009), quantitative design is used to test objectives theories by examining a relationship among variables. Data was collected through a survey that employed open- and closed-ended questions. A non-random purposive sampling was used to select 60 qualified teachers with a teaching experience of more than four years, from three primary schools in Khomas region.
Procedures

A pilot study was conducted with seven Namibian teachers studying at the University of Eastern Finland (UEF) before giving the actual research. After the approval of the final draft of the questionnaire, the researcher obtained a permission letter from UEF as well as an approval letter from Khomas Regional Director to conduct the research. Researcher adhered to the research ethics and ensure that participants’ privacies were respected. Questionnaires were delivered on different dates at each school, whereby all schools were given one week to complete them.

Data analyses

Quantitative data was analysed using SPSS 25 package by descriptive statistics (means, frequencies and percentages). According to Atieno (2009), descriptive statistic is the most fundamental way to summarize data by indicating the general tendency in the data. While content analysis was used to analyse qualitative data. Qualitative data was used to buttress the quantitative findings and to increase the validity and trustworthiness of the study.

FINDINGS

Teachers’ roles in curriculum development process

Table 1. Descriptive statistic on teachers’ role in curriculum design

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Mean</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers have roles in all the developmental stages.</td>
<td>42 (70.0%)</td>
<td>10 (16.7%)</td>
<td>8 (13.3%)</td>
<td>3.78</td>
<td>60</td>
</tr>
</tbody>
</table>

Table 1 above indicate a high (70.0%) significant of teachers who disagree that teachers play major roles in all the developmental stages of curriculum. Of the participants, 16.7% are neutral while 13.3% agree with this statement. The responses from the open-ended question reveal the few major roles that teachers have in curriculum development process (Figure 1).
The major roles in curriculum development

The results elucidate a large number of teachers (f=42) who have major roles only in the implementation stage (implementing, facilitating), while 12 teachers evaluate the curriculum. The figure reveals a low frequency (8) of teachers who have roles in the curriculum planning process (planning, advising and assisting the developers).

The effect of teachers’ roles in curriculum design to the pedagogical process

Table 2. Descriptive statistic on the implementation process

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers implement the curriculum very well once they have roles in its developmental process?</td>
<td>f=51</td>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>% 85.0</td>
<td>15.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

\(f=\) frequency; \(\%=\) percent

The results of the study show that teachers’ roles in curriculum design and development have an impact on the teaching and learning process. Table 2 reveals that majority of the teachers (85.0\%) agree that their roles in curriculum design and development process have a positive effect on the implementation process, whilst 15.0\% disagree.

DISCUSSION

The findings of this study indicate a high percentage (70.0) of teachers who do not have roles in all the stages of curriculum development process. Majority of the teachers have the roles of implementing and facilitating the curriculum. This result concurs with those of Bantwini (2010) who revealed a negligence of teachers from the curriculum innovations and development process. In many African countries teachers are regarded as curriculum implementers instead of being both curriculum developers and implementers. However, 13.3\% of teachers who participate in the curriculum planning process have roles of planning, advising, assisting and evaluating the curriculum. Similar roles were also observed in a related research work of Golden-
Jubilee (2013). Results in the present study further expose that teachers’ roles in curriculum design and development have a positive effect on the pedagogy process. According to the participants, their roles in the developmental process empower and give them a broad insight on how to deliver quality education in the classroom. The results resonate with those of Bakah et al. (2012) who acknowledged that teachers’ roles in the curriculum planning advocate the pedagogical process because they are well-informed. As a result, the interpretation and articulation of the curriculum become more practical.

CONCLUSION

Teachers play significant roles (planning, assessing, advising and evaluating) in the curriculum planning and development process. Hence, the quality of the curriculum depends on their participation in the process. The present study reveals that, majority of teachers in Namibia do not have roles in the planning and development process. As a result this might cause misinterpretation of the curriculum which might hinder the attainment of the educational goals. Hence, the study recommends the educational officers and curriculum developers to involve and recognise the teachers’ roles in the national curriculum design and development process in order to enhance the implementation process. This study is essential to educational officers and policy makers in terms of awareness of the significant roles of teachers in curriculum development process.

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IN SEARCH OF QUALITY IN NAMIBIAN PRE-PRIMARY EDUCATION: TEACHERS’, PARENTS’ AND LEARNERS’ PERSPECTIVES

Wisillyzeonlika Mlunga

ABSTRACT

This study focused on pre-school education assessing its quality factors from the perspectives of teachers, parents and pupils. For quality evaluation, the researcher used the four quality factors which are: physical, guiding, process and the outcome. Moreover, the study explored the conceptions of pre-school teachers and parents on quality pre-school education and mainly the factors that can contribute to quality pre-school education in Namibia. Theoretically, this study emphasised the quality concept in education, the contributing factors to quality pre-school education as well as the significance of quality pre-primary education. According to the findings of this study, teachers, parents and pupils are partially satisfied with the quality pre-school education as they mentioned areas that need much improvements such as the physical learning environments, availability of teaching and learning materials, parental involvement and some issues in the pre-primary curriculum. This study recommended conducive learning environments, availability of teaching materials, parents’ input, and kindergartens for all children and strengthen teacher training to achieve the quality pre-primary education in Namibia.

INTRODUCTION

Pre-primary education in Namibia is a phase of formal basic education that covers a single year of school readiness before the official commencement of primary education. The main aims of the pre-primary education, is to lay a solid foundation for junior primary learning, establishing self-confidence and self-worth through personal and social development (Ministry of Education, 2015). In some countries pre-primary can be referred to as pre-school education. In the Namibian context pre-primary is intended for pupils that are six years old. In October 2006, the cabinet of the Republic of Namibia took a decision that the responsibility for pre-primary education, would be transferred from the Ministry of Gender Equality and Child Welfare, to the Ministry of Education, Arts and Culture (Ministry of Education, 2009). This means that the early childhood phase for children age 0-5 years, remained with the Ministry of Gender Equality and Child Welfare, while the pre-primary phase for six year old children became part of basic education. In Namibia, pre-primary classrooms are in the ordinary comprehensive school contexts and are part and parcel of those schools (typically part of combined, primary or junior primary schools). Additionally, pre-primary education has been expanded at the school level, teachers
have been trained, and few classrooms have been constructed specifically for pre-primary at some schools, including provisions of materials at some schools such as playgrounds. All these efforts are made to enhance and enforce quality education at the foundation level although this is not the case in most rural schools and marginalized communities. Studies on early childhood education and specifically on pre-primary education, especially after the implementation of pre-primary education, have rarely been conducted. There is much that needs to be done in Namibia in terms of local policies in the sense that there is a need of going beyond institutional condition in terms of educational marginalisation in pre-primary context (Matengu, Cleghorn, & Korkeamäki, 2018).

