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ABSTRACT

In this paper the researcher reports on the results of one study, finding out, why nature and environment is one of the study areas in Norwegian kindergartens and how it is being taught and also how sustainable development is being promoted in this study area. It is believed that nature and environment has an emphasis that children should experience and explore in all kinds of weather.

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TOPIC: Teaching and Learning of Nature and Environment in Kindergartens a study case for Sogndal, Norway.

INTRODUCTION

Early Childhood Education has been supported and practiced in Norway from way back. Aase (2008) quoting Ernst Gellner, claims that, a national value system is only possible in a modern society with universal schooling and a strong state to maintain a national educational system. There has been a strong and long term emphasis on educating pupils to value and use the outdoors in Norway. It started in the 19th century during the national building process. The leaders in the national building process lived in the cities, were educated decided the content of the school curriculum, and founded the true Norwegian character in the inland valleys, as far away. The farmer living closer to nature was to become incarnation of Norway. Literature, music and painting in 19th century were often inspired by life in rural areas, and taught to children in schools. According to this tradition, the original Norway was located out in the countryside, not in the cities. In the Norwegian national curricula during the last few decades it has been emphasized that education should support the tradition of an active outdoor life for the young children, there has been a rapid growth in the establishment of kindergartens, where children spend most of the day outdoors in all kinds of weather (Aase, 2008). In Act no 64 of 17 June 2005 relating to kindergartens (The Kindergarten Act) The Storting established the regulatory framework governing the purpose and content of kindergartens, Section 1, 1, a 2 and 3. On 1 March 2006, pursuant to the stipulations of Section 2 of that act, the Ministry of Education and Research (MOER) laid down regulations which provide a framework plan for the content and task of kindergarten (MOER, 2011). All kindergartens shall base their activities on the values established in the Kindergarten Act, and on the international conventions which Norway is a signatory, the convention on the Rights of the child was adopted by the UN in 1989, ratified by Norway in 1991 and incorporated into Norwegian law in 2003 (Ministry of Education and Research, 2011). Framework Plan for the Content and Tasks of Kindergartens). The best interest of the child shall be a primary consideration. These have included Early Childhood Education.

BACKGROUND

Nature provides a multitude of experiences and activities at all times of the year, and in all weather. Nature allows children to experience beauty, and inspires aesthetic expression. The aim of the framework plan is to give head teachers of kindergarten, pedagogical leaders and other

staff a binding framework for the planning, implementation and assessment of the activities of kindergartens. The framework plan for Ministry of Education and Research, (2011) the content and tasks of kindergartens describes the society role of kindergartens. Kindergartens' programs shall be built on a holistic pedagogical philosophy, with care, play and learning being at the core of activities. Social and linguistic skills, as well as seven learning areas are also important to the pedagogical environment provided by kindergartens chapter 3 of the framework. I specifically wish to investigate learning areas in the mentioned chapter above looking at part of 3.4, Nature and Environment, (Ministry of Education and Research, 2011). Framework plan for the Content and Tasks of Kindergartens) While children possess unique ways of learning which are woven inextricably into the fabric of their personalities, they also share many learning similarities, these similarities enables the teacher to structure general learning experiences in the curriculum but each child will approach these learn through play experiences in a personal and individual way. The search for why and how nature and environment is taught in kindergartens and how sustainable development is promoted. This greatly influences me to embark on this research. This paper reports on how and why Nature and Environment is taught as a lesson for sustainable development in kindergartens as they learn through play.

A growing body of academic literature provides a clear rationale for the classroom teacher taking their students outside during class time. There are three particularly convincing reasons for doing so, the outdoors provides means of bringing curricula alive, it helps students understand the environment and related issues of sustainable development, and it encourages physical activity. Significantly, outdoor learning has the potential to integrate these vital areas of a young person's formal and informal schooling, (Beames, Higgins and Nicol, 2012).

STATEMENT OF PROBLEM:

Why is Nature and Environment taught and how is it done in outdoor activities in the Norwegian Kindergarten? This is because it is considered as a necessity to spend more time in Nature walks and outdoor activities in all kind of weather. This will help me learn more about teaching Nature and Environment in kindergarten which could turn out of relevance in Zambian kindergarten as we teach Activities of Daily Living, which is important in my profession as a Kindergarten teacher.

TENTATIVE QUESTIONS

The researcher is seeking for answers to the following questions.

