
**IDENTIFYING INDIGENOUS CONCEPTIONS AND ASSESSMENT
CRITERIA OF INTELLIGENCE FOR INTEGRATION INTO
ZAMBIA SCHOOL CURRICULUM**

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STUDENT DECLARATION

This proposal is my original work and has not been presented for a degree in any other university.

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ABSTRACT

Psychometric measures of intelligence, which are grounded in early 20th century psychological investigations of intelligence in Europe and USA, are established means of assessing intelligence across many contemporary societies. In Zambia, schools, hospitals and employment opportunities use adopted Western assessments of intelligence to classify, sort, and rank children and candidates in relation to opportunities in life. Yet African communities have well developed, and culturally embedded motivational and cognitive assessment systems ensconced in a single curriculum that integrates skill and knowledge about all aspects of life and which was traditionally implemented in the child's daily routine and as a preparation for successful life in community (Nsamenang, 2006, Akinsola, 2011).

A qualitative hermeneutic research was conducted that explored embedded traditional cultural motivational and cognitive assessment practices through which child intelligence is assessed among the 7 major language groups of Zambia - Lozi, Tonga, Chewa, Luvale, Kaonde, Bemba and Lunda.

Findings reveal that in indigenous Zambian cultures, primarily there are two types of intelligence- **innate** and **acquired**, explicitly highlighted among the Bemba and the Lozi as: *Chifyalilwa* and *Ngana tanu* (innate), and *Mambulwa* and *Ngana takuwanina* (acquired), respectively. Innate intelligence is recognized as intelligence that children are born with or as natural potency, capacity or powers that need only to be actualized through an appropriate education system and assessment criteria that are tailored towards their abstraction and actualization. Acquired intelligence on the other hand is intelligence that children acquire from social interaction and formal school systems. Whereas formal school system ensures a child's fuller participation in universal educational standards of successful learning, intelligence acquired in indigenous knowledge system is basic and essential as it is tailored towards the promotion of basic survival skills while maintaining harmony of all in society.

Certain commonalities were detected across the seven language groups. According to each group's cultural belief system, certain established concepts of intelligence must be elucidated, activated and/or elaborated through a social culturally appropriate learning system. In each group's cultural belief-system the appropriate learning system must follow the hierarchy of innate characteristics of intelligence that must be actualized.

Each cultural belief system specifies characteristics of intelligence that are necessary for the development of a child and the wellbeing of society. These characteristics of intelligence are nurtured through indigenous childcare practices.

When relevant indigenous childcare practices associated with developing psychosocial skills among children are included in the ECE curriculum, student retention and success may be enhanced in these centers and in subsequent higher levels of education. Community acceptance of the general formal school system would likely improve. A curriculum review could incorporate appropriate findings from this research and improve the current state of affairs whereby many children in Sub-Saharan Africa leave school pre-maturely or perform poorly in academic tasks such as reading and mathematics and are assessed at primary school level as incapable of undertaking formal school education. Learning from and incorporating indigenous educational practices into formal school systems across Africa will further increase the current value and meaning of formal education.

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CHAPTER ONE: INTRODUCTION

1.1. Background

Beginning with the late 19th Century when psychologists started quantifying intelligence, the intelligence of an African child has been measured through Western lenses, as education was equated to schooling, and intelligence to aptitude for school subjects. This education system was tagged: for emancipation, liberation and humanitarian. As such if any society wished to benefit from Western technological interventions, they had to import Western institutions and their embedded practices. “Like many other Western technological inventions (such as the printing press, the sewing machine, the bicycle, and the tractor), the intelligence test (popularly known as the IQ test) has been widely exported around the world. Like tractors (see Dumont, 1966), intelligence tests bring with them both ostensible utility and hidden implications that may or may not be valuable to the society into which they are imported” (Serpell & Haynes 2004, p.166). Furthermore, Ball & Pence (2000) noted that one of the main avenues for subjugating aboriginal peoples to colonial culture and governance has been through the imposition of childcare and education that has denied the legitimacy of thought, lifestyles, religions, and languages of First Nations people.

Like many other former British colonies, Zambia imported the Western education system that became the bedrock and lens through which the cognitive ability (intelligence) of a Zambian and indeed an African child is assessed. Vernon (1967) and Durojaiye (1984) argued that politicians and other representatives of the African people had deliberately, and wisely, opted for a Western-style education as an instrument of national modernization, through which the human capital of the economy would be transformed to

address the challenges of the modern state. Yet there is increasing evidence that there exists ethnocentric error in the development, administration, and interpretation of tests (cited in Oppong 2015). Cognitive ability tests have invariably been cultural conceptualization and measurement standards of test developers. The items from these assessment tools are a sample of the developers' familiar cultural artefacts. Thus, conventional tests of cognitive abilities are in fact biased measures of cognitive abilities of persons in non-Western societies (Oppong, 2015).

Much to note is that vast amounts of cultural and traditional educational practice through which the intelligence of an indigenous child is assessed, consequently their role in society are imbedded in Zambian society. This implies that cognitive development begins in the contexts of everyday life that afford informal opportunities for learning. The informal learning activities characteristic of the developmental niche in Zambia's rural communities of various ethnic groups constitute a significant part of the indigenous cultural traditions that define us as Zambian or African first before we begin the journey of western education that provides Africa an alien method of assessment for abandoning cultural values that form the lens through which we first perceive reality.

Similarly, Ball and Pence observe that when a "one size fits all" approach is taken to training, all too often the result is an homogenizing, monocultural, colonizing approach to caring for children in ways that are inappropriate to the social ecologies of which children may be a part, calling for the need to recognize and accept responsibility for the potentially acculturative effects of mainstream training curricula upon programs for children. Furthermore, explorations must be undertaken into new ways of being

responsive and accountable to the cultural communities whose children come to out-of-home centers for care and education (Ball & Pence 2000, p. 3-4).

What is taught in formal schools must be carefully crafted through careful integration of local cultural cognitive activities. But as a recipient of Western Education, Zambia has anchored her school curriculum on principles and cognitive activities that do not easily relate to the local cultural values such as respect, listening, trustworthy, etc. As such, the current national school curriculum lacks local cultural enrichment and mistakes acculturation for intellectual aptitude.

Research by Simatende among the Lozi people of Western Zambia and that by Serpell among the Chewa of Eastern Zambia indicates that, “the concepts of intelligence are highly characterized by social responsibility” (Serpell 1993, p.16). A study by Sternberg and others, further affirms that a person who is cognitively quick but lacks social responsibility is generally not regarded as intelligent (Sternberg, Conway, Ketron, & Bernstein, 1981). This points to a hypothetical truth that African language groups not only possess some common concepts of intelligence and how it is assessed, but further possess common social cultural practices that are key to the socialization of neophytes or children into the local culture.

Documenting those commonalities would generate a valuable database for the development and design of a Primary School curriculum that reflects the socialization / educational philosophy of the nation.

This research is a hermeneutical inquiry through interviews to explore embedded traditional and cultural cognitive/educational practices through which child intelligence is assessed among the seven (7) major language groups of Zambia, namely: Lozi, Tonga, Nyanja, Luvale, Kaonde, Bemba and Lunda. Building on earlier research with the Lozi and Chewa-speaking groups, this involved interviews with purposefully selected samples of indigenous experts in five of the major cultural linguistic groups and served to elucidate the educational / socialization goals and practices indigenous to Zambia's national cultural heritage.

The elicitation framework for the interviews focused on the local/indigenous conceptualization of intelligence and the local cultural cognitive activities used to assess children's development and individual differences; and on the local cultural dimensions held to reflect/constitute intelligence (or some broader, value-loaded aspects of cognitive and or social functioning such as Nzelu, (Chewa Language of Eastern Zambia), Ngana (Lozi language of Western Zambia), Mano (Bemba language of northern Zambia) etc.

Curriculum Development Centre and Examinations Council of Zambia experts were respectively interviewed with a view to explore the grounding (explicit or hermeneutically revealed) of the existing national (Primary) school curriculum in values, practices, learning opportunities characteristic of young Zambian children's developmental niche.

Comparison between the findings of interviews with indigenous experts, Curriculum Development Centre of Zambia experts and the Examinations Council of Zambia would reveal a gap to be addressed by Curriculum Development Centre (CDC) and Examinations

Council of Zambia (ECZ) or the teacher education programmes to better anchor the formal school curriculum on the local cultural cognitive activities (and indigenous cultural values relevant to the cultivation of intellectual excellence).

1.2. Statement of the problem

The historical process of coming to intelligence and its measure as developed through the Western lens, passed through several stages: These are:

- i. Urbanization and craft specialization beginning in the Mesopotamian civilization about 5000 years ago;
- ii. The invention of writing and the gradual refinement and standardization of scripts, beginning about 3000 years ago;
- iii. The evolution of Western archival scholarship from the first great libraries of Alexandria and Pergamon, through the Byzantine and Islamic libraries and the early Christian monasteries to the establishment of university libraries in medieval Europe and the invention of the printing press;
- iv. The transformation of formal educational institutions in Europe from the medieval monasteries through the universities of the Renaissance to the public schools of the eighteenth century;
- v. The development of teaching as a vehicle for religious proselytization, democratization of knowledge and cultural imperialism;
- vi. The philosophical articulation of education as a means of enlightenment, closely tied to the emergence of the ideology of Western science in the seventeenth and eighteenth centuries;
- vii. The politics of culture contact and social changes in Africa during the nineteenth and twentieth centuries;

viii. The ideology of decolonization and centralized manpower planning for the establishment of autonomous nation-states in the second half of the twentieth century (Serpell 1993, p.77-78).

The original concept of education gradually became formalized into school systems for two reasons:

- a. To enable the minds of the Athenian citizens to struggle with something difficult, a theme which still exists in the contemporary prospectus of formal schooling, for schooling is about difficult things (Serpell 1993, p.82).
- b. To transmit an accumulation of knowledge (Serpell 1993, p.82).

However, as studies that explored aspects of indigenous learning and motivational practices have indicated, education and learning does take place through informal contexts of everyday life. In other words, cognitive activities happen naturally in a natural setting of society. Before imported Western school systems completely overran indigenous learning systems, African communities had well developed and culturally embedded motivational systems ensconced in a single curriculum that integrated skill and knowledge about all aspects of life and which was implemented in the child's daily routine and as a preparation for successful life in the community (Nsamenang, 2006, Akinsola, 2011). These motivational systems were manifested in behaviors that were presented as sequential cultural tasks that the child was expected to acquire at different stages of development and for which active or participatory engagement was a necessity (Rogoff, 2003; Nsamenang, 1992b, 2004, 2007). The philosophical tenets of African indigenous education essentially define this kind of education as motivational practices that enhanced the child's preparedness for engagement in goal directed behaviors that

were deeply rooted in tradition, were practical, and in most cases a preparation for acquisition of requisite lifelong skills, covered all aspects of life, and focused on community development (Sifuna, 1990). This then was a culturally based education that addressed the physical, emotional and social aspects of a child's successful development while, at the same time, the child also participated in practical, productive, and responsible livelihood activities (Nsamenang, 2004).

While the curriculum of these motivational learning practices that emphasized the child's cultural knowledge and adults' acknowledgement of these novices' developmental stages especially in respect to capacities to carry out various tasks was unwritten, (Nsamenang 2006), the relevance of this kind of participatory learning to the development of Early Childhood Education cannot be gainsaid.

This implies that what is taught in schools must be carefully crafted through careful integration of local cultural cognitive activities. Nevertheless, as a recipient of Western Education, Zambia like several other African countries, has anchored her formal education curriculum on principles and cognitive activities that do not easily relate to the local culture.

While some degree of universality in development must be acknowledged (children sit before they walk, nouns are uttered before adverbs), it is a truism that child development is more than a product of biological programming. It is greatly influenced by cultural and environmental factors (Nsamenang, 1992). Culture and environment characterize how biological or genetic inheritances come out to shape the person. Similarly, Jenkins and

Serpell noted that competence is defined by a culturally constituted system of representation. Its presence or absence in a given individual is construed in emergent ways through interpersonal interactions, which in turn are informed by a system of meanings shared among the coparticipants and their various audiences (Jenkins, 1998; Serpell, 2001). The cultural practice of intelligence testing falls within this framework as an institutionalized network of recurrent activities, scripts, artifacts, roles, and social functions (Serpell & Haynes, 2004).

Furthermore, Zinkin and Mc Conachie observed that assessments based on a Western conception that undervalue dimensions such as social responsibility, cooperation and self-help skills, will not be measuring the characteristics of children which the community perceive as constituting intelligence, (Zinkin & Mc Conachie (eds), 1995).

In an African setting, Western based tests lack the **sensitivity to be able to capture behaviours inculcated** under African socio-cultural value systems. In the West the **promoted mechanism** for cognitive development is predominantly through play and in an African setting much of the cognitive development is expected to be equally as **stimulated through** child work. Western concepts of **intelligence** concentrate on the **dimensions** of reasoning, communication and physical coordination, while African notions include characteristics of social responsibility, generosity, cooperation and obedience, (Mc Conachie (eds), 1995).

1.3. Purpose of the study

To propose for integration into the formal school system of Zambia, identified indigenous conceptions of intelligence and assessment criteria.

1.4. Study Objectives

The question of intelligence and how it is assessed varies from region to region and is somewhat influenced by environmental social cultural activities of each particular region.

The following were research objectives:

1.5. General Objectives

1. To explore the indigenous concepts of intelligence and local cultural / indigenous assessment criteria used to determine it.
2. **To identify ways of incorporating** indigenous concepts of intelligence and cultural cognitive activities in the national school curriculum through analysis of the cognitive affordances of indigenous cognitive activities of chores, social responsibility and games.
3. **To identify effective modes of transition** from the local, indigenous culture informing young children's home and community socialization practices, into the existing somewhat Western-cultural lower primary school curriculum.
4. To to explore in discussions among various groups of stakeholders the requirements of a roadmap for **ultimate grounding** a formal education system on indigenous cultural cognitive activities and values.

1.6. Specific Objectives

1. To explore the concept of intelligence, through interviews with indigenous experts in five of the seven major language groups of Zambia in order to make a case for a consensus.
2. To explore through interviews with experts from Examinations Council of Zambia and Curriculum Development Center of Zambia (CDC) the grounding on which the current Primary School curriculum is developed, and subsequently assessment methods conducted by Examinations Council of Zambia.

1.7. Research Questions

1. What is the indigenous concept of intelligence and how is it culturally assessed in order to determine the intelligence of a child?
2. What characteristics of intelligence of its candidates does The Examinations Council of Zambia assess through the Grade Seven Composite Examinations?

1.8. Significance of the study

1. This study identifies, recognizes, reviews and recommends integrating indigenous concepts of intelligence and cognitive activities that take place before and along with formal education. Sufficient recognition of these informal local cultural and traditional concepts and cognitive activities will help revise and / or formulate new theories of education that will enrich the current National Primary School Curriculum in Zambia.

1.9. Scope of the study

This study, which focuses mainly on young learners, involved parents and other figures of traditional wisdom among the seven (7) major language groups of Zambia.

1.10. The Seven (7) major language groups of Zambia

Zambia is a multilingual state in a sense that several languages are spoken within its borders and individuals speak one or more languages in their mother tongue (cf. Mytton, 1974). According to Kashoki (1978), the figure of 73 corresponds with the number of tribes officially recognized by the Zambian government. However, the government position, reflected through the Central Statistical Office is that Zambia has seven main language categories (CSO 1997:3). For administrative purposes, Kashoki further notes that Zambia distinguished seven major ethnic groups out of the 73 dialects, which in one way or another find their expression in one of the seven major ethnic tribes. These are: **ChiTonga, SiLozi, Chichewa, ChiLuvale, ChiLunda, Kikaonde and Chibemba**. They are prefixed as a distinctive feature of the Bantu Languages, (Banda, 1998).

1.11. Regional distribution of the Seven Official Local languages

These seven languages became the official local languages of the country. Although the seven major languages are used widely across the country, each of them tends to have a geographical area of dominance within Zambia.

- Tonga is dominantly spoken in Southern Province of Zambia whereas Lozi is dominantly found in Western Zambia.
- Chewa is dominantly found in Eastern Zambia whereas Bemba is dominantly found in Northern, Luapula, Muchinga and the Copperbelt Provinces of Zambia.

- Luvale, Lunda and Kaonde are all dominantly found in Northwestern, Western and part of Central parts of Zambia.

While these major language groups are anchored in these geographic areas, all of them are generally widely spoken across the country as languages are eminently portable cultural resources (such that in contemporary Zambia Chewa is used in more speech utterances and in the regular discourses of more speakers outside Eastern Province than within the province, likewise, Bemba is in that sense still widely spoken outside Northern, Luapula, Muchinga and Copperbelt Provinces.

On account of their regional anchorage, they can be referred to as regional official languages (ROs). Kaplan and Baldauf (1997:17) observed that, “regional languages occur in extremely linguistically heterogeneous societies, and are often dominant languages in geographic sub-areas of the polity. Regional languages receive official sanctions through the education systems.” Consequently the “designation and actual employment of a language as an official language has the effect of turning it in the course of time into a language of some prestige or practical consequence causing speakers of non-official or ‘minority’ languages to acquire and use it as a second (or even first) language and, as a result, becoming a lingua franca”, Kashoki (1999:60).

Following after this distribution and recognition, these ethnic /language groups were adopted by the National School Curriculum and made into official mode of instruction in Lower Primary schools (Grades 1 to 4) and are the official local languages of Zambia. This

is undertaken to increase comprehension in lower grades as well as to promote the anchorage of the child onto mother tongue connection.

Therefore, in order to gather data that represents indigenous ethnic language groups of the whole country, this research involved exploring the seven major language groups of Zambia. Through interviews of purposely selected village elders, data was collected from the all the major language groups of Zambia.

However, the research would not include the Chewa and the Lozi language groups as these were covered during the researcher's MA research that is documented in the researcher's MA dissertation and Serpell's book of 1993 respectively.

1.12. Parents and Wisdom Figures

The theoretical rationale for construing parents as authorities about traditional wisdom on child rearing is based on the understanding that in traditional Zambian society, parents are a child's primary teachers. Parents and immediate elders assume a natural responsibility of imparting knowledge and wisdom on children the moment they are born. No wonder it is generally said that in Africa it takes the whole village to raise a child. In this regard formal school education is only secondary to the education process of child rearing.

Purposive sampling and Snowballing Sampling procedures were used to identify village elders who would be interviewed to elucidate indigenous concepts of intelligence in Zambia traditional cultures.

Furthermore, semi-structured interviews were conducted among experts from Curriculum Development Center, (CDC) in Lusaka as well as those at Examinations Council of Zambia, (ECZ) in Lusaka.

1.13. Theoretical and Conceptual framework (optional for Masters' but compulsory for PhD)

Global concepts of intelligence generally determine education systems and assessment tools that are used to assess learners for progression in their education pursuit as well as their eventual careers and status in society. Research has pointed to various concepts of intelligence that have guided global education systems.

According to the contextual perspective of Sternberg's Triarchic Theory of intelligence, he argues that we must begin to understand intelligence as adaptive real-world behavior, not as behavior in taking tests (Sternberg, 1997, 2003).

Howard Gardner (1983, 1999) in outlining the theory of multiple intelligences proposes that humans display at least nine kinds of intelligence, each linked to a particular area of the brain and several of which are not measured by IQ tests. Among the nine kinds of intelligence proposed by Gardner is the Social Dimension of intelligence. From African studies, Ruzgis and Grigorenko (1994) have argued that, in Africa concepts of intelligence evolve largely around skills that help to facilitate and maintain harmonious and stable intergroup relations. Serpell (1974, 1977, and 1982) found that Chewa adults in Zambia emphasize social responsibilities, cooperativeness, and obedience as important to intelligence; intelligent children are also expected to be respectful towards adults (Serpell, 2000). Similarly, in Kenya, among the *Kokwet* of Western Kenya the word *ngom* was

applied to child intelligence and seemed to denote responsibility, highly verbal cognitive quickness, the ability to comprehend complex matters quickly, and good management of interpersonal relations, (Sternberg, 2000). Among the South African Venda people, the word, *Maano*, refers to situational intelligence, and especially to the ability to discriminate between actions that were or were not culturally appropriate, (Blacking, 1982). In Nigeria, research by Durojaiye revealed that the Yoruba tribe emphasizes the importance of depth of listening rather than just referring to intelligence and of being able to see all aspects of an issue in its proper overall context, (Durojaiye, 1993). Where depth of processing for full learning and understanding of what one learns, speed is generally seen to undermine the quality of work because less time is given to fully grasp what one wishes to achieve or learn (Craik & Lockhart, 1972).

These researched theories present an ongoing need to explore contextual concepts of intelligence that should guide education systems of different cultures and peoples.

Intelligence understood as social culturally influenced, poses questions on whether general universal education systems and universal assessment procedures are viable means of educational assessment and achievements. For instance, many of the assumptions underpinning the legitimacy of the practice in American society are much less widely shared in contemporary African societies. As a result, it is arguable that the process of institutionalizing intelligence testing in Africa threatens to distort important aspects of education in dysfunctional ways rather than enhancing its precision and efficiency (Serpell & Haynes 2004), because how individual children's progress is appraised varies according to parental goals and aspirations, cultural norms, and social organization, (Schuman, 2000).

Research among the Lozi people of Western Zambia and that by Serpell among the Chewa of Eastern Zambia, indicate that the concepts of intelligence are highly characterized by social responsibility. The Lozi and the Chewa of Zambia are but two of the seven major Language groups of Zambia. To build an informed National Educational curriculum that is both informed by the local cultural context of Zambia and gives an accurate assessment of the intelligence of a Zambian child, it is necessary to conduct an across the country research among the seven major language groups of Zambia.

1.14. Operational definition

Owing to this close affinity of local languages, often called vernaculars, before independence the Colonial Government selected four of the official languages for administrative and educational purposes (Mwanakatwe, 1974, p. 211). Bemba, Nyanja, Tonga and Lozi served as the main official languages of the country in addition to English (Mwanakatwe, 1974. 211). Later on, however, three other vernacular languages were added to the list of the main local languages in Zambia. These are: Kaonde, Lunda and Luvale. When therefore, the decision was made regarding a universal medium of instruction, the Government re-affirmed the importance of teaching vernacular languages in scheduled primary schools for the benefit of African, Asian and European child (Mwanakatwe, 1974, p. 216).

The government acknowledged several values of teaching the child in vernacular language. The mother tongue can stimulate and awaken the child's imagination through songs, stories, nursery rhymes, folktales and proverbs (Mwanakatwe, 1974). It was further argued that there can be no better method of preserving national cultures for all time than by encouraging school children to learn their tribal customs, songs, beliefs and literature

in vernacular lessons (1974, p. 216). Properly guided during vernacular lessons, pupils should develop national pride and self-confidence as members of a new society with roots firmly planted in the past- the past, which they know and understand (1974, p. 216).

Following the Zambian government's identification of seven major local language groups as the official local languages of Zambia, this research refers to the seven tribes, or ethnic groups (Lozi, Luvale, Kaonde, Lunda, Tonga, Chewa and Bemba), as major languages groups. Furthermore, although these languages are spoken across several regions, research work was conducted in areas where the identified language groups are regarded as the principal indigenous groups.

In order to make a case that findings during a 4 weeks stay in a single village may be considered representative of indigenous concepts of intelligence and cultural cognitive activities in the national school curriculum of each of the 5 language groups, the following sampling criteria was used to verify that the village objectively uses the designated language for all formal and informal communication activities; informants selected are authentically fluent in the particular language; and the language itself is recognizably native, is of local origin and officially and local culturally used as official means of interactive communication:

1.	Language P is used as the primary, preferred medium of everyday communication.	YES / NO
2.	Percentage of adults in the local village community are said (by key informants) to be fluent in the Language/Dialect P.	
3.	Government of the Republic of Zambia (GRZ) schools within reach of children living in this village use language P as the medium of instruction in early grades.	YES / NO
4.	Local Churches that minister to the village use Language P as the medium of worship.	YES / NO
5.	Local Political structures specify allegiance by village authorities to a Chief known to represent the ethnic language group	YES / NO
6.	Key informant 1's fluency in Language P (percentage)	
	Key informant 2's fluency in Language P (percentage)	
	Key informant 3's fluency in Language P (percentage)	
	Key informant 4's fluency in Language P (percentage)	
	Key informant 5's fluency in Language P (percentage)	
	Key informant 6's fluency in Language P (percentage)	
	Key informant 7's fluency in Language P (percentage)	
	Key informant 8's fluency in Language P (percentage)	
	Key informant 9's fluency in Language P (percentage)	
	Key informant 10's fluency in Language P (percentage)	
	Key informant 11's fluency in Language P (percentage)	
	Key informant 12's fluency in Language P (percentage)	
	Key informant 13's fluency in Language P (percentage)	
	Key informant 14's fluency in Language P (percentage)	
	Key informant 15's fluency in Language P (percentage)	
	Key informant 16's fluency in Language P (percentage)	
	Key informant 17's fluency in Language P (percentage)	
	Key informant 18's fluency in Language P (percentage)	
	Key informant 19's fluency in Language P (percentage)	
	Key informant 20's fluency in Language P (percentage)	
	Key informant 21's fluency in Language P (percentage)	
	Key informant 22's fluency in Language P (percentage)	
	Key informant 23's fluency in Language P (percentage)	
	Key informant 24's fluency in Language P (percentage)	
	Key informant 25's fluency in Language P (percentage)	
	Key informant 26's fluency in Language P (percentage)	
	Key informant 27's fluency in Language P (percentage)	
	Key informant 28's fluency in Language P (percentage)	
	Key informant 29's fluency in Language P (percentage)	
	Key informant 30's fluency in Language P (percentage)	

Table 1.1. The Sampling criteria that were used to ascertain the native language of the village and language fluency of selected elders in the identified language.

For a village and each informant to qualify for inclusion in this research the minimum percentage score of **75** was needed. This is an “**A**” percentage score that ensured certitude and conviction in fluency of an informant in a particular local language. This equally applied to a village that qualifies to be included in this research.

1.15. Ethical considerations

This research was guided by the following ten principles of ethical considerations as compiled by Bryman and Bell, (2007):

1. Research participants will not be subjected to harm in any ways whatsoever.
2. Respect for the dignity of research participants will be prioritized.
3. Where it applies, full consent will be obtained from the participants prior to the study.
4. The protection of the privacy of research participants will be ensured.
5. Adequate level of confidentiality of the research data will be ensured.
6. Where applicable, anonymity of individuals participating in the research will be ensured.
7. The research will avoid any deception or exaggeration about the aims and objectives of the research.
8. Any perceived possible conflicts of interests will be declared.
9. Any type of communication in relation to the research will be done with honesty and transparency.
10. Avoid any type of misleading information, as well as representation of primary data findings in a biased way.

Furthermore, the research promoted the following:

a) Voluntary participation of respondents in the research.

Participants were invited to take part in this research on a voluntary basis. This meant that from the onset research participants would not expect any form of payment or remuneration as a result of their participation in the research.

c) Privacy and anonymity of respondents will be of paramount importance.

Throughout the research, participants' right for privacy and anonymity was not taken for granted. Consent was to be sought after before research participants are engaged.

d) Acknowledgement of works of other authors used in any part of the dissertation.

As an academic rule, this research acknowledges all works attributed to other authors and participants to the research.

f) Maintenance of the highest level of objectivity in discussions and analyses throughout the research

In order to arrive at credible data that is valuable information for policy- making processes, this research adhered to strict levels of objectivity of discussions and data analysis. Research questions were formulated in such a way that they yielded data that is not characterized by subjective inclinations.

1.16. Conclusion

This research was grounded in the idea that before formal school learning, there is established local cultural (indigenous) education system and assessment criteria for

learners that is used to help them to develop into productive and responsible adults across African societies. This recognizes that there is learning that takes place from a local cultural setting, the kind that is centred on both the individual and the well-being of the local community, village and society at large. In Zambia concepts of intelligence and assessment criteria of intelligence focus on and promote characteristics of intelligence that include social responsibility, generosity, cooperation and obedience.

A research exploration of indigenous concepts of intelligence across the major language groupings of Zambia and indigenous cognitive activities that are encouraged and used as assessment criteria for the intelligence of a child, not only brings out local cultural (indigenous) cognitive values but recognizes and upholds local cultural learning systems especially when they are eventually integrated in the national school curriculum. Until indigenous cognitive (learning systems) are properly integrated into the national school curriculum, national education remains aloof to the local context and serves but to divide a nation and alienate a people that naturally existed in harmony. Civilization yields better results when it allows itself to be informed and enriched by values of a given local context. Against that, it serves only a purpose of alienating and subjecting perceived inferior communities to perceived superior education systems. We have to revitalize our cultures. “We must be able to feel confident that our world view is clearly understood by our own children, and that they will know that their culture has value in modern times as it did in the past. We must be able to teach our children appropriate skills and understanding, and control how our children are taught” (Barnaby, 1992, p. 43). Like Canadian Meadow Lake Tribal Council of Canada, we have to explore and seek collaborative development of curricula for training early childhood educators in a way

that is grounded in our own local cultures, (Pence & McCallum, 1994), and that affords a central place to input from representatives of our seven major language groups and cultures of Zambia. By bringing together the two worlds of western academe and local cultural language, we step outside of a modernist approach and open one door to a more inclusionary, post-modernist starting point for developing culturally situated understandings of children, their families, and their educational program needs in varying ecological contexts (Ball & Pence 2000, p. 12).

CHAPTER TWO: LITERATURE REVIEW

The question of intelligence and its measure has occupied the minds of psychologists and philosophers from historical times through to the modern time. This has consequently influenced formal education systems throughout cultures. According to the Dictionary of Psychology by Chaplin (1985), some definitions of intelligence include:

- ability to meet and adapt to novel situations quickly and effectively;
- ability to utilize abstract concepts effectively;
- ability to grasp relationships and to learn quickly;
- ability of an organism to adapt to its environment or adaptive thinking or action;
- the power of good responses from the point of view of truth or facts;
- the ability to carry on abstract thinking;
- sensory capacity, capacity for perceptual recognition, quickness, range or flexibility of association, facility and imagination, span of attention, quickness or alertness in response;
- The capacity to inhibit an instinctive adjustment, the capacity to redefine the inhibited instinctive adjustment in the light of imaginary experienced trial and error, and the capacity to realize the modified instinctive adjustment in overt behavior to the advantage of the individual as a social animal.

Sternberg defined intelligence as the ability to adapt to the environment and the ability to learn (Sternberg 2000).

Other theorists such as Psychometric theorists defined intelligence as an intellectual trait or a set of traits that differ among people and so characterize some people to a greater extent than others (Shaffer & Kipp 2007). Psychometric theorists then tasked themselves to identify those traits so that they could be measured so that intelligence differences among individuals could be described. But even psychometricians could not agree on the single structure of intelligence. This indicates that even though it is possible to have universal concepts of intelligence, characteristics of intelligence are consequently, influenced by various social, economic and political situations of a given environment.

Psychometric theorists of the Multicomponent view held that intelligence tests should require people to perform a variety of tasks such as defining words or concepts, extracting meaning from written passages and solving mathematical puzzles (Shaffer & Kipp 2007). Hierarchical model of intelligence views intelligence as consisting of (1) a general ability factor at the top of the hierarchy, which influences one's performance on many cognitive tests, and (2) a number of specialized ability factors that influences how well one performs in particular intellectual domains (for example, on tests of arithmetical reasoning or tests of spatial skills). This model implies that each one of us may have particular intellectual strengths or weaknesses depending on the 'second stratum' intellectual abilities we display. This explains why a person can do well solving Mathematical problems but struggle with historical problems. So, hierarchical models depict intelligence as both an overarching general mental ability and a number of more specific abilities that each pertains to a particular intellectual domain (:2007).

2.1. Triarchic theory of intelligence

Sternberg's Triarchic theory of intelligence holds that there are three aspects or components of intelligence: context, experience and information processing skills.

From the **contextual perspective** is understood that intelligence behavior may vary from one culture or subculture to another, from one historical time to another, and from one period of the life span to another. In upholding this theory, Sternberg believes that we must begin to understand intelligence as adaptive real-world behavior, not as behavior in taking tests (Sternberg 1997, 2003).

The **experience component** of intelligence alludes to the fact that people will perform more or less intelligently on a familiar task. If however, items on an intelligence test are familiar to members of one cultural group but not familiar to another, the second group will perform much worse than the first group, reflecting what Sternberg calls a cultural bias in the testing procedure (Sternberg 1997), and further argued that a valid comparison of the intellectual performances of people from diverse cultural background requires the test items that must be equally familiar (or unfamiliar) to all test takers (Sternberg 1997).

With regard to the **information processing component** of intelligence, Sternberg and other information- processing theorists argue that some people process information faster and more efficiently than others. Therefore, cognitive tests could be improved considerably by measuring these differences and treating them as important aspects of intelligence (Burns & Nettelbeck 2003; Sternberg 2003; Tigner 2000).

In short, Sternberg's triarchic theory suggests that if we want to establish true intelligence of a child, we need to consider the three factors:1). The context in which they are

performing, i.e., the culture and historical period in which they live and their age: 2). Their experience with the tasks and whether their behavior qualifies as responses to novelty or automated processes, and: 3). The information processing skills that reflect how each person is approaching these tasks. Unfortunately, as we will see in the exploration of intelligence measuring system of the Grade Seven Special Paper One & Two of the national examinations system administered by the ECZ under the supervision of the GRZ Ministry of Education, most widely used intelligence tests are not based on such a broad and sophisticated view of intellectual process.

2.2. Gardner's theory of Multiple Intelligence

Howard Gardner (1983, 1999) in outlining the theory of multiple intelligences proposed that humans display at least nine kinds of intelligence, each of which is linked to a particular area of the brain that several of which are not measured by IQ tests. These intelligence types follow a developmental course that ends in a corresponding vocational qualification. The table below shows Gardner's intelligence types:

Types of Intelligence	Intellectual Process	Cerebral System	Vocational end state
Linguistic	Sensitivity to the meaning and sounds of words, to the structure of language, and to the many ways of language can be used.	Left hemisphere, temporal and frontal lobes	Poet, novelists, journalists
Spatial	Ability to perceive visual-spatial relationships accurately, to transform these perceptions, and to re-create aspects of one's visual experience in the absence of the pertinent stimuli	Right hemisphere, parietal, Posterior, Occipital lobe	Engineer, Sculptor, cartographer
Logical-Mathematical	Ability to operate on and perceive relationships in abstract symbol systems and to think logically and systematically in evaluating one's ideas.	Left parietal lobes and adjacent temporal and occipital association areas Left hemisphere for verbal naming Right hemisphere for spatial organization Frontal system for planning and goal setting	Mathematician, Scientist
Musical	Sensitivity to pitch, melody; ability to combine tones and musical phrases into larger rhythms; understanding of the emotional aspect of music	Right anterior temporal Frontal lobes	Musician, composer
Body-kinesthetic	Ability to use the body skillfully to express oneself or achieve goals; ability to handle objects carefully	Cerebral motor strip Thalamus Basal ganglia Cerebellum	Dancer, athlete
Interpersonal	Ability to detect and respond appropriately to the mood, temperaments, motives, and intentions of others	Frontal lobes as integrating station between internal and external states\people	Therapist, public relations specialist, salesperson
Intrapersonal	Sensitivity to one's own inner states; recognition of personal strengths and weaknesses and ability to use information about the self to behave adaptively	Frontal lobes as integrating station between internal and external states\people	Contribute to success in almost any walks of life
Naturalist	Sensitivity to the factors influencing, and influenced by, organisms (fauna and flora) in the natural environment	Left parietal lobe (discriminating living from nonliving things)	Biologist, naturalist
Spiritual/existential (speculative at this point)	Sensitivity to issues related to the meaning of life, death, and other aspects of the human condition	Hypothesized as specific regions in the right temporal lobe	Philosopher, theologian

Table 2.1. Gardner's theory of multiple intelligences

While Gardner outlines these nine kinds of intelligence, he does not claim that these nine represent the universe of intelligence as he makes the case that each ability is distinct, each ability is linked to a specific area of the brain and follows a different developmental course (Shearer 2004). In this regard, therefore, injury to a particular area of the brain usually influences only one intelligence ability, leaving others unaffected. Thus, as Shearer observed, often time we misrepresent and underestimate the talents of many individuals by trying to characterize their 'intelligence' with a single test score (Shearer 2004).