QUALITY OF PRE-PRIMARY EDUCATION

Some studies of early childhood education have found that quality of early childhood education is associated with cognitive, social and behavioral development and there is a difference between children who attended high quality ECE and those who attended the low quality ECE or those who did not attend at all (Taggart 2010). While Rao & Sun (2012) believe that having professional qualified early childhood educators is a prerequisite for high quality programs, although many developing countries lack what is considered as high-quality education due to many factors. The concept of quality is viewed from different perspectives, as it does not need to be fitted entirely within one or two perspectives. Sheridan (2001), views this concept as an interactive perspective that can originates from the understanding that quality is constituted in the interplay between the individual child and the environment. This means that children are engaged in communication and interaction with the surrounding world since day one on earth. There are many factors that contributes to high quality preschool education. Bayne-Jardine, Hoy & Woods (2005) believe that quality education is the one that includes high satisfactory teaching, full implementation of the curriculum, provision of pupils spiritual, moral, social and cultural development, physical and emotional support and good relationship between pupils and staff. Similarly, according to the paper presented by UNICEF, (2000) quality education includes learners who are healthy, well-nourished and ready to participate in schools, environment that are healthy and provide adequate resources and facilities, content that is reflected in relevant curricula, appropriate materials for the acquisition of knowledge and skills, trained teachers who uses learner-centred approach, outcome that encompass knowledge, skills and attitude and are linked to national goals for education.

Therefore, this study seeks to answer the following questions:

a) How do teachers, parents and learners view the quality of pre-primary education in terms of the physical, guiding, process and outcome factors in the Namibian context?

b) What do teachers and parents consider as high pedagogical quality pre-school education?
METHOD, DATA COLLECTION AND DATA ANALYSIS

The methodological approach that was used is the qualitative case study approach since it allows researchers to establish the meaning of a phenomenon from the views of the participants (Creswell, 2018), and in this study, the researcher explored the participants’ perceptions on quality pre-primary education based on their experience. Seven teachers, seven pupils and six parents were used as participants. Teachers with five years and more teaching experience of pre-grade were purposively selected in two northern regions (Oshikoto and Oshana) where the researcher could easily reach. The snowball method was used to select pupils, who were in pre-grade the previous year and parents who have had children in pre-grade the previous years. Interview guides for participants were designed to reveal participants conception of pre-grade in terms of the physical, guiding, process and outcomes of pre-primary education. All the interviews were audio recorded. Permission from the participants was granted, so that the study designs follows the guidelines for conducting ethical research. All participants completed a consent form which reviewed study procedures. Permission was granted from parents of the participant pupils to interview their children. All participants were informed of study procedures and their rights as well as the measures taken for maintaining confidentiality. Content analysis was applied in this study whereby Creswell’s (2018) analysis spiral steps were used. The data was transcribed, coded to get the categories, themes were generated and then the data was interpreted.

RESULTS OF THE STUDY

Physical factors for pre-primary education

The physical factor has to do with the quality of the structural aspect such as the location of the school, the atmosphere of the classroom environment, teaching and learning materials and most importantly how they are utilised. Pre-grades in Namibia are part of comprehensive schools and located at primary and combined schools. At all the schools where data was collected, there are no special classes for the pre-primary grades as they use the same buildings as other grades and the inside design was precisely the same. According to the participants, the physical learning environment of most of the pre-grades is in bad shape. They indicated that classrooms are not conducive for children as the floors and walls are cracked, the classes are dusty as there are no tiles or mats, the paints on the walls is falling off, and the windows are broken. Concerning the availability of teaching and learning materials in the classes, several teachers claimed to have general materials such as the starter kits that were provided by the government some few years back, books and stationeries. Pupils revealed that they shared most of the materials in big groups of which they did not like. However, physical development materials are lacking at most of the schools and out of all the seven schools, only two schools have indicated to have a proper playground for the children.
Guiding factors for pre-primary education

Guiding factors are referred to the interaction, communication and co-operation found between teachers, pupils and parents. The learning contents area and the roles of the curriculum are understood as the guiding factors too. Pre-primary teachers, parents and learners all described the guiding factors of pre-primary education based on the aims and importance of this grade, interaction, curriculum, planning as well as the parents’ input. According to the participants, pre-primary education aims to develop children and prepare them for formal schooling. In general, participants are happy with the implementation of pre-primary education as they expressed that this grade is crucial for the development of children. Teachers expressed that building a positive interaction between them and pupils as well as among pupils themselves is crucial as children tend to be emotional. The strategies that they use include verbal and non-verbal communication and always stress love and fairness, as they believe it promotes good connections and pleasant interactions. Co-operation between pre-grade teachers and other junior primary teachers concedes well. Generally, participants have observed that parents are playing a minimal role in pre-primary education. Parents themselves have also confirmed that they do not play much of their part.

Process factors for pre-primary education

The process as a factor of quality pre-school education refers to what happens in the pre-primary grade and includes aspects such as the pedagogical activities, leadership, and reinforcement, roles and responsibilities, classrooms management, methodologies, competencies and pupil’s activities. Teachers considered themselves as facilitators only as they indicated that children carry out most of the activities by themselves. They stressed the importance of learner-centred education that learners should be active participants. Teaching styles comprise of the principles and methods that are used during the process of teaching and learning in the classroom by the teachers. According to the teachers, most of them explained that teaching styles depend on the subject to be taught and the nature and interest of the learners. Most of the teachers are dissatisfied because they do not use ICT interactive tools in their classroom. On another note, teachers explained that apart from the pedagogical competencies, children are taught how to be in the society and how to be part of society as responsible citizens. Most of the children could remember activities that they did in pre-grade and they could also reflect on their favourite learning content areas. However, teachers criticize some learning content areas not clear in the curriculum such as arts development and religious and moral education. They indicated that they were never trained the basics of music at all that is why they find it a bit challenging.

Outcome factors for pre-primary education

The outcomes of the pre-primary education are assessed according to the pre-school teachers, parents and children’s experiences. Knowledge and skills that acquired, parent’s satisfaction teacher’s views on learning outcomes and pupil’s enjoyments. According to the participants, pre-primary graduates develop certain values and abilities in the society as they become independent and responsible. They believe there
is a difference between children that have been in pre-primary education and those who have never gone through pre-grade. Parents have expressed their satisfaction with the implementation of pre-primary education based on what they have observed on their children after completing pre-grade. Learners reflected the outcomes of pre-grade based on their experiences. Most of them based their experiences on the activities that they enjoyed most and the one they liked. However, there were some of the issues raised by the children about what they did not like such as when they were doing nothing in the classroom, excessive noise, eating in the classroom, climbing on the chairs and tables and fighting one another. Teachers were not aware of all these happenings, as they occurred when they were not present in their classrooms.