- 1 Why is Nature and Environment one of the themes in Norwegian kindergarten?
- 2 How is Nature and Environment being taught in kindergarten?
- 3 How is sustainable development being promoted in kindergartens?

PURPOSE: The aim of this study is based on my observation and experience to see that children are outdoors in all kind of weather, and I asked myself why? And how can this be of relevance for a Zambian kindergarten? This paper will further explore why and how values and tasks such as nature walks, outdoor activities and sustainable development is an area of concern as teaching Nature and Environment is going on in kindergartens.

CHAPTER 2

Literature

Individualistic and Collectivistic Culture

The cultural context in which human communication occurs is perhaps the most defining influence on human interaction. Culture provides the overall framework wherein humans learn to organize their thoughts, emotions and behaviours in relation to their environment. Although people are born into a culture, it is innate. Culture is learned. Culture teaches one how to think, conditions one how to feel and instructs one how to act especially how to inter-act with others. These theories are learned through socialization. Through socialization individuals learn the values of their particular culture and their self-identities. Culture falling on one side of the continuum are individualistic and while those falling toward the other side are collectivistic. Cultures falling at the mid-point might possess both individualistic and collectivistic characteristic. Gayle and Knutson (2006), write that Norwegians, for example, possess both individualistic and collectivistic tendencies. Norwegians are taught to put needs of society above their own to embrace a classless society. Simultaneously however, Norwegians value personal independence. While Norwegians conform to norms, the individual Norwegian rebuffs traditional rules and standards. Norwegians strive for independence yet do not depend on others to recognize their individual achievements. Norwegians believe that they must recognize their

own good qualities in order to gain self-esteem. Perhaps Norway is unusual to the degree that its people carry collectivistic and individualistic tendencies, but regardless of culture, most persons carry to some degree both individualistic and collectivistic tendencies tend to dominate while in others collectivistic tendencies dominate (Neuliep, 2006). Triandis noted that ecology, that is, features of geography, resources, and history of society can shape the level of individualism in a culture. As cultures become affluent, they tend to become more individualistic. Some scholars even link climate to individualism and collectivism. Cultures in cooler climates tend to be individualistic and cultures in warmer places tend to be collectivistic.

Learning Theories

The ways in which children learn and develop vary greatly from child to child and from culture to culture. It is therefore, important that children are held to their own standards and not of those of their peers. However, children can be assessed and be compared for the purpose of ensuring that major milestones are reached. There are a vast number of children's learning theories in circulation that raise issues of child's development, learning and school readiness. Three methods have commonly been used in kindergartens readiness practices. No one theory has been adequate to fully explain learning and development this far (Kristian, 2013).

Constructivist Theory

The Constructivist theory was developed by Jean Piaget. Constructivist believes that children learn when they interact with the world, people and their surroundings. Constructivist also believes that children actively participate in the learning process. If a child can interact with the world and people around them, then he is ready for school from a constructivist's perspective, constructivist teacher and family view each child as a unique individual with his own special needs and backgrounds. For a constructivist teacher culture sensitivity is extremely important, as they take into account the whole child. A constructivist teacher understands that a child's home culture has an immense influence on the child's knowledge and learning. Vygotsky believed learning is shaped by social influence and that learners' culture help shape their cognition. In other words, social and cultural influences are key components to developing intelligence because children learn through their social interactions and their individual culture. Pritchard (2005), Beginning with the work of Piaget in the 1960s, cognitive theories have gained

ascendance in the field of human development. Cognitive theories focus on how children construct their understandings of themselves and of the world about them (Meece, 2002). Cognitive theories are constructivist in that they postulate that understanding is not automatic. Others do not convey information that children simply process rote; rather children take in information and formulate their own knowledge. Children are active seekers and processors of information. Cognitive theories are interactional because they explain development in terms of interactions between personal, behavioral and environmental factors.

Piaget's (1962) conceptualization of play as developing in stages defined by qualitative different levels of thinking and increased level of knowledge was particularly influential in early childhood care and education. His constructivist approach, for children's early learning and development (French, 2000) suggested a dialogue in between the child's cognitive structures, internal rules for processing information, and external world. His cognitive play theory which focused on the individual interaction with the environment has been attributed as the basis for a "laissez-faire" free play curriculum, where children make the choices with the adult intervening as little as possible. This is often positioned in contrast to Vygotsky's social-culture theory of development, which emphasized the role of adult as peer in development and learning (Smith, 1993).