In USA, three experiments investigating experts' and lay persons' conceptions of intelligence were conducted by Sternberg et al., 1981 in mainland USA. The first study, involved asking randomly selected people, questions on intelligence. While some of this research was conducted via telephone interviews, persons studying in a college library, entering a supermarket, and waiting for trains in a railroad station were asked to list behaviors characteristic of either 'intelligence', 'academic intelligence', 'everyday intelligence', or unintelligence and ...to rate themselves on each of the three kinds of intelligence (Sternberg et al., 1981). From this research, three factors of an ideally intelligent person emerged summarized by Sternberg (2000) as follows:

The first factor included behaviors such as reasoning logically and well, identifying connections among ideas and seeing all aspects of a problem. The second factor included behaviors such as speaking clearly and articulately, having verbal fluency and conversing well. The third factor includes behaviors such as accepting others for what they are, admitting mistakes and displaying interest in the world at large. This factor however, as Serpell noted in his article 'Intelligence and Culture', has been objected to by several

researchers who claim that to include social and emotional attributes of intelligence under the heading of intelligence would obscure important technical distinctions between cognition and motivation, ability and disposition and between general competence and special talents (Serpell, 2000).

GRIT, which is passion and sustained perseverance to overcome obstacles in order to achieve long-term and meaningful goals, recognizes and identifies three distinctive clusters which Angela Duckworth refers to as intelligence. The first include strengths like grit, self-control and optimism. These help one to achieve his/her goals. The second includes social intelligence and gratitude; these strengths help a person to relate to, and help, other people. The third includes curiosity, open-mindedness and zest for learning, which enable independent thinking.

These three researches reveal common characteristics of intelligence that highlight that there is not simply one characteristic of intelligence that could be assessed by a single apparatus.

Similar to the concept of dimensions of intelligence, research in Africa on concepts of intelligence emphasizes the social dimension of intelligence, and the depth and breadth of cognitive processes rather than their speed.

2.3. Social Dimension of Intelligence

From studies in Africa, Ruzgis and Grigorenko (1994) have argued that, in Africa, concepts of intelligence evolve largely around skills that help to facilitate and maintain harmonious and stable intergroup relations; intragroup relations are probably equally important and at times more important. Serpell (1974, 1977, and 1982) found that Chewa adults in Zambia emphasize social responsibilities, cooperativeness, and obedience as important to intelligence; intelligent children are also expected to be respectful towards adults (Serpell, 2000). In one Kenya community for example, parents emphasize reasonable participation in family and social life as important aspects of intelligence (Super, 1983). Furthermore, among the *Kokwet* of western Kenya the word *ngom* was applied to child intelligence and seemed to denote responsibility, highly verbal cognitive quickness, the ability to comprehend complex matters quickly, and good management of interpersonal relations. The word *utat* was applied to adults and suggests inventiveness, cleverness, and sometimes wisdom and unselfishness. A separate word, *keelat*, was used to signify smartness or sharpness, (Sternberg, 2000). In Uganda, there are various notions of intelligence emphasized by different tribes. The Baganda associate intelligence with mental order, whereas the Batoro tribes were inclined to associate it with some degree of mental turmoil (Wober, 1974). In South Africa, the Venda use two words for intelligence- *Maano* and *Vhutali*. *Maano* refers to situational intelligence, and especially to the ability to discriminate between actions that were or were not culturally appropriate. *Vhutali* was used only in a complimentary way, to refer to a person's socially productive intelligence, insight to understanding more than sheer cleverness (Blacking, 1982).

Generally, most research findings on African concepts of intelligence tend to acknowledge the aspect of social dimension of intelligence. Since communal living and sharing is cardinal to an African way of life, social responsibility or *ku tumikila-* (in Chewa), subdivided into “*mva/-mvela* (attentiveness, obedience) and *khulupilika/-mvana* (trustworthiness, cooperativeness), is a significant dimension of the concept of intelligence (Serpell, 1993).

While these concepts of intelligence emphasize social skills more than do conventional Western conceptions, they “simultaneously recognize the importance of cognitive aspects of intelligence” (Sternberg and Grigorenko, 1997).

2.4. Depth and Breadth versus Speed of Cognitive processing

In a research by Durojaiye among the tribes of Nigeria, his findings revealed that the Yoruba tribe emphasizes the importance of depth of listening rather than just referring to intelligence and of being able to see all aspects of an issue in its proper overall context (Durojaiye, 1993). Equally noted in a report publication that offers theoretical analysis of experimental studies on memory among European subjects, West African concept of intelligence emphasizes depth of processing for full learning and understanding of what one learns (Craik & Lockhart, 1972). According to this view, speed is generally seen to undermine the quality of work because less time is given to fully grasp what one wishes to achieve or learn.

2.5. Participatory Cognitive Activities

In a study among Luo women in Western Kenya, (Wadende 2011) aimed at identifying the teaching and learning processes that women artists utilize in inducting their apprentices to the art forms of pottery, basketry, and indigenous architecture. Wadende reported that learning these skills was done in a deliberately set up motivational system that also aimed at inculcating relevant life skills amongst members of the Luo community. The study also reported that some of the actively utilized aspects of motivation that eased the teaching and learning processes included singing, story telling, imitation, and use of proverbs and wise sayings.

2.6. Concept of innate/genetically determined/God-given intelligence

In Simatende's research among the Lozi speaking of Western Zambia pointed to the existence of innate characteristics of intelligence that a child is born with. This was highlighted as *Ngana Tanu*. Lubasi, a Lozi research respondent observed that, "*Ngana tanu ki ngana yaku pepwa ni yona. Ki ngana ya lu file mulimu*"¹ - This is the intelligence a child is born with. It is the intelligence God gives us and we are born with it. This is distinguished from acquired intelligence otherwise referred by Lozi speaking people as *Ngana Takuwanina*. "*Ngana takuwanina ki ngana ye lu fumana mwa libuka ni ka ku pila ni batu*"² - This type of intelligence is the kind that we acquire from formal schooling using books and by living with others. It is argued that *Ngana tanu* is naturally distributed. Some children are born with more and some with less of it. The Lozi language group refer to those born with abundant *Ngana tanu* as being talented or gifted.

¹ Lubasi, a Lozi respondent.

² Lubasi, a Lozi respondent of Nakasheke village

Accordingly, these will tend to excel even in the acquisition of *Ngana Takuwanina* as they are predisposed and have heightened capacity to acquire the second type of intelligence.

Those with abundant *Ngana tanu* are assigned leadership roles as a way of recognizing their talentedness: “*Kono yani ya nani ngana tanu ye ng’ata, yena bamu biza kuli kiyena muna munzi. Ki yena ya ka zamaisa munzi kaufela*”³ - But the one with more *Ngana tanu* will be assigned as the village headman who will preside over the whole village. Furthermore, *Ngana tanu* is identified through peer interactions - “*Ye bafa kuli a be mung’a amunzi ki mwanana ye baboni babanwi kuli unani zibo mwa lika. Nimwa bulelela cwalo kele ba bona kuli yo ki yena mun’ga munzi*” - The one who is assigned as the village headman is a child whom others have seen to have knowledge in things. Even the manner of speaking indicates to others that this one is the village headman. This, therefore, validates that *Ngana tanu* is manifested through manner of speech and acts and types of acts a child performs.

2.7. History of formal schooling in N. Rhodesia/ Zambia

As already set in the preamble, globally, the original concept of education gradually became formalized into school systems for two reasons:

1. To enable the minds of the Athenian citizens to struggle with something difficult, a theme that still exists in the contemporary prospectus of formal schooling, for schooling is about difficult things (Serpell 1993, p.82).

³ Lubasi, a Lozi respondent of Nakasheke village

2. To transmit an accumulation of knowledge (Serpell 1993, p.82).

Towards the end of pre-colonial era, Zambia was penetrated first by missionary explorers, of whom David Livingstone was the most notable, subsequently by missionary evangelists (Arnot, Coillard, and Depelchin, for example), and later by prospectors and treaty seekers, all of the latter in some way representatives of Cecil Rhodes' British South Africa Company (Kelly 1991). These intense missionary activities (1882 to 1905), that led to the establishment of several mission stations throughout Zambia which later saw the development of formal school education. For instance, in 1887, the London Missionary Society established a mission at Fwamba, which was later abandoned. In 1890, this same society founded another mission station at Kawimbe and then four years later opened another at Kambole (Mwanakatwe 1974, p. 9). Gradually these London Missionaries spread their influence over the area south of Lake Tanganyika to areas southwest of Mporokoso and Mbereshi where mission stations were opened in 1900. Somewhere else in the Western part of the country, the Jesuits visited Lealui in Barotseland (Western Zambia) in 1881 but were not able to establish their own mission in this area until later in the twentieth century. The White Fathers established Mambwe Mission to the north in 1891, followed by another mission station at Chilubula and Chilonga in 1899, at Chilubi Island in 1903 and at Kambwiri in the Luangwa valley in 1904. The Society of Jesus (Jesuits) eventually established Chikuni Mission in 1905 (Mwanakatwe 1974, p.9). The Dutch Reformed Church Mission which had been operating in Nyasaland (Malawi) established itself in the East Luangwa area (ibid).

Along with the establishment of Missions, Missionaries also established schools. These Mission schools were fortuitous or merely complementary to the missionaries' principal objective of increasing the numbers of their followers (Mwanakatwe 1974, p.10). Furthermore, missionaries stigmatized the unschooled as incomplete people (Serpell 1993, p. 92) who were lost and in danger of perdition. Missionaries regarded the unschooled as immoral, lazy, and drunken, steeped in superstitions and witchcraft, and doomed to spiritual damnation (Snelson 1974, p. 11). For the missionaries, they considered schooling as an effective instrument for inducing a process of cultural change (Serpell 1993, p. 92). Hence, education was not provided for its own sake but for the sake of converting and winning members to Church groups.

Missionary activities of establishing mission territories and mission schools continued although with some conflicts between Missionary groups especially over encroachment as in the case of the London Missionary Society and the White Fathers (Mwanakatwe 1974, p.12). By 1924 when the British Government assumed direct responsibility for the administration of Zambia as a Protectorate, a fairly widespread education system had been established in Zambia (ibid) and among the oldest schools in Zambia then was the Barotseland National School which was established in March 1907, as a result of the agreement between the British South Africa Company and Paramount Chief Lewanika (Mwanakatwe 1974, p.13).

While some schools were staffed with qualified and certified teachers, the school education system of that era put uncertified teachers to be in charge of the then "bush schools". In

real sense, these teachers were only catechists or evangelizers with hardly any teacher training (Mwanakatwe 1974, p.20).

While the number of pupils enrolled in ungraded “bush schools” continued to increase- (19,942 in 1930; 58,790 in 1931; and 70,353 in 1935) (Mwanakatwe 1974, p.19-20), there were not enough corresponding number of buildings to ensure pupils continued their education to attain higher level education. The education planners of the colonial era were usually complacent with a minimum expansion of education facilities for the education of Africans. Partly because the Government was reluctant to invest substantial funds in the development of human resource and also because it regarded the education offered to Africans as a favor and not a birthright (ibid). Furthermore, colonial planners understood that “it was not intended that Africans would take up white-collar jobs in direct competition with Europeans” (Mwanakatwe 1974, p.23). Owing mainly to the shortage of buildings for learning purposes the primary school system was merely a wasted time in the African child’s developmental path in Northern Rhodesia. The U.N./E.C.A./F.A.O survey mission report of 1964 reported:

“Even the 1963 School system implied that of every 100 Africans who start primary school, 82 would reach the fourth year, 42 the sixth and 21 would complete their full primary course. Of this 21, only six would find a place in secondary school, of them only three would enter a senior secondary form and only two would end up with a school certificate” (1964, p.101).

Of these reductions, rural primary school children were particularly discriminated against as Mwanakatwe noted that a further selection of pupils finishing the sixth year of their primary schooling in rural areas was made so that a smaller proportion of rural primary

children than those enrolled in urban schools was able to complete the full eight-year course up to Standard VI (1974).

The other challenge facing the new government of independent Zambia in 1964 was unequal opportunities in the provision of this form of education to the urban and rural learners. While 70 per cent of children were receiving education in lower Primary Schools, the provision of this same education was nearly 100 per cent in urban areas. For some children, this difference in education opportunities caused young people to migrate from rural areas to urban areas where children were compelled to live with relatives who failed to exercise proper control over them as well as to inculcate in them good traditional moral values (Mwanakatwe 1974, p. 39), while several other children migrated from rural areas to urban areas for economic opportunities. Subsequently this created in young people an attitude that what is rural is not as valuable as what is urban because urban came to be viewed as place of gold. With the developing gradual shift from rural life and value systems to economic and fuller educational opportunities in urban areas, developed a gradual shift from upholding cultural value systems embedded in indigenous rural settings.

After Zambia gained independence in 1964, several efforts were made to improve both enrollment and quality of education. The most urgent government response was to increase budgetary allocation to the education sector. This helped the sector to build more schools and classroom blocks that increased enrollment levels. However, at the time the increased enrollment did not correctly correspond to the number of adequately trained and qualified teachers; suitable textbooks; and teaching aids. In furthering the improvement of the sector, intensive research and experiments were initiated by the government into such fields as

Curriculum Development; New Course; optimum utilization of school classrooms and laboratories and the length of the school terms (Mwanakatwe 1974).

Expansion of educational provision beyond the basic level saw the creation of Secondary Schools across the country. Every pupil was required to take a practical subject in addition to the core subjects of the curriculum: English, Mathematics, Geography, Civics, General Science, Religious knowledge, a Zambian language or French (Mwanakatwe 1974). A wide range of practical subjects was offered to the learners. These included: Woodwork, Technical Drawing, Engineering practice, Typing, Commerce, Principles of accounts, Needlework and Cookery (ibid).

Owing to the ideas that gained credence in the colonial era, success in life in terms of social status and personal affluence came to be equated to the attainment of high educational standards. As such parents were naturally concerned that their own children should obtain more of education than they had in order that their children would live lives that were more affluent. However, the number of children who failed to make it into Form I continued to increase. For example, out of a total number of 120 thousand (70 thousand boys and 50 thousand girls) students who sat for the primary school-leaving certificate in 1977, only close to 30 thousand (15 thousand boys and 10 thousand girls) made it to Form I (Grade 8) (Serpell 1993, p. 11). As earlier noted, the increase in the number of pupils who could not be accepted to continue on their education path was characterized by colonial era education planners' reluctance to build more education facilities to accommodate deserving learners, education offered only as a favor to Africans and a desire to keep Africans from competing with Europeans for white-collar jobs. With this

selective progression, there began to exist in local communities, young people who came to be viewed as incapable of undertaking academic pursuits of high educational standards. Since attainment of high education standards was equated to personal social status as well as personal affluence, all those who could not attain this higher education came to be viewed as failures in life. To date, the popular misconception goes unchallenged that “failure to make it” was a function of deficiencies in the minds of the ‘drop-outs’ when in reality, the Government deliberately set a pass-mark for instance in the Grade 7 SSSE that would create only enough passing candidates to fill the available places in Grade 8. This divided communities that existed as one people into: the academically affluent and the school ‘drop-outs’ or failures. Academic achievement meant higher personal social status as well as personal affluence whereas the lack of (through failure to complete formal school) meant low personal social status as well as personal affluence. Subsequently the gap between the two has continued to widen.

Language of Instruction

A general principle was adopted that in the early years of an African child’s formal education, instruction should be in the mother tongue. This meant that a child who grew up in his mother’s native tongue would receive academic instructions in his/her mother’s native tongue until the child reached the fifth year when English was gradually introduced as the medium of instruction (Mwanakatwe 1974, p.211).

Indeed, there can be no better method of preserving national culture for all time than by encouraging school children to learn their tribal customs, songs, beliefs and literature in

vernacular lessons. “Properly guided during vernacular lessons, pupils should develop national pride and self-confidence as members of a new society with its roots firmly planted in the past-the past which they know and understand” (Mwanakatwe 1974, p.216).

Although a general principle existed in Missionary schools that African child’s formal instruction would be in mother tongue, it was abandoned in 1966, on Mwanakatwe’s watch as Minister of Education, in favor of immersion in English from Grade 1. The rationale justification for abandoning teaching the child using the mother tongue was twofold: Firstly, as a co-efficient preparation for the pre-existing upper primary and secondary school curricula which were already in English; and secondly, as a necessary response to the linguistic diversity of urban population (Linehan 2004). Furthermore, Mwanakatwe, who was the then indigenous Minister of Education, underlined the value of English as an ethnically impartial shared cultural resource for national unification (Serpell 2018). He hoped that by building strong language competence in English in a new generation of young Africans, it would put them on an equal footing with their expatriate English-speaking peers in a process of one-way racial integration of the previously segregated urban schools (Serpell 2018).

However, some observers saw the introduction of English as a medium of instruction as problematic in three ways: dislocation between the cultures of home and school; insufficient linguistic competence for a complete and terminal primary education; and language stratification linked to socioeconomic class formulation (Serpell 1978). This was equally noted by the then Vice President of the Republic of Zambia, Simon Kapwepwe, when he said, “We should stop teaching children through English right from the start because it is the surest way of imparting inferiority complex on the children and

society...The African children will only defend the European culture because that is what they will be taught from the start to the finish”, (Kapwepwe 1970, p. 68).

Through the Zambian economic plunge into deep recession that lasted from the 1980s to 1990s, it was noted that steps were then being taken both officially and unofficially that suggested that the steam had gone out of the movement supporting English as the medium of instruction, (Kelly 1991, p. 112-113). In 1996, the Government of the Republic of Zambia declared that “all pupils will be given an opportunity to learn initial basic skills of reading and writing in a local language” (GRZ 1996, p. 40). In 2013, this change of policy was pronounced in a National Literacy Framework that “recognizes Zambia as a multi-lingual society, where the use of local languages and English co-exist as part of the formal and informal communication. Therefore, while initial literacy will be provided in local languages, learners will also be introduced to read English and later transition to reading and writing in English” (GRZ 2013, p. 2).

In 2014, the Ministry of Education introduced the use of Local Languages as a medium of instruction for Grades 1 – 4 whereas English takes over as a medium of instruction from Grade 5 and as a Subject. While this can be perceived as new and progressive development, Zambia would simply be reverting to the pre-colonial era when early Western Missionaries used indigenous languages as media of instruction in all schools under their control up to the fourth year of Primary Education. Even though the desire by the local young men and women was to be taught in English, the Missionaries opted to teach them in indigenous languages (Carmody 2004).

While those who oppose this view argue that modern day Zambia has become so modernized that it is difficult to find a single language that could be used as a formal indigenous language for school instruction, for instance in metropolitan cities such as Lusaka, Ndola, Livingstone, there is empirical evidence to show that children learn easily when a mother tongue is used as a medium of instruction especially in the early stages of their education (Chishiba & Manchishi 2016).

2.8. Current Focus of The Primary School Curriculum Of Zambia

Whereas Zambia Education Curriculum Framework (ZEDCF) holds that the aim of education is “to promote the full and well-rounded development of the physical, intellectual, social, affective, moral and spiritual qualities of all learners so that each can develop into a complete person for his or her own fulfillment and for the good of society” (ZEDCF 2015, 2013, p.2), the education opportunities that are narrowed down by the school examination system especially in Grades, VII, IX and XII, do not serve this aim. Due to the nature of what the school examinations seeks to draw out of learners, learners are forced to study what will be examined as opposed to cultivating individual potencies that if properly nurtured will promote the realization of individual potencies that will provide for more diverse gifts being employed in society.

The national policy on Early Childhood Care clearly outlines its focus on holistic development of the child. However, fuller realization of focus areas would especially be guaranteed if the school system were consistent in its focus on identified areas. Secondly, the school system would need to design appropriate assessment tools that accurately assess integral focus that the school would have been grounded on in the first place. For

instance, Social, Emotional, Spiritual and Moral Development (ZEDCF 2015, 2013), are significant developmental areas that equally feature as important foci of indigenous socialization principles in this study's interviews with key expert informants. Their promotion, however, is only consistent when the school examination systems include components of the examination system that assess them. In this way, learner will not only learn them for their sake but for knowledge whose retention would be investigated through the accurate examination papers.

In its recognition that classroom assessment enhances learners' achievement levels, incorporating the classroom assessment and building them up to form the final examination will not only improve the school system but will reduce the number of school dropouts who are forced to leave school when they either fail the final examination or fail to make it to the examination. This form of assessment is operationalized in tertiary level educational institutions in Zambia through what is known as Continuous Assessment (CA). Continuous Assessment is not only accurate but ensures that learners have a grade to carry through should circumstances cause them to miss the one-off final examination. Furthermore, because Continuous Assessments are conducted immediately after lessons and topics have been covered, learners have a better understanding of what is being assessed since they would have just covered a particular topic in question.

Zambia Education Curriculum Framework (ZEDCF) holds that appropriate opportunities demands that teachers and teacher-educators must provide expanded opportunities for all learners to exercise their intellectual ability by realizing that not all learners can learn the

same thing in the same way and at the same place in spite of the fact that they all have to complete a specific level in a stipulated time (ZEDCF 2015, 2013). While this is plausible, the immediate realistic practice is that all learners have to be readily available for the one-off final examination, which determines whether a learner proceeds to higher level of education, is given a second chance or simply quits on his/her own. The ability for the school system to retain learners who could have missed the one-off examinations due to circumstances beyond their control is a commendable step in the right direction as this ensures learners who miss the first opportunity have other opportunities to prove themselves for consideration once again.

The National Education Framework further holds that national concerns should be considered and made “integral part of the curriculum at all levels of the education system,” (ZEDCF 2015, 2013, p.19). In order to identify and integrate National Concerns or crosscutting issues, the National School Curriculum needs to explore through research across the major cultures of Zambia, cross cultural values that define local cultures. Until then, our school curriculum remains based on external curricula that are accessible, easily copied and indiscriminately pasted onto a people that is endowed with vast cultural practices and beliefs that inform the way of life.

The Curriculum Localization principle that encourages teachers and teacher-educators to localize some aspects of the school curriculum in order to allow schools to adapt aspects of the curriculum to match local needs and circumstances is commendable as it envisions that this will provide some compensation for the indigenous knowledge, values and practical skills that learners would have acquired in their home environment if they had

not been attending school (ZEDCF 2015, 2013). While this is an ideal guiding principle, its realization through school assessment criteria will help ground it in order to yield results that will not only improve learner achievements, friendliness of formal school system but will equally help to bridge the gap between formal and informal school system in Zambia.

2.9. Outcomes-based education

According to Tucker, Outcomes based education (OBE) is a process that involves the restructuring of curriculum, assessment and reporting practices in education to reflect the achievement of mastery rather than the accumulation of course credits (Tucker 2004). Outcome based education gives learners immediate opportunities to practically demonstrate acquired knowledge through production and manufacturing of goods that are practically necessary for the local communities. This is contrary to assigning assessment examinations to a single period during the year.

In Zambia there are various cultural developmental-stage activities that take away young learners into a period of seclusion. Notable among them is *Mukanda* for the Luvale speaking people and *Nkolola* for Tonga speaking people. A curriculum that administers ‘one off’ assessment system risks missing candidates who may be taken away into seclusion for the notable cultural developmental-stage activities. ‘One off’ assessment examinations further promote accumulation of theoretical knowledge that does not produce tangible results that are expected of school graduates.

2.10. Localisation of school curriculum

When school children begin school, they are exposed to learning procedures and environments that are different from their home set up. New learning environment for children about to enter formal schooling may be overwhelming to a preschool child primed on traditional learning modules available in the home setting. Consequently, such a child may require that teachers, other children and adults who may be working in the same school environment be wholesomely engaged in his/her instruction. It is also worth noting that the child at this time is also expected to make an about turn and start learning what is unfamiliar (such as the alphabet) which may not seem as ‘productive and responsible livelihood activities’ as is commonly practiced in their home environments (Nsamenang, 2004). Learning that neither produces nor ensures immediate practical outcomes is a challenge to young learners who would have been used to learning that is tailored to productive and responsible livelihood.

2.11. Functional Context Education (FCE)

In what is known as Functional Context Education (FCE), the learner's mental context is considered in developing educational experiences for the learner. For instance, if the learner has in mind the learning of a given job, then that is the person's mental context. Therefore, providing literacy and mathematics training within the context of job materials, fits the learner's mental context. Hence, when there is a good fit between what the learner has in mind and what is offered in the educational program, as accomplished in FCE programs, there is likely to be improvements over "traditional" programs in

motivation to participate in programs, attend regularly, and stick with the program until completion, (Ticht 2000).

Additionally, in contrast to "traditional" programs, well designed FCE programs should make learning easier and increase the application (transfer) of knowledge and skills outside the program. In turn, this should promote better retention of what was learned and provide a larger base of knowledge to use in lifelong learning and in the intergenerational transfer of knowledge and values for education from parents to children. This is why it is important to understand FCE and how to develop FCE in different settings, (Sticht 2000).

This research continued to explore indigenous concepts of intelligence among the seven major language groups of Zambia and indigenous cognitive activities that are used to assess it. Data gathered through this research was compared to realize common threads on indigenous concept of intelligence and the cognitive activities that are used in its assessment. Furthermore, information obtained from this research could form a rich data bank for the development of sound, context-relevant Early Childhood Education practices for posterity.

CHAPTER THREE: METHODOLOGY

This research is a qualitative hermeneutic study that allows the researcher to view reality from inside out and bring out ideas and express them to the outside audience. This study sought to situate the concept of intelligence in relation to studies of society, history, language and culture (Serpell & Haynes, 2004).

3.1. Study Area or Site

The study area of this research involved at least four (4) regions or provinces of Zambia where five (5) of the seven (7) major languages are spoken. These included Northern Province (Bemba); Northwestern Province (Luvale, Kaonde and Lunda); Southern Province (Tonga); Lusaka (CDC and ECZ experts) and parts of Central Provinces. In each of these regions, purposefully selected villagers who are experts on indigenous knowledge systems were interviewed. Furthermore, experts from Curriculum Development Center (CDC) and Examinations Council of Zambia (ECZ) were interviewed from their professional locality in Lusaka.

3.2. Study Population, Sample Procedures, and Site

From each of the four regions, research targeted a total number of 30 villagers who are experts in traditional or indigenous concepts of intelligence and cognitive activities used to assess it. This sample combined an equal number of men and women. Across five major linguistic groups, a population of more than 150 was interviewed. Furthermore, 2 expert staff at Curriculum development Center and 1 expert from Examinations Council of Zambia was interviewed.

3.3. Sampling procedures

The researcher took advantage of the social status of being a priest to gain access into research communities. Through a network of fellow priests and close Catholic Church collaborators in identified research regions, it was easy to identify reliable research assistants who facilitated the identification of appropriate villages and senior village elders suitable for this research purpose. Local priests who assisted this process knew and understood well the local cultural contexts and were therefore, ideal facilitators of the process of ensuring the research identified and benefited from suitable research assistants and informants.

Secondly, the researcher's language competencies provided for an added advantage to gain entry into field research areas, as the researcher is fluent in Tonga and Bemba and is able to follow conversations in Luvale. Furthermore, whereas the social status of being a priest had the potential to influence the quality of data collected, through the help of research assistants, the stance that the researcher came as researcher committed to learning from local members of community as distinct from conducting religious services, was made clear from the onset of research investigations.

When some responses from informants would begin to lean towards their faith affiliation, the researcher was able to screen out such responses by changing the questions to ones which would refocus informants on the research topic.

All in all, the study utilized purposive sampling. More than 30 villagers who are experts in indigenous concepts of intelligence and indigenous cognitive activities were identified and

interviewed. In each village, the researcher sought senior members of the village. This is guided by the understanding that senior members in the village have a better experiential knowledge of traditional practices and values. Similarly, the study also hypothesized that selected elders have experience in being instructed during their early childhood using indigenous systems because they were brought up in communities that utilized these ways.

3.4. Elicitation Method

This research drew on local cultural practices of calling together a group of elders to discuss an issue and come up with culturally acceptable position that represented a consensus of a cultural perspective. This cultural practice is commonly used when settling a dispute among members of the village. In this way a decision or information that is given is collectively representative of the whole culture and not merely an individual perspective.

Senior villagers were then gathered together in the manner of brainstorming the indigenous concepts and characteristics of an intelligent child. In this way, data collected is representative of particular village and language consensus of indigenous concepts and characteristics of intelligence.

Furthermore, purposefully selected experts from the National Curriculum Development Center (CDC) were interviewed on the design and implementation of the current National School curriculum. In addition, selected experts from the Examinations Council of Zambia (ECZ) were interviewed to review the criteria used in the selection of candidates for education opportunities in post basic education. Selection of experts from both institutions was guided by the informative positions that informants held.

3.5. Study Sample

The study was conducted on a total of 150 villagers who are experts on indigenous concepts of intelligence and indigenous cognitive activities from three (3) regions of Zambia, namely: Northern, North Western and Southern Province. Furthermore, at least two (2) experts from Curriculum Development Center of Zambia, (CDC), and two (2) experts from the Examinations Council of Zambia, (ECZ), from the central province of Lusaka were interviewed. This brought the total number of participants to at least 154.

3.6. Investigator's field research questions

In order to situate the concept of intelligence in relation to studies of society, history, language and culture, twofold research questions guided this research: To each of the five major language groups and to experts from Curriculum Development Center (CDC). Whereas data gathered at master's research from the Examinations Council of Zambia, (ECZ) is also utilized in this research.

A. To the Seven Major Language Groups:

1. What is the local concept of intelligence?
 - 1.1. How is this intelligence culturally assessed?
 - 1.2. What characteristics of intelligence and local cultural cognitive activities do you use to determine your assessment of an intelligent child?
 - 1.3. Do other language groups of Zambia share some of the concepts and characteristics of intelligence you have highlighted?

1.4. What are some of the shared social cultural concepts of intelligence among the seven major language /cultural groups in Zambia?

1.5. Which language /cultural groups share in the identified concepts of intelligence?

B. To the experts from Curriculum Development Center (CDC):

1. What local cultural concepts of intelligence and cognitive activities of indigenous origin such as *ciato* (Chewa), *butongwa* (Lozi), *chidunu* (Chewa), *kuyabila* (Tonga), inform the various stages of the current Primary School curriculum in Zambia as conceptualized by experts at the CDC?

C. To the experts from Examinations Council of Zambia (ECZ)

1. What characteristics of intelligence do Primary School Selection Examinations assess of a child?

3.7. Data collection instruments

Instruments used in data collection included: an electronic recorder, a camera for taking still photographs, a notebook and a laptop computer. A recorder was used to record verbal conversations in response to research questions, a camera was used to take pictures and document visible data, a notebook was used to jot down quick points highlighting key points; and a laptop computer was used to transcribe, translate and interpret collected raw data.

3.8. Data collection procedure and timeline

In each village among the expert villagers the researcher spent a minimum of four (4) weeks interviewing participants while sharing in their life in a given region. A further 2

weeks was spent collecting data from the experts from Curriculum Development Center (CDC) and Examinations Council of Zambia, (ECZ). Therefore, data collection period lasted close to 22 weeks (5 months and 2 weeks).

With the help of research assistants, interviews with informants were arranged. This entailed gathering identified elders at a central place in the village where interviews would then take place. This took the existing format that village elders use when they are either resolving community issues or planning village life and activities. In order to promote naturalistic observations, interviews were kept at conversational level by sometimes posing general questions that related only to other aspects of the local community life.

Observations of children playing local cultural cognitive games were unstructured. This depended on when children would be found playing as calling them to play a game would undermine the natural nature of the activity. When the games would be going on, the researcher positioned himself as an interested spectator of the game that was being played. This enabled the researcher to observe, take pictures and document the event for research analysis.

3.9. General Data analysis instruments and procedures

This research was inspired by the Grounded Theory of data analysis to collect and analyze data. Grounded Theory enables the researcher to get through to exactly what is going on in the participant's local context. In order to realize this correctly, the researcher has to suspend his/her preconceptions, remains open, and trusts in emergence of concepts

from the data. Furthermore, Grounded Theory allows for the analysis of data from various diverse sources, sites and perspectives, (Glaser 1992; Corbin & Charmaz, 2000). The resulting analysis is built on the power of the strong empirical foundations. Data collected from the multiple locations and by use of multiple instruments: participant observation; photographs collected during research; semi-structured interviews among the expert villagers were compared and analyzed. These analyses provide focused, abstract, conceptual theories that explain the studied empirical phenomena.

Through interviews with senior villagers, parents and those who hold natural teaching or leadership roles in the village community, indigenous concepts of intelligence and how it is assessed was documented. Children were observed during their participation, with their peers in natural cognitive (cultural) activities that were identified by expert informers. Observations were documented through photographs. Furthermore, interactions between children and elderly members of the community were also observed and documented. These helped to elucidate activities that point to intelligence and how it is assessed. This was repeated in all village communities that the research covered. Key and common points in the data were related across the different ethnic groups and grouped into common threads.

Research investigations through Examinations Council of Zambia (ECZ) and Curriculum Development Center (CDC), focused on what is assessed as intelligence in school examinations, with a particular focus on Special Papers I & II (which are used by ECZ for aptitude assessment). Further investigations with CDC and ECZ focused on how assessment criteria are guided or guide the formulation of the Primary School curriculum

especially Grades 5-7. Data collected here was documented and related to data collected from expert villagers in order to realize learning points.

3.10. Specific Data Analysis that addresses specific Research Purpose

3.10.1. To explore local cultural indigenous concepts of intelligence and the cognitive activities that characterizes it.

The specific method that addressed this aim mainly involved semi-structured interviews with senior villagers, parents and those who held natural teaching or leadership roles in the village community. Informers who are experts in local traditional wisdom were asked to highlight indigenous (local cultural) cognitive activities that are used to assess the identified indigenous intelligence of a child. In addition, children were observed in their natural setting as they participate and interact with their peer in some of the indigenous (local cultural) cognitive activities that were identified by expert informants.

From the onset, the researcher informed the adult informants that in addition to the topic of indigenous conceptualization of intelligence, the researcher would take time to explore through observation and sometimes participating in the games children would be playing since games:

- a.). are a frequent focus of children's activity likely to influence their development;
- b.). like language, differ from one culture to another. Hence my interest in what is distinctive about the games played by children of this ethno-linguistic group:
- c.). are a possible source of curriculum development to facilitate children's transition onto school.

Where games were identified as some of the cognitive activities that were used to assess child intelligence, observing children play served as illustrative opportunities to verify and authenticate data received from adult informants. The research was further open to acquire more insights into further significance of cognitive activities in addition to what had been highlighted by adult informants.

Interactions between children and members of the community who were not of their age group (elders) were also observed and documented as this could further reveal other indigenous forms of intelligence.

All research observations were documented through photographs, short notes and audio recordings for analysis purpose.

3.10.2. To propose ways of incorporating indigenous cultural cognitive activities in the national school curriculum).

To address this aim, data collected from villagers who are experts in indigenous knowledge systems and data from Examinations Council of Zambia (ECZ), and Curriculum Development Center (CDC) is compared. Comparisons of indigenous concepts and activities used to assess intelligence across Zambia and what is assessed as intelligence by our Primary School Examination system will help realize the degree of integration of our current formal school education system into local traditional cognitive practices.

3.10.3. To propose effective modes of transition from the local, indigenous culture informing young children's home and community socialization practices, into the existing somewhat Western-cultural lower primary school curriculum.

To address this aim, the cognitive value of indigenous games such as *Ciato* (Chewa), *Butongwe* (Lozi), *Chidunu* (Chewa), *Kuyabila* (Tonga) was explored and identified.

As works of M'tonga (2012), and Mukela (2013), clearly show that rural Zambian children's games are rich in affordances for cognitive, social and moral development, this research taps into the two research works (M'tonga (2012) and Mukela (2013),)carried out in rural Zambia.

To gain access to children at play, the researcher introduced himself as an interested spectator of the game that was being played. Children games generally appreciate some spectators. Spectators motivate the games to continue while silently instilling competition between/among players. Similarly competition further encourages the games to continue on as each player would be hoping to emerge as victorious or to outdo the other.

3.10.4. To generate a roadmap for ultimate grounding of formal education system on indigenous cultural cognitive activities and values.

What the research process identified as indigenous concepts of intelligence and cognitive activities used to assess it, serves as possible grounding for the formulation of education theories and policies that will guide and enhance the education system of Zambia to what could similarly be known as 'Generative Curriculum Model' (GCM) (Ball & Pence 1999; Pence et al. 1994).

CHAPTER FOUR: RESEARCH FINDINGS

RESEARCH FINDINGS ON THE CONCEPT AND CHARACTERISTICS OF INTELLIGENCE AMONG THE BEMBA; THE CHEWA; THE KAONDE; THE LOZI; THE LUNDA; THE LUVALE; AND THE TONGA LANGUAGE GROUPS- THE SEVEN MAJOR LANGUAGE GROUPS OF ZAMBIA

The presentation of research findings followed language groups; stating what they call intelligence, characteristics of intelligence and how they assess it, and cognitive games played by explored language groups.