Teachers’ and parents’ conceptions of high-quality pre-primary education

The second research question focuses on the teachers and parents’ views on quality pre-primary education. According to the data, teachers and parents highlighted different categories of a high pedagogical pre-school. According to the teachers they consider a high pedagogical pre-primary education as the one that includes aspects such as conducive learning environment, adequate materials, teacher’s self-assessment, parents’ input, kindergarten for all, provision of meals and low power distance. While parents consider a high-quality pedagogical pre-school education as the one that provides teaching and learning materials, health and hygiene education, high responsible teachers, well trained teachers as well as high parental involvement. All participants described a high-quality pre-school as the one that includes all the aspects that can develop a child as a whole, the one that is training pupil’s to be responsible and independent thinkers, the one that makes sure children are well-nourished and the one that provides a conducive learning environment and all stakeholders involved.

DISCUSSION AND CONCLUSION

The results of this study reveal that for effectiveness of pedagogy, the physical learning environment plays a major role. The physical factor of quality pre-school education includes the space, equipment, how materials are used and arranged and all the pedagogical processes that take place throughout the day such as the interplay between pupils and the teacher (Sheridan, 2007). The findings of this study show that pre-school physical classroom environment is not conducive for children although the pre-primary teacher manuals direct that for children to grow into fully developed individuals, they need love and caring physical environments where they can experience positive interaction and get opportunities for developing intellectuals’ capabilities (Ministry of Education, 2015). Regarding the location of pre-primary grades in the Namibian context, pre-primary classes are in normal comprehensive schools and this has its advantages and disadvantages. Havu-Nuutinen and Niikko (2014) specified that pre-primary classrooms being part of the comprehensive schools provides a natural way for the children to become not only familiar with the school, teacher, and fellow pupils but as well with the norms, rhythm and routine activity of the schools. Participants, especially teachers, for this study recognised that it provides them with an opportunity to work with other junior primary teachers and to share
necessary learning and teaching materials. Lack of playground in schools was one of the unsatisfactory issues raised by both parents, teachers and pupils. The study conducted by Vesala (2016) about the meaning of playgrounds for primary school students revealed five crucial factors that include children’s experiences, the types of activities carried out at the playgrounds, their emotions as well as the possibilities for friendship.

According to the participants, pre-primary education aims to develop a child as a whole and prepare them for future learning. Similarly, Sheridan (2009) highlighted that the aim of pre-school is to lay a foundation for lifelong learning and to promote learning towards the overall goals and values of the society. This has not been observed in most of the Namibian pre-grades especially on the point of providing stimulating learning environments. The interaction between teachers, pupils and parents is correspondingly one of the guiding factors in pre-school education. According to the teachers, they believed that to enhance positive interaction is either by enforcing classrooms rules, being open to the pupils through verbal and non-verbal interactions fairness or knowing each child’s home background. Sheridan (2009) stresses that pedagogical quality does not just exist by itself in any educational settings, but the interplay between and through people plays a significant role. The process criteria category can be extended to cover relationships between the institution and parents (Dahlberg, Moss, & Pence, 2007). Many researchers suggested that to understand the quality of early childhood education process, measures fully helps but it is more difficult to regulate as it ought to reflect children actual experiences in classrooms, peer interaction and appropriate activities carried out during the process of teaching and learning (Rentzou, 2017). Teachers directed that during the process of teaching, they constantly make sure they have considered children’s input, but it was thought-provoking to hear from children themselves that their teachers decided most of the decisions in the classroom. There is a gap between teacher’s responses and children responses on this matter as pupils indicated the opposite of what teachers said on this matter. It was unsatisfactory noting that none of the teachers uses ICT in their classroom’s reasons being there are no facilities at schools and some teachers are reluctant and uneasy to integrate ICT in their lessons. Many studies revealed that ICT in early childhood education provides multiple learning possibilities for children. This has been supported by Kerckaert, Vanderlinde, and Van Braak (2015) that integrating ICT in early childhood education has so many benefits as it can be used as an educational tool that can support contents and individual learning needs when used correctly.

On the other hand, teachers evaluated that children that have undergone pre-primary education develop specific values. The national curriculum is supporting this idea that pre-primary education with appropriate pedagogy makes better progress in formal education and achieve better than those who have not (Ministry of Education, 2016). Parents’ satisfaction with the implementation of pre-school education is connected to the performances and behaviours that they observed in their children daily. Reading, writing, and numeracy were some of the most observed skills that they have seen in their children. From the perspectives of the society, the values, attitudes and the intentions for learning in children are the ones that they mostly see that pre-schools should provide. Therefore, the quality of pre-school should similarly be influenced by the society (Sheridan, 2009).
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Explicit and Systematic Pedagogy in Mathematics Education in Namibian Primary Schools

Simson Fuma

Abstract

Explicit and systematic pedagogy is an effective and efficient method of promoting learning. It is vital for primary school mathematics students, as it enhances their factual, procedural, and conceptual knowledge and reduces achievement gaps between low and higher performers. This study investigates the presence of ‘explicit and systematic pedagogy’ features in Namibian primary schools’ mathematics learning situations. Components such as ‘I do’, ‘we do’ and ‘you do’ form core features of explicit and systematic pedagogy, which encompasses several additional attributes.

To obtain qualitative data of this case study, semi-structured interviews for teachers and lesson observations were employed. Four mathematics teachers were respondents in this study. The findings of this study reveal that during instruction, teachers concentrate on prior content knowledge over prior everyday knowledge and, they do not discuss lesson objectives with students. However, they demonstrate concepts, although demonstrations are often inaccurate. They further provide a combination of effective and ineffective guided practice, assessment and feedback.

Introduction

The United Nations Education, Scientific, and Cultural Organisation (UNESCO) underscored the significance of Science and Mathematics Education for all (SME), that is appropriate and of quality to enhance critical and creative sophisticated thinking (UNESCO, 2012). High mathematics literacy is essential for individuals and the country’s economic success, as it helps to maintain competitiveness in the global economy, through novice teaching techniques, intersubjective approaches and promotion of programmes that lead to innovative impacts in education (Reyna & Brainerd, 2007). It further shapes the future society and encourages reproduction of responsible global citizens (Duke & Hinzen, 2016), as it inspires personal, social, and public decision-making (Anthony & Walshaw, 2009).