The actual developmental level is of the child's mental functions as a result of developmental cycles which have already been completed. For Vygotsky, mental age equated to the actual level of development. However, he thought that what children do with the assistance of others might be an even better indication of their mental development than what they achieve by themselves. This led to him posit a zone of proximal development. Vygotsky, (1978: 86), "This he defined as the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' points to potential rather than achievement." But he also points out the value of collaboration rather than total independence when trying to assess achievement levels or intelligence. "This means that imitation is a significant element in learning, since children learn by imitating others in their role set, so that children's play has a significant role in their development since it provides a much wider background for changes in needs and consciousness." Vygotsky (1978:102). We can only imitate

what is within our developmental level; we cannot imitate those things that lie beyond our zone of proximal development at any time. From this he concluded that human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them' (1978:88). Children, therefore, need support system (scaffolding) in order to undertake tasks within the proximal development. Vygotsky (1967a, 1978b), another highly influential development theorist, proposed that make-believe play is the leading activity of young children, and facilitates and promotes cognitive, emotional and social development. Vygotsky's theory has been named 'socio cultural', and his work has influenced the thinking of many developmental theorists. Vygotsky proposed that social experiences are essential for intellect development. He saw as important the values, beliefs and customs of a social group and how these cultural entities are transmitted to the next generation. Central to this theory is the concept that cooperative dialogues with more knowledgeable members of society is necessary for children to acquire the ways of thinking and behaving in a community's culture (Berk 2006).

Theory of Dialogue and Banking concept

Freire (2003) a Brazilian educator and philosopher developed his education theory while teaching Brazilian peasants to read. He shared his critical social learning theory of education in *Pedagogy of the Oppressed*. He also says that the narration with the teacher as narrator leads the students to memorize mechanically the narrated content. Worse yet it turns them into containers into receptacles to be filled by the teacher. Education thus becomes an act of depositing in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher makes deposits which the students patiently receive memorize, and repeat. This is a "banking" concept of education in which the scope of action allowed to the students extends only as far as receiving, filing and storing the deposits. In the banking concepts of education, knowledge is a gift bestowed by those who consider themselves knowledgeable upon those whom they consider to know nothing. Projecting an absolute ignorance on others onto others, a characteristic of the ideology of oppression, negates education and knowledge as processes of inquiry. The teacher presents himself to his students as their necessary opposite; by considering their ignorance absolute, he justifies his own existence. The students, alienated like the slave in the Heglian dialectic, accept their ignorance as justifying the teacher's but unlike the slave; they never discover that they educate the teacher. Freire (2003) recommends that the teacher becomes

a learner or equal partner with the student in learning process. In this case the teacher avoids the power struggle with the learners and facilitates active involvement in students. Freire (2003) believed personal freedom and development of individual should occur through supported interaction with others. He valued group learning over individual learning (small groups). Freire (1970) Describes that you cannot end the banking model of education through the use of the banking model of education; teachers cannot remain the only active member of the class and expect the passive students to transform. Transformation learning and reassessment of the self must come from within. Those teachers truly committed to liberation must reject the banking concept in its entirety, adopting instead a concept of male or female as conscious beings, and consciousness as consciousness intent upon the world. They must abandon the educational goal of deposit making and replace it with posing of problems of students in their relationship with the world. According to Freire dialogue cannot be reduced to the act of person's depositing ideas in another. The importance of dialogue in the transformation of the world and the liberation of the oppressed, his perspective includes humanistic qualities of compassion, commitment and love for one other as attributes. The dialogue must contain in order for it to be meaningful. Through dialogue, the teacher of the student and the student of teachers cease to exist and a new term emerges: teacher student and student teacher. The teacher is no longer the one who teaches but one who is himself taught in dialogue with the students, who in turn while being taught also teach.