4.1. Language fluency in an official indigenous language of interactive communication

Gathered informants were individually asked to identify the official native language of interactive communication amongst themselves as villagers. Furthermore, fellow elders who have lived together and have known of each other's language competency verified identified elders' native language proficiency. In this way the indigenous language of investigation as well as individual elders' competency levels was operationalised with grounding in self-assessed competencies of the elders interviewed.

4.2. Categories of Intelligence

The documented statements identified concepts of intelligence. Each identified concept and characteristic of intelligence was recorded. Data from individual informants revealed common themes that are indigenous characteristics of child intelligence. With the help of the Research Assistant these common themes were assigned into various categories of intelligence. These identified categories of intelligence were subsequently presented to

the informants for verification. Groups of elders verified the assigned categories as representative of characteristics earlier on collectively identified.

Research also revealed some **similar, abstract, concrete and sometimes overlapping statements**. These were identified with the closest abstract category. For example, personal hygiene and care of home surroundings are identified as attributes of social responsibility as it involves both personal and communal attributes. Overlapping concepts such as *ukutumikwa* and *utumikwa* fall under one and the same category as they are differentiated only by reference either to the **subject** or the **object** being investigated.

The identified categories are:

Social Responsibility; Cognitive Ability; Industrious; Common Sense or Initiative; Obedience; Respect; Honest, Trustworthy or Reliable; Merciful; Divine Gift; and Humility.

4.2.1. Social Responsibility

This category contains statement responses that relate to morally driven concrete behavior; domestic chores; personal hygiene and clothing; and some abstract psychological dispositions.

4.2.2. Cognitive Ability

This category contains statement responses that relate to cognitive functions such as swiftness of grasp of ideas; formal and informal school functions; remembering as well as planning.

4.2.3. Industrious

This category contains statement responses that relate to productiveness. These include Agricultural and Construction works.

4.2.4. Common Sense/ Initiative

This category contains statement responses that relate to the child's ability to discern a valuable act on his/her own.

4.2.5. Obedience

This category contains statement responses that relate to the child's compliance and dutifulness.

4.2.6. Respect

This category contains statement responses that relate to the child's ability to show social cultural values of acceptable conduct towards elders and others and courtesy towards others.

4.2.7. Honest/Trustworthy/Reliable

This category contains statement responses that relate to the child's truthfulness and coherence of word and action as well as dependability.

4.2.8. Merciful

This category contains statement responses that relate to the child's ability to show compassion for the weak and vulnerable.

4.2.9. Divine Gift

This category contains statement responses that relate to the child's possession of supernatural abilities and those that transcend biological functioning.

4.2.10. Humility

This category contains statement responses that relate to the child's ability to lower herself/himself and recognizing the role of others in society.

4.3. Cognitive Games

In addition to elicited concepts of intelligence and characteristics of an intelligent child, the research also elicited games that children play that promote various cognitive values.

Each language group highlighted some common games whose cognitive value are discussed and assessed.

Henceforth is the presentation of verified categories of indigenous concept of intelligence and elicited traditional games that influence cognitive development.

As a hermeneutical qualitative research, this research was principally anchored on two central research questions:

- 1. What is intelligence according to your language group?***
- 2. What are the characteristics and assessment criteria of intelligence?***

These facilitated the elicitation of the following research data under discussion below:

4.5. BEMBA

“Number of Interviewed voices under the Bemba Language group: #30”

Concepts of Intelligence:

4.5.1. ‘CIFYALILWA’ - WHAT WE ARE BORN WITH:

i). “*Amano cifyalilwa*”⁴ - Intelligence is genetically acquired. Several informants indicated that we are born with intelligence - *Amano tufyalwa nayo* and that school only adds onto our intelligence - *isukulu litulundilapofye*.⁵

4.5.2. ‘MAMBULWA’ - GATHERED/COLLECTED:

- i. Intelligence is gathered from our interaction with others: “*Amano mambulwa pantu tula sambilila ukufuma ku banesu*.”⁶
- ii. Guided learning from others then builds up: “*Tusambililafye ku banesu elyo twailundilapo fwebene*.”⁷

These concepts were repeated and expanded by 3 other informants.⁸

4.5.3. ‘NI MBUTO TU LONDOLAFYE’ - IT IS SEEDS WE COLLECT:

- i. Intelligence is seeds, we simply harvest from others: “*Amono ni mbuto tu londolafye*.”⁹

⁴ Bemba Respondent 1

⁵ See appendix for details

⁶ Bemba Respondent 9

⁷ Bemba Respondent 13

⁸ See appendix for details

- ii. You ask your friend where you don't know, and your friend shows you:

“Waipusha umunobe pafyo taushibe akulangako.”¹⁰

These concepts were repeated and expanded by 2 other informants.¹¹

4.5.4. ‘CUMA’ - WEALTH:

- i. Intelligence is wealth. It can be used to make money- grow tomatoes and sell to make money: *“Amano cuma. Kuti wayabomfya ukupanga indalama. Nangu wa byala tomato. Lilya yapya waya shitisha wa pangilapo impiya.”¹²*

4.5.5. ‘BUCENJESHI’ - CLEVERNESS:

To be clever is to be able to say nice things verbally but not being able to do them in reality: *“Ku landafye ifisuma pakanwa ukwabula ukuficita.”¹³* Other respondents described this characteristic of intelligence to include sweet talking others, being sneaky, and going behind people.¹⁴

4.5.5.1. Characteristics of Intelligence (Assessment Criterium):

4.5.5.1.2. Social Responsibility

Characteristics that relate intelligence under social responsibility include:

“U mwana uisambika eka”¹⁵ - Bathes himself/herself; *“Umwana ushilwa”* - Does not fight; and *“Unaya ubwali no kutwa”* - Who cooks nshima and pounds maize, millet,

⁹ Bemba Respondent 14

¹⁰ Bemba Respondent 15

¹¹ See appendix for details

¹² Bemba Respondent 18

¹³ Bemba Respondent 19

¹⁴ See appendix for details

¹⁵ All italicized words hereforth are responses from research respondent of the language group under investigation.

sorghum, etc. Thirty other informants separately provided the same responses and, in some instances, expanded on them.¹⁶

4.5.5.1.3. Cognitive Ability

“Uanguka ukuishiba ifyo balemulanga. Taalekokola ukuishiba ifintu” - Grasps things quickly when taught.

4.5.5.1.4. Industrious

“Uku lima ibala nga amona bawishi bale lima ibala ilya ku mwafwa” - Cultivating a field following after a parent who is cultivating a field, knowing that a field will help him/her; and *“Ukulima ibala nga amona umunankwe ale lima ibala”* - To cultivate a field when he/she sees another cultivating a field; are some of the frequently highlighted characteristics of intelligence under this category. Similar and elaborate responses under this category are in the appendix.¹⁷

4.5.5.1.5. Common Sense/Initiative

Common sense or initiative was highlighted by informants through the following responses: *“Uafwilisha abafyashi pafibulile”* - Who helps parents where he sees that they are lacking: does a piece of work and buys soap, cooking oil, etc for the house; *“Uibombela eka nangu tapali abakumweba”* - Who carries out duties without anyone telling him/her; *“Ukusha umulilo pa eka”* - Who lights a fire out of his own initiative; and *“Wabula ulukasu naena umwana abula ulukasu akonka”* - Follows the parent to the fields to help in fieldwork.

¹⁶ See appendix for details

¹⁷ See appendix for details

4.5.5.1.6. Obedience

Highlighted characteristics of intelligence highlighted under obedience include:

“Ukutumikwa” - Accepts to be sent; *“Ukuumfwila”* - Pays heed; and *“Umwana ule umfwila ifyo ulemweba we mu fyashi. E.G. Nga bamweba ati tiye kuibala, akonka”* - A child who heeds instructions from parents.

A further twenty-eight informants separately repeated and highlighted these responses.¹⁸

4.5.5.1.7. Respect

Research informants highlighted the following characteristics of intelligence under obedience: *“Uwa mucinshi paku asuka”* - Who answers / responds with respect; *“Umwana ufukama nga bamwiita”* - A child who kneels when he/she is called; and *“Umwana u asuka nomuchinshi nga ba mwiita”* - A child who answers with respect when he/she is called.

Twelve other informants repeated and, in some ways, expanded on these characteristics using different phrases.¹⁹

4.5.5.1.8. Honest / Trustworthy / Reliable

Under this category, the following responses were highlighted: *“Ukutumikila...Leta kapu, aleta”* - Who can be sent to do something and does it well; and, *“Fyoonse ifyo ulemutuma ala cita”* - A child who does everything he/she is sent to do. *Ukutumikila* was repeated by seven other informants.²⁰

¹⁸ See appendix for details

¹⁹ See appendix for details

²⁰ See appendix for details.

4.6. LUNDA

“Number of Interviewed voices under the Lunda Language group: #30”

4.6.1. Concepts of Intelligence:

The following responses highlighted concepts of intelligence among for the Lunda speaking people:

4.6.2. “*Waana kakuhayamisha wabadika hakuzata nyidimu*”²¹ - Special talent to do unique tasks.

4.6.3. “*Yuma yabadika hayitong’ojoka yayeni ya muntu*”²² - Something beyond reasoning as perceived by the rest.

4.6.4. “*Yitong’ojoka yakubadika ha yitong’ojoka ina natweshi muntu kwila*”²³ - Extraordinary thinking.

4.6.5. “*Kwila Yuma ya maana a yina antu kada ayimonehu dehi hela kuyitiya*”²⁴ - Creating something never before seen or known.

4.5.6. “*Yuma eleng’a muntu yakuhamisha*”²⁵ - Something one can make in a special way.

4.6.7. “*Neyi kushikola kupasa na ma maki akubadika akuhayamisha*”²⁶ - At school is to pass extraordinarily.

4.6.8. “*Yitong’ojoka yakuhayamisha*”²⁷ - Unique thinking.

4.6.9. “*Kutong’ojoka cha mbadika hayitong’ojoka ya muntu*”²⁸ - Reasoning in a special way and beyond ordinary.

²¹ Lunda respondent 1

²² Lunda respondent 2

²³ Lunda respondent 3

²⁴ Lunda respondent 4

²⁵ Lunda respondent 5

²⁶ Lunda respondent 6

²⁷ Lunda respondent 7

²⁸ Lunda respondent 8

4.6.9.1. Characteristics of Intelligence (Assessment Criterion):

4.6.9.1.1. Social Responsibility

Under this category were highlighted the following characteristics:

- i. “*Welanga yuma yalumbwa elang’a akulumpi*”²⁹ - Emulates good deeds from elders;
- ii. “*Welukang’a mpiji yakufunta kwitala neyi nayi na kuhema yomweni*” - He knows what time to get back home.
- iii. and “*Wakwashang’a amvwali jindi*” - Helps parents.

Fourty nine other informants repeated and expanded on these and similar characteristics under this same category.³⁰

4.6.9.1.2. Cognitive Ability

Informant responses on the attribute of cognitive ability included; “*Walalamenang’a swayi wanyi wahembag’a Yuma*” - He doesn’t forget easily; “*Wakwatang’a yuma lufuchi*” - He catches up fast; and, “*Watang’a maana ku shikola*” - Minds his schoolwork.

Thirteen other informants repeated and expanded on these characteristics of intelligence under cognitive ability.³¹

²⁹ All italicized words hereforth are responses from research respondent of the language group under investigation.

³⁰ See appendix for details

³¹ See appendix for details

4.6.9.1.3. Industrious

Among the common responses that highlighted this characteristic of intelligence include the following: “*Walondejeje*’a yuma eleng’a a kulumpi” - Does things that elders can do; “*Weleng*’ang’a tuyuma twamaseki twakuhemesha twatuwahi” - He is creative by making clay items, wire items etc; and, “*Wekalang*’a wadimena yomweni” - He is self-reliant.

Twenty-seven other informants separately repeated and in some instances expanded on them.³²

4.6.9.1.4. Common Sense/Initiative

Interviewed Lunda speaking elders highlighted the following as characteristics of intelligence under this category: “*Welang*’a Yuma chakubula kumwimena kulonda azati ona mudimu” - He does things with minimum supervision; “*Wehulang*’a yuma yakumukwasha yayiwahi yakumukwasha muchihandilu chindi” - Seeks for advice that can lead to good deeds; “*Walombang*’a wukwashi kudi antu amakwawu neyi nakang’anyi kwila Yuma wunkawindi” - He seeks help and advice where he cannot go it alone; “*Walomba wukwashi kudi akwawu neyi nakang’anyi kwila china chuma kankawindi*” - Seeks help from friends when need arises; and, “*Neyi nafunti kufuma ku shikola wenkanang’a nyikanda yindi kudi amvwali kulonda amonimu*” - When coming from school he gives his schoolwork to the parents to go through.

³² See appendix for details

4.6.9.1.5. Obedience

Among some of the characteristics brought out under obedience include the following:

“Walondelang’a amulejang’a kwila kaha nawa walondelang’amu” - Follows instructions; and, *“Mwaana wa shinshika na kwononoka”* - He is obedient. Seventeen other informants repeated and expanded on these characteristics.³³

4.6.9.1.6. Respect

Elders who brought out elements of respect as characteristic of intelligence highlighted the following attributes: *“Kansi wakanshinshi kulondela chisemwa hela kwimusha akulumpi”* - He follows traditional etiquette in greeting elders or responding to them; and, *“Wekalang’a nakavumbi nawa kulumpi”* - Respect for elders regardless of their age. These characteristics were repeated and, in some instances, expanded on by interviewed elders.³⁴

4.6.9.1.7. Honest / Trustworthy/ Reliable

These were understood by informants through these responses: *“Kansi wa bula kubajama”* - A child who is honest; *“Neyi ana mwinki mudimu, wazatang’a kwesekeja neyi ochu anamulejiwu kwila”* - When he is given an assignment, he performs to the expectation; and, *“Neyi anamwinki mudimu wazatang’a mwakwoloka ni mwayila wuna mudimu”* - When asked to carry out an assignment he does it accordingly. Other informants separately repeated these attributes and expanded on some of them.³⁵

³³ See appendix for details

³⁴ See appendix for details

³⁵ See appendix for details

4.6.9.1.8. Merciful

Under this category, Lunda informants especially recognized mercy towards a child's parent as characteristic of an intelligent child: "*Wekalang'a na luwii na amvwali jindi*" - Merciful for the parents. Other informants still repeated merfulness itself as characteristic of intelligence- "*Mwaan wa luuwi*" - He is merciful.

4.6.9.1.9. Divine Gifts

"*Maana yindi akudi Nzambi a kwiluka ja tama ni jajiwahi*" - He has God given gift of choosing what is wrong and what is right. These are special gifts from God that makes one perform exemplary things.

4.7. LUVALE

"Number of Interviewed voices under the Luvale Language group: #30"

4.7.1. Concepts of Intelligence:

4.7.2. "*Managa akukomowesa hakulinga vyuma*"³⁶ - Unique way of doing things.

4.7.3. "*Zachishilo yamangana akukomowesa*"³⁷ - An extra ordinary way of performing a task.

4.7.4. "*Vyuma vichikulingisanga mutu kushinganyeka mwakukomowesa ku watu vakwavo*"³⁸ - A thing that makes people prove beyond normal.

4.7.5. "*Vishinganyeka vya puho vakukomowesa*"³⁹ - Something beyond ordinary.

4.7.6. "*Mangana akukomowesa akulingilamo vyuma*"⁴⁰ - Wisdom that one can do certain thing in a unique way.

³⁶ Luvale respondent 1

³⁷ Luvale respondent 2

³⁸ Luvale respondent 3

4.7.7. “*Kutunga chuma chize vatu kachifwelela kupwako*”⁴¹ - Creating something man cannot imagine it can exist.

4.7.8. “*Managa apwa amuvali, akuli Kalunga, na aze a kushikola*”⁴² - Intelligence is two ways, God given and acquired through learning.

4.7.9. “*Kulinga vyuma vya wungazule vya kukomowesa*”⁴³ - Performing special tasks in society.

4.7.10. “*Kutaka chuma chize vatu navahasa kuhona kufwelela ngwavo chinahase kulingiwa*”⁴⁴ - Inventing something beyond human understanding.

4.7.11. “*Kuteta milonga mujila yakukupuka*”⁴⁵ - Judging cases in a unique way.

4.7.11.1. Characteristics of Intelligence (Assessment Criterion):

4.7.11.1.1. Social Responsibility

Among the Luvale informants, Social responsibility was manifested through the following characteristics: “*Achikafwakako visemi namilimo yaha zuvo*”⁴⁶ - Helping parents with house chores; “*Apwa chingazule hakuhema apwa kaha twamina hakachi kavakwavo*” - He takes leadership roles when playing with friends; and, “*Kanyike wapwevo azanga kumbata chihela hakuhema nge yikiye hi mwapwachisemi*” - A child emulates the role of a mother. Several other responses that were gathered repeat and or expanded on these.⁴⁷

³⁹ Luvale respondent 4

⁴⁰ Luvale respondent 5

⁴¹ Luvale respondent 6

⁴² Luvale respondent 7

⁴³ Luvale respondent 8

⁴⁴ Luvale respondent 9

⁴⁵ Luvale respondent 10

⁴⁶ All *italized* words hereafter are responses from research respondents of the language group under investigation.

⁴⁷ See appendix for details

4.7.11.1.2. Cognitive Ability

Informants understood cognitive ability to include: *Apwa wa kulama vyuma kechi kuvulya washi vyumako*” - He is not forgetful; *Jila achikulingilangamo vyuma yambwende*” - The way he articulates issues; and, *“Vilinga vyenyi vyalisezako navakwavo vosena*” He reasons differently from others. Other informants repeated these responses and sometimes simply expanded on them.⁴⁸

4.7.11.1.3. Industrious

From interview responses industriousness as characteristic of an intelligent child was highlighted as: *“Kanyike wuze azanga vya kuwumba wumba na ndambo chipwe tuma motoka twa mawaya”* - He is creative e.g. Making clay item, or wire items; *“Achi kukilikitanga vyama nava kilikita vakulwane”* - Does things that elders can do; and, *“Apwa wakukomwesa watu mujila echi kulingilangamo milimo jenyi”* - He is extraordinary in the way he does some assignments. These responses were separately repeated and sometimes expanded on by other informants interviewed.⁴⁹

4.7.11.1.4. Obedience

Among characteristics under this category include: *“Achi kukavangizanga vilongeselo vya vakulwane”* - Following the counsel of elders; *“Wa kwononoka nge navamutuma kuli visemi jenyi”* - Obedience when sent by elders; and, *“Apwa wakukavangiza lwola hakuzata milimo”* - He/she minds time in doing assignments. Other informants shared attributes of obedience that repeated, were similar, and/or simply expanded on these.⁵⁰

⁴⁸ See appendix for details

⁴⁹ See appendix for details

⁵⁰ See appendix for details

4.7.11.1.5. Respect

Research informants gave among them, the following responses under this category:

“Wakalemesa kuli vakulwane” - The way he conducts himself towards elders; *“Wakalesa navakulwane”* - He has respect for elders; and, *“Kapwa namalanduluko”* - He is not rude. Other responses somewhat repeated and in some instances expanded on these.⁵¹

4.7.11.1.6. Honest / Trustworthy / Reliable

Some collected informant understanding of these characteristics to signify an intelligent child include the following: *“Kaveshi kumukambako ha kuzata milimo”* - A child who works with minimum supervision; *“Kanyike evwilila jishiko nge vanamuhane milimo yakuzata kuli vakulwane”* - The way he responds to work assigned to him by elders; and, *“Azanga kulikata nava kulwane managa alilongeseleko mangana”* - He learns from elders.

4.7.11.1.7. Common Sense/Initiative

Research among the Luvale elders understood children who possess these attributes through these responses: *“Ejiva nakulihana milimo yavene mukukafwa visemi hembo”* - He knows how to give himself tasks to help the parents at home; and, *“Kanyike wamangana akukomowesa chikupu”* - He has a lot of initiatives to do things without being told. Other informants separately repeated and expanded on these.⁵²

⁵¹ See appendix for details

⁵² See appendix for details.

4.7.11.1.8. Merciful

Luvale informants highlighted mercifulness especially as expressed through a child's relationship with the aged: "*Achikwivwilangako kheke tushinakhaji navaze vanakolo*"⁵³ - He Feels mercy for the aged. This response was repeated by another respondent.

4.7.11.1.9. Divine Gifts

Informants who highlighted this attribute recognized that certain attributes are borne of God: "*Ali na mangana akufuma kuli Kalunga hi waana wakukomowesa*" - Gift from God that is unique in doing things; and, "*Kanyike wuze kalunga ahana waana*" - A child whom God gave a special talent.

4.8. KAONDE

"Number of Interviewed voices under the Kaonde Language group: #30"

4.8.1. Concepts of Intelligence:

4.8.2. "*Kuba bintu mujishinda jakukumya japusanako ne mo bebyubila bintu*"⁵⁴ - Extraordinary way of doing things.

4.8.3. "*Maana apana Lesa ku bantu ja milangwe yakila pa milangwe yikwabo*"⁵⁵ - It is that kind of wisdom given to people to reason more than the others.

4.8.4. "*Kulanguluka kukila pamilanguluko ine ya kijisha maana*"⁵⁶ - Thinking beyond normal way of reasoning.

⁵³ Luvale respondent

⁵⁴ Kaonde Respondent 1

⁵⁵ Kaonde Respondent 2

⁵⁶ Kaonde Respondent 3

4.8.5. “*Milangwe yakila milangwe yin eke milangwe yakijishamo*”⁵⁷ – It is reason beyond normal reasoning.

4.8.6. “*Kulenga bintu byakila mumilangul; uko ya muntu, maana akila pa maana*”⁵⁸ - Creating something that many people are not able to create it.

4.8.7. “*Maana aji mubiji apana Lesa ne maana akufunda sukulu*”⁵⁹ - Intelligence is clarified in two, God given and gotten from school.

4.8.8. “*Kuba bintu bya bukomo abya bavula bakankalwa kuba mu myaka yavula*”⁶⁰ - Bringing special developmental programmes that others have failed to bring over the years.

4.8.9. “*Kwingila bintu na milangwe yakila ppa milangwe ya muntu*”⁶¹ - Special way of doing something in unique way.

4.8.9.1. Characteristics of Intelligence (Assessment Criterium):

4.8.9.1.1. Social Responsibility

Among the common responses brought out by informants on this characteristic of intelligence include: “*Bukwasha basemi na mingilo yapa nzubo*” - Helps the parents doing some domestic chores; “*Byo engila bintu na munkonsha ne kutako maana*”⁶² - The way he does things with care and caution; “*Watemwa kwingila bya buntangi inge babena kukaya nabakwabo*” - He does leading roles when playing with friends; “*Wayuka kusala kuba vyawama ne kukana kuba byatama mwine*” - Able to distinguish what is wrong and

⁵⁷ Kaonde Respondent 4

⁵⁸ Kaonde Respondent 5

⁵⁹ Kaonde Respondent 6

⁶⁰ Kaonde Respondent 7

⁶¹ Kaonde Respondent 8

⁶² All *italized* words hereforth are responses from research respondent of the language group under investigation.

what is right; and, “*Bukwasha kupana milangwe kubasemi*” - He advises even elders. Other informants separately repeated and expanded on some of these characteristics.⁶³

4.8.9.1.2. Cognitive Ability

Research informants understood cognitive ability through some of the following responses: “*Kechi wulubamo bintu bikiji ne*” - He doesn’t forget easily; “*Wufunda bintu ne ngingijilo yabyo bulongo*” - He grasps ideas of how things work; and “*Wipuzha mepuzho kubamba ayuke bintu*” - He asks question to learn things of his interest. Other informants separately repeated and somewhat expanded on them.⁶⁴

4.8.9.1.3. Industrious

Some of the frequently shared responses include the following: “*Buuba bintu byakwimwena mwiine*” - Self-reliant; “*Wubumba bumba tubintu kwingijisha buchimba*” - He is creative by molding various clay items; and, “*Muntu buba byakukumya mubwikalo bwanji*” - The one who does activities that are exemplary. Several other informants separately repeated and expanded on these attributes.⁶⁵

4.8.9.1.4. Obedience

Informants highlighted obedience through these responses: “*Wulondela mafunjisho bulongo*” - Following advice given; “*Byubilo byanji byakulondela bakulumpe*” - His behavior is that of following teaching from the parents; and, “*Wuji ma muchima wa*

⁶³ See appendix for details

⁶⁴ See appendix for details

⁶⁵ See appendix for details

kuchina Lesa” - One who has fear of God. Other informants repeated and expanded on these responses.⁶⁶

4.8.9.1.5. Respect

Among several responses shared regarding this characteristic of an intelligent child are the following:

“Wikala wa mushingi kuba kulumpe inge bamutuma kuba bintu” - He has respect for elders when they send him to do something; and *“Byo eyisamba ne ngasukilo yanji neba kulumpe”* - The way he speaks and responds to elders. However, several other informants repeated and expanded these responses in highlighting these attributes.⁶⁷

4.8.9.1.6. Honest / Trustworthy/ Reliable

Under this category, informants highlighted honest, trustworthy and reliableness in their responses through the following responses:

- i. *“Wutako muchima pa mwingilo ye be mupa”* - Concentrates on anything given to work on.
- ii. *“Mwaana wa bwikalo wawama kabiji wa lumbuluka mubintu byonse”* - His character is exemplary and is reliable in everything.
- iii. *“Wulondela ngayo yabintu bulongo”* - Articulates issues well.
- iv. *“Wuleta mwine mabuuku anji aku sukulu kwi nsemi yanji kubamba amone byo alemba”* - He brings his books to the parents to check his work.
- v. *“Mwana wa kinshinka”* - A child who is faithful.

⁶⁶ See appendix for details

⁶⁷ See appendix for details

4.8.9.1.7. Common Sense/Initiative

Under this category, informants highlighted the following attributes: “*Wiyubila bintu aye mwine kwakubula kumukambizha*” - One who does things on his own without being forced; “*Ulenga lenga tubintu pakukaya nabakwabo*” - He is creative during the time they play with friends; and, “*Wiyilangulukila kuba bintu aye mwine*” - Thinking for himself to do right things in life. Several other informants repeated and expanded on these responses.⁶⁸

4.9. TONGA

“Number of Interviewed voices under the Tonga Language group: #30”

4.9.1. Concepts of Intelligence:

4.9.1.1. ‘BUSONGO’ – “*Maano akuzyalwa angayo*”⁶⁹ - Genetically acquired – inborn intelligence. ‘*Ikusongola*’ - is to solve complicated issues using wisdom. This is often associated with natural leadership. “*Ikusongola na ikupampaula itwaambo kwiinda akubelesya busongo. Muziindi zinji echi chaamba kuti muntu ulakozya kuba musololi*”⁷⁰.

4.9.1.2. ‘MAANO’ – “*Maano akukozya ku pampununa twaambo twaandeene*”⁷¹ - Intelligence and wits capable of solving academic and professional tasks. This is often associated with managing operations.

4.9.1.3. ‘KUCENJELA’ - Cleverness.

4.9.1.4. ‘MANCA’ – “*Kucita zyintu zyisuunyene*”⁷² - Doing things accordingly.

⁶⁸ See appendix for details

⁶⁹ Tonga respondent 1

⁷⁰ Tonga respondent 1

⁷¹ Tonga respondent 2

⁷² Tonga respondent 3

4.9.1.5. ‘KUBA A BONGO’ - To have brains.

4.9.1.6. ‘MAANO AKUZYIBA BULANGA’ – “*Walanga biyo wazyiba*”⁷³ -

Intuitiveness / Common Sense. Ability to know simply by perceivn.

4.9.1.7. ‘KUYEEYA KABOTU MU MIZEEZO’ - To be coherent in thinking.

4.9.1.8. ‘LUZYIBO’ - Knowledge.

4.9.1.9. ‘MAANO AKUCIKOLO’ - Formal school intelligence.

4.9.1.9.1. Characteristics of Intelligence (Assessment Criterium):

4.9.1.9.1.2. Social Responsibility

From research interview among purposefully selected Tonga elders, the following response stood out among several responses gathered under this characteristic:

- i. “*Muyumu kubeleka ang’anda*” - Is hardworking in doing house chores.
- ii. “*Ulicizyi kulumba*” - Knows to say thank you---is grateful.
- iii. “*Kucizyiba kupona abantu*” - Knowing how to live well with others.
- iv. “*Kuyeeya zyizya kumbele*” - Planning ahead.
- v. “*Kutaccilila maccilila ccilila*” - Autonomy in decision-making.
- vi. “*Kubikkila maano ziyvubwa*” - Care for animals.

Other responses under this same characteristic of intelligence either repeated and/or expanded on these common understandings.⁷⁴

4.9.1.9.1.3. Cognitive Ability

Cognitive ability was understood as follows:

- i. “*Busongo*” - Natural wisdom.

⁷³ Tonga respondent4

⁷⁴ See appendix for details

- ii. “*Ulamvwa kufwaambana*” - Grasps quickly.
- iii. “*Uli abusongo*” - Possesses natural wisdom.
- iv. “*Ulicenjede*” - Is clever.
- v. “*Buvuntauzyi*” - Possesses Investigativeness abilities /desire to know.

Another informant repeated ability to grasp things quickly under this theme.

4.9.1.9.1.4. Industrious

Among the common responses under this theme were:

- i. “*Ulicizyi kulima muunda*” - Knows how to cultivate a field.
- ii. “*Ulayaanda kwiiya milimo*” - Desires to learn how to work.
- iii. “*Muyumu kuya kucikolo*” - Is hardworking at school.
- iv. “*Munkutwe ku milimo*” - Shows dedication and attention on what he/she is doing.
- v. “*Ulafuma kubuka*” - Works up early in the morning.

Other informants repeated and expanded on these responses.⁷⁵

4.9.1.9.1.5. Obedience

Responses under this characteristic centered around heeding to advice (“*Ulamvwa kulaigwa*” - Takes advice) and doing what the child is instructed to do (“*Ucita nchaatumwa*” - Who does what she/he is sent to do). Other responses repeated and expanded on these observations.⁷⁶

4.9.1.9.1.6. Respect

Among the the Tonga informants, respect was understood as:

⁷⁵ See appendix for details

⁷⁶ See appendix for details

- i. *“Ulavwiila cabulemu aitwa – Maa / Taa”* - Responds with respect when called.
- ii. *“Ulafugama asika ali bapati”* - Kneels down before elders.
- iii. *“Apegwa cintu ulatambula amanza obilo”* - Receives things with both hands- cultural sign of respectfulness.
- iv. *“Unyina cinia”* - Is not stubborn.

Other informants repeated and expanded on these observable attributes of respect.⁷⁷

4.9.1.9.1.7. Honest / Trustworthy / Reliable

These three characteristics assessment of intelligence were brought out through informant responses as follows: *“Ulafwambaana kucita ncaatumwa”* - Does what he/she has been sent to do quickly; *“Kushomeka”* - Trustworthy / reliable; and *“Ulashomeka”* - Is trustworthy.

4.9.1.9.1.8. Common Sense / Initiative

Common responses under this characteristic were:

- i. *“Ulabasibikila meenda akusamba”* - Warms up water for bathing for parents.
- ii. *“Ulatilikizya kujika banyina kabatana sika kuzwa kuncito”* - Starts to cook before the mother gets back from work.
- iii. *“Ulabuzya ku bazyali milimo yeelede kubelekwa”* - Inquires from parents on works that need to be done.

⁷⁷ See appendix for details

- iv. “*Kukwapa bwizu bwalampa*” - Slashes the grass around the yard when it has overgrown.
- v. “*Kukunka mulilo akusibika meenda kutegwa basika banyina bajike biyonsima*” - Starting a fire and putting a water pot on the fire so that when the mother comes, she just cooks nshima.

Other informants responses either repeated or expanded on these responses.⁷⁸

4.9.1.9.1.9. Humility

Informants understood humility as ability to ask when one does not know: “*Ulabuzya natazyi – bomba ulye malelo*” - Asks to know when he/she does not know.

4.10. LOZI

“Number of Interviewed voices under the Lozi Language p: #30”

4.10.1. Concepts of Intelligence

4.10.1.1. Ngana Tanu

Bo Lubasi of *Nakasheke* village introduced two distinctive concepts of intelligence: “*Ngana tanu ki ngana yaku pepwa ni yona. Ki ngana ya lu file mulimu*”⁷⁹ -This is the intelligence a child is born with. It is the intelligence God gives us and we are born with it. According to this concept, *Ngana tanu* is distributed differently. There are children who are born with plenty of it. Others are born with less of it. Those with more *Ngana tanu* are called talented. They are listened to, respected and entrusted with leadership roles. Those with less *Ngana tanu* are looked down upon when interacting with others.

⁷⁸ See appendix for details

⁷⁹ Lubasi, a Lozi respondent.

When they go playing, one with less *Ngana tanu* is assigned lower grade roles while the one with more *Ngana tanu* is given higher roles, “*Habeza kwa mandwani, yani ya nani ngana tanu yeinyani ye nabamu biza Luwawa. Kono yani ya nani ngana tanu ye ng’ata, yena bamu biza kuli kiyena muna munzi. Ki yena ya ka zamaisa munzi kaufela*”⁸⁰ - When they are at play, the child with less *Ngana tanu* will be assigned as foxes in the village. But the one with more *Ngana tanu* will be assigned as the village headman who will preside over the whole village. I further inquired into the characteristics that determine the various roles the children are assigned at play.

“*Ye bafa kuli a be mung’a amunzi ki mwanana ye baboni babanwi kuli unani zibo mwa lika. Nimwa bulelela cwalo kele ba bona kuli yo ki yena mun’ga munzi. Yaani Sitongwani ki mutu ya swana inge lisholi. Fo kunwi u apilikeza banana kuli amulwane. Ki Sitongwani mutu ya cwalo. Kakuli za eza liisa kwa likolofalo*”⁸¹ - The one who is assigned as the village headman is a child whom others have seen to have knowledge in things. Even the manner of speaking indicates to others that this one is the village headman. The one who is assigned as a Fox is a child who is like a thief. At times such a child will force other children to fight. Such a child is a fox because what he/she does leads to harm.

It is evident in these responses that the character that is manifested through acts is also another attribute that provides insight into the natural intelligence nature of a child. By the way a child speaks, interacts with others, it is indicative of the degree of the natural intelligence ‘*Ngana Tanu*’ which a child is born with.

⁸⁰ Lubasi, a Lozi respondent of Nakasheke village

⁸¹ Lubasi, a Lozi respondent of Nakasheke village

4.10.1.2. Ngana Takuwanina

On the other hand, “*Ngana takuwanina ki ngana ye lu fumana mwa libuka ni ka ku pila ni batu*”⁸² - This second form of intelligence is the kind that we acquire from formal schooling using books and by living with others.

4.10.2. Characteristics of Intelligence (Assessment Criterium):

These assessment criterium are arranged in the order of the one most frequently identified to the least.

4.10.2.1. Social Responsibility

Bo Mukebi Lindunda noted love, concern for others and desire to learn from others as some qualities or characteristics of an intelligent child:

Question: Ki likamani ze lu bonisa kuli mwanana yaani uka ba wa ngana? (What are some indicators of intelligence in a child?). *Bo Lindunda* observes that an intelligent girl-child, for instance, **is one who has concern for others**. She used the example of her granddaughter:

“Kakuli lusa lobezi, uka utwa ka lu bala, ‘Kuku mu zuhile cwani? Kuku ba basali, kuku ba bana?’ Peto kikale uziba feeela kuli katu kaa ka hula ni ngana. Ha ka koni ku zuha feeela kuyo bapala”⁸³ - While we would still be asleep, she greets us

“Grandmother and grandfather, how are you? She counts us as she greets us,

⁸² Lubasi, a Lozi respondent of Nakasheke village

⁸³ Mukebi Lindunda a Lozi respondent

“Grandmother, grandmother”. Then you already know that this child is growing up with intelligence.

In the same vain a boy child is known to grow up with intelligence if he manifests willingness and desire to learn from the elders.

*“Kwa bashimani, uka bona kuli ka kakaba ni ngana kakalatelela ze baeza bo kukuakona. Bokuku atona baye mwa mushitu, nitona twalatelela; bo kuku atona baye kwa masimu, nitona twa latelela”*⁸⁴ - Among the boys you will realize which child will grow up intelligently by their desire to emulate the elders. When the grandfather goes hunting in the forest, they also follow; when the grandfather goes to the fields, they also follow.

The desire to learn through active participation and the realization of the need to learn so that knowledge can be passed onto them is characteristic of an intelligent child.

*“Fo kunwi lwa tufanga mimbeta ya mikomena ya miloho. Haukayo zuha, uka to fumana kuli kona ki kale ka selaela kale”*⁸⁵ - Sometimes we give them vegetable beds for them to take care of. By the time you wake up, you find that she/he has already watered his/her vegetable bed.