Despite the prominent status mathematics receives, it remains a challenge, both in Namibian and worldwide. International evaluations indicate that students’ mathematics knowledge and their competencies lack behind the anticipated level. Even students who obtain satisfactory grades, dislike mathematics (UNESCO, 2012). Students perceive mathematics as an abstract subject, which solely focuses on teaching computing skills and memorisation of facts. Asserting that it is isolated from the world’s actual problems (Rossi et al., 2013). While in Namibia, a report on observations conducted by UNICEF identified various weaknesses in the qualities
of teaching. These weaknesses range from ineffective teaching skills to inadequate content knowledge. Teachers are unable to present information in a logical sequence, they have trouble in setting up examples subsequent to explanations, and they pose questions which fail to engage all students and stimulate their critical thinking. They frequently relied on textbooks to explain concepts, lack skills to determine the effectiveness of their own descriptions of concepts and their work on the blackboard was often muddled and challenging for students to follow (UNICEF, 2011).

Reports by the U. S department of education supports explicit and systematic pedagogy (ESP) as the competent pedagogical approach to improve mathematics comprehension (Archer & Hughes, 2011). It enables students to notice reasons for developing a mathematics culture beyond computation, measurements and basic numeracy (UNESCO, 2012). Subsequently, this study aims to investigate whether Namibian teachers employ ESP features during mathematics lesson planning and learning situations. Guided by the research question: What features of ESP are present in the Namibian primary schools’ mathematics learning situations and teachers’ lesson plans?

EXPLICIT AND SYSTEMATIC PEDAGOGY (ESP) IN MATHEMATICS

Explicit and systematic pedagogy (ESP), as per Steedly et al. (2008, p. 3) definition is a,

_Detailed instructional approach in which teachers guide students through a defined instructional sequence. During this pedagogic practice, learners learn to regularly apply strategies that effective learners use as a fundamental part of mastering concepts._

In ESP focused lessons, students are assisted throughout the pedagogical process and receive unambiguous explanations about the objectives and motivations for acquiring the new skills (Doabler & Fien, 2013). ESP in mathematics requires the instructional process to “clearly teach the steps involved in solving mathematical problems using a logical progression of skills” (National Center on Intensive Intervention (NCII), 2016, p. 3). Teachers demonstrate intended learning outcomes, accompanied by exercises, assessment and feedback until students accomplish independent practice (Archer & Hughes, 2011). Conversely, students are actively engaged during the pedagogic process (Goeke, 2009), developing their procedural and conceptual understanding of mathematics concepts (California Department of Education Sacramento, 2015). Figure 1 present concepts that briefly describe ESP.
Figure 1. Components describing ESP. Adapted from (Jorgensen, 2015).

During the ‘I do’ component, the teacher sets the stage for learning to occur (Goeke, 2009). The teacher starts the lesson by describing lesson objectives (Doabler & Fien, 2013) to enable students to concentrate on acquiring the target knowledge (Archer & Hughes, 2011). After students are aware of what they are required to know, the demonstration phase follows. Through thought-provoking elements, the teacher models the process of operating a mathematical problem by “reading, setting up and solve word problems; use a strategy or demonstrate a concept” (NCII, 2016, p. 4). Modelling gives students an opportunity to physically observe and follow procedures on things occurring in the same way the teacher expects them to perform (Goeke, 2009). Furthermore, the teacher assesses students’ prior knowledge to establish whether they have mastered the skills required to guarantee successful problem solving during the new concept (NCII, 2016). The assessment should focus on both prior content knowledge (knowledge acquired through academic experience) and prior everyday knowledge (knowledge acquired through real-life experience), (Campbell & Campbell, 2009). This practice is vital because students acquire knowledge more efficiently when teachers organise the new information and assist them to link it to their prior knowledge (Kim et al., 2015).

The ‘we do’ component encourages teachers to employ guided practice, engaging students by questioning and direct learning and comprehension. The guided practice involves the support that one should provide when discussing procedures of performing practical matters successfully (Doabler & Fien, 2013). This practice encourages students to participate actively in problem-solving (NCII, 2016). The support is systematically eliminated as students’ reaches proficiency in a concept (Goeke, 2009). Assessment of students learning occurs throughout this phase, followed by detailed feedback on their immediate accomplishments and setbacks (NCII, 2016). Assessment is central in a classroom discourse because it guides teachers, through collecting information about students’ performance and make suitable evaluations of the instructional interaction. This practice ultimately improves instruction and students’ comprehension (Lembke et al., 2012). Assessment is essential in facilitating collaborative work, where students search for answers, build meanings and invent products together – it promotes active and constructive learning (Smith & MacGregor, 2014). Feedback is critical in monitoring the students’ performance diligently (Smeigh, 2013) and alerts them of their own abilities, eventually advancing awareness on self-regulation techniques (Sheldrake et al., 2015). It determines how students could improve their approach whenever they encounter a similar task (Goeke, 2009). Based on the assessment outcome, the teacher continually adjusts instruction to fit the students’ emerging needs so that they can achieve learning mastery (NCII, 2016).
Finally, ‘you do’ component, students are required to demonstrate their newly acquired knowledge and skills independently – independent practice. Students receive exercises to complete without the teacher’s assistance (Ewing, 2011). However, teachers should only give independent practice when they establish that students are incapable of making significant errors (Smeigh, 2013). While they practise steps on their own, the teacher walks around the classroom, monitoring and providing timely feedback to individuals who need it. Students should receive activities that relate to the content learnt during the ‘I do’ and ‘we do’ components. Teachers should continuously ensure that students maintain their knowledge. Otherwise, a skill that is not polished with practice rusts (NCII, 2016). The instructional process concludes with an informal or formal assessment to evaluate the students’ attainment of the learning objective and indications of possible scenarios in which the newly acquired knowledge is applicable, in real life (Goeke, 2009).

METHODS

This qualitative case study focused on features of ESP from descriptions of mathematics practices that respondents alluded, and the observations conducted during lesson interactions. Different respondents and methods are used due to their abilities to provide information that creates an understanding of the case in entirety (Kumar, 2011). In this study, the four respondents are mathematics teachers, from different schools in Khomas and Ohangwena region. To investigate the features of ESP in their mathematics instructions, semi-structured interviews were conducted to probe answers and their mathematics lessons were observed. Semi-structured interviews were chosen because they enable respondents to express their views freely, within the framework of the subject (Hesse-Biber & Leavy, 2011). Due to the conversational style that it promotes, it maintains trust and encourages respondents to be truthful (Cousin, 2009). While observations obtain concrete views of classroom practices regarding ESP (Rugg & Petre, 2007). It provides an opportunity to experience a genuine atmosphere of the subjects’ daily practices (Mayan, 2009).