Multiple Intelligence Theory

Dr. Howard Gardner (1993) developed the theory of multiple intelligence. The theory of multiple intelligence suggests that children can be intelligent in different ways and that each child has strength and also weaknesses. Teachers who follow the theories of multiple intelligences ensure that the curriculum plays on the strength of each child in the class. Therefore, a skill may be taught in a class in a variety of ways to ensure that all children understand the concept. Multiple include verbal/linguistic, musical, logical/math, visual/spatial, bodily/kinesthetic, interpersonal and naturalist. During the period spanning the ages two to five, the child undergoes a major intellectual revolution, as he becomes able to use various symbols to refer to himself (me, my) to other individuals (you, him, mum) and to his own experiences. Words, pictures, gestures and numbers are among the multifarious vehicles marshaled in service of coming to know the world

symbolically. By the conclusion of this period, the child is in fact a symbolizing creature, able to create and extract meanings on the level of symbol use alone. The advent of symbol use has enormous implications for the development of the personal intelligences. The child makes an irrevocable transition from the kinds of simple discrimination of his own moods and those of others that have been possible on an unmediated basis, to a far richer and more elaborated set of discriminations guided by the terminology and the interpretative system of his entire society. Gardner's theory of multiple intelligence emphasizes that there are different kinds of intelligences used by the human brain. Gardner believes intelligence is the result of complex interactions between children's heredity and experiences. This theory focuses on how cultures shape human potential. Gardner claims that children learn and express themselves in many different ways. In the process they are using several types of intelligence. Each intelligence functions separately, but all are closely linked. According to Gardner, a potential intelligence will not develop unless it is nurtured. Naturalistic Intelligence is developed from the need to survive. This is the ability to classify objects in nature such as animals and plants. It depends on the type of pattern recognition. This strength also includes the ability to distinguish among types and brands of objects. Sailors, gardeners, chefs and farmers are people who have this intelligence. To build on this intelligence provide cooking activities and nature walks. These help develop use of sense to gather information. Planting and growing a garden help the children observe cycles. Rocks, seashells, flowers, leaves, seeds and coins can also be collected.

Maria Montessori (1870 – 1952) has been one of the most innovative childhood pedagogues of the 20th century. The philosophy grounding is the teacher in this process should be not based on a few basic principles in Montessori's view each child has unique potential for growth and development waiting to be expressed and revealed. Such potential is best developed by letting the child be free to explore and manipulate the surrounding environment. The role of the teacher in this process should be not that of directing the child's activities, but rather that of continually adapting the environment in new and exciting ways in order to let the child fulfill her potentials – physically, cognitively, emotionally and spiritually at growing degrees of complexity. The teacher is therefore, more the interpreter of the child's inner potentiality than the outside controller of the child's behavior. The Montessori concepts are pretty well known by now. (Montessori in Perspective, 1966) The teacher must pay attention to the child, rather the child paying attention to the teacher. The child proceeds at his own pace in an environment controlled

to provide means of learning. Imaginative teaching materials are the heart of the process. Each of them is self –correcting. Thus enabling the child to proceed at his own pace and see his mistakes. The outdoor environment is important. First and foremost the school should, by preference, be located in a natural environment, with trees, bushes, plants and animals to ensure that the children remain in touch with and close to nature. In addition there will be attractive and safe equipment to encourage the development of different physical skills, as well as to provide opportunities for children to socialize with each other. The principle of closeness to nature to nature is another distinguishing feature of a Montessori setting. In the classroom the children will have pets for which they are responsible and plants and flowers to water and tend. In the outdoor area there is a garden plot especially for the children to cultivate where they grow vegetables and flowers.

Environmental Education for Sustainability

There is a growing concern worldwide about the ability of our planet to cope with the demands being placed on it for resources and sustenance of life in the long term. The term ‘education for sustainability’ has become a catchcry of both educators and politicians alike. What does this actually mean? Julie Davis (2010) commented that, sustainability emphasizes the linkages and interdependencies of the social, political, environmental and economic dimensions of human capabilities. There is a real and compelling necessity for humans to change the ways in which we do things if we expect the resources of the world to continue to sustain life into the future. Lindemann (2002) commented, to safeguard the global richness of lifeforms, it is essential to raise public awareness about the need to preserve biological diversity. Education is the key deciding factor and determining whether we are able as a society to make changes substantial enough and in which young children can make a difference in the area of environmental sustainability (Campbell and Jobling, 2012).

The aim of strengthening Research Education and training in the field of sustainable development is to build knowledge and increase understanding of causal relationship in this important field. A new act relating to day care institutions, which entered into act on 1st January, 2006, states that promoting children’s understanding of sustainable development is to be part of the value base of these institutions (Ministry of Finance, 2008). This system approach attempts to create an institutional frame work which at all levels promotes environmental education and in

which environmental education is compulsory and fully integrated into normal activities. In 1974 a subject called Nature and Environmental protection was introduced and later changed to Nature and the Environment. The kindergarten Framework Plan (2012) states that Nature provides a multitude of experiences and activities at all times of the year, and in all weather. Nature allows children to experience beauty, and inspires aesthetic expression. This learning area helps children become familiar with and gain an understanding of plants and animals, landscape, seasons and weather. The aim is for children to begin to understand the significance of sustainable development. This includes love of nature, and an understanding of the interactions within nature and between humans and nature (MOER, 2012).