Intelligence in this sense is similar to Vygotsky’s concept of Participatory Appropriation. Ability to appropriate what has been learned is indicative of an intelligent child.

⁸⁴ Mukebi Lindunda a Lozi respondent

⁸⁵ Mukebi Lindunda a Lozi respondent

4.10.2.2. Adherence to Social Roles

Girls: According to Lozi tradition, an intelligent girl is one who attends to her daily chores with little or no reminders from the parents. When a girl has learnt her responsibilities and willingly begins to take them up without any influence or push from any parent, then a girl is said to be intelligent. According to *Bo Edith Mukatimui*,

*“Ka misebezi mwa lapa. Wa pakela ka kusasa, wa fiyela-fiyela, waka tu mezi, wa anga tu keke wa tapisa. Peto luli mwanana yo unani ngana”*⁸⁶ - By the works the child performs: She wakes up early in the morning, sweeps the area, draws some water and gets the plates and washes them. Then we say that this girl is intelligent.

Boys: On the other hand, the intelligence of a boy child is realized by what the boy wakes up to do. An intelligent boy (for those with cows), will wake up, goes straight to the kraal to make sure things are fine with the cattle. This is a sign of responsibility on his part. As *Bo Edith Mukatimui* notes; *“Kwa bana babashimani, yaeza ha zuha kakusasana wa pakela (inge bale baba lisa likomu), uyo nangela kwa mulaka. Hayo kuta uli nizo bona ze ni ze. Ki ngana”*⁸⁷ - For the boys, one who wakes up early in the morning, (for those who own cows), goes to the kraal. When he comes back, he brings a report over what he saw at the kraal. That is intelligence.

4.10.2.3. Intellectual Curiosity Expressed Through Questions About Origins of Family

According to *Induna Simon Ngenda Luyanga* of the Lozi Royal Court at Lealui, intelligence is perceived in two different ways.

⁸⁶ Edith Mukatimui, a Lozi respondent

⁸⁷ Edith Mukatimui, a Lozi respondent

The first characteristic of intelligence is the child's desire to explore the origins of life and the origins of the child's family as well as the total composition of the child's family.

*“Lunge ka mutala mwana, muinzi ni yena mina ba shemi ba hae. U mi buza lipuzo, ‘Tate, muzwa kai? Kanti luna luzwa kai? Mu simuluha kai? Kutile cwani kuli luto ipumana mwa sibaka mo?’ Ki peto ona lipuzo ze swana sina zani, kikele mu ziba kuli kanti mwanana yo unani ngana. Ka lipuzo za buza mutu”*⁸⁸ - Let us take for example the child is seated with you as parents. The child asks you questions, “Dad, where do you come from? Where do we come from? How did it happen that we find ourselves in this place?” By such questions as these, then you know that this child is intelligent.

In addition to this concept of intelligence, an intelligent child also concerns herself/himself with the general wellbeing of the immediate family. This is expressed through family visitations. An intelligent child will make an effort to visit the family members to find out how they are doing. The child brings home the information about how the rest of her/his relatives are doing.

While love and concern for relatives is an indicator of child intelligence, concern for a parent who had travelled is also indicative of the child's intelligence:

*“Mushemi hazamaile, hayo kuta. Peto mwanana yaani wa mbatoka mushemi. Uyo amuhela za shimbile mushemi. Wa kuta uto ina kwatuko wa lumelisa mushemi yaani ni ku buza mushemi mwa zamaezi. Yaani ki ngana”*⁸⁹ - When a parent had travelled and returns. The child runs towards the returning parent and takes some of the

⁸⁸ Induna Simon Ngenda Luyanga, a Lozi respondent of Lealui village

⁸⁹ Induna Simon Ngenda Luyanga, a Lozi respondent of Lealui village

parent's load. When they have arrived home, the child goes and sits by the parent and greets the parent, finding out how the parent travelled. That is intelligence.

The way of receiving visitors is equally a significant indicator of a child's intelligence.

Bo Mukelabai said:

*“Mwanana yanani ngana wa ziba ku amuhela baeni. Uka ba amuhela, wa bafa sipula, kona ataha kuto ba lumelisa. Mi ha bapaleli kokuinzi batu”*⁹⁰ - An intelligent child knows how to receive visitors and how to take care of them. An intelligent child will receive a visitor, gives them a stool to sit, then comes forth, kneels down before the visitor and greets them. Furthermore, an intelligent child treats with respect, the space near and around the visitor.

By these characteristics of relating to a visiting outsider, parents can tell whether the child is intelligent or not. This form of intelligence is acquired from interactive observation of what happens in a home when the household receives a visitor.

4.10.2.4. Desire to Fulfill What Parents Desired to Fulfill

While everybody is born with intelligence, intelligence has levels. An intelligent child is one who has the desire to learn things that are helpful in life. For example, if parents send that child, as an intelligent child, he/she has the desire to fulfill the intentions of the parents. According to *Bo Nyambe*, *“Mwanana yanani ngana unani takazo yaku taleleza takazo ya bashemi ba hae”*⁹¹ - An intelligent child has a desire to fulfill the will and intention of the parents. When the child has grasped the parents' dream or hope in life,

⁹⁰ Mukelabai, a Lozi respondent of Lealui village

⁹¹ Bo Nyambe, a Lozi respondent of Lealui village

which could be either for the parent, for the child or generally for society at large, an intelligent child is noted by how he/she embraces and seeks to realize the dream that the parents had in life. Ability to realize dream and to work towards its realization is characteristic of an intelligent child.

4.10.2.5. Kindness and Social Responsibility

Still among the Lozi people of Western province, the intelligence of a child is also assessed by the child's sense of social responsibility. This is in the care of the wellbeing of others. In some respect, it is called kindness. If a child is kind and acts kindly to those to whom acts of kindness need to be shown, then a child is said to be intelligent. As *Bo Edith Namwaka Mukatimui* observed, "*Kunani ngana ya sishemo. Mutu ha fumana ya palezwi, hamu amuhela hande ni ku ambola hande ni yena. Peto lu bona kuli mwanana yo unani ngana*"⁹² - Kindness is also intelligent. When a child finds someone, who has some health difficulty, receives the struggling person and talks to them properly, then we say that that child is intelligent. Intelligence here borders on concern for others and taking care of them.

4.10.2.6. Cognitive Ability

4.10.2.6.1. "*Bunangu*", Ability to Grasp Things Swiftly

Induna Lingomba also highlights swiftness of comprehension as intelligence. "*Bunangu italusa mutu ya swala lika kaubebe*"⁹³ – '*Bunangu*' means swiftness to grasp things. An intelligent child is therefore, swift to grasp what is taught or what is being shown to the

⁹² Edith Namwaka Mukatimui, a Lozi respondent

⁹³ Induna Lingomba, a Lozi responde of Lealui village

child. The rate of this swiftness is arrived at in comparison to others in a group. Through comparison in this aspect, the degrees of intelligence, based on the characteristic of intelligence as swiftness, is arrived at.

4.10.2.6.2. Ability to Master What Has Been Taught

According to *Induna Lingomba*, intelligence is the child's ability to master and remember what the parents teach him/her. "*Fokunwi, mwa mu bonisa kuli eza se. Muka bona asa si libala. Wa eza. Fo luli mwanana yo unani ngana*"⁹⁴ - Sometimes you show a child what to do. He/she will never forget. He/she does it. Then we say the child is intelligent. This concept of intelligence is characterized by the child's ability to remember. In this regard therefore, the retention level of a child determines the child's degree of intelligence. According to this position, a child who remembers all that he has seen and shown is intelligent.

On the other hand, knowledge builds on intelligence. *Induna Lingomba* argues that all people are born with a degree of intelligence. But this intelligence is activated through either informal or formal instructions. For instance, when a child is born, a child does not fear fire or a snake. But after a child has been told of the dangers of either one of them, the child now manifests that knowledge by abstaining from those two dangers. The ability to comprehend instructions is inborn intelligence, which all people possess. The ability to retain and the levels of retention of received instructions are what determine intelligence.

⁹⁴ Induna Lingomba, Lozi respondent of Lealui village

4.10.2.6.3. Ability to Replicate What Is Perceived

According to *Induna Tungulu* of the Barotse Royal Establishment, he defines an intelligent child as one who is able to imitate by way of replicating what seems new and puzzling. “*Ngana ki mwanana kapa yo muhulu yaba ni ku likanyisa sesi bonahala kuli seo sa komokisa kwa batu. Mo inezi phoni ye, kono yena wa kona kuiswanisa*”⁹⁵ -

Intelligent is a child or an adult who is able to imitate/ replicate what is perceived, new and puzzling to people. Just the way that phone is, an intelligent child can draw it.

Induna Tungulu carries on this idea by using the examples of clay and child’s activities of making different kinds of images and objects out of it. The ability to make clear and distinct images out of soft clay is a characteristic of intelligence. “*Aluka inga komu, sifateho sa yona, moizamaela, moibupezwi, moipepezwi. Ibe mwanana wa inga li zupa, wa bupa ona komu yaani. Mane wa bupa ni yena mutu ka sibili*”⁹⁶ - Let us take for example a cow, its face, the way it walks, the way it is built, the way it is born. Then a child takes soft clay and molds the replica of that very cow. Even makes a human being himself/herself.

By sheer coincidence, *Induna Tungulu* brought out the exact images brought out by Serpell in his “**Panga Muntu**” research project (Kathuria & Serpell 1998). In Serpell’s project, the child’s ability to make a human being with clear and distinct features of a human person was characteristic of an intelligent child.

Another example of this is when the children use wires to make things they have perceived in day-to-day life:

⁹⁵ Induna Tungulu, a Lozi respondent of Lealui village

⁹⁶ Induna Tungulu, a Lozi respondent of Lealui village

*“Ha lu zamaya halu fita saidi yaale ya Kaoma. Lwa bonanga kuli kunani banana baba eza kuli ba inganga ma waya ale ba ezanga li mota zaale. Luli luli, haluka italima mota yaale ni moota ya bupile mwanana, za swana. Kona kuli mutu yani lu mu beya kuli unani ngana”*⁹⁷ - When we travel around Kaoma area. We see children who will collect some wires and make vehicles out of them. Truly, truly, when you look at a vehicle and the vehicle, which the child has made out of wires, they are the same. Then we say that that child is intelligent.

This concept of imitation or replicating what has been perceived is not only in drawing or making vehicles out of wires. But it is also found in emulating a way of life that is good for society. *“Yena mutu yaani, hainzi ni baba hulu, ukopisa ze ba eza babahulu. Hakazwa fateni, uyo likanisa zaani za bona ku baba hulu. Peto lu bulela kuli mutu yo unani ngana”*⁹⁸ - The child while in the presence of the elders, copies what the elders do. When he/she leaves the company of elders, she/he goes and lives out what he/she has learnt from the elders. So, we say that such a person is intelligent.

Similarly, *Bo Mubyana* shared that Intelligence is having the ability and desire to learn from others what is perceived. *“Muka fumana kuli totumu hatu hohoba ni kona ka yema kuli ka likanise zeka bona. Kabata ngana ye zekabona”*⁹⁹, - We will find that when the other babies are crawling, an intelligent baby will also try to imitate them crawling. It wants that intelligence. Learning is not just by perceiving but by attempting what is perceived. Participation into a desired activity is a sign that a child is intelligent and leads the child to higher progressive levels of intelligence.

⁹⁷ Induna Tungulu, a Lozi respondent of Lealui village

⁹⁸ Induna Tungulu, a Lozi respondent of Lealui village

⁹⁹ Mubyana, a Lozi respondent

4.10.2.6.4. Cleverness (Butali) And Knowledge (Zibo)

Richard Mukatimui Mututwa another elderly man of Lealui Royal village defines intelligence as cleverness and ability to know and understand how things operate.

“Ngana ki mutu ya nani zibo ni butali bwa ku ziba kuli lika ze li zamaya cwana”¹⁰⁰ -

Intelligence is having knowledge and cleverness to know and understand how things go.

A clever child will grasp things before they are fully explained. Once the clever child conceives of the idea, the child uses that conceived idea to figure out things in life.

4.10.2.7. Industrious

4.10.2.7.1. Ability to Survive on One’s Own

According to the Lozi people, an intelligent person is one who can survive on his/her own. In this aspect, one characteristic of intelligence is the ability to survive. This means having knowledge of things that are necessary in order to survive and having an aptitude to engage them for survival. I asked *Bo Mukebu Lindunda* this question in Lozi, her local language:

“Haluka inga mwanana kapa mutu feela, kwa neku la ngana, luka bulela kuli mwanana kapa mutu ya nani ngana ka mo luzibela mo luinezi mwa hae mo, ki mutu ya cwani?”¹⁰¹ - If we take for instance a child or any other person and look at them from the point of view of intelligence, as we traditionally know, what kind of a person is an intelligent person?

¹⁰⁰ Richard Mukatimui Mututwa, a Lozi respondent of Lealui village

¹⁰¹ Researcher

She answered: “*Mutu ya nani ngana ki mutu ya kona kuipilisa*”¹⁰² - An Intelligent person is a person who can survive on his/her own.

Similarly, *Namataa* agrees when she said, “*Mutu ya nani ngana ki mutu ya kona kuipilisa mwa bupilo bwa hae. Haiba hakeni sikolo waitimela ku li a fumane fa ku pilela*”¹⁰³ - An Intelligent person is a person who can survive on his/her own in life. If he does not go to school, he grows food to find something to survive by.

Intelligence is ability to survive on your own. This cultural notion of surviving does not have connotations of stealing or getting things from others in order to survive. But it is understood in the sense of utilizing the naturally available means to grow crops or to engage into local fishing activities.

Extending this concept, *Bo Mukebu Lindunda* further adds that a person does not need to have been to school to possess this intelligence. “*Ka ngana ya hae, mutu wa fumana zatokwa kaufela, neba hasika kena sikolo*”¹⁰⁴ - By his/her intelligence, a person fends for himself/herself and survives even without having gone to school. According to *Bo Mukebu*, ability to survive is to do things that will make one stay alive:

“*Neba cwalo wa lima tu Rice...wa fumana neba five bags...masaka a five a, wa ina fafasi wa nahana kuli cwale masaka a five a, nikona ku aeza cwani...wa lekisa kwateni amamu kuli uleke kwateni ka tenge, uleke kwateni ka t-shirt. Kakamu ka wacha- kakusasana wa cha, manzibwana wacha. Kakamu ka wabulukela peu ya*

¹⁰² Mukebu Lindunda, a Lozi respondent

¹⁰³ Namataa, a Lozi respondent

¹⁰⁴ Mukebu Lindunda, a Lozi respondent

silimo sesi tatami”¹⁰⁵ - One can survive for example by growing rice. You harvest may be five bags. Of the five bags, you sit down and think what to do with the five bags. You sell some so that you can buy a chitenge (wrapping material, especially for women) or a T-shirt. Then you leave some for food. You eat in the morning and in the afternoon. You also leave one bag as seeds for the next farming season.

Seen in this light, *Bo Lindunda* argues that school is not the principal measure of intelligence when she said:

“*Ya keni sikolo wa kona ku pasa hande-nde Grade Twelve ya hae, ma setifiketi a zamaile handendende...kono lwa ba bona, bapila mwa ma club ama cwala...yaale yaeza kuli yena uzwezi mwa Grade Five kapa Grade Six cwalo...haswala muhuma wa hae, ki yena ndatahe ki yena mahe wa kwa pata*”¹⁰⁶ - The one who goes to school can pass very well his/her Grade Twelve with good certificates. But we see them. They live in nightclubs. But the person who drops out of school either in Grade Five or Grade Six, when he/she holds a hoe, s/he becomes the father or a mother of the future.

Clearly this challenges the association of intelligence with formal schooling. According to this concept, to be schooled is not to be intelligent. One can get the highest form of education but still not be a dependable figure in society as it is representative of becoming the father or the mother of the future in *Bo Lindunda*’s postulation.

¹⁰⁵ Mukebu Lindunda, a Lozi respondent

¹⁰⁶ Mukebu Lindunda, a Lozi respondent

4.10.2.7.2. Ability to Perform Tasks Beyond What Is Expected of One's Age

In response to the question, “*Likezo za mutu wa ngana kize cwani?*” - What kinds of acts are acts of an intelligent person? Denis said, “*Likezo za kuli, mina mubona kuli mutu yani isali mwanana, kono lika za eza zende ki lika ze kona feela kuezwa ki babahulu*”¹⁰⁷ - Acts such that, the child may still seem to be young, but his/her works or acts can only be performed by adults. Therefore, to know things and ability to carry out works that are beyond your age is intelligence. This further assumes that there are culturally expected abilities for each period (age-range) of childhood.

4.10.2.7.3. Having an Idea for Survival

I found *Namwaka* very reflective. Perhaps this is as a result of what life has brought to her, the reality of getting pregnant while in Grade 9 and having a baby. I invited her into the conversation and the result of her reflective processing was this response:

“*Ki mutu ya nani mu hupulo, mu hupulo wa ku ziba mwa kona ku pilela; ku pila ni batu ni kuipilisa*”¹⁰⁸ - An Intelligent person is a person who has an idea, an idea about how to live, to live with people and to survive on one's own.

Question: “*Kanti ku ziba kuipilisa, luituta kona ka kuya kwa sikolo kamba mwa hae?*”
(Do we learn to how to survive from school or from home?)

Answer: “*Uipilisa uinzi mwa hae, kaku lima-lima. Hauchala-chala tunto twa hao, hauka kutula peto wa fumanela fateni bupilo*”¹⁰⁹ - You learn to survive from being in the village by growing crops. When you plant crops and harvest then you find a way to survive.

¹⁰⁷ Denis, a Lozi respondent

¹⁰⁸ Namwaka, a Lozi respondent

¹⁰⁹ Namwaka, a Lozi respondent

I wondered if, with this notion, school was necessary at all. But *Akayombokwa* clarified: “*Kwa tokwahala kuya kwa sikolo. Kono haku palile, unani ku bata mukwa wa kuipilisa ka ona*”¹¹⁰ - It is necessary to go to school but there are times when school is impossible. Then one has to find a way through which to survive.

While it is possible to survive without having been to school, all my three informants here were in agreement that formal schooling is important. That it is only after things fail to work out at the formal school does one need to come back and use the naturally acquired means to survive. “*Sapili ki kuya kwa sikolo. Haku yo pala cwala cwale kona uyo taha mwa hae ku to bona zeo ukato eza*”¹¹¹ - The first thing is to go to school. When school fails, that is when you come back to the village to see how you can survive.

When asked to distinguish the intelligence of those who have been to formal school and those who are schooled according to traditional cultural setting, *Namwaka* spoke convincingly saying: “*Kaufela bona banani ngana. Baba inzi kwa hae, banani ngana yaku ziba mwaku ipiliseza. Baba keni sikolo ni bona banana ngana, kakuli ni bona ba ipilisa*”¹¹² - All are intelligent. Those in the villages have the intelligence of how to survive on their own. Those who have been to formal school are also intelligent because they survive on their own. This conclusion is indicative that intelligence is necessary in order to survive. If one can survive independently without depending on others, then the person survives out of individual intelligence.

¹¹⁰ Akayombokwa, a Lozi respondent

¹¹¹ Namwaka, Denis and Akayomboka, Lozi respondents

¹¹² Namwaka, a Lozi respondent

While *Namwaka* was resolved with her position, *Akayomboko* on the other hand, perhaps due to the influence of formal education as she at that time was pursuing her formal Secondary School Education at Limulunga Day Secondary School, strongly objected to this concept.

“Baba inzi mwa ma hae banani ngana ku fita baba keni sikolo. Baba beleka bona ba libelela feela kuli kweli foika felela kona ni ka fumana mali. Cwale baba inzi mwa hae misebezi ye bafa masheleni ki ye minata. Hape ba sebelisa a hulu litoho za bona ku nahana ka moba kona kuipiliseza”¹¹³ - Those who are in the villages (without formal education) are more intelligent than those who have been to school and now live in cities. Those who work only wait for the month-end to get their salary. But those who live in the villages do many kinds of jobs that can bring them money. In addition, they use their heads (think) a lot to think about how they are going to survive.

There is a point to this judgment. A simple example is the likelihood for someone in the city to use a calculator, for instance, to solve a simple mathematical problem, because it is available whereas the person in the village will solve the same or similar problem using his/her head for non-availability of resources. In this regard, *Akayombokwa* made a strong point that the person in the village makes greater use of his/her brain than the learned person in the city.

¹¹³ Akoyombokwa, a Lozi respondent

4.10.2.8. Respect

4.10.2.8.1. Respect and Obedience to Elders and rules

I asked *Mataa Lubasi*, “*Mutu kapa mwanana ya nani ngana ki mwanana ya cwani?*” (A person or a child who is intelligent, what kind of a person is it?)

He answered, “*Mwanana ya nani ngana, ki mwanana ya hula anani likute, ya eza misebezi kaufela ya bulelelwa ki bashemi ba hae, ya latelela milao ya bashemi*”¹¹⁴ - An Intelligent child is a child who grows up with respect, a child who carries out everything he/she is told by the parents, a child who follows all the rules of his/her parents. *Denis*, a graduate of Limulunga Basic School shares this same notion or characteristic or quality of intelligence: “*Mwanana ya nani ngana kiya nani likute kwa bashemi ba hae ni kwa batu kaufela*”¹¹⁵ - An intelligent child is one who has respect for his parents and other people. According to the Lozi culture, respect to parents extends to respecting all elders as well since elderly persons are representative of parenthood.

According to *Bo Lubasi*, Intelligence begins from home. It persists through formal schooling. “*Haiba kuli mwanana wa kuteka batu ni ku latelela milao uka ba wa ngana ni kwa sikolo kaufela*”¹¹⁶ - If child respects people and obeys rules- intelligent, such a child will be intelligent even in formal schooling.

Bo Lubasi blames failure in formal school to inattentiveness influenced by bad company of friends a child surrounds himself/herself with. He notes that children come from different homes with different influences. Interaction with children who are from challenged upbringing corrupts an “intelligent” child:

¹¹⁴ Mataa Lubasi, a Lozi respondent

¹¹⁵ Denis, a Lozi respondent

¹¹⁶ Lubasi, a Lozi respondent of Nakasheke village

*“Tuto mutu uya kwa kuituta. Hasa isi kwateni ngana, hana kuyo fumana kuli tuto ibunolo. Kono haisa kwateni ngana, uka fumana kuli tuto ibunolo”*¹¹⁷ - A person goes to learn. If a person does not pay attention, a person will not find schooling easy. But if a person pays attention, he/she will find schooling to be easy.

An intelligent child is one who has respect and adheres to the parents and any adult. An intelligent child is characterized by **sincerity**, **honesty** and **truthfulness**. Furthermore, an intelligent child embraces his/her responsibilities and happily carries them out without being forced by anyone. *“Mwanana ya nani ngana unani kuutwela wena mushemi wa hae. Sa bu beli ki kuli ka ikupulisa musebezi wa kona”*¹¹⁸ - An intelligent child listens and respects the parents. An intelligent child also takes initiative to perform its duties without being told. According to the Lozi culture, respect is expressed in several ways. However, what is unique of the Lozi expressions of respect are two characteristics: kneeling down before another person of a different age when greeting them; and clapping one's hands when greeting them. It is also peculiar that there is a gender distinction in the ways of clapping. The clap by women and girls produces a heavier sound due to the way in which they are expected to cup their hands. On the contrary, the clap by men and boys produces a slightly lighter sound also due to the way in which they must culturally cup their hands as well. All in all, these two impressions need to accompany a greeting and are a measure of respect and intelligence of a person, for to be intelligent is to realize these distinctions.

¹¹⁷ Lubasi, a Lozi respondent of Nakasheke village

¹¹⁸ Lubasi, a Lozi respondent of Nakasheke village

4.10.2.8.2. Way of Being with Others

The second characteristic of intelligence is the way of being with and the way of talking to and what to talk to others. *Induna Ngenda* taught;

“Mwanana yanani ngana, hainzi mwa hali a batu wa ziba kuli, nani mwahala batu. Mi mwa hala batu mo niinzi mo, seni swanela ku bulela ki sika sesi eza kuli, sika lumelelwa ki batu ka mukana. Ku zwa fo mwana ya nani ngana uikutekile, wambola hande ni batu. Ka Silozi luli ki wa maoyo...Mwanana ya nani ngana unani likute leli mu paka kuli wa swanela ku pila ni batu”¹¹⁹ - An intelligent child, while in the company of other people knows that I am in the company of other people. And in this company of people where I am, what I am to say has to be something which is acceptable by everyone present. From there, an intelligent child has self-respect, speaks calmly with people. In Silozi we say such a child is humble and gentle. An intelligent child has self-respect and respect for others. These make such a child fitting to live with other people.

Intelligence is also characterized by the purpose of doing what a child is doing. By the reasons behind what the child does, then can people qualify such a child as intelligent or not intelligent.

“Lunge inge mwanana ha zamaya, is there any purpose ya kuli uzamaela lifi?”¹²⁰ - Let us take for instance when a child is walking or going about. Is there any purpose for the child’s walking or going about?

¹¹⁹ Induna Ngenda, a Lozi respondent of Lealui village

¹²⁰ Induna Ngenda, a Lozi respondent of Lealui village

In this regard, an intelligent child is not someone who simply wanders about but purposefully moves from one point to another. A child who aimlessly wonders about is not an intelligent child.

Intelligence is attested by the kind of activities a person does, activities that are necessary for the wellbeing of society. Intelligence is not acquired from school. School merely gives us knowledge, which we add onto intelligence. *“Let’s take for example inge Lewanika (Lubosi), ni ma activities a ezize mwa Bulozhi mo amande. Kono nasika ya kwa sikolo. Na konile ku kopanya ma fasi amanata ka ngana ya hae. Ma activities a hae mwa hae mo amupaka kuli nanani ngana”*¹²¹ - Let’s take for example Lewanika (Lubosi) and his activities, which he did here in Barotseland, which were good. But he did not go to any formal school. He brought together many nations of peoples by his natural intelligence. His activities in this kingdom attest to his intelligence.

4.10.2.8.3. Understanding and Ability to Listen

At Nakasheke Village, *Bo Lubasi* shared this for the Lozi concept of intelligence and an intelligent person:

*“Mutu ya nani ngana ki mutu ya nani kutwisiso. Ki mutu ya teezeza lika. Ha laelwa ueza mwa bulelezwi. Ku twa foo ki mutu ya ikutekile, ki mutu ya nani kutwisiso mi wa latelela milao ya sizo. Ki mutu ya buzanga moku ezezwa lika. Ze li mu paka kuli yo ki mutu wa ngana”*¹²² - An intelligent person is a person who has understanding. It is a person who listens or pays attention. When he/she is advised, he/she follows the advice. Also, it is a person who has self-respect and

¹²¹ Induna Ngenda, a Lozi respondent of Lealui village

¹²² Lubasi, a Lozi respondent of Nakasheke village

follows traditional rules and customs. It is a person who asks questions about how things should be done. These attest to the fact that this person is intelligent.

From this conversation intelligence is understood as understanding, ability to listen, and self-respect, adherence to traditional rules and customs and propensity to ask questions.

4.10.2.9. Honest / Trustworth / Reliable

4.10.2.9.1. Responsiveness

Another characteristic of intelligence is social responsiveness- *Ku Lumeha*. According to *Bo Meamui*, an intelligent child is responsible and carries out the duties assigned to him/her.

*“Ze talusa kuli mutu inani ngana ki kuli, haumubulelela, fo kumu wa funduka uya kwa Mongu wa mu bulelela kuli niya kwa Mongu mwanaka nangu u apehe busunso, u soke buhobe. Haukuta uto fumana uli ezize. Mane wa mu lumba uli kanti mwanaka yo unani ngana. Ze ni ku bulelela wa li eza”*¹²³ - What it means to be intelligent is that if you tell a child, suppose you are travelling to Mongu, you tell the child that ‘I am going to Mongu my child prepares some relish and nshima’. When you return you find that the child has done those things. Then you even praise the child, ‘So my child is intelligent. What I tell you to do, you do’.

An intelligent child is therefore, the child who adheres to what the parents tell him/her and assists the parents in many ways as a way of learning from them what is essential for survival. An intelligent child in this regard is not only obedient but understanding and effective. *Bo Mundia* distinguishes that school intelligence regards what is learnt in

¹²³ Meamui, a Lozi respondent

school. But the intelligence the child grows up with from home is the kind that is necessary to stay alive.

4.10.2.9.2. Being Reliable When Sent- “*Ku Lumeha*”

If a child can reliably be sent and does exactly what is asked of him/her, then it is said that that particular child is intelligent. An example is given of a girl child for instance. If a girl is sent to adults and conducts herself according to what is traditionally expected of her, then that child is said to be intelligent.

*“Ka nako ya lichō. Ba shemi bainzi faale. Peto mwanana ba mu luma bali isa lichō ze. Ki peto wa ya, uyo kubama wa kambelela. Ki peto wa ziba kuli mwanana yo unani ngana”*¹²⁴ - If it is mealtime, the parents are seated. Then the child is called and sent to take the food to the parents. The child collects the food, goes to the parent, kneels down and claps (as a sign of respect). Then you know that this child is intelligent.

If a child is sent and runs immediately and brings what he/she was sent to go and do or collect, then we say that child is intelligent. To be sent is to be entrusted with a responsibility. To be entrusted with a responsibility is to be trusted. A person who does as he/she is told is said to be intelligent.

¹²⁴ A Lozi respondent

4.10.2.9.3. Stability of heart

According to *Bo Muyapekwa Nyambe* of Naloko village West of Lealui, an intelligent child is one who has a stable heart and does not easily drift away under the influence of others. “*Mwanana ya nani ngana hana muyembuluko wa ku yauluka*”¹²⁵ - An intelligent child does not easily drift from one position or direction to another. Such a child is reliable, can be trusted and entrusted with family responsibilities of caring for his/her siblings in the absence of his/her parents.

4.10.2.10. Common Sense / Initiative

4.10.2.10.1. Initiative

Boma Mundia Namasiku Mundia defined intelligence as characterized by the child’s initiative to perform his/her chores and duties without any instruction from anyone. This indicates that the child has internalized values necessary for familial and social wellbeing.

Question: What characteristics of intelligence would you use to refer to one child as intelligent and the other as not?

Answer: “*Lu bonaga ka misebezi. Yanani ngana yena wa kona kuikupuza ku sebeza. Mane wa kona ku nanula ngongolo uyo ka mezi kusina ya mu bulelezi. Hape wa inga lu fiyelo wa fiyela wa kenisa u tapisa mi pika ni mikeke ku sina ya mu bulelezi. Wa toma poto fa liso ya busunso, wa tateha akuna ya mu bulelezi. Ki peto kele u bona kuli, mwanana yo unani ngana*”¹²⁶ - We see by the works of the child. An intelligent child reminds herself/himself to work. The child will carry a bucket and goes to draw water without being told. Then she/he takes a broom and

¹²⁵ Muyapekwa Nyambe of Naloko village

¹²⁶ Mundia Namasiku Mundia, a Lozi respondent

sweeps the yard and cleans pots and plates without anyone telling him/her. The child puts a pot on the fire for relish and cooks without anyone telling him/her.

This way you are able to tell that this child is intelligent.

A child learns these duties and chores by observing what the parents do and from social interactions with the peers. “*Haiba ki to twa sishimani. Hamukayo kumbuluka ke ka anga lutaka ni ku inatanatela bi waya-wayaka beya kwa lutaka lwani peto kaya kwa mezi kayo taba-taba tu tapi. Peto ke mu bona kuli mwanana yo kanti unani ngana*”¹²⁷ - If it is for the boys. While you don’t realize it, he gets a reed, shapes out some wire and puts it onto the reed and heads to the waters and spears some fish. Then you are able to tell that this child is intelligent. While the boy child takes the initiative to collect firewood to be used in cooking the family meals, the girl child equally attends to other chores such as pounding maize or millet into mealie-meal for Nshima. The child’s ability to execute the acquired skill out of his/her own initiative is conceived as a sign of intelligence.

4.11. CHEWA

4.11.1. Concepts of Intelligence

4.11.1.1. ‘**NZELU**’: Among the Chewa, a “child with *nzelu* is a child who is clever (*-chenjela*), trustworthy (*-khulupilika*), who listens, understands and obeys (*-mvela*), who is prompt (*-changu*), and who cooperates with others (*-mvana ndi anzake*), Chikomeni Banda (Serpell 1993, p.32).

¹²⁷ Mundia Namasiku Mundia, a Lozi respondent

'*Nzelu*' on the other hand, appears to have three dimensions, 'wisdom', 'cleverness' and 'responsibility', (Serpell (1989b) 1993, 32).

The superordinate concept of nzelu has three dimensions:

1. '*Nzelu*' – Wisdom.
2. '*Chenjela*' – Aptitude.
3. '*Tumikila*' - Responsibility.

The second dimension is subdivided into: (2a) –*chenjela* Cleverness; (2b) (particular aptitudes); (2c) (ability to perform particular activities).

The third dimension is subdivided into (3a) –*mva/-mvela* (attentiveness, obedience); (3b) – *khulupilika/mvana* (trustworthiness, cooperativeness), (Serpell 1993, 32).

The central thrust of Chewa's cultural definition of *nzelu* is thus a conflation of cognitive alacrity with social responsibility (Serpell 1993, 32).

4.11. PIE CHART PRESENTATION OF DATA

Serpell's (1993) conceptual analysis of the Chewa semiotic domain of **nzelu** postulated that *nzelu* has two complementary facets:

- Chenjela** (cleverness, scholastic aptitude) and - **tumikila** (social responsibility).
- Within the – **tumikila** facet the following more specific concepts were deployed by Serpell's sample of male and female adult village informants in Katete in

explaining how they had selected individuals from within a familiar **peer-group of same-sex preadolescent children** which ones they would assign responsibility for various **hypothetical emergency tasks in familiar contexts of Chewa village life**:

- **Mvela** (Attentiveness/obedience)
- **Khulupilika / mvana** (Trustworthiness, cooperativeness)

These terms were used by Serpell's informants with high frequency across several different **hypothetical emergency tasks**.

Similar concepts were deployed by Simatende's (2013) sample of locally respected elders in a **Lozi** community in Mongu District when explaining the concept of **ngana** in open-ended exploratory interviews and focus group discussions. In addition to the concepts of **cleverness** and **cognitive aptitude** of the kind emphasized in Zambia's contemporary basic schooling, **social responsibility**, **obedience** and **trustworthiness**, Simatende identified as salient aspects of his informants' conceptualization of intelligence (**ngana**): **industriousness**, **respect**, **common-sense/initiative**, **humility**, **mercifulness** and **divine inspiration**.

In the present study, similar concepts were also deployed by samples of respected elders who participated interviews and discussions recruited in rural communities representative of five other linguistic-cultural groups in Zambian society. The interviews and discussions were focused on elaborating the indigenous construct of intelligence

represented by a local language equivalent/counterpart of nzelu (Chewa) and ngana (Lozi), eg mano (Bemba).