Procedures

The proceedings of semi-structured interviews were recorded, and the interviews were guided by a prepared set of questions, which were used to develop follow-up questions. Each interview lasted for approximately 30 minutes. To maintain neutrality and avoid questions determined by observations, interviews were conducted before lesson observations (Cousin, 2009). Lesson observations were conducted in each respondent’s mathematics class for 2 days, as a non-participant observer (Mayan, 2009). The non-participants principles were used in order to minimise the chances of influencing the observation outcome (Kumar, 2011).

Data analysis

The purpose of the study was to investigate descriptions of event causes, reasons, and processes to form theories and generalisations in relation to the research
objectives (Stephens, 2009). Therefore, an inductive approach which infers, combines, conceptualises and re-contextualise data from research instruments was used (Mayan, 2009). The inductive approach then enables coding, grouping and theming according to the data (Cho & Lee, 2014). The distinct dimensions that the inductive approach accommodates enable the meanings to be data focused than the researcher’s focused (Cousin, 2009). Hence, focusing on working out what the data is manifesting, in an interpretive form, using the respondents’ conceptions rather than preconceived theories (Bertram & Christiansen, 2015).

FINDINGS AND DISCUSSIONS

The findings and discussions section enable the presentation of key findings of the study. It further provides opportunities to comment on the research and assert how the study answered the research question/s. These comments and assertions convey meanings and implications of the findings (Bertram & Christiansen, 2015). This section highlights the findings on the presence of ESP features in the Namibian schools’ primary mathematics learning situations and teachers’ lesson plans.

STRUCTURE OF LESSON INTERACTIONS

Figure 2 present information shows how teachers divide their lessons and a spectrum of facets which constitutes each part.

![Diagram of Lesson Interactions]

Figure 2. Structures of lesson interactions

Introduction of lessons

Two respondents mentioned that they consider their students’ prior knowledge during the introductory phase. However, their contributions suggest that they primarily focus on students’ prior content knowledge and neglect their everyday
knowledge. Eventually, alienating students from making connections to the topic of the day; hence, lessons lack concrete familiarity that they experiences. Besides the respondents’ revelations, the lack of ability to integrate everyday knowledge has been affirmed during lesson observations. All the observed teachers failed to integrate students’ prior everyday knowledge. This evidence indicates that most respondents inadequately address the recommendation of the NCII (2016) which urge them to conduct ESP lessons by assessing and stimulating students’ prior knowledge before they engage in comprehensive instructional processes.

Two respondents have mentioned that they monitor their students’ homework and give feedback during the introduction. Although other respondents did not testify to the same practice at this stage of the lesson, the same trend occurred in all the observed classrooms. All the respondents launched their lessons by requesting students to produce solutions for the homework given the previous day. Thereafter, they proceeded directly into discussing the content of the next topic, without scaffolding and preparing students to receive new information. Eventually contending the argument of Goeke (2009) that in an ESP lesson, an introduction is a phase where teachers are responsible for setting the stage for learning to occur. Hence, they deprive students of the building blocks that lead to new information, which they are expected to comprehend.

All respondents have identified lesson objectives in their lesson plans, and they expressed that it is among elements that they consider in preparation of their lessons. However, none of these respondents has introduced lesson objectives to students. Lesson objectives are considered imperative for selective learning and withholding them from students defies Doabler & Fien (2013) advice that teachers need to explain lesson objectives to students to enable them to concentrate on acquiring the target knowledge.

It emerged that respondents had different views of when to introduce a topic in mathematics. These views are influenced by the diverse understanding of a concept ‘new topic,’ which respondents possess. Some respondents introduce every subtopic while others introduce the theme. These practices suggest a gap in the respondents understanding of the accepted procedures. Respondents know that they should begin with an introduction, but it is evident that they are unaware of the guidelines. This phenomenon legitimatises Hudson et al. (2006) expression that teachers possess inadequate mathematical skills and pedagogical proficiency that limit them from producing suitable instructions to students with various degrees of academic achievements. The lack of common understanding on how to conduct an introduction suggests that the training they experienced was relatively ineffective.

**Lesson presentations**

Demonstrations emerged as a considerably familiar practice to respondents. Three respondents mentioned that they give their students 2 to 3 examples before they allow them to perform the independent practice. In addition to the interview revelations, it manifested during lesson observations that 3 of the respondents demonstrated how to perform calculations before giving activities to students. However, the methods were occasionally ambiguous. Some respondents could not sufficiently demonstrate all the steps that students needed to understand certain problems. For example,
3 and the adjacent calculations illustrate a respondent’s demonstration on the method of calculating the volume of a cuboid.

![Cuboid illustration](Image)

**Figure 3. Cuboid illustration**

Step 1 shows the formula for calculating the volume of a cuboid. At step 2, the respondent substituted the labels with relative numerals and their units. Step 3 omits units, and suddenly the solution has cubed units. The inconsistency in this demonstration conveys an unintended message on the importance of units. It teaches students to disregard the significance of units, and the cubed units on the final answer could confuse students. There is no visible systematic approach which hints the origin of the cubed units to students. Making it difficult for them to master the method and it is fundamental meaning. Although the respondent afforded students an opportunity to physically observe and follow procedures of things occurring, as per Goeke (2009) suggestion, the process was inaccurate. In a different instance, a respondent demonstrated addition of fractions in a way that could create an incorrect understanding of the equal sign; 

\[
\frac{2}{5} + \frac{1}{4} = \frac{4 \times 2 + 5 \times 1}{20} = \frac{8}{20} + \frac{5}{20} = \frac{13}{20}
\]

The way the equal signs are used in the expressions could become an obstacle to prevent students from attaining the profound meaning and purpose of the equal sign. It is used as a comma rather than a symbol to show expressions of the same value (Knuth et al., 2008). This practice undermines the requirement of ESP, which according to the NCII (2016) mathematics requires the instructional process to clearly teach steps involved in solving mathematics problems using a logical progression of skills.