Chapter 3

RESEARCH DESIGN AND METHODOLOGY

Qualitative research is a strategy that usually emphasizes words than quantification in the collection and analysis of data (Bryman, 2008). Qualitative research design will be used as it is found to be ideal in enabling the study of the variables that are to be investigated in order to establish whether Nature and Environmental learning in all kinds of weather is necessary for Norwegian Kindergartens. The data was collected through interviews on site and nature walk observations in three (3) different kindergartens where the researcher also did teaching practice in the two of the three kindergartens in the third kindergarten only one day observation was done, but still very beneficial for this paper. Ten (10) teachers were interviewed, five (5) from one kindergarten one teacher was interviewed alone while the other were interviewed in a group and in the other kindergarten two teachers were interviewed individually while the other three were interviewed in a group. The researcher used the interview guide to find out how and why 'Nature and environment' is taught in Norwegian Kindergarten. Ten questions were used to conduct the interviews and the researcher simplified the questions without changing the meaning for the group interviews. The eight teachers were selected because the researcher observed that they were actively involved with the nature walks and outdoor activities, the other two were selected because he was the only male teacher in that kindergarten and the other one was selected because she was an administrator of the kindergarten. Not only that, some pictures of some activities were taken but also the observation method was used by the researcher. The researcher participated in the nature walks she climbed the mountains and rolled in snow with the children.

Therefore, from 11th March to 12th April, the researcher did teaching practice at two different kindergartens; that is Feios and Stedje kindergartens, where the researcher observed and participated for 20 days and spent 5 – 6 hours every day. During the said period at earlier named kindergartens, the researcher interviewed the teachers on how and why ‘Nature and environment’ was taught; and furthermore the researcher did observations on the daily dressing of the children, promoting of sustainable development and also methods that were preferred by the Kindergarten teachers in the said named Norwegian kindergartens; the researcher attended and observed their daily activities. (See attached appendix for the list of interview questions and pictures taken for academic purposes).

Reliability and Validity of research

The possibility of drifted away from the main focus was very high since the kindergarten subjects are closely related. Learning through play and free play in outdoor activities in the study of nature and environment could not be seen as organized or as a planned lesson. This could have been noticed as such due to the researchers’ different culture and education background.

Nevertheless, to improve the reliability of this research the researcher made an extensive clarification on various issues from the pedagogical leaders and the researcher’s supervisor. The findings of the research have shown that the objectives which were set in the research design were not only achieved but also relevant for the study.

Chapter 4

RESULTS

The data in this project paper is based on the interviews and the observations made in different kindergartens, with subject area on Nature and environment study in kindergartens. Therefore, results in this paper are based on the empirical data that was collected by the researcher.

Culture; Nature and Environment

The researcher observed that learning of Nature and environment was closely related to a Norwegian culture as well as a curriculum found in the kindergarten Frame work which should be followed by all Norwegian kindergartens. All teachers indicated that teaching of nature and

environment is a must do for every Norwegian child; it is influenced by the cultural values of keeping nearness to the Nature, furthermore teachers indicated that most parents appreciate very much that children go for nature walks while they are at the kindergarten. Especially for parents who work full day they have little time to take their children outdoors to take Nature walks or to learn about nature and environment and catching fresh air. The researcher also observed that besides being taught to be near the nature and to love it they also learn how to take care of the nature and the environment. In one of the nature walk lessons it was observed that teacher asked one child if it was alright to drop litter anywhere and the child responded that it was not right the teacher asked again what was supposed to be done with the litter they had just seen on the ground, the child just picked that empty can and walked with it all the way until they were back in school and the child throw the can in the right bin while the teacher guided the child to put can in the correct bin. Also the researcher observed that children learnt how to help themselves most children did not want to be helped when they prepared and dressed up to go out door and they did the same when they came back. The Norwegian government system approach creates an institutional frame work which at all levels promotes environmental education and in which environmental education is compulsory and fully integrated into normal activities. Out of ten teachers interviewed in three different kindergartens 100% strongly agreed that learning about nature and environment is a cultural value, and they all said that they recommend the study of nature and environment in kindergarten.