Transcripts of audio-recorded interviews and discussions in each linguistic-cultural group were analysed for the frequency with which terms and expressions representing in the language in question each of the following constructs:

SOCIAL RESPONSIB ILITY	COGNITIVE ABILITY	INDUSTRI OUS	RESPECT	HONEST/ TRUST WORTHY/ RELIABLE	COMMON SENSE/ INITIATIV E	OBEDIENCE	HUMILIT Y	MERCIFUL	DIVINE
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Table 4.1. Terms and expressions representing characteristics of intelligence

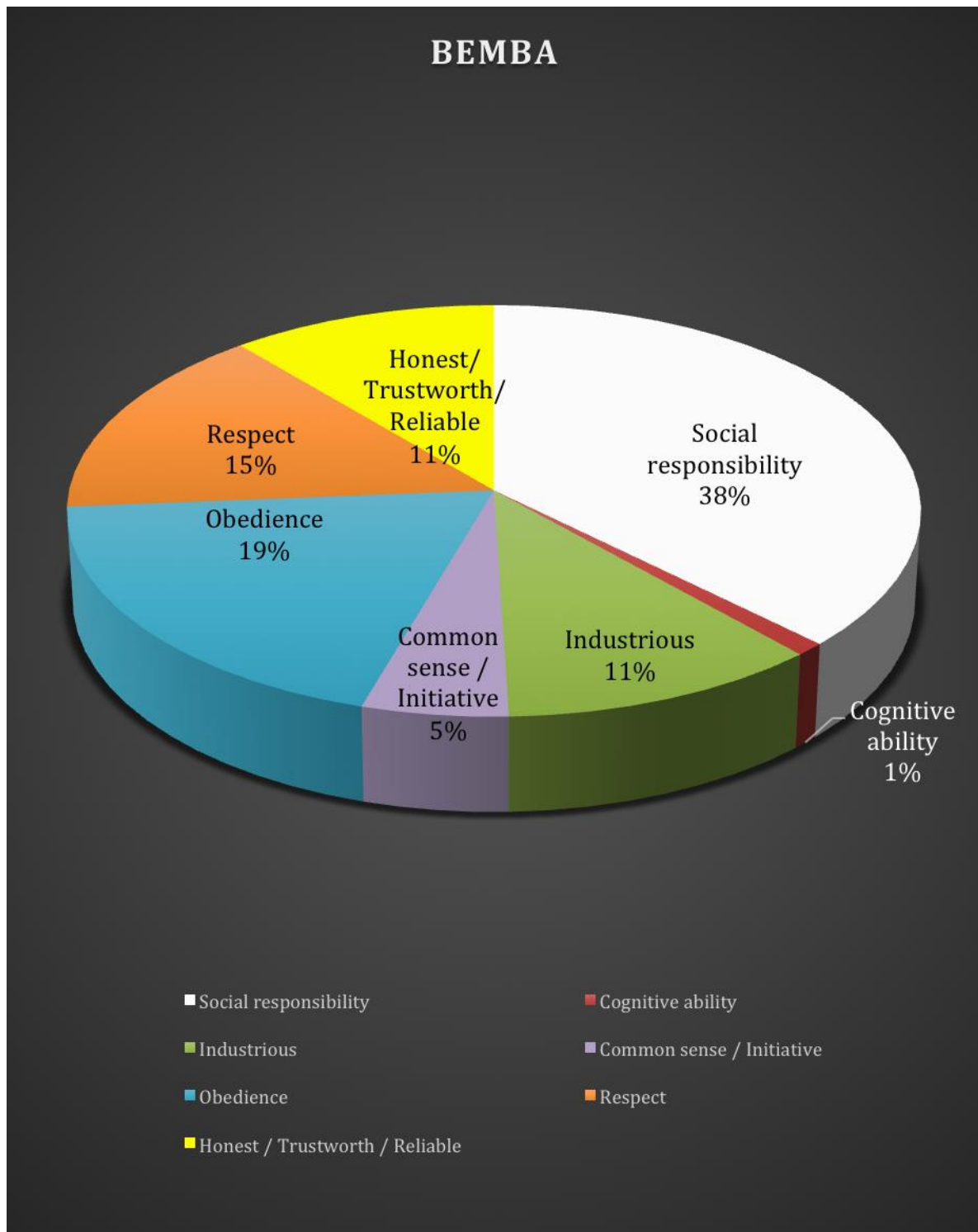


Figure 4.1. Pie chart presentation of Bemba data

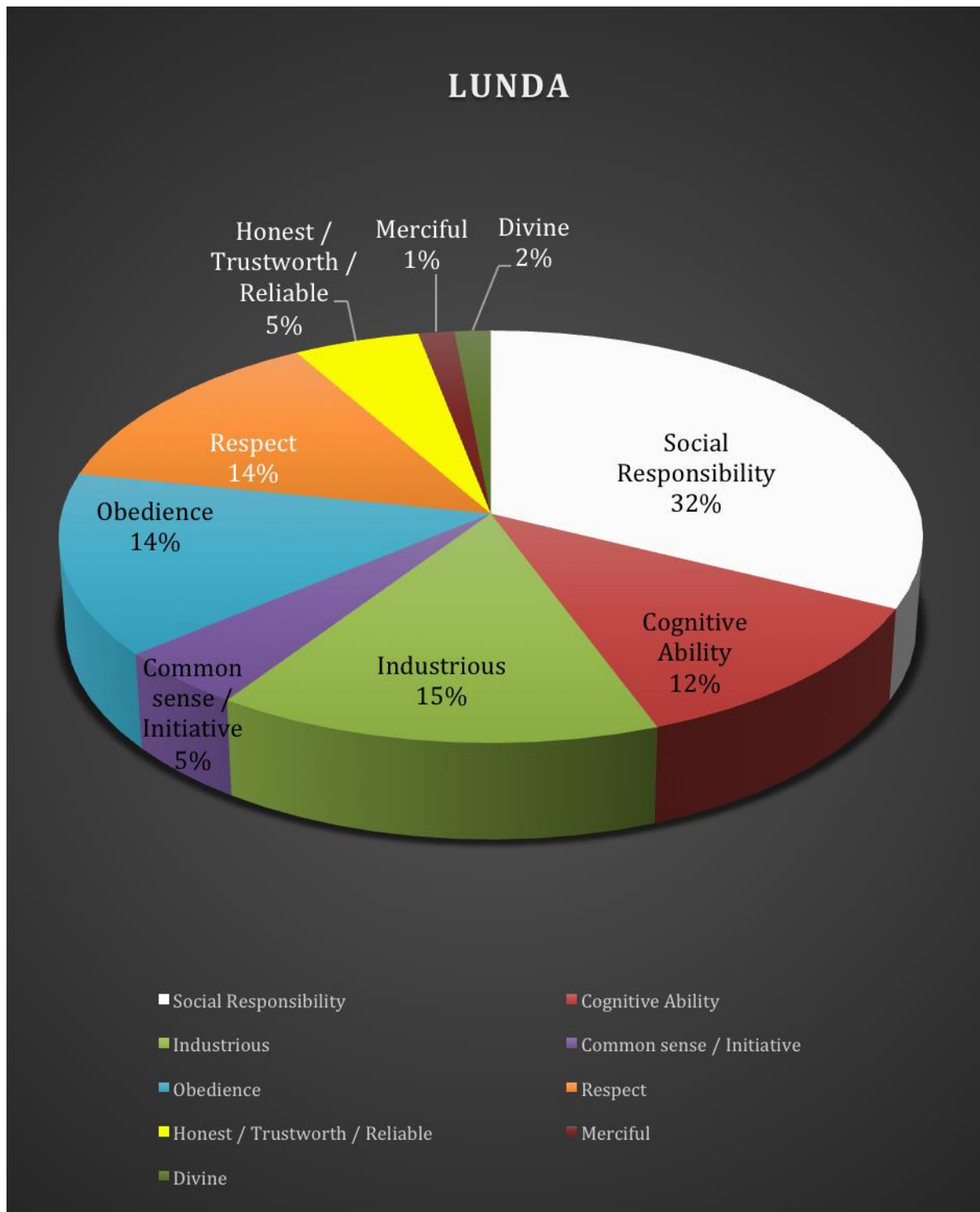


Figure 4.2. Pie chart presentation of Lunda data

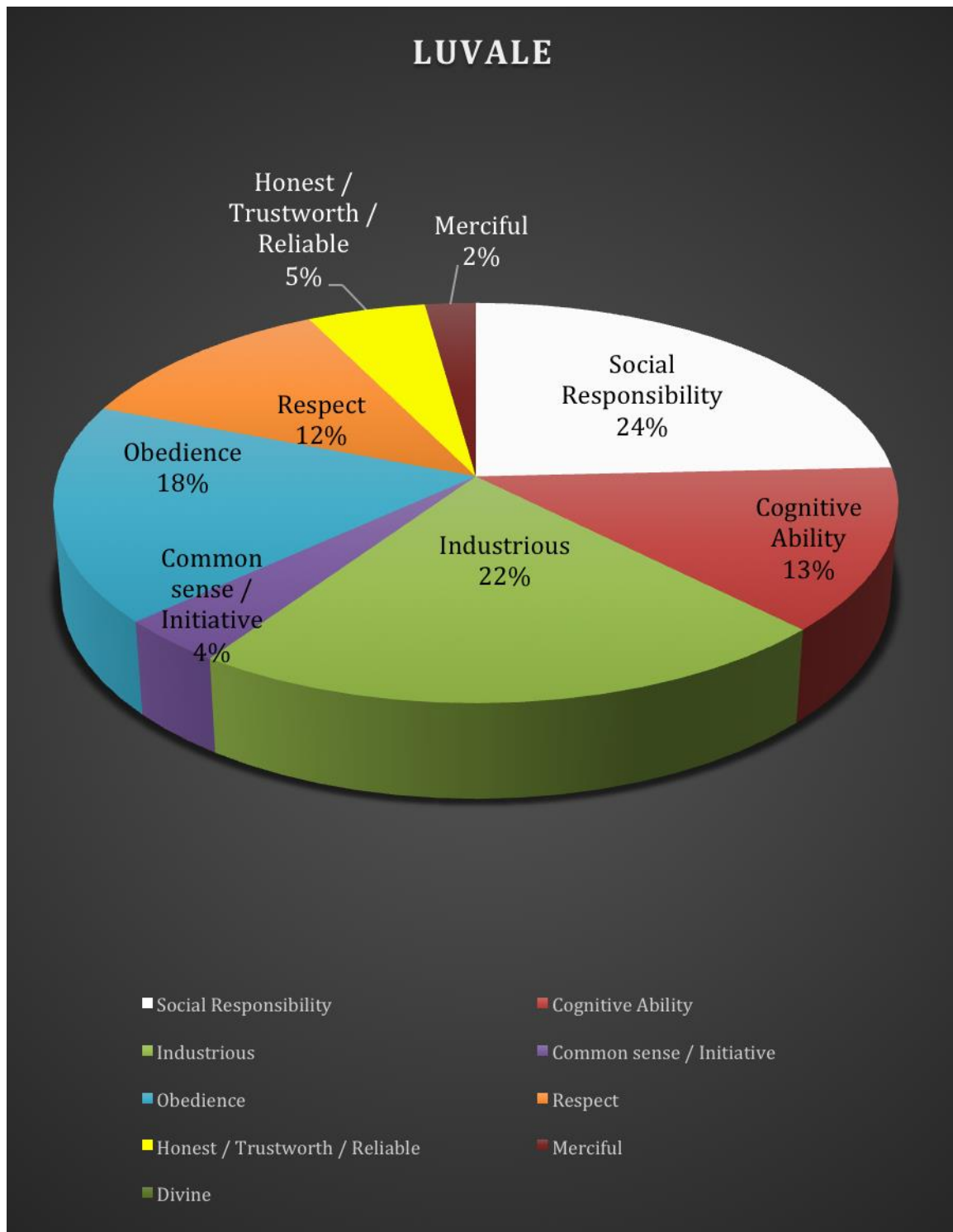


Figure 4.3. Pie chart presentation of Luvale data

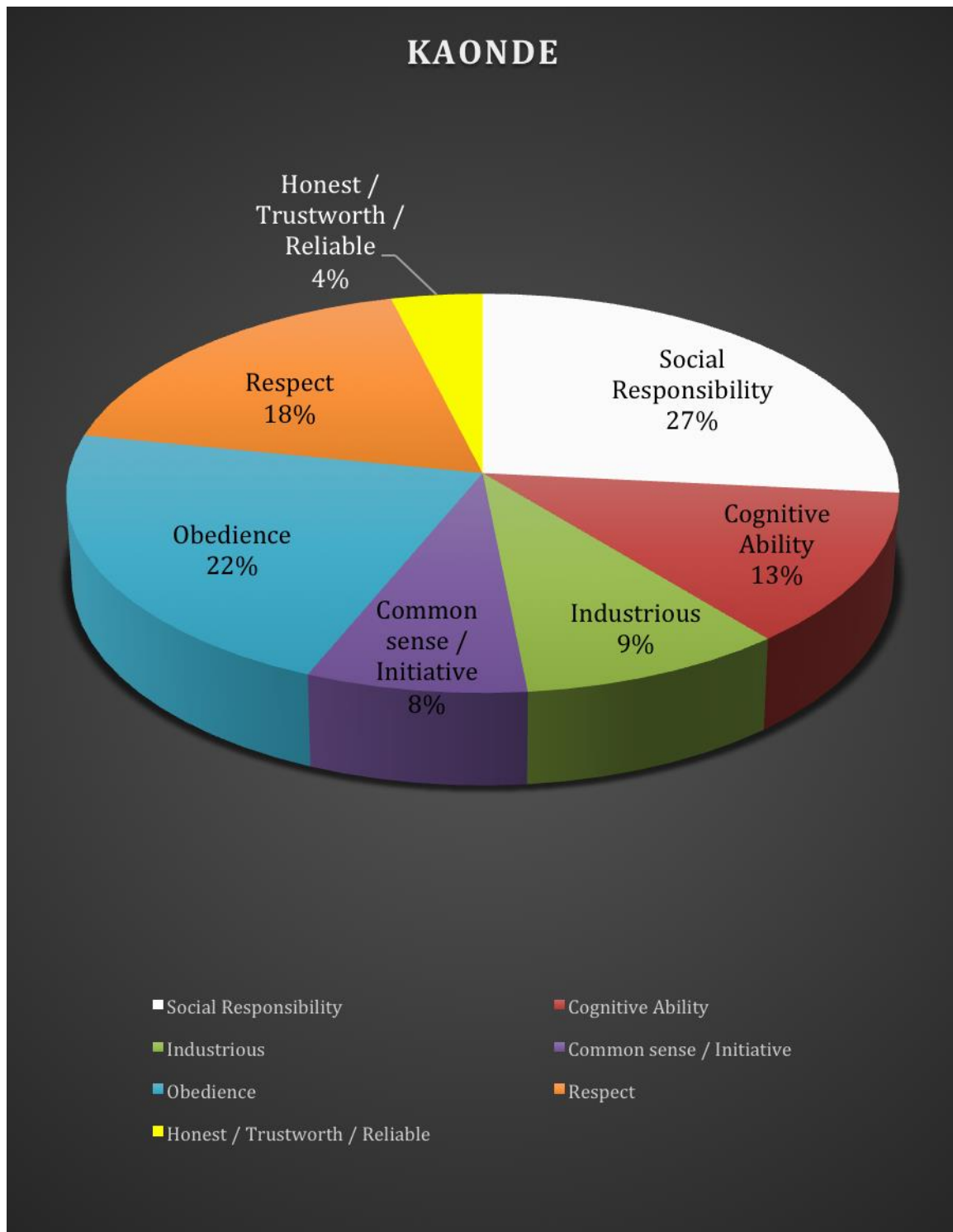


Figure 4.4. Pie chart presentation of Kaonde data

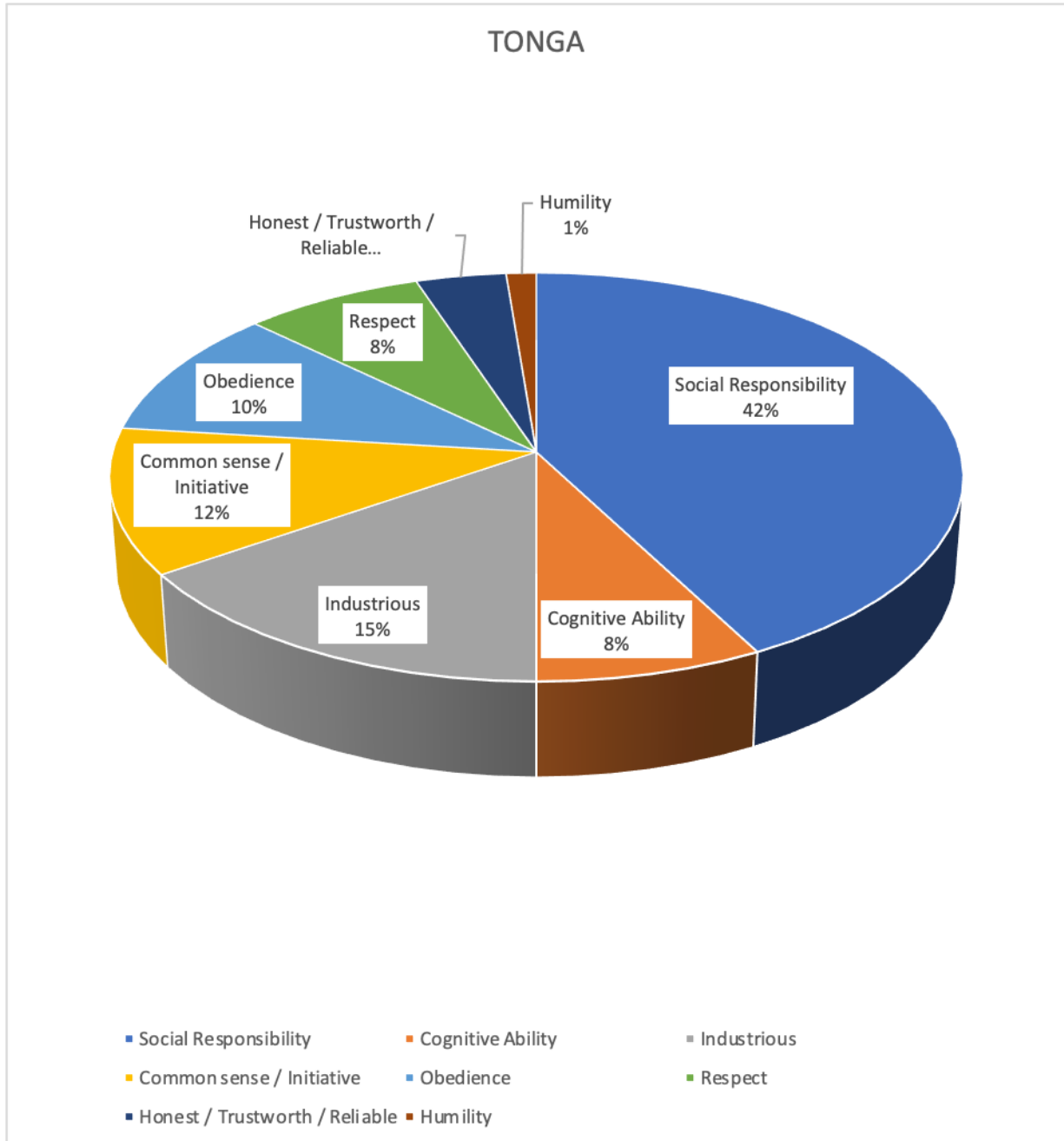


Figure 4.5. Pie chart presentation of Tonga data

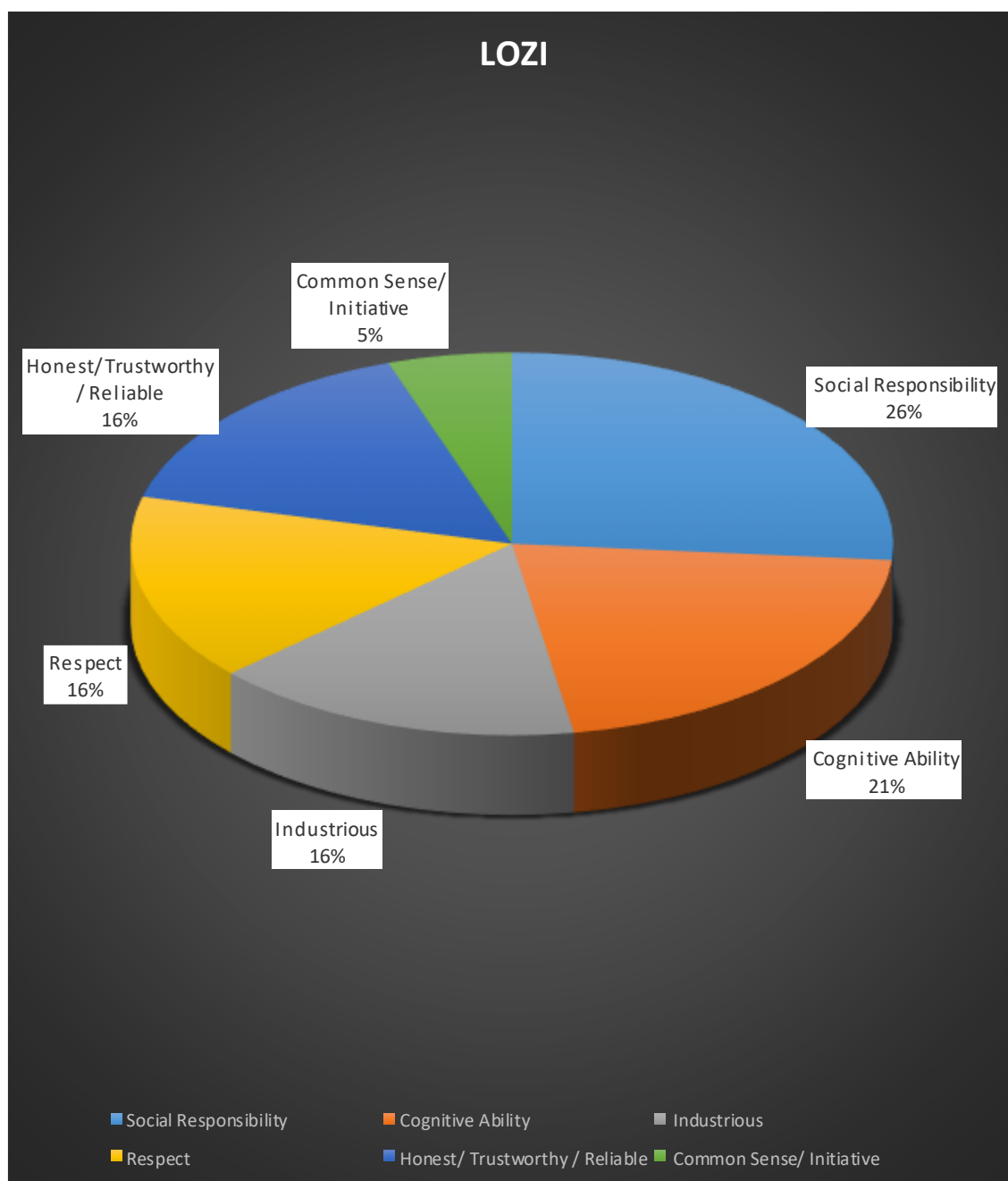


Figure 4.6. Pie chart presentation of Lozi data

4.12. Percentage Average Across the Six Language Groups of Zambia

LANG UAGE	SOCIAL RESPON SIBILITY	COGN ITIVE ABILI TY	INDUS TRIOU S	RESPE CT	HONEST / TRUST WORTH Y/RELIA BLE	COMM ON SENSE/ INITIA TIVE	OBEDI ENCE	HUMI LITY	MER CIFU L	DIVINE
BEMB A	38%	1%	11%	15%	11%	5%	19%			
LOZI	26%	21%	16%	16%	16%	5%	O			
LUND A	32%	12%	15%	14%	5%	5%	14%		1%	2%
LUVA LE	24%	13%	22%	12%	5%	4%	18%		2%	
KAON DE	27%	13%	9%	18%	4%	8%	22%			
TONG A	42%	8%	15%	8%	4%	12%	10%	1%		
CHEW A ¹²⁸										
TOTA L	189%	55%	88%	83%	45%	23%	83%	1%	3%	2%
Mean % per group	33.04%	9.61 %	15.38 %	14.51 %	7.87%	4.02%	14.51 %	0.17%	0.52 %	0.35%
Range	24 - 42	1 - 21	9 - 16	12 - 18	4 – 16	5 - 12	0 - 22	0 - 1	0 - 2	0 - 2

Table 4.2. Percentage average across the six language groups of Zambia

4.13. Percentile Explanations of the Six Language Groups

This research shows popular explanations of what it takes to be intelligent in a rural
Zambian community. Popular explanations reveal a form of an established hierarchy of

¹²⁸ Chewa data was not collected in a way to fit this presentation

characteristics of intelligence across the six major language groups investigated. This hierarchy signifies what is highly held in rural Zambian community, hence they are primarily assessed in order.

1. Intelligence as Social Responsibility (33.04%)
2. Intelligence as Industriousness (15.38%)
3. Intelligence as Respect (14.51%)
4. Intelligence as Obedience (14.51%)
5. Intelligence as Cognitive Ability ((9.61%)
6. Intelligence as being Honest, Trustworthy and Reliable (7.87%)
7. Intelligence as Common Sense/Initiative (4.02%)
8. Intelligence as Merciful (0.52%)
9. Intelligence as Divine (0.35%)
10. Intelligence as Humility (0.17%)

4.14. Chewa Results

This research uses data from Serpell's research on the Chewa of Eastern Zambia. Although Serpell's data was generated with a different methodological approach, this research understood characteristics of an intelligent child, to follow the hierarchy below:

1. Nzelu (Wisdom)
2. Chenjela (Aptitude)
3. Tumikila (Responsibility)
4. Chenjela (Cleverness)
5. Mvela (Attentiveness/obedience)

6. Khulupilika/mvana (Trustworthiness, cooperativeness)

4.15. COGNITIVE GAMES

The popular saying that “all work and no play makes Jim a dull child”, is not only true in itself but recognizes value in child play as it contributes to complete human development. Child play and different games which children play contribute to various areas of child development. This is due to the fact that play requires seriousness and hard work. Citing the hermeneutic philosopher Gadamer, Serpell highlighted that play is not adequately defined by contrasting it with work or with seriousness, because it is closely connected to the highly valued cultural domain of aesthetics. Indeed, play itself contains its own, even sacred, seriousness. Play fulfills its purpose only if the player loses himself in his play (Serpell, 1997).

4.15.1. Physical Games

Physical games are games that children play and affect their physical development. Such games as jumping, skipping, running, sitting, etc. simultaneously add to the strengthening of a child’s physical body.

4.15.2. Social Games

Social games are games that children play involving their peers. Some social games include singing, dancing, drumming, hide and seek, touch and go, etc. Although there are games that a child can play alone, most common cultural games are played in the company of others. Social interaction through child play impacts the social development of a child.

For the most part, through social play, children learn by observing constitutive rules that are enforced by co-participant peers. Such rules as, “you can’t do that, or it’s your turn now” manifest existence of some degree of guidance in learning and engaging in social games which also provide learning opportunities necessary for survival and for living with other people in society (Ejuu 2019).

4.15.3. Cognitive Games

Cognitive games are games that children play and affect their cognitive development. Such games as counting, adding, subtracting, common sense, etc., possess within them, capacity to teach and assess the cognitive ability and development of a child.

This research investigation indiscriminately surfaced all cultural games commonly played by children. However, while identifying these cultural games in the researched language groups, the research’s primary interest was the cognitive value of identified cultural games as they are indirectly used as assessment tools for child cognitive development.

Among the six investigated major language groups of Zambia, the following are the cognitive games and perceived cognitive affordances expected from these games:

4.15.4. The Bemba Speaking People

I). **UKUBUTA:** Building homes where some are chosen to be fathers, mothers, children, etc. A child who is chosen to be a parent is the intelligent child - *Ukukula amanda. Bambi*

babasala ukuba bawishi, banyina, umwana. Umwana uyo basala ukuba umufyashi emwana uwamano. Odero (2016) equally identifies this game but as *Kalongolongo* in Kenya. *Kalongolongo* is a local (in Kenya) category of role-play by children all over Kenya that captures family matters involving father, mother and children.

ii). **UKUPANGA IMINTUTU:** Making small huts where they play from - *tunsaka umo bale butila.*

iii). **UKUTOBA UTUSONGOLE UTWA KU BUTILAKO:** Collecting used cups, covers, to be used in play cooking - *Bapangapo imbale, impoto ishakuipikilamo.*

iv). **UKUTEYA ICHİYENGA:** “Playing a dice-like” game played by girls.

v). **INSOLO:** Both boys and girls normally play this game. This game teaches counting and planning.

vi). **UKUSHANISHA IMPETA:** “Dancing the dice”, is a game that is commonly played by boys. This game teaches skill.

vii). **CHANGULULU:** Played by both boys and girls. In this game, a leader goes around behind everybody then drops something without those seated realizing. When and if the person going around reaches where they left the item without the person seated by it knowing, then that person has lost and is removed from the circle. This game assesses children’s’ level of attentiveness.

viii). **AKALENDE**: both boys and girls play this game. In this game one person touches someone, who must also touch another person. This game teaches concentration and speed.

ix). **ICHIBALE**: girls commonly play this game. It is a game of colored beads. Each player chooses a color of beads. Then beads are cast onto the plate. The color that jumps out of the plate makes the person with that color to win. The game teaches counting, focus and steadfastness.

x). **IFIBALA / NKULU-NKULU**: Making wheelbarrows. These play-wheelbarrows are used to carry people and goods. The game teaches ingenuity.

Summary of Bemba Cognitive Games and perceived Cognitive and Social values:

S / N	TYPE	GAME	PERCEIVED COGNITIVE AFFORDANCES	PERCEIVED SOCIAL PROCESSES INVOLVED
1		<i>Chiyenga</i>	<ul style="list-style-type: none"> - Aiming - Accuracy - Critical thinking - Dexterity of fingers 	<ul style="list-style-type: none"> - Socialization - Competition
2	Jumping	<i>Imboko</i>	<ul style="list-style-type: none"> - Aiming - Critical thinking - Attentiveness - Counting Skills - Balancing skills 	<ul style="list-style-type: none"> - Problem solving - Socialization - Effectiveness
3	Jumping	<i>Waida</i>	<ul style="list-style-type: none"> - Speed - Concentration - Accuracy - Critical thinking 	<ul style="list-style-type: none"> - Creativity - Collaboration
4		<i>Chinsalensale</i>	Critical thinking (Planning)	<ul style="list-style-type: none"> - Decision making - Leadership - Cooperation - Social Responsibility
5	Pretend Play	<i>Ukubuta</i> <i>Ukupanga</i> <i>imintutu</i> <i>Ukutoba</i> <i>utusongole utwa</i> <i>ku butilako</i>	<ul style="list-style-type: none"> - Construction skills - Cooking skill - Simulations 	<ul style="list-style-type: none"> - Cooperation - Promotion of relational and social life skills
6	Board Game	<i>Nsolo</i>	<ul style="list-style-type: none"> - Critical thinking - Finger dexterity - Speed and accuracy - Problem solving 	<ul style="list-style-type: none"> - Cooperation - Socialization
7	Finger Game	<i>Ukushanisha</i> <i>impeta</i>	<ul style="list-style-type: none"> - Skill 	<ul style="list-style-type: none"> - Socialization
8	Sitting	<i>Changululu</i>	<ul style="list-style-type: none"> - Attentiveness 	<ul style="list-style-type: none"> - Promotion of relational and social life skills
9		<i>Akalende</i>	<ul style="list-style-type: none"> - Attentiveness - Speed 	<ul style="list-style-type: none"> - Concentration and speed.
10		<i>Ichibale</i>	<ul style="list-style-type: none"> - Counting - Focus - Steadfastness. 	<ul style="list-style-type: none"> - Promotion of relational and social life skills

Table 4.3. Summary of Bemba Cognitive Games and perceived Cognitive and Social values

4.15.5. The Lunda Speaking People

I). **KU MANGONGU:** Here children act adult roles like that of family. They learn leadership roles.

ii). **YISELA:** Here children make different objects using clay or wire cars. They learn the skill of manufacturing and creativity.

iii). **NGUNJA:** Soccer skills where boys make a football using old rags. They form teams and play with a neighboring village. They learn collaboration with others if they are to succeed.

iv). **MULABALABA:** This is a game of counting. Two players compete to finish the opponent's members. They learn counting, adding, subtraction, projecting and accuracy. This game, which is common across cultural language groups of Zambia, is applied differently. Among the Chewa for instance, in the 1970s it was applied to the game known in English as *Nine-Man Morris*. But among the Lozi, it was applied to the indigenous African "board-game" called *Mulabalaba*, also known by the Chewa and the Tonga as *Nsolo* (Mukela 2014).

v). **SHOMBI:** both boys and girls play this game in the night. Through this game, children learn the art of dancing and also acquire physical fitness. They also learn how to take care of themselves from being harmed.

Summary of Lunda Cognitive Games and perceived Cognitive and Social values:

S /N	TYPE	GAME	PERCEIVED COGNITIVE AFFORDANCES	PERCEIVED SOCIAL PROCESSES INVOLVED
1	Pretend Play	<i>Ku Mangongu</i>	<ul style="list-style-type: none"> - Reasoning - Planning - Cooking skill 	<ul style="list-style-type: none"> - Leadership skills - Planning skills - Social responsibility - Cooperation
2	Pretend Play	<i>Yisela</i>	<ul style="list-style-type: none"> - Concentration - Thinking - Planning - Designing 	<ul style="list-style-type: none"> - Social responsibility - Social life skills - Problem solving
3.	Physical	<i>Ngunja</i>	<ul style="list-style-type: none"> - Critical thinking - Analyzing - Swift of reasoning - Coordination 	<ul style="list-style-type: none"> - Collaboration - Problem solving - Creativity - Social responsibility
4.		<i>Mulabalaba</i>	<ul style="list-style-type: none"> - Concentration - Critical thinking - Finger dexterity - Speed and accuracy - Counting - Addition and Subtraction 	<ul style="list-style-type: none"> - Cooperation - Problem Solving - Planning
5.	Physical	<i>Shombi</i>	<ul style="list-style-type: none"> - Concentration - Art 	<ul style="list-style-type: none"> - Cooperation - Social skills

Table 4.4. Summary of Lunda Cognitive Games and perceived Cognitive and Social values

4.15.6. The Luvale Speaking People

i). **MANGONGO:** Children play imitating parents in a home. Here children titles like, Father, Mother, children, etc. Through this game, children learn leadership roles.

ii). **KUYATA:** This is a game of throwing and catching. Through this game, children learn counting, adding, subtraction, balancing and accuracy.

ii). **LINDUNDE:** This is a game of throwing a ball at someone while the person should dodge. This game teaches children how to aim and accuracy.

iii). **SOMBE:** This is a game of dancing. Through this game, children learn and demonstrate their skill in dancing. It also helps in physical fitness.

iv). **MULAVALAVA:** This is a game of capturing an opponent's members. The one who captures all the opponent's members wins. This game teaches counting, calculating and projecting.

Proverb: *Kanyike macula mumutalila kukwamwa*¹²⁹ - A growing baby will be seen from the way he/she sucks from the mother's breast.

¹²⁹ Luvale Proverb

Summary of Luvale Cognitive Games and perceived Cognitive and Social values:

S / N	TYPE	GAME	PERCEIVED COGNITIVE AFFORDANCES	PERCEIVED SOCIAL PROCESSES INVOLVED
1		<i>Mangongo</i>	<ul style="list-style-type: none"> - Cooking skill - Construction skills - Cooking skill - Simulations 	<ul style="list-style-type: none"> - Leadership - Social responsibility
2		<i>Kuyata</i>	<ul style="list-style-type: none"> - Concentration - Adding - Subtraction - Finger dexterity - Memory 	<ul style="list-style-type: none"> - Cooperation - Socialization
3		<i>Lindunde</i>	<ul style="list-style-type: none"> - Concentration - Focus - Accuracy 	<ul style="list-style-type: none"> - Socialization - Cooperation
4		<i>Sombe</i>	<ul style="list-style-type: none"> - Concentration - Focus 	<ul style="list-style-type: none"> - Social skills - Cooperation
5		<i>Mulavalava</i>	<ul style="list-style-type: none"> - Concentration - Critical thinking - Finger dexterity - Speed and accuracy - Counting - Addition and Subtraction 	<ul style="list-style-type: none"> - Cooperation - Problem Solving - Planning

Table 4.5. Summary of Luvale Cognitive Games and perceived Cognitive and Social values

4.15.7. The Kaonde Speaking People

i). **MANDONDO:** This is a game of rotation and aiming. Children learn to aim and accuracy.

ii). **MANSANSA:** This is a game that depicts leadership roles and positions.

iii). **KAPELA KAMUKONKOLA:** This game is for running to see who the fastest runner is. It is a game that helps children to become physically fit.

iv). **MU KIJE KYABUNCHIBA MAMBO:** Here children play like a court session. Cases are brought to the judge. Through this game, children learn leadership roles.

v). **MU SUKULU:** Here children take up different roles: some as teachers and some as parents. They act out these roles. Through this game, children learn teaching skills and leadership roles.