Guided practice transpired both constructively and destructively. Constructively, as all respondents were observed hinting on how to complete certain tasks to students. Teachers mainly hint through code-switching. Code-switching parallels the request of Goeke (2009) that learning procedures should employ organised tools to assist in incorporating ideas. Code-switching between languages is a good mediating tool; it accelerates the pace at which students learn by scaffolding them toward attaining the desired knowledge or goals. This scaffolding is useful, especially to students with low proficiency in the pedagogical language. Conversely, destructive guiding practices manifested through utterances which could be detrimental to student’s passion for mathematics. When a certain student did an activity incorrectly, the respondent lashed out on him with “things are there in your book, I did not teach you to do things like this.” Although, the respondent’s expression signal to that the correct method is available in the students’ books, it is uncertain that they will locate it. Due to such statements, students were observably confused and terrified to ask further. These assertions suppress students’ confidence and subsequently defy Plavnick et al. (2015) perception that to enhance students’ motivation, teachers should assist them to reduce mistakes and give positive reinforcement.
Teachers assessed constructively and ineffectively. Constructively, as they mainly give written classwork and homework. Although, one respondent objected to the idea of giving homework, stating that it does not serve the purpose, as students produce correct answers while they cannot demonstrate the actual skills. This scenario illustrates an exercise where students received independent practice when they are incapable of completing it solitarily – before they mastered the skill. Smeigh (2013) suggested that teachers should only give independent practice when they establish that students are incapable of making significant mistakes. However, the respondent’s expression reveals that students resorted to copying because they do not understand. Conversely, assessment is ineffective when respondents evaluate through verbal questioning. During lesson observations, it was established that through questioning, it is highly unlikely that teachers receive genuine responses. Students are often dishonest and active students randomly shout answers. Although, Leone et al. (2010) suggested that students’ participation level should be measured both in writing and verbally. Verbal questioning was observably a feeble method, as it constrains teachers from taking total control of the class and ensures that all students have acquired the knowledge.

Feedback had a diverse impact on students as well. It was constructive when respondents exercised peer teaching, and in addition to the verbal feedback they recorded the steps on the blackboard. Written and verbal feedback supports diversity in the classroom, as it enables students to observe and listen simultaneously. However, it was destructive when respondents criticised students instead of helping them to understand the correct methods of completing tasks. They made statements such as “this means you were not listening, what is wrong with you? Have you seen a formula like this in your book? The summary is in your book.” These kinds of feedback contradict Sheldrake et al. (2015) argument that feedback is a form of intervention to alert students of their abilities, eventually advancing awareness on self-regulation techniques. Furthermore, individualised feedback is often given only to active students. Certain students seldom receive specified feedback on their work. Such practice violates Riccomini et al. (2017) arguments that during ESP, teachers should give support to students of all abilities to attain objectives defined within individualised programs.

CONCLUSION

The nature of mathematics learning situations in Namibian’s primary schools is explored. In particular, the focus was on the presence of ESP features in mathematics lessons. To examine the presence of ESP, four interviews were conducted to infer how respondents conduct their mathematics instruction. Furthermore, lessons observations were conducted to experience concrete interactions. The interviews and lesson observations findings were reasonably similar. Respondents emphasis students’ prior content knowledge; however, they neglect their prior everyday knowledge. Homework is seemingly an obstacle, as teachers spend a significant amount of time of the following lesson monitoring it and shift to a new topic without adequately preparing students to receive new knowledge. Although respondents indicate lesson objectives in their lesson plans, they do not explain them to students. A gap exists in the respondents understanding of the definition of a new topic and the accepted procedures when introducing a topic. They know that they should begin with an introduction, but they are unaware of the guidelines. Demonstrations of concepts emerged from observed lessons substantially. However, most demonstrations were
inaccurate, eventually conveying incorrect conceptions to students. Respondents provided helpful hints to students through code-switching. In contrast, they uttered statements that are destructive to students’ motivation. The assessment was done in both writing and verbally; however, the verbal assessment was ostensibly ineffective. Feedback was provided diversely, through peer teaching, written and verbally. Sometimes, respondents criticised the students instead of rectifying errors. In fine, mathematics instruction lack features of ESP, which is crucial in assisting students to attain lesson objectives. These findings suggest that mathematics instruction in Namibian primary schools is inexplicit to students. Therefore, they are probable to struggle to comprehend mathematical concepts.

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THE EFFECT OF PHYSICAL LEARNING ENVIRONMENT ON THE QUALITY OF TEACHING AND LEARNING

Fillemon S. Kauluma

ABSTRACT

The physical learning environment has been extensively researched in Europe, Asia, Australia and the USA. Not much has been done on the physical learning environment from the African perspective. The purpose of this study was to investigate the effect of the physical learning environment on the quality of teaching and learning in Namibian Primary schools. Data was collected by use of a structured questionnaire, pictures and observation and was processed by using Excel Software. The study revealed that physical learning environments of schools had a significant effect in enhancing the quality of teaching and learning and the resultant improvement on learners’ achievement results. However, it was also discovered that despite the above revelations, the problem faced by schools of poor results was not solved in this study. It was concluded, and it is beyond reasonable doubt that the physical learning environment of a school has a significant influence on the quality of teaching and learning. However, it is suspected that the physical learning environment is not very effective on its own in enhancing the quality of teaching and learning that would result in good learners’ achievement results.

As a result of this observation, the overall conclusion drawn was that the physical learning environment of a school would be very effective in enhancing the quality of teaching and learning if combined with many other factors including teachers’ pedagogical skills, and that further research was required on this aspect in Namibian schools.

INTRODUCTION

The government of the Republic of Namibia, through the Ministry of Education Arts and Culture, continues to spend a significant amount of money on education (Hanse-Himarwa, 2016). This spending is related to providing resources, personnel remunerations, training of teachers as well as infrastructure development.

The performance of learners in primary schools’ country wide, usually comes under scrutiny from time to time. Numerous workshops and seminars are held on a regular basis to try and find solutions to the state of education in Namibian schools. Concerns have been raised on various platforms including at cabinet/parliament level regarding the general state of education and schools in Namibia.

For the current study, the two primary schools under investigation, will be referred to as School 1 (S1) and School 2 (S2). Globally, educators’ roles have changed due to massive changes in the physical learning environments. These changes have come...
about as a result of massive changes and developments in information technology. Some of these changes could be causing schools not to achieve their desired outcomes. Several schools may not afford these new technologies, especially in Africa. The changes that have occurred have necessitated the need for new facilities to be introduced to provide for the teaching and learning requirements of learners, wherever they are based in the 21st Century (Kaarina & Gonzalez, 2011).

Budget cuts have been introduced in all Namibian government ministries and agencies. These budget cuts may have an influence on the maintenance and upgrading of school facilities and acquisition of much needed material for government schools, including School 1 and School 2. (Republic of Namibia, 2014-2017). Subsequently, this would have an impact on the physical learning environment that supports quality teaching and learning at the two particular schools.

On the other hand, payment of school fees has also been abolished. Many Namibian government schools relied on school fees for their daily running costs. The two primary schools are very old. They were built in 1962 and 1969 respectively. They are in high density suburb of Katutura, Windhoek. This study is of great significance in that it is expected to reveal and generalise the views of teachers and learners on the effect of physical learning environments on the quality of teaching and learning in high density primary schools, which could be contributing to low pass rates nationwide. It will assist with ideas on how the physical learning environment could be enhanced in order to improve the quality of teaching and learning. Furthermore, it might assist policy makers in decision making on matters concerning the physical learning environments. According to Asiyai (2014), not much has been done on the topic of physical learning environment in Africa. Many studies in this field has their focus on countries in Europe, Asia, the USA and Australia.