Nature Walk

It was observed that everyday a group or a number of children were taken out in the mountains for walks, around the local environment not very far from kindergarten. During these nature walks it was observed that teacher discussed few things concerning the nature and environment to one or two children who were walking near the teacher. As each teacher talked with the child near her it was observed that the subjects under discussion were usually different from each other depending on the teacher or the children's interest. In this case only a few children or one child benefited because in most instances the interaction between teacher and children was usually waited upon for any child to initiate the dialogue. It was observed that all the three kindergartens had a nearby natural site, since these observations were done during winter two sites were completely covered with snow. In these two sites there is no formal teaching and informal

learning is what is taking place as students experience and explored the Natural environment on their own, children play more with snow they roll and slide for most of the time spent in the Natural sites. On the other hand the researcher observed that, in the other kindergarten which was located near the fjord children took the nature walk to the farm, In this one lesson, formal teaching and learning was quite evident for the 5 years old children because teacher discussed with the children all the way to the farm they talked about plants why they had no leaves that time. When they reached the farm teacher asked the children why animals were kept inside, it was a good discussion almost every child participated, even when the child was not giving the answer to the question they still had something to say about the animals. It was observed that teacher encouraged children to touch the animals and most children were familiar to the animals and a few who seemed to be a bit afraid, the older children assured them that it was safe to touch the animals they said this while they demonstrating to the younger ones. The teachers further alluded to it that children who experience nature walks tend to develop socially, culturally and had emotional connections with the world as adults.

Out Door Activity

Children spent more time outdoors than the time they spend indoors; it was observed that children played with different things outside. All kindergartens provided two types of play scapes, natural and constructed play scapes. Some children played with sand, snow, and water even climbed the trees while others enjoyed playing with constructed environment of swings, slides and pushing toy cars. In this kind of activity children were given enough space as it was observed also that there was little interference from (adults) teachers. Some children were noticed playing on there on while others were playing with their friends. It was observed that learning was not organized but took place only when a child showed interest in something and teacher had noticed that, then an educative discussion took place. The researcher also observed that, the cloths children wore during outdoor activities were to suit the weather and these were usually warm clothes, rain coats and snow boots. According to the researchers' observations these clothes seemed to be too heavy for the children, especially the younger ones.

Fresh Air

When teachers were asked why children had to be outdoors most of the time, teachers

indicated that spending time outdoors was important because children needed fresh air. This was observed from time and again where children spend longer times outside as teacher (adults) gave the children space to play on their own without interference. Teachers indicated that children who spent more time in fresh air were much healthier than the children who spent more time indoors. The adults talked to children only where need was raised for example during a conflict or when a child needed help to climb or to get down. Most children talked most of the time to fellow friends. Also the researcher observed that children changed their cloths all the time they went out to catch fresh air and changed as they came back to classrooms and this consumed a lot of time. Teachers indicated that catching of fresh air was very important for all children; the researcher observed that even the youngest children were taken outdoors in prams at any time in all kind of weather to catch some fresh air.

Promoting Sustainable Development

Teachers indicated that kindergartens were promoting sustainable development by teaching children how to take care of the Nature and Environment. It was mentioned that they discuss that trees provide fresh air and that is why more trees should be planted and not to be cut down anyhow. It was indicated that in all the kindergartens there are three cabbage collection bins, which children are told how to dispose of the waste. The three bins meant three categories of waste for the plastics, for paper and the third one for food which go back to the nature. The teachers indicated that awareness of Nature and Environment was sustainable because the children did not just become aware of their natural environment but also they learnt how to take care of it and developed love for it. They further alluded to it that children who experience nature walks tend to develop socially, culturally and had emotional connections with the world as adults which help them to become responsible adults. It was also indicated that kindergartens has a program to collect litter within their immediate environment of the kindergarten. Furthermore, teachers indicated that when a child is taught they tend to keep knowledge for a life time, this will help generation after generation to care for the Nature and Environment.