Summary of Kaonde Cognitive Games and perceived Cognitive and Social values:

S/N	TYPE	GAME	PERCEIVED COGNITIVE AFFORDANCES	PERCEIVED SOCIAL PROCESSES INVOLVED
1		<i>Mandongdo</i>	<ul style="list-style-type: none"> - Aiming - Accuracy 	<ul style="list-style-type: none"> - Socialization - Life skills
2		<i>Mansansa</i>	<ul style="list-style-type: none"> - Effectiveness - Promotes intelligent reasoning 	<ul style="list-style-type: none"> - Leadership skills
3	Running	<i>Kapela</i> <i>Kamukonkola</i>	<ul style="list-style-type: none"> - Speed - Concentration - Accuracy 	<ul style="list-style-type: none"> - Social - Cooperation
4	Court Session	<i>Mu Kije</i> <i>Kyabunchiba</i> <i>Mambo</i>	<ul style="list-style-type: none"> - Comprehension - Listening - Critical thinking - Problem solving 	<ul style="list-style-type: none"> - Leadership - Cooperation - Social Responsibility
5	Pretend Play	<i>Mu Sukulu</i>	<ul style="list-style-type: none"> - Construction skills - Cooking skill - Simulations - Preparation for Social life skills 	<ul style="list-style-type: none"> - Cooperation - Promotion of Relational and Social life skills

Table 4.6. Summary of Kaonde Cognitive Games and perceived Cognitive and Social values

4.15.8. The Tonga Speaking People

i). **KUJIKILILA:** This game which is played by girls teaches the skill of cooking as the girls practice cooking skills by doing their own play cooking of small portions of the same cooking that is done by elders. Cooked food is brought to the elders to taste. Through this tasting the elders are able to assess the development level/stage of a child.

ii). **MANTOOMBWA:** Similar to Kujikilila, mantoombwa is play that involves both boys and girls. Here children act by replicating different real family roles. Some are called to

leadership as parents, others are children, and others act as security guards or dogs, while others are thieves. The role that a child is assigned by fellow children is an assessment of that child's developmental stage as perceived by his/her peer.

iii). **KWAANA:** This is story-telling that happens mostly in the evening. Children (both girls and boys) take turns to tell folk stories that they were told by elders. This activity assesses the memory of the child and ability to narrate.

iv). **KUYUBANA:** This is a game mostly played at night by both girls and boys. Through this game, children hide while others take turns to look for those hidden. Through this they learn to hide themselves and keep information to themselves. Ultimately, this teaches children the prudence of doing things at the right time as children do not expose themselves from where they are hidden until the searcher has failed.

v). **NSOLO:** This is a game that is played by both girls and girls. It teaches, counting, subtraction, addition and strategizing.

vi). **KUUMA TUYUNI:** boys primarily play this although girls do sometimes take part. This activity involves hunting and killing birds using catapults and several kinds of traps.

vii). **KUYATA:** This is a game played by girls. It teaches counting, addition and subtraction.

viii). **KALAMBE:** This is a game played by both boys and girls. Children run and chase each until the chased is caught. This game teaches hiding and skills to evade danger.

Summary of Tonga Cognitive Games and perceived Cognitive and Social values:

S / N	TYPE	GAME	PERCEIVED COGNITIVE AFFORDANCES	PERCEIVED SOCIAL PROCESSES INVOLVED
1	Pretend Play	- <i>Kujikilila</i> - <i>Mantoombwa</i>	<ul style="list-style-type: none"> - Cooking skill - Construction skills - Simulations - Preparation for Social life skills 	<ul style="list-style-type: none"> - Socialization - Social Responsibility
2	Story telling	- <i>Kwaana</i>	<ul style="list-style-type: none"> - Comprehension - Memory - Cognitive effectiveness - Reasoning - Listening and narration skills 	<ul style="list-style-type: none"> - Cooperation - Motivation - Socialization - Obedience - Social Values
3	Chasing Play	- <i>Kuyubana</i> - <i>Kalambe</i>	<ul style="list-style-type: none"> - Creativity - Critical Thinking - Judgment - Accuracy - Concentration 	<ul style="list-style-type: none"> - Social - Cooperation
4	Stone passing	- <i>Nsolo</i>	<ul style="list-style-type: none"> - Critical thinking - Finger dexterity - Speed and accuracy - Problem solving 	<ul style="list-style-type: none"> - Cooperation - Socialization
5	Hunting	- <i>Kuyuma</i> <i>Tuyuni</i>	<ul style="list-style-type: none"> - Hunting Skills - Patience - Accuracy - Speed 	<ul style="list-style-type: none"> - Preparation for Social life skills
6.	Stone catching	- <i>Kuyata</i>	<ul style="list-style-type: none"> - Coordination - Concentration - Critical thinking - Finger dexterity - Speed and accuracy - Problem solving 	<ul style="list-style-type: none"> - Socialization - Cooperation

Table 4.7. Summary of Tonga Cognitive Games and perceived Cognitive and Social values

4.15.9. The Lozi Speaking People

Whereas this research surfaced some cognitive games played among the Lozi cultural group, several others were brought out in Mukela's MA (2014). The most common of which are:

i). **MUYATO:** This game, which is commonly played by girls, is a game where few pebbles are placed in a little hole and must be picked out without looking at them. Taking one slightly bigger pebble, a girl throws it in the air, picks out desired number of pebbles from the little hole without looking at them, while waiting to catch the pebble thrown in the air. This game teaches focus, concentration, aiming, and counting (Mukela, 2014).

ii). **MULABALABA:** This is a game that is played by both boys and girls. It involves placing pebbles in holes dug either in the ground or on a piece of wood. Pebbles are moved through subtraction and addition. This game teaches, counting, addition, subtraction, as well as mathematical calculations (Mukela 2014).

iii). **MUIPATO:** This is a game of hide and seek played either at night or during the day by both boys and girls. This game teaches privacy, and skills to evade danger.

iv). **BUTONGWE:** This game is similar to muipato as it similarly involves hiding and seeking, except there is more of chasing and catching in this one than in muipato. Similarly, this game teaches hiding to evade dangers as well as privacy and secrecy.

v). **PISI:** This game that is played by both boys and girls is a game where the child chasing must try and catch as many of the other players in the game as possible. This game teaches dodging and running for escape.

vi). **SIDUNYU:** Sidunyu is another form of muipato except that in this game, a person seeking places a ball which they leave behind as they go to search for their opponents. The hunter must hunt while guarding the ball left behind. Should one of the opponents manage to get back to the ball before the hunter catches them, the hunter loses and must continue to search. Both boys and girls commonly play this game in the evening.

vii). **PEBA NI KAKAZE:** Literary, this is a game of a cat and a mouse and involves chasing after a perceived mouse. The aim of this game is to catch the perceived mouse at the same time the mouse must learn to hide and evade danger.

viii). **MBAMBAMBA NGULUBE:** This game involves choosing sides that will later serve in a physical tassel of pulling each other. The group that gets pulled over across a drawn line loses. This game teaches making right decisions and planning ahead.

ix). **NDINDO-NDINDO:** equally both boys and girls play this game (Mukela 2014). Children stand in a circle and sing *ndindo- ndindo* while looking to the sides to see, recognize and greet the person on either side of the child. This game simply recognizes another person.

x). **BANA BA SIKOLO KWATAE:** This is a dance game, which is played by both boys and girls. This game teaches social interaction with peers.

xi). NAKUTAMBEKELA: This game, which is played by both girls and boys, involves sitting or standing in a circle while an object is passed around the circle and a song is sung (Mukela 2014). The person where the object reaches when the song ends is ejected from the circle. This game teaches focus, speed and concentration.

There are also other games that pertain to physical fitness such as swimming, while others involve interaction with nature and the environment such as playing with the clay, grass, leaves, rains, etc.

Summary of Lozi Cognitive Games and perceived Cognitive and Social values:

S /N	TYPE	GAME	PERCEIVED COGNITIVE AFFORDANCES	PERCEIVED SOCIAL PROCESSES INVOLVED
1	Stone passing/catching games	<ul style="list-style-type: none"> - <i>Nakutambekela</i> - <i>Muyato</i> - <i>Mulabalaba</i> 	<ul style="list-style-type: none"> - Coordination - Concentration - Critical thinking - Finger dexterity - Speed and accuracy - Problem solving 	<ul style="list-style-type: none"> - Cooperation - Socialization
2	Aquatic Play games	<ul style="list-style-type: none"> - <i>Kutapa Silozi</i> - <i>Butongwe</i> - <i>Mwiipato</i> - <i>Mezi mezi mulenaka</i> - <i>Kwena ya mo</i> 	<ul style="list-style-type: none"> - Swimming skills - Dodging skills - Depth perception - Intelligent calculations - Conservation of water and environmental management 	<ul style="list-style-type: none"> - Cooperation - Socialization - Perseverance
3	Hand Clapping	<ul style="list-style-type: none"> - <i>Mbambangulube</i> - <i>Ndindo-ndindo</i> 	<ul style="list-style-type: none"> - Intelligence - Decisions - Psychomotor Development - Alertness - Concentration 	<ul style="list-style-type: none"> - Responsibility - Unity - Cooperation
4	Stories/Story Songs	<ul style="list-style-type: none"> - <i>Matangu</i> 	<ul style="list-style-type: none"> - Promotes Memory - Didactic thinking - Cognitive Effectiveness - Promotes intelligent reasoning - Promotes Listening and Speaking skills - Enhances comprehension 	<ul style="list-style-type: none"> - Cooperation - Motivation - Socialization - Obedience - Teaches Social Values
5	Pretend Play	<ul style="list-style-type: none"> - <i>Mandwani</i> - <i>Silokee silokee</i> - <i>Ani siti boma</i> 	<ul style="list-style-type: none"> - Construction skills - Cooking skill - Simulations - Preparation for Social life skills 	Cooperation Promotion of Relational skills
6.	Chasing Play	<ul style="list-style-type: none"> - <i>Peba ni kaze</i> 	<ul style="list-style-type: none"> - Creativity - Dodging - Critical thinking/intelligence - Judgment - Accuracy 	- Social Cooperation
7	Riddles	<ul style="list-style-type: none"> - <i>Manyumbo</i> - <i>Tukwachi</i> 	<ul style="list-style-type: none"> - Promotes Critical Thinking - Mental testing - Creative Thinking <p>Problem Solving</p>	- Teaches Social Values
8.	Catching Play	<ul style="list-style-type: none"> - <i>Pisi</i> 	- Making intelligent decisions	Cooperation
9.	General Play Songs	<ul style="list-style-type: none"> - <i>Kulu-kulu uya kai</i> - <i>Pula-pula unele</i> 	- Knowledge of Seasons/Environment	- Appreciation of the local environment

Table 4.8. Summary of Lozi Cognitive Games and perceived Cognitive and Social values

4.16. DEVELOPMENT AND FOCUS OF PRIMARY SCHOOL CURRICULUM IN ZAMBIA

According to the Zambia Education Curriculum Framework “the provision of education in Zambia is guided by the democratic principles of liberation, decentralization, equality, equity, partnership and accountability” (ZEDCF 2015, 2013, p.1). The aim of education is to “promote the full and well-rounded development of the physical, intellectual, social, affective, moral and spiritual qualities of all learners so that each can develop into a complete person for his or her own fulfillment and for the good of society” (ZEDCF 2015, 2013, p.2).

The Education system is made up of the following structures: “Early Childhood (3-4years and 5-6years), Primary (Grades 1-7), Secondary (Grades 8-12) and Tertiary. Within this structure, Adult Literacy is also offered for the persons who missed formal schooling” (ZEDCF 2015, 2013, p.2).

4.17.1. Curriculum for Early Education

Early education phases in Zambia include: Early Childhood Care, Development and Education (ages 0-2years); Nursery; and Reception.

In Early Childhood Care ECCDE focuses on holistic development of the child in the following areas:

- Physical development (Fine and Gross Motor Skills Development;
- Social, Emotional, Spiritual and Moral Development;
- Language Development (receptive and expressive language);
- Aesthetic Development or Appreciation of Beauty;
- Cognitive and Intellectual Development, (ZEDCF 2015, 2013).

The Nursery level caters for learners aged 3-4years and focuses on “social, physical, mental, and emotional development by providing them with playmates and play resources. The focus of the nursery is to promote social interactions of young children from different social backgrounds through play”, (ZEDCF 2015, 2013, p.27).

The Reception Level, which caters for learners aged 5-6years, is a more preparatory stage for entry into Grade 1. The teaching and learning at this level is largely informal through guided and unguided play with formal teaching (pre-academic) taking about 40% of the program.

Key competences for learners at Early Education are:

- Social Interaction Skills;
- Elementary pre-literacy skills;
- Elementary pre-numeracy skills;
- Fine and Gross Motor skills, (ZEDCF 2015, 2013).

Generally, the curriculum for these levels will be dominated by play and pre-learning activities based on the following learning areas:

- i. Social Studies;
- ii. Environmental Science;
- iii. Pre-Mathematics
- iv. Literacy and Language;
- v. Expressive Arts.

In this proposed curriculum change, much time shall be devoted to Social Interaction which will form the main purpose of Pre-School Education. The language of instruction at this level will be a familiar Zambian Language, (ZEDCF 2015, 2013).

4.17.2. Curriculum for Primary Education

Education offered at Grade 1 is meant to provide the first competence level necessary for the learner to assimilate the learning in Grade 2. At Grade 2, the emphasis is to develop and consolidate the levels of literacy and basic mathematical skills achieved earlier.

Key competences for learners at Primary School Level are:

- i. Literacy Skills in English and a Zambian Language or Sign Language;
- ii. Numeracy Skills;
- iii. Information and Communication Technology Skills;
- iv. Life Skills, (ZEDCF 2015, 2013).

4.17.3. Learning Areas at the Lower Primary Level

The Core Learning Areas to be offered at this level are:

- i. Literacy and Languages, or Sign Language or Braille;
- ii. Integrated Science;
- iii. Social Studies;
- iv. Mathematics;
- v. Creative and Technology Studies (CTS), (ZEDCF 2015, 2013).

4.17.4. Core Learning Areas at the Upper Primary Level

- i. Literacy and Languages, or Sign Language or Braille;
- ii. Integrated Science;
- iii. Social Studies;
- iv. Mathematics;
- v. Expressive Arts;

- vi. Technology Studies;
- vii. Home Economics, (ZEDCF 2015, 2013).

4.17.5. Assessments:

Assessment is an important tool in the teaching and learning process and is used to determine whether teaching and learning have taken place or not. Standardized tests are not the only way of gauging learner achievement. Performance assessments are also used to measure what learners know and can do. These may include:

- i. Standard-based projects and assignments that require learners to apply their knowledge skills, positive attitudes and values;
- ii. Clearly defined rubrics (or criteria) to facilitate a fair and consistent assessment of learner's work and;
- iii. Clearly defined performance targets at key stages of learning such as Grades 1 and Grade 4.

Therefore, teachers and teacher-educators should create opportunities for learners to benefit from the feedback of teachers and teacher-educators, peers, and outside experts, (ZEDCF 2015, 2013).

The ZEDCF confirms that using assessments in the classroom enhances learners' achievement levels. "Learners will improve if they understand the aim of the assessment and where they are, in relation to this aim and how they can achieve it", (ZEDCF 2015, 2013, p.57). It therefore, follows that teachers and teacher-educators should employ varying types of assessments. This should not only be as a way of measuring the learners'

strengths and weaknesses, but it should also help learners to get used to the assessment procedures and environment, (ibid).

The Zambia Education Curriculum Framework has the following guiding principles: Outcome Based Education (OBE); Dynamism of the Curriculum; Learning; Reflective Education; Life-Long Learning; Equity and Equality; National Concerns (Cross-Cutting Issues); Language of Instruction; Curriculum Localisation; and Vocational Subjects.

A. According to Tucker, Outcomes based education (OBE) is a process that involves the restructuring of curriculum, assessment and reporting practices in education to reflect the achievement of high order learning and mastery rather than the accumulation of course credits” (Tucker, 2004). Zambia Education Curriculum Framework employs this approach to learning as it to link education to real life experiences as it gives learners skills to access, criticize, analyse and practically apply knowledge (ZEDCF 2015, 2013, p.16).

The effectiveness of this approach is judged through the following perspectives: inputs to the system; what happens within the system; and the outputs from the system.

The OBE system is further guided by four principles, namely: Clarity of focus; Reflective designing; Setting high expectations for all learners; and Appropriate Opportunities.

i). Clarity of focus means that everything that the teacher and teacher-educator do must be focused on what learners want to know, understand and be able to do successfully.

ii). Reflective designing means that all instructional decisions should be made by tracing back from the desired end result and identifying the ‘building blocks’ that will be required to achieve that end. This entails that there should be direct and explicit links between planning, teaching, assessment decisions and the outcomes that learners should achieve.

iii) Appropriate opportunities demands that teachers and teacher-educators must provide expanded opportunities for all learners to exercise their intellectual ability by realizing that not all learners can learn the same thing in the same way and at the same place in spite of the fact that they all have to complete a specific level in a stipulated time (ZEDCF 2015, 2013).

B. Dynamism of the Curriculum takes into consideration that individual, community national and global needs change, knowledge expands, and new technologies emerge, hence the Ministry of Education, Science and Vocational Training and Early Education will revise the curriculum periodically.

C. Learning is a tool for society in the social, economic and political development.

As such every individual should be given an opportunity to access it (ZEDCF 2015, 2013).

D. Reflective Education is a principle that understands that education involves the passing on of cultural heritage, values, traditions, language, knowledge and skills from generation to generation. Hence, the curriculum should respect and retain

elements of the past and also be able to develop and assess competences needed for tomorrow's Zambia, (ZEDCF 2015, 2013, p.18).

- E. Life-Long Learning entails that learning takes place not only in classrooms but in all kinds of contexts. Therefore, the curriculum should take into account the fact that formal learning is, among other things, meant to function as a starting point for continued Life-Long Learning, (ZEDCF 2015, 2013, p.18).
- F. Equity and Equality is a principle that ensures that the curriculum will ensure equality of access, participation and benefit to all regardless of their individual needs and abilities, (ZEDCF 2015, 2013, p.18). In addition, the Education Policy values and promotes a holistic development of individuals, taking into account their uniqueness. This, therefore, necessitates the diversification of curriculum in order to suit different abilities, talents and interests.
- G. National Concerns (Cross-Cutting Issues) recognizes that national concerns should be considered and made integral part of the curriculum at all levels of the education system, (ZEDCF 2015, 2013, p.19).
- H. Language of Instruction is a principle that helps the institution to recognize that the use of familiar Zambian languages as the official languages of instruction in the Pre-Schools and early Grades (Grades 1-4) is recommended.

- I. Curriculum Localisation principle encourages teachers and teacher-educators to localize some aspects of the school curriculum in order to allow schools to adapt aspects of the curriculum to match local needs and circumstances. In this way, the curriculum will provide some compensation for the indigenous knowledge, values and practical skills that learners would have acquired in their home environment if they had not been attending school, (ZEDCF 2015, 2013, p.20).
- J. Vocational Subjects constitute forms of knowledge, skills and values that every person should have to help him or her to deal with the physical world. Every institution of learning will, therefore, be required to offer Vocational Subjects as part of their curriculum, (ZEDCF 2015, 2013, p.20). Among some vocational subjects are: Agricultural Science; Art and Design; Computer Studies; Design and Technology; Home Economics; Physical Education; and Music Education.

4.18. EXAMINATIONS COUNCIL OF ZAMBIA (ECZ) SELECTION

CRITERIA OF CANDIDATES FOR HIGHER EDUCATION

4.18.1. Special Paper One & Two (SSP I & II)

The Examination Council of Zambia (ECZ) administers Special Papers One & Two examination papers, among other exam papers, to Grade Seven candidates for admission to Grade Eight. Special Papers One & Two are used as a measure of the candidate's level of intelligence. The results from these two papers determine the candidates' suitability for higher formal education. Special Papers One & Two are originally formulated from a Psychological measure of Intelligence known as *Raven's Progressive Matrices*.

4.18.2. Raven's Progressive Matrices

The *Progressive Matrices* tests were developed by J. C. Raven in his quest to measure the intelligence of a child. Raven had been working with a geneticist, Lionel Penrose, on a study of the genetic and the environmental origins of mental defect when he subsequently developed the matrices, which became known as Raven's Progressive Matrices. In the testing, adults as well as children had to be tested. Those to be tested were often illiterate and thus unable to follow written instructions. But they also had to be tested in homes, schools, and workplaces which were often noisy, thus making oral questioning difficult (Raven, J 2008).

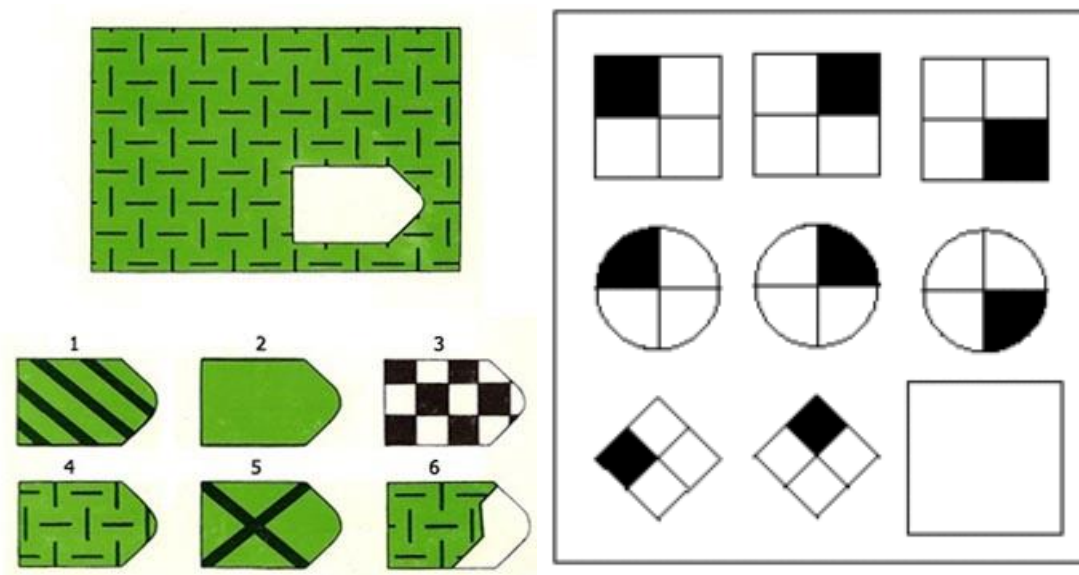


Figure 4.7. An example of Matrix.

[Source: http://www.sevencounties.org/poc/view_doc.php?type=doc&id=8221&cn=18;
Accessed on March 18, 2019]

According to ECZ, Special Papers One & Two are aptitude composite examinations, which are compulsory and are used for selection purposes. ECZ holds that as long as a

child has been exposed to formal schooling, (Grades One to Seven), then the child possesses ability to undertake Special Papers One & Two exams, whose score will determine the child's suitability for higher schooling.

A draft copy (provided by Teza Musakanya), of Nonverbal reasoning specification table interpreting the actual 2011 Special Papers One & Two categorized questions in the two papers was as follows:

Content	Processing Skills						No. of Items
	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation	
Alphabetical Order			6				6
Analogy		5					5
Always Has	5						5
Letter Series				4			4
Letter Number Series				4			4
Number Series				4			4
Word Opposite	5						5
Odd One Out	5						5
Problem Solving					5		5
						3	3
Word pattern				4			4
Total	15	5	6	16	5	3	50

Table 4.9. A draft copy of Nonverbal reasoning specification table

The table above indicates that, for example, in the category of *Problem Solving*, there were five questions testing the candidate's ability to *Synthesize* and three questions testing the candidate's *Evaluation Ability*.

Although ECZ has been using this method to establish intelligent children, therefore, accord them opportunities into higher education, ECZ acknowledges concerns over whether the concept of intelligence which Special Papers One & Two helps them to establish is also reflected in the traditional concept of intelligence.

The other concern ECZ raised is whether the established means of measuring the child's intelligence corresponds to the current societal life pattern.

CHAPTER FIVE: DISCUSSION OF RESEARCH FINDINGS

5.1. Education in General

Education is as vastly conceptualized as it is diversely practiced through formal, regional and cultural educational practices. Some broad understandings of education include moral education, character education and prescriptive education. Moral education whose primary concern is the development of moral virtues, such as honesty, responsibility, and respect for others, refers to helping children acquire those virtues or moral habits that will help them individually live good lives and at the same time become productive, contributing members of their communities (Ryan 1988).

Unlike moral education which tends to be characterized by religious overtones, one of the politically appealing aspects of character education is that character education speaks more to the formation of a good citizen. A widely repeated definition (i.e., character education is helping a child to know the good, to desire the good, and to do the good) straddles this issue (Ryan 1988).

Prescriptive Education on the other hand involves the assessment of psycholinguistic and perceptual motor abilities that are presumed necessary for learning basic academic skills (Ryan 1988). Based on the differential pattern of ability strengths and weaknesses resulting from this assessment, individual remedial prescriptions are prescribed.

Ultimately, Ultimately, education has the principle purpose of drawing out the innate power in all learners to its actualization.¹³⁰ According to “Century Dictionary,” *‘educere’*,

¹³⁰ Source: <https://www.quora.com/What-is-the-etymological-meaning-of-education>.

Accessed on June 24 2017.

of a child, usually refers to bodily nurture or support, while '*educare*' refers more frequently to the mind. Combined together, the two terms '*educere*' and '*educare*' refer to the process of developing the innate potential to grasp, learn and know that are inborn in a child. The innate powers of the individual should be properly cared for and given scope to develop. Hence education systems must likewise explore the local cultural contexts that house the given natural potency (innate power) and thereafter explore appropriate environments and tools that will enhance its actualization. Arguably in what is known as Functional Context Education (FCE), the learner's mental context is considered in developing educational experiences for the learner. When there is a good fit between what the learner has in mind and what is offered in the educational program, there is likely to be improvements over "traditional" programs in motivation to participate in programs, attend regularly, and stick with the program until completion (Ticht 2000). Hence the significant need to explore local cultural concepts of intelligence that gave insight of education in the local context. Insights in local context of education has potential to contribute to the national education curriculum.

The **Educator** is any person trained through formal training or experiential wisdom, understands cognitive innate powers in a child as perceived through various cultural lenses and is able to foster their development. An educator is "one who nourishes or rears; one who trains or instructs,"¹³¹

¹³¹ Source: <https://www.etymonline.com>; Accessed on October 19, 2019.

Considering that global concepts of intelligence generally determine education systems and assessment tools that are used to assess learners for progression in their education pursuit as well as their eventual careers and status in society, education systems or curricula must take cognizance of social cultural variations and influences of what education and assessment procedures are used in given cultural contexts. Otherwise, as earlier indicated, institutionalizing intelligence testing in Africa threatens to distort important aspects of education in dysfunctional ways rather than enhancing its precision and efficiency, (Serpell & Haynes 2004), because how individual children's progress is appraised varies according to parental goals and aspirations, cultural norms, and social organization (Schuman, 2000).

5.2. Indigenous (Informal) Education in Zambia

Before Europeans penetrated the interior of Africa, Zambia like several African countries had evolved their own system of education. According to indigenous /traditional (informal) education systems, the education of a child was highly oriented towards acquiring relevant life skills pursued in the context of community, as communal existence was a central African value upon which every value is anchored. Traditional education was essentially practical training, which was designed to enable the individual member to play a useful role in society (Mwanakatwe, 1974, p. 1). The role of traditional education was vital and indispensable for the smooth integration of growing children. To the extent that traditional instruction made a contribution to the preparation of boys and girls for living in society, it was in every sense true education (ibid). It sought to adapt the young generation to their physical environment so that they could use it fruitfully for their own benefit and the benefit of the whole community (Mwanakatwe, 1974, p. 1).

For instance, boys were taught how to herd cattle, hunt, fish, and make huts for living in, whereas girls were taught basic house chores such as making a fire, cooking, cleaning the home surrounding, drawing water and taking care of siblings.

The emphasis which traditional education placed upon proficiency of the individual in the practical skills (hut-making, net-making, blacksmithing, pottery or even doctoring) was intended to illustrate the interdependence of individual members of the community. Above all the growing child's traditional education stressed at every stage the importance of strict adherence to the accepted moral code, (Mwanakatwe, 1974, p. 5).

5.3. Selective Analysis of Indigenous Concepts of Intelligence Across the Seven Major Language Groups of Zambia

Having considered the National School Education curriculum and principles that guide it, here then is a selective analysis of research outcome on some of the indigenous concepts of intelligence among the seven major language groups of Zambia. Considering also that the investigated seven major language groups of Zambia form the Official Local Languages assigned to be used in formal engagements such as Education, National Broadcasting (TV and Radio), I (the author) contend that these concepts are representative of the general National indigenous concepts of intelligence and assessment criteria that assess it. Research findings from informants in the seven ethno-linguistically distinct groups reveal that there exist common sets of general National indigenous concepts of intelligence discussed henceforth.

5.3.1. Innate Intelligence

According to this research, there is intelligence that exists in an innate form and waits only to be actualized through an education system that is either indigenous or formal. The Lozi speaking people refer to this kind of intelligence as: *Ngana Tanu*, (Simatende, 2013), *Cifyalilwa* among the Bemba speaking people; and similarly understood by the Tonga speaking as '*Busongo*'. This is intelligence that innately exists to be actualized through an education system. Knowledge on the other hand is what we acquire intelligibly through a process of education. An education system or curriculum that is grounded on innate indigenous characteristics of intelligence is designed in such a way that it will provide avenues for indigenous characteristics of intelligence to be drawn out through the system or curriculum.

5.3.1.1. The Bemba speaking people of Northern Zambia

Principally the Bemba ethno-theory categorizes intelligence into two forms: what a person is born with and what a person acquires through interactions with others.

A). *Cifyalilwa* – What a child is born with

This type of intelligence is what a child is born with. Bemba ethno-theory holds that each person is naturally born with a degree of intelligence that first of all, is basic and secondly it can be uniquely different from one person to another. *Amano tufyalwa nayo* - we are born with intelligence.

This natural intelligence is what enables a person to perform works that are in accordance to what people want – “*Umntu ulebomba incinto ishalondoloka...ukubomba kulingana*

nefyo abantu balefwaya”¹³². Argued further, this concept of intelligence indicates that every child must possess this basic intelligence that allows it to act humanely, i.e., to live well with others by obeying established guidelines. Every other form of intelligence simply adds¹³³ upon this basic intelligence that acts as bedrock of intelligence. School intelligence for instance, only adds (activates) to what we basically possess while it enables us to interact well with other people who come from outside our world – “*Isikulu tu lundilapofye ukutla twaishiba ukulainshanya nabanensu abale fuma ku fyalo fimb*”¹³⁴.

B). Gathered or Acquired Intelligence

The second form of intelligence is gathered or acquired. Through interaction with societal activities, we not only acquire knowledge but also grow our intelligence levels. Bemba concepts under this category are: *Mambulwa; Imbutu; Cuma; and Bucenjeshi*.

i). Mambulwa - Gathered, collected or acquired

This concept recognizes the role that other people play in human development. After what a child is born with, a child continues to build on it through interaction with other people. This acknowledges that others also possess a share of inborn intelligence, which helps them to grow the intelligence of others through social interaction. This idea commonly expressed as: “*Amano mambulwa pantu tula sambilila ukufuma ku banes*”¹³⁵

- Intelligence is gathered from interaction with others. This is where a child learns from others and further practically applies acquired knowledge through appropriation as

¹³² Bemba Informant

¹³³ The Bemba word – *tu lundilapofye*, contains notion of adding.

¹³⁴ Bemba respondent

¹³⁵ Bemba respondent

Serpell notes, we construe children as newcomers to a community of practice, for whom the desirable outcome of a period of apprenticeship is that they would appropriate the system of meanings that informs the community's practices. By appropriating this system, students are expected to make those meanings their own, transforming them in the process, and co-constructing with the rest of the community a new, emerging set of cultural practices, (Serpell 2008).

This further recognizes the need for a child to grow up in a context of both peer and elderly whose role is to activate and help draw out what the child innately possesses. As such, several African cultures show this value through such proverbs as: "*Umntu ngu umuntu nga bantu*" (Zulu of South Africa)- A person is only complete as a person by being with other persons. For most of Zambia, this translates first of all to the child's biological family that immediately includes members of the extended family. The circle then widens up to playmates before formal schoolmates. This is further enshrined in the African wisdom of: **It takes a village to raise a child.** This realizes that for a child to develop fully a child needs social interactions with other people, a process that fosters continued development of the child's innate potencies.

The concept of guided learning is equally highlighted in this understanding: "*Tusambililafye ku banesu elyo twailundilapo fwebene*"¹³⁶ – we learn through guided learning from others and that builds us up. Through participatory appropriation, children engage in a cultural activity as novices first then develop by means of appropriating the system of meanings that inform the activity (Serpell, 2008).

¹³⁶ Bemba Respondent

ii). *Imbuto* – Seeds

This concept of intelligence further recognizes the innate potency of cognitive ability planted in us and in others: “*Amano ni mbuto tu londolafye*”¹³⁷ - Intelligence is seeds, we simply harvest from what has been planted in others and us. We gather and grow by asking where we are lacking, and we are enlightened – “*Waipusha umunobe pafyo taushibe akulangako*”¹³⁸. From this arises the wisdom of the need to ask in order to be enlightened. Bemba tradition has this proverb that is common across the seven major language groups of Zambia - “*Kabusha taakolwa ubowa*”, (a person who asks can never be poisoned by mushrooms).

Furthermore, the concept of intelligence as seeds we gather or harvest also translates into the factor of listening. In order to grasp and comprehend others’ contribution a child must first listen. No wonder ‘listening’ by itself is characteristic of intelligence among the Lozi speaking people of Western Zambia: “*Ukutanda amano nga imbuto- kuumfwa ifyo abantu balelanda*”¹³⁹ -To be intelligent is to listen to what people are saying. From listening a child is able to realize where the child is lacking and uses the gathered wisdom to develop and grow his/her own intelligence levels.

iii). *Cuma* – Wealth

This concept of intelligence views intelligence as a form of investment planted in every child. “*Amano cuma. Kuti wayabomfya ukupanga indalama. Nangu wa byala tomato. Lilya yapywa waya shitisha wa pangilapo impiya*”¹⁴⁰ - Intelligence is wealth. It can be used to make money. You can plant tomatoes. When it ripens you go and sell and make

¹³⁷ Bemba respondent

¹³⁸ Bemba respondent

¹³⁹ Bemba respondent

¹⁴⁰ Bemba respondent

money out of it. In other words, a child is born with intellectual wealth that can be used to enhance one's life. This innate intellectual is wealth that a child must tap into and utilize. How natural intellectual wealth is engaged affects the quality of what a person becomes in life. The example of growing tomatoes that are sold when they are ready to bring the person money, indicates that intelligence is wealth that lies in potency and waits only to be activated. This relates to the tomato seed that remains a tomato seed. But when it is planted and grown, it produces many tomatoes that when sold, subsequently bring forth more wealth. This therefore implies that to excel or not to excel in certain areas where a person possesses the natural intelligence is simply as a result of how a person engaged oneself in life. Otherwise, nature has planted in each child potency that needs only to be cultivated and engaged and yield effectivity in life.

iv). *Bucenjeshi* - Cleverness

Bucenjeshi is characteristic of intelligence that mostly relate to articulation. Ability to articulate issues well is characteristic of intelligence. However, this form of intelligence is generally not desirable in society as it is superficial. A clever child or *umwana uwacenjela* is able to say the nice things that people want to hear but is not able to live them into lived reality. “*Ku landafye ifisuma pakanwa ukwabula ukuficita*”¹⁴¹ - To be clever is to be able to say nice things verbally but not being able to do them in reality. Furthermore, such a child is simply able to convince people verbally but fails to do it and runs away – “*Ukucenjela kulandafye pakanwa ifintu ifyo umuntu taacite*”¹⁴². In the Bemba culture, this characteristic of intelligence is not always promoted, as it does not translate into lived reality. One common attribute of cleverness that is promoted is ability

¹⁴¹ Bemba respondent

¹⁴² Bemba respondent

to grasp or comprehend things swiftly. Clever children quickly comprehend what is going on and what needs to be done. However, they lack ability to fully effect or implement what is called for.

Most Zambian societies promote characteristics of intelligence that easily translate into practical lived reality. In this regard cleverness is only promoted when it has immediate practical application. Assessment criterion that will assess this attribute of intelligence also needs to take into consideration and promote applicability of what is perceived.

Attributes of cleverness that are not promoted are: Sweet-talking or talkativeness – “*Kulandalandafye*”; and Being sneaky, sneaking in through unorthodox routes – “*Niulya ucita ifya bu fufuntungu, ukupita kumbali*”¹⁴³. These undermine societal norms of trust, confidence, unity, peace, and collective progress of local cultural society.

Both innate (what a child is born with – “*icifyalilwa*”) and acquired attributes of intelligence emerge through local cultural environment and cultural value system. Some environmental conditions will foster or inhibit the emergence and growth of innate cognitive potency. Such conditions as home environment, playfield environment and formal school environment must possess necessary conditions to allow for them to emerge and develop especially the local culturally promoted intelligence characteristics.