There is a great concern amongst stakeholders in education, regarding the results of primary schools in Namibia. It is suspected that there are some shortcomings in the physical learning environments which leads to poor academic results. This in turn has an effect on high school enrolment and eventually university entry.

The objectives to be achieved in this study are: To analyze the effects and elements of physical learning environments of schools on the quality of teaching and learning. To analyze the contexts of physical learning environments that motivate educators and learners to achieve good results.

In order to fulfil the objectives of this study the following research question was raised: What are the contexts of the physical learning environments that motivate and influences the quality of teaching and learning for the achievement of good results?

CONCEPTUAL FRAMEWORK

The conceptual framework below can be adapted to primary school level without any problem, because principles of learning and teaching can be made to suit different levels of learning and teaching by taking cognizance of the levels at which learning, and teaching is occurring (Poon, 2013).
Poon (2013) argues that quality of learning and teaching relate to course materials (content) and how presentations are made by educators. The type of teaching and learning environment (physical learning environment) also influences the quality of teaching and learning. Apart from the physical environment, the educator’s pedagogical skills and knowledge should also be taken into account. It is argued by (Lizzio, Wilson, & Simons, 2002) cited in (Poon, 2013) that educators’ pedagogical knowledge and skills is a determinant of the design of learning materials and the physical learning environment in which teaching, and learning occurs (Poon, 2013). If such a physical learning environment exists, it is of great benefit to the educators and learners as it enhances quality of teaching and learning, argued Poon (2013). Lippman (2010) opined that the physical learning environment could be pictured in one’s mind as a physical space that supports multiple and diverse teaching and learning programmes and pedagogies. This also includes new technologies. It is an educational space that respects and is in harmony with the greater environment. It is argued that the concept has grown into an even more complex structure that includes teaching equipment, sources of information and events outside the school system where a learner may take in learning activities, directly and indirectly. According to Sapna et al. (2014), physical classroom environments are important and could have surprising influences on the learning performance of learners. Other aspects such as acoustics, temperature, air quality, accessibility and the classroom’s symbolic environment, also supports and enable the achievement of good results.

METHODOLOGY

Data collection procedures

A mixed research approach was adopted, which was expected to provide for triangulation purposes. The populations of study were established and from them non-probability samples (convenience samples) were derived as they were cheaper and easily accessible. The target participants were experienced teachers and grade seven learners. The population comprised of thirty primary school teachers and 60 grade seven learners at the identified schools, who volunteered to take part.

In view of the chosen research design, which is the qualitative and quantitative methods, data for this study was gathered mainly through questionnaires, observations...
and pictures taken of the two schools. This process of obtaining information from multiple sources is known as triangulation. (Drew, 2008, p.21). Altogether, out of 30 questionnaires distributed, 26 were returned duly completed and this represented an 87% response rate. The response rate gave the researcher the confidence that teachers were going to give true and honest responses, and this would have a positive influence on the reliability and validity of data collected (Sekaran & Bougie, 2016).

On the other hand, among the grade seven learners in the two schools, a total of 60 questionnaires were distributed and all the questionnaires were returned duly completed. Again, this was an excellent response rate of 100%. The learners showed that they were enthusiastic about taking part in this study which affected their lives as learners and felt they could also contribute in a study related to education. Once again, this enthusiasm gave the researcher confidence that the data collected was valid and reliable (Creswell, 2014).

Data analysis

Data was presented in tabular and graphical forms (bar graphs), where it was analysed for meaning. The results thus obtained provide the feedback on the tenability or untenability of originally formulated research problem (Sekaran & Bougie, 2016; Welman et al., 2011).

Ethical statement, Reliability and Validity

This research was carried out in the most professional way possible and guided by principles both accepted by all parties involved in this research/assignment and has taken an oath to keep all confidential information from being exposed to external parties. This research was not conducted to give judgments to processes in place, or discredit operations and services. In addition, participants participated in this study at their own volition and were informed of their right to withdraw from the study whenever they wish to do so (Sekaran & Bougie, 2016). Furthermore, the researcher has acquainted himself with the UEF research code of conduct. The teacher participants are professionals who have undergone teacher training, therefore their contributions towards the research is regarded as truthful and trustworthy. The research proposal was presented to the supervisor and fellow master’s Student candidates for input and critique. In addition, questionnaires were also presented to the supervisor for approval before they were used.

RESULTS

The formulated research question elicits for information regarding tools and equipment in schools which enable educators to teach and learners to learn. This includes structural features such as lighting, noise and symbolic features such as wall displays and sources of information. The results from questionnaires are discussed. Thereafter, observation results, are presented. Pictures were used throughout, to support the presentations of the results.
The contexts of the Physical Learning Environments influencing and motivating the quality of teaching and learning

In the study, it was discovered that aspects of the physical learning environment such as heat, penetration of daylight, sitting arrangements and cleanliness, inclusive of the classrooms themselves, the toilets and the school grounds were aspects of the physical learning environment that enhanced the quality of teaching and learning in the two schools included in the study. Although the two schools are very old, the pictures show that great efforts are being made by school authorities and the government to ensure that schools are kept clean both inside and outside. Teachers and learners’ responses are presented in graphical form with explanation given to support the graphs.

As shown in Figure 2A, forty – two percent (42.31) % of the respondents, strongly agreed that buildings at their schools were neat and clean. Fifty (50) percent of the respondents agreed that the buildings at their respective schools were neat and clean. A mere 7.69% of the respondents neither agreed nor disputed that buildings at their schools were neat and clean.

![Figure 2A](image1)

From Figure 3 A below, seventy-three (73.08%) percent of the respondents strongly agreed that sitting arrangements were important for effective learning to take place. Twenty-seven (27%) percent of the respondents agreed that sitting arrangements were important for learning to take place.

![Figure 2B and C](image2)

Figure 2. A, B and C. Buildings at my school are neat and clean

From Figure 3 A below, seventy-three (73.08%) percent of the respondents strongly agreed that sitting arrangements were important for effective learning to take place. Twenty-seven (27%) percent of the respondents agreed that sitting arrangements were important for learning to take place.
Figure 3. A, B and C. sitting arrangement are important for effective learning to take place.

In Figure 4 A, it is illustrated that 25% of the respondents strongly agreed that enough daylight penetrated their classrooms. Fifty-three percent (53.33%) of the respondents agreed to this assertion. Sixteen percent (16.67%) of the respondents were neutral. Only 5% of the respondents strongly disagreed with the claim that enough daylight penetrated their classrooms.