Learning and Teaching Through Play

Teachers indicate that learning through play is the most ideal method of teaching in kindergartens. They stated that taking children for outdoor activities was very important. It was

observed that it was a must for children to play outside even in snow or in rain. Furthermore all teachers indicated that learn through play was the most suitable approach of teaching in kindergartens. They allowed children to pick what they wanted and teacher facilitated by asking the child what it is, its features. It was observed the instinct of collecting was weak in most children than the instinct of play. For example one child picked some small pine cones, stones and sticks, the child arranged them on the ground, when teacher asked what she was making the child said a picture and indeed the researcher observed it was a piece of art work. While the rest of the children were playing only a two other children joined their friend in this picture making activity which was initiated by one child. The teacher praised the children for the pictures, and of all the children who participated in that activity only one was interested to collect the cone pine to take home with her. Furthermore, teachers indicated that play is viewed both as early childhood content and method, the means through which children conceive and make the sense of the world, children feel in control and express their views, analyze experiences and problems. The researcher also observed that besides what was collected from the mountains the kindergartens had planted flowers indoors and in one kindergarten they had eggs in the incubator, the chicks, and a hen for children to observe and learn about life cycle. Teachers indicated that understanding of birth, growth, aging and death of animals, plants and human was necessary. It was noted that human death was discussed with children mainly when there was death in the family.

Free Play

It was observed that play is a pivotal part of a child in kindergarten. Teachers indicated that children needed to play with the things they were interested in; some children were fond of playing with their favorite toy when they played indoors rather than outside. The researcher observed that most children changed activities and tried different things when they played outdoor environment. It was observed by the researcher and all the teachers indicated that children were more socially interactive when they played freely and outdoors. It was also observed how they perceived the functions of landscape and use for play. For example in one free play activity in the mountains the children sat on rocks and fantasized that those rocks were horses. Nature provided such an environment with such possibilities imagination for children.

ETHICAL CONSIDERATION

The ethics defined as “a system of moral values that is concerned with the degree to which procedure adhere to professional, legal and obligations to study participants” Polit et al. (2001).

It is required that the development and implementation of this research should be ethically and culturally acceptable. The respondents will have the right to know the risks involved in participating, the purpose of the research, and the nature of the study situation and the result of the study. The respondents have the right to confidentiality and the right to participate or withdraw from the study. In this research theoretical approaches will be used. The interviews will be conducted under the condition anonymity the findings of the research will accurately be presenting what my observation will be and what I will be told, also to stick to the stated guidelines.

STRENGTH AND WEAKNESSES

Language barrier

First the questionnaires were given to the teachers to answer within five working days. It proved not to work out well because some teachers said that they were too busy and others said that they needed someone to explain the questions. At this point the researcher realized that she needed to do interviews, the set of questions on the questionnaire were used to interview individuals and groups.

CHAPTER 5

Discussion

The discussion on the analysis and the empirical data will be sequential that is the responses from the kindergarten teachers, will be discussed and analyzed to the researchers' experience as a kindergarten teacher in Zambia. In the area of focus that is learning of Nature and Environment in all kind of weather in Norwegian kindergartens. Research finding show that learn through play approach is the only method used, the model of constructivism theory was the most applied. Findings have shown that most teachers discussed with the children only when the child showed interest in something and it was one child at a time, this kind of teaching can be seen as an

influence of the individualistic part of Norwegian culture. Also findings showed that there is not much formal learning and teaching related to an objective but once in a while formal learning took place for children who are five years old and they discuss with the teacher one child at a time. This kind of teaching has much to do with the individualistic culture background of society around in which self-identity and independence is encouraged. According to constructivist also believe that children actively participate in the learning process, if a child can interact with the world and people around them, which shows that, he is ready for school. For a constructivist teacher culture sensitivity is extremely important and understands that a child's home culture has an immense influence on the child's knowledge and learning. Vygotsky believed learning is shaped by social influence that learners' cultures help shape their cognition. In other words, social and cultural influences are key components to developing intelligence because children learn through their social interactions and individual culture.

Findings showed that nature inspires creativity in children by demanding visualization and senses: sight, sound, smell, touch and taste. It is the diversity of sensory experiences that initiates a more creative learning environment for children. Children were allowed to touch and feel the sheep at the farm and they also listened to the sounds animals were making. Maria Montessori (1870-1952) supports that in her view she writes that, each child has unique potential for growth and development waiting to be expressed and revealed. Such potential is best developed by letting the child be free to explore and manipulate the surrounding environment. For example the child who picked pine cone, sticks and stones she was very creative she used potentials of her senses to create such a picture. The role of the teacher in this process should not be that of directing the children's activities but of continually adapting the environment in new and exciting ways in order to let the child fulfill her potentials – physically, cognitively, emotionally and spiritually. Dr Howard Gardner in his multiple intelligence theory suggests that children can be intelligent in different ways and each child has strength and also weaknesses. Gardner's theory was evidently supported by the teachers as it was observed that children played with whatever they wanted to play with at any time and this was helping them to develop their skills according to their intelligence.