¹⁴³ Bemba respondent

5.3.1.2. The Lunda speaking people of Northwestern Zambia

Frequently highlighted concepts of intelligence among the Lunda speaking of Northwestern Zambia included extraordinary thought capacity and capacity to create and perform extraordinary tasks: “*Yitong’ojoka yakubadika ha yitong’ojoka ina natweshi muntu kwila*”¹⁴⁴ - extraordinary thinking; “*Kutong’ojoka cha mbadika hayitong’ojoka ya muntu*”¹⁴⁵ - reasoning in a special way and beyond ordinary; and “*Yitong’ojoka yakuhayamisha*”¹⁴⁶ - unique thinking.

The outstanding thinking or reasoning capacity is essentially assessed through age-appropriate engagements and activities. Children face different significant situations in life over which they have to discern and make judgment. In this regard an intelligent child is one whose thinking pattern or reasoning ability is beyond that of his/her age mate.

The other conceptual characteristic of intelligence is ability to create things that are beyond a child’s age: “*Kwila Yuma ya maana a yina antu kada ayimonehu dehi hela kuyitiya*”¹⁴⁷ - Creating something never seen or known before (unique/innovativeness), and: “*Yuma eleng’a muntu yakuhamisha*”¹⁴⁸ – creating something in a special way. This points to the creative capacity that a child has. According to Gardner’s theory of multiple intelligences, this cognitive ability relates to Spatial Intelligence that is ability to perceive visual-spatial relationships accurately, transform them and recreate them through different and unique objects. This characteristic of intelligence when appropriately nurtured produces an engineer, sculptor and or cartographer (Gardner, 1983).

¹⁴⁴ Lunda respondent

¹⁴⁵ Lunda respondent

¹⁴⁶ Lunda respondent

¹⁴⁷ Lunda respondent

¹⁴⁸ Lunda respondent

Since this concept and characteristic nature of intelligence involves creative art, there must exist assessment tools that aim to draw this out in developing children in order to identify this attribute and create fora where it is cultivated and grown.

Furthermore, the Lunda speaking people highlight characteristic of intelligence that relate to formal schooling. They describe this kind of intelligence ability to pass by extraordinary marks- “*Neyi kushikola kupasa na ma maki akubadika akuhayamisha*”¹⁴⁹.

5.3.1.3. The Luvale speaking people of Northwestern Zambia

Similar to the Bemba speaking people, the Luvale categorize intelligence into two: God given and Acquired through learning – “*Managa apwa amuvali, akuli Kalunga, na aze a kushikola*”¹⁵⁰, (Intelligence comes from two sources, from God and from school learning).

A). God given or genetically acquired

Intelligence that is viewed as God given is innate or genetic cognitive ability that a child is born with. Although this concept is here understood as divine gift, it is still commonly shared by other cultures interviewed. Variations are a mere reflection of individual beliefs/attitudes of particular informants recruited by this research.

B). Acquired Intelligence

Acquired intelligence is understood through the following categories:

¹⁴⁹ Luvale respondent

¹⁵⁰ Luvale respondent

- Unique way of doing things – “*Managa akukomowesa hakulinga vyuma*”¹⁵¹; an extra ordinary way of performing a task – “*Zachishilo yamangana akukomowesa*”¹⁵²; and Possessing wisdom that one can do certain things in a unique way – “*Mangana akukomowesa akulingilamo vyuma*”¹⁵³. Furthermore, this component is also reviewed through capacity to judge cases in a unique way – “*Kuteta milonga mujila yakukupuka*”¹⁵⁴.
- A thing that makes people prove beyond normal – “*Vyuma vichikulingisanga mutu kushinganyeka mwakukomowesa ku watu vakwavo*”¹⁵⁵; and something beyond ordinary - “*Vishinganyeka vya puho vakukomowesa*”¹⁵⁶.
- Creating something man cannot imagine it can exist – “*Kutunga chuma chize watu kachifwelela kupwako*”¹⁵⁷; and inventing something beyond human understanding - *Kutaka chuma chize watu navahasa kuhona kufwelela ngwavo chinahase kulingiwa.*

5.3.1.4. The Kaonde speaking people of Northwestern Zambia

The Kaonde speaking people also categorize intelligence into two. These are: **God given** and **gotten from school** – “*Maana aji mubiji apana Lesa ne maana akufunda sukulu*”¹⁵⁸. For the Kaonde speaking people, God given attributes of intelligence relate to genetically acquired innate potencies, whereas acquired intelligence is cultivated through social cultural experiences as well as from formal school interactions. These can generally be

¹⁵¹ Luvale respondent

¹⁵² Luvale respondent

¹⁵³ Luvale respondent

¹⁵⁴ Luvale respondent

¹⁵⁵ Luvale respondent

¹⁵⁶ Luvale respondent

¹⁵⁷ Luvale respondent

¹⁵⁸ Kaonde respondent

categorized into thinking or reasoning capacity, creative capacity; and capacity to perform outstanding acts, through the following categories:

- Thinking beyond normal way of reasoning – “*Kulanguluka kukila pamilanguluko ine ya kijisha maana*”¹⁵⁹; it is reason beyond normal reasoning – “*Milangwe yakila milangwe yin eke milangwe yakijishamo*”¹⁶⁰; or to reason more than the others – “*Maana apana Lesa ku bantu ja milangwe yakila pa milangwe yikwabo*”¹⁶¹.
- Creating something that many people are not able to create – “*Kulenga bintu byakila mumilangul; uko ya muntu, maana akila pa maana*”¹⁶²; and capacity to bring special developmental programs that others have failed to bring over the years – “*kuba bintu bya bukomo abya bavula bakankalwa kuba mu myaka yavula*”¹⁶³.
- Extraordinary way of doing things – “*kuba bintu mujishinda jakukumya japusanako ne mo bebyubila bintu*”¹⁶⁴.

5.3.1.5. The Tonga speaking people of Southern Zambia

The Tonga speaking people of Southern Zambia conceptualize intelligence through the following concepts:

¹⁵⁹ Kaonde respondent

¹⁶⁰ Kaonde respondent

¹⁶¹ Kaonde respondent

¹⁶² Kaonde respondent

¹⁶³ Kaonde respondent

¹⁶⁴ Kaonde respondent

1. *Busongo* - Brightness

This characteristic of intelligence is genetically acquired or inborn intelligence, (*Maano akuzyalwa angayo*), is the ability to solve complicated issues using wisdom that comes naturally to the person. The term *Busongo* is derived from the term ***Ikusongola*** that literally means to remove a thorn in someone's flesh. Thus, the image indicates the art and ability to solve difficult problems.

Another term that refers to this form of intelligence is ***Ikupampaula***, which literally translates into tearing into pieces. Viewed accordingly, this image means the ability to dissect issues in order to open them for understanding. These two forms of intelligence are generally associated to natural leadership qualities as the two qualities indicate that a person is able to be a leader - *Muziindi zinji echi chaamba kuti muntu ulakozya kuba musololi*¹⁶⁵.

2. *Maano* – Intelligence

According to the Tonga speaking, intelligence that is referred to as *Maano* is ability to open up diverse issues for discussion – “*Maano akukonzya ku pampununa twaambo twaandeene*”¹⁶⁶. Opened up or loosened apart, issues are thereby made easy to be deliberated upon for desirable solutions. This form of intelligence is associated to community leadership or operations management.

¹⁶⁵ Tonga respondent

¹⁶⁶ Tonga respondent

3. *Manca* – Neatness

Manca is capacity to do things accordingly – “*kucita zyintu zyisuunyene.*”¹⁶⁷ This is not simply through simple obedience but through a person’s personal identity with what needs to be done. *Manca* is recognised through personal hygiene and neatness in handling the self and others. For example, a child who cleans up his plates after eating is intelligent, as well as a child who not only keeps himself/herself tidy but cleans his/her surrounding, falls under this category of intelligence among the Tonga speaking.

4. *Kuba A Bongo* – Ingenuity

This form of intelligence pertains especially to cognitive capacities. “*Kuba a bongo*”¹⁶⁸ – to have brains. This recognizes when a person or child has greater cognitive or mental power to process things easily and quickly. Indicators of this type of intelligence are such as; swiftness to grasp, good memory retention of what is known and stored in the memory; and ability to follow through cognitively. This form of intelligence is valuable both in traditional setup and in formal learning engagement.

5. *Maano Akuzyiba Bulanga* – Common Sense

Literally translated as capacity to know simply by looking, this form of intelligence relates to: Intuitiveness and or Common Sense. “*Walanga biyo wazyiba*”¹⁶⁹ – Simply by looking then a person knows what it is. This concept of intelligence assumes that either a person has previous exposure to that which they are supposed to know through common sense and or is age related, meaning that as a person develops through various developmental stages, one develops capacity to abstract understanding of things around

¹⁶⁷ Tonga respondent

¹⁶⁸ Tonga respondent

¹⁶⁹ Tonga respondent

them. However, this concept (common sense) does not indicate how it is acquired but recognizes that what a person is capable of knowing is relative to what the person has been exposed to. This on the other hand challenges the age-related nature of this concept as it is possible to be grown up but still not having been exposed to age related knowledge. Furthermore, it is also not clear whether this capacity is purely acquired through exposure or/and experience or simply innately common to humanity as human characteristic.

6. *Kuyeeya Kabotu Mu Mizeezo* – Rightful Reasoning

This concept of intelligence relates to coherence in thinking. According to this concept, to think coherently is to be intelligent. A person who is capable of thinking coherently is intelligent. Coherence is determined by societal norms and simply age related. An adult must think like an adult and a child must think like a child. While this is true, a child who already thinks like an adult is deemed to possess greater amount of this quality than an adult who fails to reason or think his/her age.

7. *Luzyibo* – Knowledge

This concept of intelligence simply relates to knowledge as it recognizes that intelligence is capacity to know and being knowledgeable. This is acquired intelligence through exposure and learning.

8. *Kucenjela* – Cleverness

The direct English translation of this characteristic of intelligence is cleverness. Although the Tonga speaking people recognize cleverness as a concept of intelligence, it is

generally considered to be of two opposing natures, i.e., Negative (selfish) and positive (swiftness to grasp). Therefore, *kucenjela* is only recognized and encouraged when it relates to swiftness of grasp and following through accordingly.

9. *Maano Akucikolo* – School Intelligence

The Tonga speaking people recognize that formal schooling imparts and or stirs up innate intelligence attributes to give a person cognitive ability to easily understand concepts from formal school orientation. This kind of intelligence is contrasted to traditional type or characteristic of intelligence that grows from natural exposure to ordinary day-to-day life experience.

Whereas formal school exposure is significant, this research investigation challenges this kind of intelligence as it is viewed as highly theoretical and does not easily translate into practical lived life experience.

5.3.1.6. The Lozi speaking people of Western Zambia

The Lozi speaking people of Western Zambia hold that there is genetic (intelligence one is born with) and acquired intelligence from interaction with others and formal forums such as school. They identify inborn or genetic intelligence as *Ngana tanu* whereas the acquired intelligence is identified as *Ngana takuwanina*.

A). *Ngana Tanu*

This is the intelligence a child is born with. It is the intelligence God gives us and we are born with it – “*Ngana tanu ki ngana yaku pepwa ni yona. Ki ngana ya lu file mulimu.*”¹⁷⁰

This attribute of intelligence is distributed differently per person. Some children are born with more of it, while others are born with less of it. Those who are born with more *Ngana tanu* are called talented. They are listened to, respected and entrusted with leadership and various responsibilities whereas those who are born with less *Ngana tanu* are looked down upon in society. The degree of distribution of this attribute of intelligence is identified through interaction with the elders and peer in society as earlier indicated in cognitive assessment criteria. When children are playing, those with less *Ngana tanu* are assigned lower grade roles while those with more *Ngana tanu* are assigned higher roles to perform, “*Habaya kwa mandwani, yani ya nani ngana tanu yeinyani yena bamu biza Luwawa. Kono yani ya nani ngana tanu ye ng’ata, yena bamu biza kuli kiyena muna munzi. Ki yena ya ka zamaisa munzi kaufela*”¹⁷¹ - When they are at play, the child with less *Ngana tanu* will be assigned as foxes in the village. But the one with more *Ngana tanu* will be assigned as the village headman who will preside over the whole village.

“*Ye bafa kuli a be mung’a amunzi ki mwanana ye baboni babanwi kuli unani zibo mwa lika. Nimwa bulelela cwalo kele ba bona kuli yo ki yena mun’ga munzi. Yaani Sitongwani ki mutu ya swana inge lisholi. Fo kunwi u apilikeza banana kuli amulwane. Ki Sitongwani mutu ya cwalo. Kakuli za eza liisa kwa likolofalo*”¹⁷²-

The one who is assigned, as the village headman is a child whom others have seen to have knowledge in things. Even the manner of speaking indicates to others that

¹⁷⁰ Lozi respondent

¹⁷¹ Lozi respondent

¹⁷² Lozi respondent

this one is the village headman. The one who is assigned as a Fox is a child who is like a thief. At times such a child will force other children to fight. Such a child is a fox because what he/she does leads to harm.

From this process, it is further revealed that characteristics of intelligence are manifested through social play and how the child speaks to both the peers and those who are senior to the child's age.

B). *Ngana Takuwanina*

Ngana takuwanina “*ki ngana ye lu fumana mwa libuka ni ka ku pila ni batu*”¹⁷³ - This second form of intelligence is the kind that we acquire from formal schooling using books and through living with others.

Identified concepts of intelligence that fall under this category are:

i). *Bunangu* - ability to grasp things swiftly

An intelligent child is swift to grasp what is taught or what is being shown to the child. The rate of this swiftness is arrived at in comparison to others in a group. Through comparison in this aspect, the degrees of intelligence, based on the characteristic of intelligence as swiftness, is arrived at.

ii). *Butali* - Cleverness

A clever child will grasp things before they are fully explained. Once the clever child conceives of the idea, the child uses that conceived idea to figure out things in life.

¹⁷³ Lozi respondent

iii). Zibo – Knowledge

“Ngana ki mutu ya nani zibo ni butali bwa ku ziba kuli lika ze li zamaya cwana¹⁷⁴” -

Intelligence is having knowledge and cleverness to know and understand how things go.

iv). Kuinahanela - Initiative

Here intelligence is understood as the child’s own initiative to perform his/her chores and duties without any instruction from anyone. This indicates that the child has internalized values necessary for familial and social wellbeing.

A child learns these duties and chores by observing what the parents do and from social interactions with the peers.

v). Ability to Perform Tasks Beyond What Is Expected of One’s Age

Among the Lozi speaking people there exists an understood of what acts can and cannot be managed by children of a certain age. A child who is able to think through and perform acts that are expected of his/her age is intelligent. In this regard therefore, intelligence is ability to perform tasks beyond what is expected of a child’s age. *“Likezo za kuli, mina mubona kuli mutu yani isali mwanana, kono lika za eza zende ki lika ze kona feela kuezwa ki babahulu¹⁷⁵” -* Such as the child may still seem to be young but performs works or acts that can only be performed by adults.

¹⁷⁴ Richard Mukatimui Mututwa (Lozi respondent)

¹⁷⁵ Denis (Lozi respondent)

5.3.1.7. The Chewa speaking people of Eastern Zambia

As earlier indicated in this paper, whereas the rest of research information here in is based on fresh data, information pertaining to the Chewa concepts of intelligence is from the research conducted by Serpell. In his research among the Chewa speaking people of Eastern Zambia, Serpell gathered and analyzed Chewa concepts of intelligence with the help of Chikomeni Banda.

Serpell's research brought out the following Chewa concepts of intelligence:

i). *Nzelu*

Among the Chewa, a “child with *nzelu* is a child who is clever (*-chenjela*), trustworthy (*-khulupilika*), who listens, understands and obeys (*-mvela*), who is prompt (*-changu*), and who cooperates with others (*-mvana ndi anzake*)”¹⁷⁶ (Serpell 1993, p.32).

Nzelu on the other hand, appears to have three dimensions, ‘wisdom’, ‘cleverness’ and ‘responsibility’, (Serpell (1989b) 1993, 32).

ii). *Chenjela* – Cleverness

This is capability, giftedness or talent to undertake tasks a child is presented with.

iii). *Tumikila* - responsibility

To be responsible is characteristic of being intelligent. A child who is responsible will carry out assigned roles and chores accordingly. All the investigated local cultural language groups encourage being a responsible child. Hence, it is one characteristic expected of a child to manifest from the local cultural assessment criteria.

¹⁷⁶ Chikomeni Banda in: Serpell's ‘*The Significance of Schooling*’. 1993.p.32.

5.4. Hierarchical Indigenous Cognitive Assessment Systems

This research that was conducted among the seven major indigenous language groups of Zambia reviewed common themes that were identified and categorized. As noted in the data presented in the previous chapter, with the help of the research assistant, these common themes were assigned into various categories of intelligence. Identified categories of intelligence were subsequently presented to the informants for verification. Groups of elders verified the assigned categories as representative of characteristics earlier on collectively identified.

There were also some similar, abstract, concrete and sometimes overlapping statements. These were identified with the closest abstract category. E.G., personal hygiene and care of home surrounding are identified as attributes of social responsibility as it involves both personal and communal attributes. Totaled number of common themes revealed a hierarchy of how these characteristics of intelligence are placed in the indigenous setup.

Identified and verified common themes that cut across the major language groups investigated are: Social Responsibility (33.04%); Industriousness (15.38%); Respect (14.51%); Obedience (14.51%); Cognitive Ability ((9.61%); Honest, Trustworthy and Reliable (7.87%); Common Sense/Initiative (4.02%); Merciful (0.52%); Divine (0.35%); Humility (0.17%), arranged in the order of how they are held in rural Zambia.

Research also revealed some hierarchical variations of these cognitive assessment measures on each language group. These were identified and are discussed in this chapter.

1. Social Responsibility

Some common characteristics shared by the investigated language groups under this theme are:

a). Doing age-appropriate house chores:

- i. Does house chores: *Ukubomba imilimo iyapang'anda* (Bemba);
- ii. He helps the parents with house chores: *Wakwashang'a akulumpi na nydimu ya hetala* (Lunda);
- iii. Helping parents with house chores: *Achikafwakako visemi namilimo yaha zuvo* (Luvale);
- iv. Helps the parents doing some domestic chores: *Bukwasha basemi na mingilo yapa nzubo* (Kaonde);
- v. Is hardworking in doing house chores: *Muyumu kubeleka ang'anda* (Tonga);
- vi. By the works the child performs: She wakes up early in the morning, sweeps the area, draws some water and gets the plates and washes them. Then we say that this girl is intelligent: *Ka misebezi mwa lapa. Wa pakela ka kusasa, wa fiyela-fiyela, waka tu mezi, wa anga tu keke wa tapisa. Peto luli mwanana yo unani ngana*; For the boys, one who wakes up early in the morning, (for those who own cows), goes to the kraal. When he comes back he brings a report over what he saw at the kraal. That is intelligence: *Kwa bana babashimani, yaeza ha zuha kakusasana wa pakela (inge bale baba lisa likomu), uyo nangela kwa mulaka. Hayo kuta uli nizo bona ze ni ze. Ki ngana.* (Lozi).

b). Conducting oneself in accordance with acceptable cultural norms:

i. Conducts himself/herself according to societal norms: *Imikalile isuma* (Bemba);

ii. The way that child conducts himself towards elders: *wasolweshang'a kavumbi* (Lunda);

iii. Follows cultured manners: *Kanyike wa mangana ambwende* (Luvale);

iv. Emulates good character exhibited by people in the area he lives: *Watemwa kukopela byubilo byawana mu mpuzha mo ekala* (Kaonde);

v. Doing what is required: *Kucita cintu ceelede*: Receives visitors with respect: *Kutambula beenzu abulemu* (Tonga);

vi. An intelligent child knows how to receive visitors and how to take care of them.

An intelligent child will receive a visitor, gives them a stool to sit, then comes forth, kneels down before the visitor and greets them. Furthermore, an intelligent child treats with respect, the space near and around the visitor: *Mwanana yanani ngana wa ziba ku amuhela baeni. Uka ba amuhela, wa bafa sipula, kona ataha kuto ba lumelisa. Mi ha bapaleli kokuinzi batu* (Lozi).

c). Timeliness in performing tasks and in reporting home

i. A child who neither move in the night nor comes back home late at night: *Umwana usheenda ubushiku nangu u kubwela ubushiku* (Bemba);

ii. He minds time to get back home knowing parents might need him: *Watong'ojoka ha mpinji yakufunta kwitala* (Lunda);

iii. He minds time when given an assignment to perform: *Nge vanamuhane milimo achikuyizatanga mulwola lwakutamo*; He minds time to get back home:

Kanyike achikulamanga lwola lwakuhema na lwola lwakuhiluka kwimbo yavene (Luvale);

iv. The way he does things with care and caution: *Byo engila bintu na munkonsha ne kutako maana* (Kaonde);

v. Does what he/she is sent to do rapidly: *Ufwambaana kucita ncaatumwa* (Tonga);

vi. Sometimes we give them vegetable beds for them to take care of. By the time you wake up, you find that she/he has already watered his/her vegetable bed: *Fo kunwi lwa tufanga mimbeta ya mikomena ya miloho. Haukayo zuha, uka to fumana kuli kona ki kale ka selaela kale* (Lozi).

These characteristics of Intelligence under Social responsibility are common in all the investigated six major language groups of Zambia. According to this research therefore, Social Responsibility being the highly placed across the seven (including Chewa) major groups of Zambia suggests itself as the primary assessment criteria of an intelligent child across the seven major language groups of Zambia. This therefore implies that an assessment of child intelligence from an indigenous local cultural perspective must begin by assessing how well developed is the child's sense of social cultural responsibility. Subsequently this would indicate that a socially responsible child is a child with the right possession of qualities of an intelligent child. Simply put, in Zambia, a Socially Responsible child is an intelligent child.

2. Industrious

As earlier noted, industriousness is a category that contains statements that relate to the child's ability to be creatively productive. Productivity is assessed mainly through

agricultural and construction work activities. Some shared characteristics under this category include the following:

a). Ability to cultivate a field or a small garden and grow crops for survival.

i. Cultivating a field following after a parent who is cultivating a field, knowing that a field will help him/her: *Uku lima ibala nga amona bawishi bale lima ibala ilya ku mwafwa* (Bemba);

ii. A Lunda child farms a lot to sustain their families that is intelligence as a tribe: *A Lunda hi a diimi dimu ahandishilang'amu ntang'a jawu nawa chamwekshang'a maana awu* (Lunda);

iii. The works parents do will try by all means to emulate them: *Azanga kukavangiza ji ndondelo ja visemi jenyi ja mwaza* (Luvale);

iv. Self-reliant: *Wuba bintu byakwimwena mwiine* (Kaonde);

v. Knows how to cultivate a field: *Ulicizyi kulima muunda* (Tonga);

vi. An Intelligent person is a person who can survive on his/her own in life. If he does not go to school, he grows food to find something to survive by: *Mutu ya nani ngana ki mutu ya kona kuipilisa mwa bupilo bwa hae. Haiba hakeni sikolo waitimela ku li a fumane fa ku pilela* (Lozi).

b). Creativity, Innovativeness and ability to construct:

i. Who is able to build his/her own house: *Ukula ing'anda* (Bemba);

ii. He is creative using clay or wires items: *Waleng'ang'a tuyuma twa ndambo na ma waya twakuhemesha nawa kwawu*; The kind of special tasks he can perform such as constructing a house, making a wire car etc.:

Munatweshi kumona nyidimu ankuzatai yakuhayamisha chidi ney kutung'a ke tala, hela kupanga ka motoka ka mawaya ni chikwawu tuhu (Lunda);

- iii. He is creative e.g. Making clay item, or wire items: *Kanyike wuze azanga vya kuwumba wumba na ndambo chipwe tuma motoka twa mawaya* (Luvale)
- iv. He is creative by molding various clay items: *Wubumba bumba tubintu kwingijisha buchimba* (Kaonde);
- v. Acts such that, the child may still seem to be young, but his/her works or acts can only be performed by adults: *Likezo za kuli, mina mubona kuli mutu yani isali mwanana, kono lika za eza zende ki lika ze kona feela kueziwa ki babahulu.*" (Lozi).

This research investigation revealed that children acquire this quality that is necessary for self-reliance and survival, primarily by emulating elders who initiate a motivation for a child to discover his/her talent which they would further its development.

3. Respect

Respect for other and indeed self-respect is noted as a significant characteristic of an intelligent child. This characteristic is acquired from the natural setting of a child's home environment. Furthermore, respect is equally acquired through social interaction with peer. Investigated language groups shared the following common elements under this characteristic of intelligence:

a) Manner of answering when the child is called by an elderly person:

i. When you call him/her, she/he answers quickly and comes with respect:

Nga wakeeta kayasuka bwangu nokwiisa mu mucinshi mucinshi (Bemba);

ii. He follows traditional etiquette in greeting elders or responding to them:

Kansi wakanshinshi kulondela chisemwa hela kwimusha akulumpi (Lunda)

iii. The way he answers elderly people when called upon: *Ngasukilo yanzi*

yawama kuba nkulumpe (Kaonde);

iv. Responds with respect when called: *Ulavwiila cabulemu aitwa – Maa /*

Taa (Tonga).

b) Kneeling down when called and when greeting elders:

i. A child who kneels when he/she is called: *U mwana ufukama nga*

bamwiita (Bemba);

ii. He follows traditional etiquette in greeting elders or responding to them:

Kansi wakanshinshi kulondela chisemwa hela kwimusha akulumpi

(Lunda);

iii. The way he conducts himself towards elders: *Wakalemesa kuli vakulwane*

(Luvale);

iv. Kneels down before elders: *Ulafugama asika ali bapati* (Tonga);

c). Receiving things with both hands:

Although this characteristic manifestation of respect did not surface through the five investigated language groups, the Tonga highlighted it as a significant indication of an intelligent child. A respectful child receives things with both

hands- cultural sign of respectfulness: *Apegwa cintu ulatambula amaanza obilo*¹⁷⁷ (Tonga). According to this understanding, when a child has to receive things in his/her hands from an elderly person, it is visibly a common practice across the indigenous cultures of Zambia that a respectful and gracious child will receive items being that are being handed over to them using two hands. A child who therefore, conducts himself/herself as such possesses characteristics that are deemed as intelligent.

d). Listening attentively

Another aspect of respect that was highlighted in this research surfaced through research investigation among the Lozi speaking. According to the Lozi speaking, to be respectful is also manifested through active listening that implements what is heard. Research noted that an intelligent child is a child who listens or pays attention. When he/she is advised, he/she follows the advice. *Ki mutu ya teezeza lika. Ha laelwa ueza mwa bulelezwi*¹⁷⁸. *The Chewa speaking understands it as mva/-mvela* – attentiveness (Serpell, R. 1993.p.32)

4. Obedience

Obedience is an upheld value in most African traditions as it ensures order and recognizes hierarchy in society. In Zambia, the major language groups investigated through this research recognized and brought this out through common themes shared. Some of them are:

a). Heeding instructions from elders

¹⁷⁷ Shared by a Tonga respondent

¹⁷⁸ Lubasi of Nakasheke Village in Mongu

- i. One who heeds what he/she is told by adults: *Uumfwa ifyo balemweba abakulu* (Bemba);
- ii. He follows instructions as given by parents: *Wa lundelang'a jina mulejiwu kudi a kulumpi* (Lunda);
- iii. He follows instructions: *Achikukavangizanga nawa vize navamulweza kulinga kuvikavangiza munona munona* (Luvale);
- iv. Follows instructions given to him by elders: *Wulondela mikambizho ya bakulumpe inge bamubula kuba kintu* (Kaonde);
- v. Follows instructions: *Uchilila malailile* (Tonga);
- vi. A child who carries out everything he/she is told by the parents, a child who follows all the rules of his/her parents: *Ya eza misebezi kaufela ya bulelelwa ki bashemi ba hae, ya latelela milao ya bashemi* (Lozi).

The investigated major language groups' recognition of obedience to elders and parents signifies that obedience is held as a value for what it promotes in local cultural societies. While recognizing hierarchies and sometimes elders and parents' assumed authority that comes also through age, the need for obedience ensures harmony, peaceful coexistence, cooperation and the progression of a local community. Obedience is here understood not only as blind following of instructions from elders but, since elders, like parents, possess natural wisdom to guide the young in ways of life that will ensure they equally grow up properly, it is understood as right guidance to growing up according to expected local cultural norms.

Furthermore, as it can be noted that informants used the terms “parents” and “elders” interchangeably, this implies that parents and adults of elders are viewed in the same light in this regard. For a parent is understood as any elder who must naturally possess the inclination towards the safeguarding of the well being of the young and vulnerable in society. In this regard therefore, “parents” and “adults/elders” are used interchangeably especially patterning to this characteristic of intelligence.

5. Cognitive Ability

While responses under this category related to swiftness of grasp of ideas; formal and informal school functions; remembering as well as planning, the major language groups investigated assigned it the realm of mental capacity. Whereas cognitive ability easily translated into capacity to handle formal school activities, some cultures identified several outside formal school activities such as creativity as attributes of this quality.

Some common attributes shared under this characteristic of intelligent are as follows:

a). Ability to grasp concepts or the idea swiftly:

- i. Grasps things quickly when taught: *Uanguka ukuishiba ifyo balemulanga. Taalekokola ukuishiba ifintu* (Bemba);
- ii. He catches up fast: *Wakwatang’a yuma lufuchi* (Lunda);
- iii. He learns things very fast: *Wufunda bintu bukiji bukiji* (Kaonde);
- iv. Grasps quickly: *Ulafwambana kumvwa* (Tonga);

- v. “*Bunangu*” means swiftness to grasp things. An intelligent child is therefore, swift to grasp what is taught or what is being shown to the child:

Bunangu italusa mutu ya swala lika kaubebe (Lozi).

This attribute of cognitive ability was not explicitly mentioned from research investigation among the Luvale language group.

b). Capacity to remember accordingly

- i. He doesn't forget easily: *Walalamenang'a swayi wanyi wahembag'a yuma* (Lunda);
- ii. He is not forgetful: *Apwa wa kulama vyuma kechi kuvulya washi vyumako* (Luvale);
- iii. He doesn't forget easily: *Kechi wulubamo bintu bikiji ne* (Kaonde);
- iv. Intelligent is a child or an adult who is able to imitate/ replicate what is perceived, new and puzzling to people. Just the way that phone is, an intelligent child can draw it: *Ngana ki mwanana kapa yo muhulu yaba ni ku likanyisa sesi bonahala kuli seo sa komokisa kwa batu. Mo inezi phoni ye, kono yena wa kona kuiswanisa* (Lozi).

c). Propensity towards formal schoolwork:

- i. Minds his schoolwork: *Watang'a maana ku shikola*, and he is a fast learner at school: *Wakwatang'a yuma ya kushikola swayi swayi* (Lunda);
- ii. He has time to concentrates on his schoolwork: *Ali nalwola lwakuhaka muchima ku shikola yenyi* (luvale);
- iii. The way he writes in his book is orderly and neat: *Byo alemba mu mabuuku wanji bulongo ne kutanchika bulongo* (Kaonde);

Although this attribute of intelligence was not explicitly brought out during the research investigation among Tonga and Lozi speaking people of Western Province, in North Western Province among the Lunda, Luvale and Kaonde, it is implicitly upheld as a value that is certainly encouraged especially among peer children.

6. Honest / Trustworthy / Reliable

Honesty, trustworthiness and reliability are shared characteristics of child intelligence across the seven language groups of Zambia. The most common attribute of this characteristic of intelligence is the child's ability to carry out an activity as instructed by parents or elders:

- i. A child who does everything he/she is sent to do - *Fyoonse ifyo ulemutuma ala cita* (Bemba);
- ii. Does what he/she has been sent to do quickly: *Ulafwambaana kucita ncaatumwa* (Tonga);
- iii. When asked to carry out an assignment he does it accordingly: *Neyi anamwinki mudimu wazatang'a mwakwoloka ni mwayila wuna mudimu* (Lunda);
- iv. The way he responds to work assigned to him by elders: *Kanyike evwilila jishiko nge vanamuhane milimo yakuzata kuli vakulwane* (Luvale);
- v. Concentrates on anything given to work on: *Wutako muchima pa mwingilo ye be mupa* (Kaonde);
- vi. If for instance it is mealtime, the parents are seated. Then the child is called and sent to take the food to the parents. The child collects the food, goes to the parent, kneels down and claps (as a sign of respect). Then you know that this

child is intelligent: *Ka nako ya lichu, ba shemi bainzi faale. Peto mwanana ba mu luma bali isa lichu ze. Ki peto wa ya, uyo kubama wa kambelela. Ki peto wa ziba kuli mwanana yo unani ngana*, (Lozi);

vii. The Chewa note this as trustworthy- *khulupilika*, and prompt –*changu*, (Serpell 1993).

Partly due to their versatility, children are normally sent by elders to perform tasks such as getting a cup of water for a visitor, bringing a stool, sweeping the yard, etc. parents expect children to perform these tasks quickly and accurately. Ability to perform any such chores with the accuracy of the person who sent for them to be performed is understood as “*Kutumikila* among the Chewa (Serpell 1993) and *Ku Lumeha* among the Lozi and is a significant characteristic of intelligence from an indigenous perspective.

7. Common Sense / Initiative

Although Common Sense / Initiative is ranked differently among the investigated major language groups of Zambia, common characteristics that emerge from the research point to it as another significant indicator of the child’s intelligence. This characteristic generally centers on the child’s ability to perform age-appropriate domestic chores that are in accordance with local cultural norms, and emulating positive acts performed by parents or adults.

a). Performing chores on the child’s own initiative

- i. A child who makes a fire early in the morning at an *Insaka*---a gathering shelter for elders: *Umwana ukosha u mulilo ulucelocelo pa nsaka* (Bemba);

- ii. He does things with minimum supervision: *Welang'a yuma chakubula kumwimena kulonda azati ona mudimu* (Lunda);
- iii. He does things with minimum supervision: *Welang'a yuma chakubula kumwimena kulonda azati ona mudimu* (Luvale);
- iv. He commands himself to do things at home like washing plates, bringing firewood etc: *Watemwa kwi yipa mwine byakuba, biji none kovwa masanyi, kutema nkunyi nebikwabotu* (Kaonde);
- v. Starting a fire and putting a water pot on the fire so that when the mother comes, she just cooks nshima: *Kukunka mulilo akusibika meenda kutegwa basika banyina bajike biyo nsima* (Tonga);
- vi. We see by the works of the child. An intelligent child reminds herself/himself to work. The child will carry a bucket and goes to draw water without being told. Then she/he takes a broom and sweeps the yard and cleans pots and plates without anyone telling him/her. The child puts a pot on the fire for relish and cooks without anyone telling him/her. This way you are able to tell that this child is intelligent: *Lu bonaga ka misebezi. Yanani ngana yena wa kona kuikupuza ku sebeza. Mane wa kona ku nanula ngongolo uyo ka mezi kusina ya mu bulelezi. Hape wa inga lu fiyelo wa fiyela wa kenisa u tapisa mi pika ni mikeke ku sina ya mu bulelezi. Wa toma poto fa liso ya busunso, wa tateha akuna ya mu bulelezi. Ki peto kele u bona kuli, mwanana yo unani ngana* (Lozi).

b). Emulating parents’/elders’ positive activities

Most characteristics of intelligence that relate to this theme have here been assigned to the category of industriousness as they point to the result of such acts more than their inherent value. For instance,

- i. Cultivating a field following after a parent who is cultivating a field, knowing that a field will help him/her: *Uku lima ibala nga amona bawishi bale lima ibala ilya ku mwafwa* (Bemba);
- ii. He emulates works done by elders: *Achikulondezezanga vyama vya wukulwane* (Luvale);
- iii. Creative in doing things sometimes making things that elder do: *Mwanyike wulenga bintu avya ne bakulumpe ba konsha kuba* (Kaonde);

These are some of the common themes that point to common sense or initiative and are common among some of the investigated language groups.

8. Merciful

Of the seven major language groups of Zambia that were investigated in this research, only the **Lunda** and the **Luvale** brought out the concept of mercifulness as characteristic of an intelligent child. For the **Lunda** speaking people, an intelligent child is a child who has mercy for others, especially for elderly parents – “*Wekalang’a na luwii na amvwali jindi*”¹⁷⁹. Similarly, among the **Luvale** speaking people, they view an intelligent child as one who feels mercy for the aged – “*Achikwivwilangako kheke tushinakhaji navaze vanakolo*”¹⁸⁰. While this attribute may be a shared value across the seven major language

¹⁷⁹ Lunda respondent

¹⁸⁰ Luvale respondent

groups, it was particularly highlighted by the noted language group by informants of the same average age.