Figure 4. A and B (S1), enough daylight penetrates my classroom.
As illustrated in Figure 5, fifty percent (50%) of the respondents strongly agreed that in their classrooms there was enough air or oxygen circulation. Twenty-seven percent (26.67%) of the respondents agreed that there was enough air circulation in their classroom. The respondents who were neutral or could not decide where they stood, were represented by 11.67%. Eight percent of the respondents disagreed that their classrooms received enough air ventilation whereas 3.33% of the respondents strongly disagreed.

![Figure 5. In my classroom there is enough circulation of air and oxygen](image)

Observation

From the observations of the two schools, diversity was visible regarding the contents of the classrooms as well as the overall physical environment of the two schools. The difference was on the type of subjects the teachers were teaching and the general set up of both schools. Some teachers were mainly involved in class teaching whereas others did subject teaching. The furniture in all the classes could be rearranged differently. The classrooms were decorated with subject related material in the form of posters and charts.

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS & LIMITATIONS

The contexts of the physical learning environments influencing and motivating the quality of teaching and learning

A majority of 92.31% of teacher respondents, indicated that the state of the school buildings and classrooms cleanliness and neatness enhances the quality of teaching and learning (see Figure 2A, B, C). Besides the above, participants confirmed that the schools ensured that each learner had their own clean desk and chair in the classroom. In the study, it was also confirmed that sitting arrangements of learners were considered to be very important in supporting different learning and teaching activities and methodologies. As indicated in figure 3A, the majority of the respondents (100%) were of the overwhelming opinion that sitting arrangements were important for learning
to take place. These findings were corroborated by Kaarina and Gonzalez (2011) and Lippmann (2010) who also discovered that sitting arrangements are important for learning to take place. The pictures in figure 3B and C shows different sitting arrangements. This was again supported by researchers or writers such as Sapna et al. (2014). Learners have different tastes regarding sitting arrangements. Some would prefer desks arranged in rows whereas others would favour a clustered arrangement. A total of 78.33% of learners believed that enough daylight penetrates their classrooms, as illustrated in figure 4A. Rutherford (2015) is one of the researchers who confirmed that penetration of enough daylight was one of the important elements of the physical learning environment that enhanced teaching and learning. Enough penetration of daylight in a classroom, as illustrated in figure 4B, is one of the important elements to be found in a school’s physical learning environment that has the effect of enhancing the quality of teaching and learning. The majority of the participants agreed that this was happening in their respective schools. Furthermore, 76.67% (figure 5) of learner respondents confirmed that there was enough circulation of air in their classrooms. Alan and Fischer (1978) cited in (Sapna et al., 2014), in a study that they carried out, confirmed that enough or good circulation of air in a classroom is one of the elements of the physical learning environment that enhances the quality of teaching and learning. Kaarina and Gonzalez (2011) in the research that they conducted also confirmed that good ventilation of a classroom was an element of the physical learning environment that enhances teaching and learning.

From observations, in the two schools, one could see that teachers used all available resources they could lay their hands on. News articles, magazine cut outs, concrete objects, learners work, and teacher prepared material are found in many of the classes. The chalkboards serve as both a writing and display medium. Posters and pictures were on the board for display during explanations of subject matter.

The number of learners per class has proved to be challenging at times. Sometimes a learner had to go find a chair from another class. Some class groups are too noisy and much needed time goes to waste with the teacher trying to calm down the group. Some learners had to share textbooks due to non-availability of sufficient books. The desks and chairs in some classrooms are also very old and not so neat.

The overall impression is that the physical space of both schools is well maintained. Cleanliness is the order of the day. The strategy in place is that each school has several institutional workers who are responsible for assuring a clean environment. One could, however, notice that at times there are papers lying around in class. At times one would also find pieces of papers around the school yard. This is more common after breaks when learners have had their meals that they bring from home. Some classroom walls and floors are stained and some paint peeling off the walls. Of notable interest is the lack of sufficient facilities in the playgrounds of both schools that would cater for elder learners in grade seven, despite the fact that there is enough space available and that the schools were built many decades ago. This could be the contributing factor for the responses to be the way they are. The only facilities available are for football, netball and basketball.

Generally, on all the facets or elements of the physical learning environments found in the two respective schools, there was a feeling and consensus among the teachers and the Grade Sevens involved in this study that the physical learning environments had several elements which helped in enhancing the quality of teaching and learning. These were elements of the physical learning environment such as classrooms symbolic environments, the general cleanliness of the schools, windows, exposure to
noise, cleanliness of playgrounds, penetration of daylight into the classrooms, outside appearance of school buildings, and sitting arrangements inside the classrooms. Most teachers and learners (Grade Sevens) expressed satisfaction that the physical learning environments in the two respective schools met their expectations and was able to facilitate the attainments of good achievement results by both teachers and learners. Eighty-eight (88%) expressed the opinion that they were proud of their schools’ physical learning environments. In this respect, one can conclude that the research question, which tries to find out the context and influence of physical learning environments on the quality of teaching and learning was answered and that the research objectives of this study were also achieved.

Conclusion

Given the above findings and evidence given on the ground (research carried out at S1 and S2 Primary Schools), it is concluded that physical learning environments play a significant role in enhancing the quality of teaching and learning in schools. It can be confirmed from this study as well as findings from previous studies that aspects enabling the achievement of good teaching and learning are among other examples, lighting, acoustics, temperature, air quality, accessibility, the classroom’s symbolic environment, classroom layout, objects and décor, and virtual classrooms. It is also concluded that structural environments that are well maintained including classroom appearance, windows and ventilations are essential elements of the physical learning environment that enhance teaching and learning.

Recommendations and Limitations

The results of this study could have been improved by increasing the sample size. This implies that instead of using two schools (non-probability sample), more schools could have been studied to give credibility to the results. A different approach to data analysis could also be employed. Statistical analysis could be used in order to have a different understanding of the available data.

More stakeholders, such as parents and officials from the Ministry of Education, could have been included in the study to give it more credibility.

The physical learning environment alone cannot guarantee good results. Since this study discovered that the physical learning environments in the two schools enhanced the quality of teaching and learning, but still schools continued to produce results that are not satisfactory. A study on other factors and concepts, would be necessary.
REFERENCES

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Rutherford, J. 2015. Creating physical environments that enable effective learning and teaching. Education in Practice 2(1).
The Master's degree programme for the Namibian teachers was implemented in the School of Applied Educational Science and Teacher Education during the years 2017-2018. This report provides a historical overview on the cooperation done between Finland and Namibia. Education and its developments in Namibia explain the purpose of the project. This report concludes and reviews the experiences of the project participants. The selected research papers are summaries of the teachers' thesis reports.