Findings showed that, dialogue was encouraged among children as they interacted more when they were outdoors and when the weather was much favorable or a little bit warmer than when it

was cold or raining as it was clear that sometimes children were taken outside not only for informal learning but it was for catching fresh air. The researcher also observed that not every child was excited to be outdoors in all kind of weather, Even though fresh air was one of the reasons to be outdoors. According to Triandis, cultures in cooler climates tend to be individualistic and cultures in warmer climates tend to be collectivistic this could be confirmed by looking at the pattern the children interacted when it was cold and when it was slightly warm. Furthermore, the findings showed that it was necessary to catch fresh air as the pattern of the buildings in Norway were to be kept closed so that the warm temperature indoors was maintained. But when they went out in the mountain when it was not very cold informal learning took place since the children explored and they interacted with both teachers and friends. Also the findings showed that Kindergarten teachers are not using the oppressive banking method of teaching they are using a style which Freire (2003) referred to as personal freedom and development of individual which he said that it should occur through supported interaction.

During Nature walks and Free Play findings showed that Nature and environment represents dynamic rough play grounds that challenge motor activity in children. Mountains and trees provide chance for climbing, and outdoor and nature experiences also provides means of bringing curricula alive, it helps understand the environment and related issues of sustainable development and it encourages physical activity. Piaget (1962) His cognitive theory which focused on the individual interaction with the environment has been attributed as the basis for a laissez-faire free play curriculum, which could be seen as going on in the observed kindergartens where children make the choices with the adult intervening as little as possible. According to Vygotsky (2005), mental age equated to the actual level of development. However, he thought that what children do with assistance of others might be an even better indication of their mental development than what they achieve by themselves.

Findings showed that kindergartens promote understanding of sustainable development in children. Teachers allowed children to explore the nature and outdoor environment. Children were let to pick litter to avoid pollution for example during one of the nature walks the teacher discussed with one child that littering was not good to the environment. In every kindergarten there are three colours of bins. The blue one is for paper, brown food or organic, black for other things and a black plastic bag for tins and cans and these are taken back to the shops in exchange

for money. This is very encouraging to children. Furthermore teacher explained the importance of not cutting trees anyhow but to plant more trees for fresh air.

Conclusion

It is utmost important that teachers should follow the culture value of keeping near to the nature through the curriculum of Nature and Environment study, by allowing children to spend time in Nature walks and Outdoor activities. When I talk about informal learning and informal teaching of Nature and in Environment I can perhaps, with quite a large degree of certainty say that the mainstream opinion among kindergarten teachers is that children should participate in outdoors activities and experience and explore Nature and Environment every day. This has to do with important values in Norwegian society. To experience nature is considered very valuable and the relationship between nature and people should be strong. Despite every child to develop differently and at different pace they are treated as equal as it is important for everyone to be near the nature and to have fresh air. Children learnt to be part of the Norwegian Individualism culture where children do a lot for themselves, they dress themselves to suit the weather and climb mountains as well as walking and sliding in snow at all ages. Going outdoors for free play and nature walks is not only for cognitive development, physical development, or keeping near to the nature, it is also for catching fresh air though it is not reflecting in the curriculum. It is necessary to catch fresh air since the buildings of the play rooms are kept closed in order to maintain the rooms' conducive warm, therefore it is healthier for everyone to have fresh air every day. Children are taken out in all kind of weather to experience, to be aware of the nature and environment and also to adapt to the weather which is accepted that the weather is never bad but it is the way you dress. Informal learning and informal teaching of Nature and Environment supports learning through play methods. Nature and Environment is one area of study which is so integrated and it is taught by children experiencing for themselves. Most of the time children initiate their own learning. As much as freedom and independence is encouraged by learn through play method it could also lead to non-learning at all because it is very possible for the learner to divert from the objectives found in the curriculum. The finding of this research can be utilized by the researcher and other educators in improving and appreciating informal teaching and informal learning of Nature and Environment to remove the banking concept which is oppressive and so prominent in (my society), the researcher's own culture.

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