9. Divine Gift

Of the seven major language groups this research investigated, only the Lunda, the Luvale and the Lozi speaking brought out the concept of divinely giftedness as among the characteristics of an intelligent child. Both the **Lunda** and the **Luvale** speaking, hold that an intelligent child has God given gift of choosing what is wrong and what is right – “*Maana yindi akudi Nzambi a kwiluka ja tama ni jajiwahi*”¹⁸¹; Gift from God that is unique in doing things – “*Ali na mangana akufuma kuli Kalunga hi waana wakukomowesa.*”¹⁸² The **Luvale** further recognize a divinely gifted child as a child whom God gave a special talent – “*Kanyike wuze kalunga ahana waana.*”¹⁸³ In the same vein, the **Lozi** concept of *Ngana Tanu* signifies this attribute. For the **Lozi** speaking, they further attribute intelligence as divinely given: “*Ngana tanu ki ngana yaku pepwa ni yona. Ki ngana ya lu file Mulimu*”¹⁸⁴ - This is the intelligence a child is born with. It is the intelligence God gives us and we are born with it. According to this concept, *Ngana tanu* is distributed differently. There are children who are born with plenty of it. Others are born with less of it. Those with more *Ngana tanu* are called talented. They are listened to, respected and entrusted with leadership roles. Those with less *Ngana tanu* are looked down upon when interacting with others.

¹⁸¹ Lunda respondent

¹⁸² Luvale respondent

¹⁸³ Luvale respondent

¹⁸⁴ Bo Lubasi of Nakasheke Village in Mongu- Western Zambia

Although this concept is here understood as divine gift, it is still commonly shared by other cultures interviewed. Variations are a mere reflection of individual beliefs/attitudes of particular informants recruited by this research.

10. Humility

Of the seven major language groups explored in this research, only the **Tonga** speaking people had humility as one of the categories of intelligence. According to the **Tonga** speaking people, an intelligent child is a humble child who asks questions to be enlightened where the child lacks knowledge. This implies that the child will not simply pretend to know when in fact the child does not know. *Ulabuzya natazyi / bomba ulye malelo*¹⁸⁵ - Asks to know when he/she does not know.

Although mercifulness, divine gift and humility are characteristics of intelligence with low average frequency of mention, they are elicited as intrinsic parts of a representation/ethno-theory shared among the members of a sociocultural group, in this case, the Lunda, Luvala, Lozi and Tonga.

5.5. Percentile Variations of Characteristics of Intelligence Across the Seven Major Language Groups of Zambia

Although this research brought out common characteristics of intelligence shared across most major language groups of Zambia, how these characteristics are valued differs from one language group to another. For instance, whereas the Luvala and Lunda of

¹⁸⁵ Tonga proverb that means – if you humble yourself, you will be elevated into a leader

Northwestern Zambia, and the Tonga of Southern Zambia place Industriousness as second most significant characteristic of an intelligent child, the Bemba of Northern Zambia and the Kaonde of Northwestern Zambia instead hold Obedience as the second most significant characteristic of an intelligent child. Overall, however, all the investigated major language groups recognized social responsibility as the primary characteristic indicative of an intelligent child.

The following table highlights these variations:

BEMBA	KAONDE
Social responsibility (38%) Obedience (19%) Respect (15%) Industrious (11%) Honest/trustworthy/reliable (11%) Common sense/initiative (5%) Cognitive ability (1%)	Social responsibility (27%) Obedience (22%) Respect (18%) Cognitive ability (13%) Industrious (9%) Common sense/initiative (8%) Honest/trustworthy/reliable (4%)
LUNDA	LUVALE
Social responsibility (32%) Industrious (15%) Obedience (14%) Respect (14%) Cognitive ability (12%) Honest/trustworthy/reliable (5%) Common sense/initiative (5%) Divine giftedness (2%) Merciful (1%)	Social responsibility (24%) Industrious (22%) Obedience (18%) Cognitive ability (13%) Respect (12%) Honest/trustworthy/reliable (5%) Common sense/initiative (4%) Merciful (2%)
LOZI	TONGA
Social responsibility (26%) Cognitive ability (21%) Industrious (16%) Respect (16%) Honest/trustworthy/reliable (16%) Common sense/initiative (5%)	Social responsibility (42%) Industrious (15%) Common sense/initiative (12%) Obedience (10%) Cognitive ability (8%) Respect (8%) Honest/trustworthy/reliable (4%) Humility (1%)
CHEWA	
1. Nzelu (Wisdom) 2. Chenjela (Aptitude) 3. Tumikila (Responsibility) 4. Chenjela (Cleverness) 5. Mvela (Attentiveness/obedience) 6. Khulupilika/mvana (Trustworthiness, cooperativeness).	

Table 5.1. Percentile Variations of Characteristics of Intelligence

The table below presents characteristics of intelligence by percentage

	BEMBA	KAONDE	LUNDA	LUVALE	LOZI	TONG A	CHEW A
Social Responsibility	(38%)	(27%)	(32%)	(24%)	(26%)	(42%)	
Industriousness	(11%)	(9%)	(15%)	(22%)	(16%)	(15%)	
Respect	(15%)	(18%)	(14%)	(12%)	(16%)	(8%)	
Obedience	(19%)	(22%)	(14%)	(18%)		(10%)	
Cognitive Ability	(1%)	(13%)	(12%)	(13%)	(21%)	(8%)	
Honest, Trustworthy, Reliable	(11%)	(4%)	(5%)	(5%)	(16%)	(4%)	
Common Sense/ Initiative	(5%)	(8%)	(5%)	(4%)	(5%)	(12%)	
Merciful			(1%)	(2%)			
Divine Gift			(2%)				
Humility						(1%)	

Table 5.2. Characteristics of intelligence by percentage

5.6. Average Percentile Assessment Criteria of Intelligence Across the Seven Major Language Groups of Zambia

Of the Seven major language groups of Zambia researched, the following percentile average of assessment criteria would indicate an across the country indigenous assessment criteria:

1. Intelligence as Social Responsibility (33.04%)
2. Intelligence as Industriousness (15.38%)
3. Intelligence as Respect (14.51%)
4. Intelligence as Obedience (14.51%)
5. Intelligence as Cognitive Ability ((9.61%)
6. Intelligence as being Honest, Trustworthy and Reliable (7.87%)

7. Intelligence as Common Sense/Initiative (4.02%)
8. Intelligence as Merciful (0.52%)
9. Intelligence as Divine (0.35%)
10. Intelligence as Humility (0.17%)

S / N	CHARACTERISTIC OF INTELLIGENCE	PERCENTAGE
1.	Social Responsibility	33.04%
2.	Industriousness	15.38%
3.	Respect	14.51%
4.	Obedience	14.51%
5.	Cognitive Ability	9.61%
6.	Honest, Trustworthy & Reliable	7.87%
7.	Common Sense/Initiative	4.02%
8.	Merciful	0.52%
9.	Divine	0.35%
10.	Humility	0.17%

Table 5.3. Percentile average of assessment criteria across the seven major language groups of Zambia

These findings therefore indicate first of all that:

- a). There is **an established local cultural (indigenous) education system and assessment criteria** for learners that is used to help them to develop into productive and responsible adults in society.
- b). There is learning that takes place from a local cultural setting. This learning is the kind that is centered on both the individual and the well being of the local community, village and society at large.

c). There are various subject materials that a developing child is expected to learn. While some of these subject matters are assigned according to gender, there are other learning matters that are in accordance with the age of the young learner.

5.7. Traditional Rites of Passage and Impact on Peer / School

A study by Wele (1993) particularly noted *Mukanda* and *Makishi* of Luvale of Northwestern Zambia, a similar rite the Chewa of Eastern Zambia call *Nyau*. Other notable traditional rites of passage include *Sikenge* and *Mwalanjo* of the Lozi speaking people of Western Zambia, otherwise known as *Nkolola* and *Mooye* among the Tonga speaking people of Southern Zambia. The Bemba speaking people practice what is known as *icisungu/cinamwali*. These traditional rites of passage impact adolescents' interaction with peers and with schoolteachers in ways that involve the social dimensions of intelligence document in the author's study. In many cases the knowledge and growth acquired through traditional rites of passage contributes to school dropouts. As young learners (boys and girls) acquire traditional life skill knowledge, they begin to look down on formal school knowledge system and the duration it takes to acquire it. This is knowledge that is ideally sought after as a more powerful (prestigious, due to Western cultural hegemony) and effective (due to the technical power of modern technology) way of achieving "self-sustenance", eg by leveraging access to more financially rewarding adult occupations. As a result, a much shorter 'school' program that equips and empowers boys and girls in knowledge necessary for survival becomes more preferred than the elongated formal school training program whose results take long to materialize and are for the most not attainable due to the duration, financial demands as well as restricted places of furthering one's education in higher institutes of learning.

5.8. Chapter Conclusion and Recommendations

Whereas education, according to Dilip Bhatt, has the principal purpose of drawing out the innate power in all learners to its actualization, (Dilip, 2017), what must be learned and how it is assessed is very significant to the local culturally appropriate development of young learners and communities at large.

In order for an education system to be properly grounded, the curriculum needs to explore and understand local cultural learning systems. These include what learners must learn and the teaching fraternity that is assigned the role of teaching them and the assessment criteria.

The Examination Council of Zambia (ECZ), for instance, in the Grade Seven School Leaving Examinations's Special Papers I & II, focused on such attributes as: knowledge, comprehension, application, analysis, synthesis and the child's ability to evaluate problem situation (SSP I & II, 2011) as assessment criteria for intelligent children to progress to the next education level. The child's score on these attributes determined whether or not the child was deemed intelligent enough to be moved up to the next grade. In other words, through Special Papers I & II, our current Primary School system determines what characteristics of intelligence it promoted, assessed and used as litmus paper for child intelligence. It is equally used as justification to advance learners to the next level of education.

On the contrary, the following premises guide the present author's conceptualization of how intelligence should be related to the design of formal education:

1. Given that there are innate powers in all learners that need to be actualized, an appropriate education system is the kind that understands what there is to be drawn out.
2. Having understood the vast innate powers that need to be drawn out and actualized through an education assessment system, the assessment criteria (system) must subsequently be attuned to what needs to be drawn out in order to help in the development of the young learners. An inappropriate assessment criterion that risks missing that innate power that ought to be drawn out of a young learner risks missing the material to be drawn out and ends instead in the education of young learners to the detriment of learners and local communities at large.

Following after this research conducted among the seven major language groups of Zambia (which is a national representation), it is asserted that all the cultures investigated have established concepts of intelligence that must be elucidated, activated and or elaborated through a social culturally appropriate learning system. To arrive at various degrees of inborn and acquired intelligence, various indigenous assessment criteria exist. These assessment criteria follow a hierarchy of:

1. Characteristics of intelligence that the child innately possess and needs to be elucidated, activated, elaborated and,
2. Characteristics of intelligence necessary for the development of a child and the well being of the local community.

This implies that indigenous learning system across all the major cultural (ethnolinguistic) groups follow a common pattern of child cognitive development that emphasize the following cognitive attributes of intelligence:

5.8.1. Social Responsibility (33.4%)

Across the country the principal characteristic of intelligence is to be socially responsible. In this regard, a socially responsible child is an intelligent child. Subsequently to emphasize this characteristic and its development, appropriate educational assessment criteria will primarily aim to elucidate and grow the social responsibility attribute or nature of the child. Indigenously this is the primary focus (number 1) of appropriate educational assessment criteria that assess the intelligence of a child.

5.8.2. Industriousness (15.38%)

According to this study, a young learner's industriousness is generally understood as ability and desire to carry out activities that support the individual's social economic independence. This assessment criterion is ranked second after that of Social Responsibility. An education system and assessment criteria that recognize this attribute will promote hands-on learning activities and assessments that aim to draw out the child's industriousness. This will relate to the creation of subsequent assessment of practical subject matters that not only focus on the cognitive domain but also on the young learner's ability to apply himself/herself practically.

5.8.3. Respect (14.51%) And Obedience (14.51%)

According to this research, Respectfulness and Obedience are held as the third most important characteristics of intelligence. Although the two attributes are distinctively different, in the testimony of local cultural experts they were drawn to signify similar values. Whereas Obedience involves carrying out instructions from an elderly person such as:

- Accepting to be sent - *Ukutumikwa*; and heeding instructions from parents - *Ukuumfwila abafyashi (Bemba)*;
- Ability to not only listen but to carry out what has been heard, *-mva/-mvela (Chewa)* (attentiveness, obedience) (Serpell 1993).
- Following instructions as given by parents - *Wa lundelang'a jina mulejiwu kudi a kulumpi* (Luvale), by carrying out what is instructed accordingly,

Respect is generally distinguished by such attributes as:

- Follows traditional etiquette of kneeling before elders - *Kansi wakanshinshi kulondela chisemwa hela kwimusha akulumpi* (Lunda);
- Receiving things with both hands is following traditional etiquette of showing respect - *Apegwa cintu ulatambula amanza obilo* (Tonga).
- Respect is further understood as the child's ability to listen attentively to elders- *Mutu ya nani ngana ki mutu ya teezeza lika* (Lozi), an attribute equally shared by the Chewa speaking people as noted by Serpell: *mva/-mvela* – attentiveness.

An appropriate National Education system and School assessment criteria will include these values in order to draw out of and assess these culturally valued attributes of intelligence.

5.8.4. Cognitive Ability (9.61%)

Among the common attributes of cognitive ability that this research brought out from across the major language groups investigated include ability to grasp things quickly, ability to replicate what the child earlier on perceived, ability to remember, and

orderliness. An education system that, therefore, incorporates these cognitive attributes as innate abilities that ought to be elucidated and promoted through appropriate assessment tools will provide an education system that will foster an integral human development in this given cultural context.

5.8.5. Honest; Trustworthy; And Reliable (7.87%)

Honesty, trustworthiness and reliability are rated fifth among the indigenous cultural indicators of child intelligence. These characteristics of intelligence are assessed through their practical application. And the common assessment strategy is reliability. A child who can be sent to perform a task accordingly is deemed to be reliable, trustworthy and honest, a quality Bembas refer to as *Ukutumikwa* (reliable), whereas the Chewas refer to it as *kutumikila* (reliable) and Tongas refer to it as *kushomeka* (reliable).

These three qualities are significant for communal living as they promote harmony in community and good will among community members. Where there is dishonesty and lack of trust, there is division as members hold back to themselves.

These three characteristics should herefore, be promoted in formal school curriculum by introducing subjects that build these as values necessary to build communities. Furthermore, assessment criteria should include some practical assessment tools that assess these values as encouraged and promoted in cultures across the country.

5.8.6. Common Sense/Initiative (4.02%)

Common Sense is generally perceived as the child's ability to take up relevant tasks and implement them without needing to be told or instructed because the child recognizes value in those tasks as instilled and promoted by society in which the child lives: *Watemwa kwi yipa mwine byakuba, biji none kovwa masanyi, kutema nkunyi nebikwabotu*¹⁸⁶ - He commands himself to do things at home like washing plates, bringing firewood etc. Other common highlighted acts are lighting a fire early in the morning; boiling water when parents are coming late in order to set the pot for the parent to come and cook nshima when the parent arrives; and following parents to the fields. It is important to note that Common Sense (individually initiated) activities that are promoted are good acts that are not only good to an individual but to the immediate family as well as promoted by society in general. In other words, a child also manifests internalized sense of what is right or wrong. This is noted from a Kaonde perspective: *Wiyilangulukila kuba bintu aye mwine* - Thinking for himself to do right things in life.

A formal school curriculum should therefore include subjects that promote this attribute of intelligence that are practically relevant to the ordinary societal way of being. Furthermore, tools that assess this attribute should be tools that are of practical life experience as opposed to diagrams and drawings that do not translate into practical values. For instance, Grade VII assessment that uses squares, circles, rectangular and triangle images to assess the child's ability to discern sequence, which translates into common sense, should consider using practically lived images that are of value to a child and society. Images that promote morality, ethics, etiquette, respect, obedience, love and care, mercy, humility, etc. By using such images, the formal school will directly tap into what is familiar and

¹⁸⁶ Lunda respondent

culturally promoted and has locally appropriate developmental value. This will not only help promote an integral development of a child but will further create an integrated education system in Zambia.

5.9. Indigenous Cognitive Games and Their Educative Value

From this research investigation, the findings reveal some common games that are common across cultures. This shows that although Zambia is made of diverse language groups, there remain some common cultural practices that can be utilized in incorporating indigenous cognitive values in our formal school system. Indigenous cognitive games include cognitive **affordances** such as **opportunities for acquiring competencies** (perceptual skills, reasoning, rule-following, etc). In this respect they deserve attention in curriculum development because they are more widely known and understood by children's families than foreign games with similar cognitive affordances.

Among the common cognitive games participated in by growing children across the major language groups of Zambia are games that pertain to:

Pretend Play; Story telling; Chasing play; Stone passing; Stone Catching; and football. At least across the investigated major language groups of Zambia, common games are practiced though known differently in the different language groups. The idea that the different major language groups of Zambia hold certain games in common shows that there are indigenous cognitive games that are national in character, therefore, can easily be incorporated into the national school curriculum.

CHAPTER SIX: RESEARCH RECOMMENDATIONS AND CONCLUSIONS

Drawing on the two Latin terms from which the English term *educate* is derived, I have proposed above that education involves two essential processes ‘to draw out’ and ‘to nourish’. These two concepts indicate that there exists in every child or learner, an innate power that has potential to develop. How this potency is drawn out and develops is primarily determined by cultural practices that form the child’s niche of growing up. The local cultural practices and value systems will contribute to what gets drawn out of the child. This, therefore, means that characteristics of intelligence that are drawn out of a child through a devised education system are characterized by the child’s niche that includes value system and local cultural practices. Depending on the local cultural and traditions’ value systems, certain characteristics of intelligence will be emphasized over others through a form of education system that is designed to elucidate them. In this light, this research postulates that Zambian society manifests two basic education systems: indigenous (local cultural) systems and formal school systems.

6.1. Indigenous (Local Cultural) Education System

This is an education system in which a child is raised from early childhood. This developmental niche is a given. Through this forum the child learns the most basic lessons of life necessary for survival. From toddlerhood, a child is taught to identify and distinguish between objects and humans. Objects are further identified as either harmful or not harmful. For instance, a child is taught (through a single word) what fire is and that it burns. Such phrases as: “*Teente*”- Tonga for ‘burn’, or “*Pyepye*”- Lozi for ‘burn’, are told a child who approaches fire to persuade him/her from it. Furthermore, a child is

taught to recognize and distinguish basic family relations such as “*Taata*” – Tonga for ‘dad’; “*Maama*” – Tonga for ‘mother’. A child aged between two and five begins to manifest considerable inquisitiveness about self, family, society and nature. At this stage, the child asks parents where all people come from, why day and night exist. Parents do not normally give them truthful answers due to the amount of knowledge their young minds can comprehend at this developmental stage (Mtonga 2012). At age five a child is taught simple rules of behavior such as kneeling or bowing when talking to elders and to use both hands when giving and receiving something especially to an older person (Mtonga 2012). Between ages four to eight, a child is taught responsibility that is gender tailored as boys will be taught to lend a hand in male-gender-related domestic chores while girls will equally learn from their female counterparts. Hence, beginning with simple and basic traditional local cultural practices, a basic educational system that is characterized by the local cultural value system is developed.

Traditional education was the responsibility of the community, drawing on its own resources, and it was ideally suited to the society in which it was given. Whatever other limitations traditional education may have suffered; it did not "alienate" the recipients from life in the local community. Indeed, "its most obvious characteristic was its capacity to prepare children for living in the community"(Castle 1966, p. 4). The local culture sustains this system through established indigenous value system that must be passed on by an education system that involves the whole village. Teachers or instructors include siblings whose role is mostly exercised through free play, much older siblings, parents, and every elderly person in the village. The Tonga ethnologic tradition highlights this kind of education through a proverb: “*Mwana a kwale koiya kuuluka bayuni nyoko*

*bakusiya*¹⁸⁷ – literary translated into – ‘baby quail learn to fly because your fellow baby quails have left you’. The meaning here is that learning happens through observing and imitating what fellow quails are doing. The lesson drawn is that children learn from those around them through social interaction and informal cultural guidance by senior members of the same natural setting. This recognizes informal indigenous education that takes place informally through natural setting.

However, the success that traditional education so effortlessly achieved in this respect has eluded modern educational endeavors, notwithstanding the investment of much thought and many resources.

6.2. Formal (Western) School System

Formal (Western) school system is generally a standardized education system that follows established human developmental norms and standards that are construed to be common in human beings across cultures. While education takes place informally in everyday life, ancient Greek philosophers saw a need to focus the education system, whose philosophical origins expressed a preoccupation with promoting cognitive growth, the expansion of knowledge and understanding (Serpell 1993). Philosophy which was taught in early schools of ancient Greece for the purpose of enabling minds of young Athenians citizens to struggle with something difficult was seen as requiring analytical thought which did not take place without concentration and effort. This classical Greek civilization of the 1st millennium (5th-3rd centuries) BCE, that was explicitly invoked (“reborn”) in the Renaissance of Western Europe (14th-18th centuries AD/CE) informed

¹⁸⁷ Tonga proverb

the curriculum and instructional practices exported to Africa in the 19th-20th centuries. A second major reason for the formalization of instruction (record keeping in writing) in the Babylonian civilization, which took place much earlier in ancient history, is the desire to transmit an accumulation of knowledge (Serpell 1993). The newly expanded, city-based economies needed an improved form of record-keeping, which subsequently gave rise to the elaboration of the cuneiform writing system (Serpell 1993), which required long and systematic study as it could not be mastered in a day (Cole 1990).

In modern day Zambia, the history of formal school has its origins in the precolonial era, which lasted until 1890. During this era, education in the sense of the transmission of wisdom, knowledge, experience and skills (Lane 1976) flourished, since it was a prerequisite for survival. This traditional education had five main components:

1. Instruction in the history and traditions of the people;
2. Training in practical skills through a loose form of apprenticeship;
3. Teaching about social obligations and the inculcation of good manners;
4. Development of awareness of and respect for the religious dimension of daily life;
5. Concentrated preparation for the transition from childhood to adulthood in secluded initiations schools (Snelson 1974).

Hence the establishment of primary schools quickly followed the setting up of mission stations. The first school opened in 1883 at Limulunga, in Zambia's Western Province, with an enrolment of three boys (Snelson 1974). Today's formal school system developed

from this simple beginning.

Therefore, from generally perceived common human developmental practices, human behavior and aspirations to be present in every child and culture that subsequently must be drawn out or abstracted through a systematized process, formal education was established and introduced in modern day Zambia. As such, exploring how intelligence, “human (child) development” and educational “aspirations” are conceptualized in the indigenous cultures of Zambia was the main theme of this research exploration.

This research investigation found out that the general formal education structure that includes what must be taught and subsequently assessed needs thorough review that would benefit from the following recommendation:

1. Integrate indigenous local cultural developmental values to be drawn out through an indigenous education system.
2. Integrate commonly shared cognitive cultural games in National Formal School curriculum.

6.3. Integrate Indigenous values into National School Curriculum

This research identified the following values as primarily significant to the child’s development that are naturally fostered through an across culture indigenous education system of Zambia:

1. Social Responsibility (33.04%)
2. Industriousness (15.38%)
3. Respect (14.51%)
4. Obedience (14.51%)
5. Cognitive Ability ((9.61%)
6. Honest, Trustworthy and Reliable (7.87%)
7. Common Sense/Initiative (4.02%)
8. Merciful (0.52%)
9. Divine or Spiritual gifts (0.35%)
10. Humility (0.17%)

These developmental values form the bedrock of local cultural cognitive value systems across the major language groups of Zambia. This research identifies these as National indigenous cognitive values that are endorsed by our expert informants in this hierarchical order. Given that a sizeable research sample was investigated across the major language groups of Zambia, it is indicative that an understanding is commonly held across the country, that a child can fully develop into an independent adult through an indigenous education system that promotes these values. Local cultures hold the indigenous education system that trains its young through these values as a complete education system that ensures the growth of an integrated child. Therefore, local cultures that consider this value system and the established education system that draws out these values sufficiently will hold this system as primary and any other form of education system as secondary. This explains why in traditional set up of most village life across Zambia, parents tend not to care much to send their children to formal schools but prefer

to keep their children home to undergo indigenous education system that is tested, tried and enduring. *Induna Ngenda* of Lealui village in Western Zambia highlighted this through an example:

“Let’s take for example inge Lewanika (Lubosi), ni ma activities a ezize mwa Bulozhi mo amande. Kono nasika ya kwa sikolo. Na konile ku kopanya ma fasi amanata ka ngana ya hae. Ma activities a hae mwa hae mo amupaka kuli nanani ngana¹⁸⁸” - Let’s take for example Lewanika (Lubosi) – (*The Lozi Paramount Chief*), and his activities which he did here in Barotseland which were good. But he did not go to any formal school. He brought together many nations of peoples by his natural intelligence. His activities in this kingdom attest to his intelligence).

6.4. School Term System and Traditional Cultural Practices

Currently our National Education system is divided into three school terms. Each school term lasts for a period of 3 months. Beginning early in January, school terms run through the year to early December. These school terms rigidly follow the assigned months per period, regardless of the timing of seasonal local activities such as - crop harvesting period, farming period, periods of child initiation, to mention but a few, child developmental issues and indeed sometimes even natural calamities.

According to informants consulted in this study, there are local cultural activities that must be done according to seasons. *Mukanda*, the indigenous rite of passage of the Luvale, Lunda, and Mbunda speaking people of Northwestern and Western Zambia. The

¹⁸⁸ Induna Ngenda, a Lozi respondent of Lealui village

Mukanda (camp of initiates) was a well-organized institution at which boys aged between 13 and 17 stayed for six months or longer under strict instruction. At the camp the young men were instructed in all aspects of adult life. Subjects covered included dancing, singing, folklore, handicrafts, and sexual life (Mwondela 1970). This rite of passage is designed to take place in winter season when it has been established that the body heals quickly from circumcision wounds. Furthermore, winter period is also period immediately after harvest time. This, therefore, ensures that there is enough food to feed the candidates.

Where boys (*tundanji*) who have to be secluded from their formal school peers must stay away from formal school for three to six months, it does happen that this traditional educational practice excludes formal school learners from formal school activities, some of which include ongoing assessment tests and even passing examinations necessary to advance a candidate to the next grade. Where this and several such practices are not recognized by formal school curriculum, it leaves the young learners with conflicting choices to make between two developmental values. Whichever choice the learner makes has repercussions on how the learner progresses with their developmental educational attainment. Should they ignore the traditional period of *Mukanda*, for instance, they are liable to be permanently condemned as “un-cultural” developed – *chilema*¹⁸⁹. On the other hand, should they ignore formal school proceedings for *Mukanda* traditional practice, the adolescents in question are at risk for being expelled or drop-out from formal school, which assigns them to the stigmatized category of school dropouts.

¹⁸⁹ Luvala word for someone who did not undergo mukanda ceremony.

6.5. Explore and incorporate traditional “learning by the fireplace” into National School Curriculum

In most traditional societies of Zambia, different forms of cognitive learning take place in the evenings after evening meals. Children sit around a fire and listen to stories of historical origin, stories of morality and ethics, stories of success and failure, etc. In designing a school curriculum, our National Curriculum experts must take cognizance of this natural setup that provides for natural learning and incorporate custodians of this learning (the elders) into formal school duties and the learning that takes place as part of formal school. Curriculum developers should explore content material of what is taught by elders, such as historical background of a particular language group or culture, morality, social responsibility, cooperation, hygiene, etc., and seek ways to incorporate the whole process into formal school curriculum. Once properly understood, this ‘evening’ class could be recognized as a valuable opportunity for learning, whose results could be added to become part of formal school curriculum either as a steppingstone to build upon or to add to the expected outcomes of formal school learning. This includes the knowledge that the learner acquires as well as the status (social and cognitive status) that the learner gets assigned through this natural cultural learning assessment system assigned by local elders. Whereas Moll and his colleagues advocated inviting elders to come to the school and share some of their wisdom with students (Moll 2005), this research proposes first of all that curriculum developers should spend time through ethnographic research investigation to explore learning materials that are used by elders at home, especially after formal school hours and devise ways to integrate them into formal school curriculum. Thereafter, the formal school curriculum could devise ways for elders and teachers to share roles between them.

6.6. Continuous Assessment Model of Education Assessment

Considering that both stages of human development and seasons pose both opportunities and challenges, this research recommends that assessments that must be used to advance learners to the next level of their formal education should be carried out through a system of continuous assessment over a specific period. Assigning assessment examinations to a single period risks missing candidates who may be undergoing cultural stage-developmental activities that cause them to miss the ‘one time’ formal school assessments activities. Such developmental cultural activities as *Mukanda* for Luvale boys, and *Mooye* period for Tonga girls, (common but called differently in most major language groups investigated), need to be considered in drawing up school term systems.

6.7. Culture-Sensitive Tools of Assessment

Besides what should be assessed of a young Zambian learner, the formal school curriculum should design culturally appropriate assessment tools that recognize what a school system aimed at drawing out of a young learner, which needs to be assessed in a child. Inappropriate assessment tools risk assessing variables that sometimes have not been upheld during the child’s upbringing or are simply not culturally relevant, therefore, were simply not promoted. For instance, Grade VII Primary School leaving examination Special Papers I and II would be relevant if they investigated children’s’ cognitive abilities by incorporating in the assessment tools some cultural cognitive characteristics of intelligence highlighted through: Social Responsibility; Industriousness; Respect; Obedience; Cognitive Ability; Honest, Trustworthy and Reliable; Common Sense/Initiative; Merciful; Divine or Spiritual gifts; and Humility. Such tools that

integrate these local cultural assessment criteria would produce school results that would reflect a true picture of cognitive ability of local learners and something broader that is related to the goals of secondary school for which Primary School leaving examination serves as a selection method. Insisting on Western standardized assessment tools will only continue to assess what does not exist in the local context. This will only continue to make our formal education system an aloof practice that exists only to widen the gap between formal school and indigenous practices that are held meaningfully in the local context.

6.8. Periodic Review of School Curriculum

For our National Formal School education to remain relevant to our local context, our education system should endeavor to conduct internal system evaluation and review. Just as cultures change and evolve into new ways of perceiving reality and interacting with the environment, so should our formal school curriculum be reviewed. This will ensure that our National Formal School Curriculum remains relevant both locally and internationally, in order to produce learners who are accepted at home and on international standards. The Curriculum Development Centre (CDC) implements decisions made by the Government concerning curriculum issues. The Centre conducts curriculum reviews through research and piloting and involves various stakeholders who meet to express their views on the curriculum. These reviews are drafted into draft syllabuses that are scrutinized by relevant institutions and various subject curriculum committees before they are approved by the Ministry of Education Headquarters. However, the reviews have not been regular especially between 1990 and 2000 (Ministry of Education Report 2000).

6.9. Utilize Common Cognitive Cultural Games

Generally, games enhance learning while promoting interpersonal and child social development. Since this research investigation revealed some common games that are held in common across the major language cultural groups of Zambia, culture common games should therefore, be integrated in National School curriculum as they not only provide for an attractive seamless transitioning from indigenous setup to the formal school set up, but most importantly in cognitive cultural games are imbedded various local cultural values that should be passed on from one generation to another. As well since games refresh the mind, integrating cognitive cultural games will serve the National School curriculum with a learning platform that is relaxed, therefore, attractive.

Some common traditional cognitive games surfaced by this research are:

- a). '*Nsolo*' in Bemba and Tonga language groups / '*Mulabalaba*' in Lozi and Lunda language groups, whose cognitive affordances include: Concentration, Critical thinking, Finger dexterity, Speed and accuracy, Problem solving, and which involve such social processes as: Cooperation, Problem Solving, and Planning;
- b). '*Kuyata*' (in Luvale), whose cognitive affordances include: Concentration, Adding, Subtraction, Finger dexterity, Memory, and involves such social processes as: Cooperation and Socialization;
- c). '*Kwaana*' (Tonga for 'Story telling'), whose cognitive affordances include: Comprehension, Memory, Cognitive effectiveness, Reasoning, Listening and narration skills, and involves such social processes as: Cooperation, Motivation, Socialization, Obedience, and teaches Social cultural Values.

Recommendations that are made in this chapter aim to enhance our current National School Curriculum to a culturally relevant school system that will narrow the gap between formal school dropouts who are defined by the formal school system as failures but may in fact be highly skilled in indigenous life values. This will also add value to our current National School education system, as it will be anchoring its mode of learning not only on some foreign Western Education system that has, to a greater extent, sidelined National Indigenous learning processes and value system.

6.10. RESEARCH CONCLUSION

Every people teach its young through a form of an education system that passes on valuable knowledge necessary for self-preservation and for the general advancement of society at large. Most learning processes take place through informal contexts of everyday life and cognitive activities happen naturally in natural settings. This research has taught ~~abstracted~~ that generally there is education that is basic and necessary for human survival and there is also education that is especially necessary to improve and enhance the general condition of human life. This second form of education otherwise known as Formal Education includes transmission of wisdom, knowledge, experience and skills (Lane 1976), and taps into universal human developmental factors that are generally held in common around the globe.

These noted two kinds of education systems are greatly enriched when they interact at some meeting point. When a school curriculum is designed in a manner that is alien to the cultural assumptions informing other socialization practices to which its students have

been exposed, discrepancies would easily arise between the goals of that curriculum and the cultural goals of the local group (Serpell 1993). The moment one form of education ignores the other, a gap that sees one form of education as superior to the other is created and divides people and communities that otherwise would have been enriched by the duo's integrated interaction.

This research understood that before imported Western school systems, African indigenous communities had their own well-developed education through motivational systems that positively enhanced teaching and learning programs in the community (Wadende 2011, Segall et al, 1999). These motivational systems were manifested in behaviors that were presented as sequential cultural tasks that the child was expected to acquire at different stages of development and for which active or participatory engagement was a necessity (Rogoff, 2003; Nsamenang, 1992b, 2004, 2007). As drawn by Sifuna, the philosophical tenets of African indigenous education essentially define this kind of education as motivational practices that enhanced the child's preparedness for engagement in goal directed behaviors that were deeply rooted in tradition. These were practical and were used as a preparation for acquisition of lifelong skills, covered all aspects of life, and focused on community development (Sifuna 1990). Nsamenang posits that this kind of education, which existed in indigenous African societies, was a culturally based education that addressed the physical, emotional and social aspects of a child's successful development while, at the same time, the child also participated in practical, productive, and responsible livelihood activities (Nsamenang, 2004). Although these motivational learning practices had an unwritten curriculum that emphasized the child's cultural knowledge and adults' acknowledgement of these novices' developmental stages especially in respect to

capacities to carry out various tasks (Nsamenang, 2007), the relevance of this kind of participatory learning to the development of Early Childhood Education could not and still cannot be gainsaid. To this effect, Jenkins and Serpell further note that competence is defined by a culturally constituted system of representation. Its presence or absence in a given individual is construed in emergent ways through interpersonal interactions, which in turn are informed by a system of meanings shared among the co-participants and their various audiences (Jenkins, 1998 & Serpell, 2001). The cultural practice of intelligence testing falls within this framework as an institutionalized network of recurrent activities, scripts, artifacts, roles, and social functions (Serpell & Haynes, 2004). Therefore, assessments based on a Western conception that undervalue dimensions such as social responsibility, cooperation and self-help skills, will not, in an alien culture, be measuring the characteristics of children which the community perceive as constituting intelligence (McConachie 1995).

Fundamentally this research had four principle aims, which are:

- a). To explore local cultural indigenous concepts of intelligence and the cognitive activities that characterize it;
- b). To identify ways of incorporating indigenous concepts of intelligence and cultural cognitive activities in the national school curriculum through analysis of the cognitive affordances of indigenous cognitive activities of chores, social responsibility and games;
- c). To identify effective modes of transition from the local, indigenous culture informing young children's home and community socialization practices, into the existing somewhat Western-cultural lower primary school curriculum;

d). And to generate a roadmap for ultimate grounding of formal education system on indigenous cultural cognitive activities and values.

This research surfaced cognitive activities that promote learning through indigenous natural settings across the seven major language groups of Zambia.

The seven major language groups of Zambia that this research investigated possess common indigenous concepts of intelligence, and knowledge and learning systems that help to abstract and promote established indigenous characteristics of intelligence. Through culturally crafted assessment criteria, children undergo valuable learning that facilitates their graduation from one developmental stage to another. The incorporation of surfaced indigenous education system in National Formal School curriculum will not only enrich the current National School curriculum with indigenous value systems necessary for integral child development but will further bridge the gap that currently exists between the two forms of education in Zambia. As already observed, in an African setting, Western based education system and assessment criteria lack the sensitivity to capture behaviors inculcated under African socio-cultural value systems. Another major mechanism for promoting cognitive development in mainstream Western culture is formal study. In Africa cognitive development is expected to be stimulated through child work. Furthermore, Western concepts of intelligence concentrate on the dimensions of reasoning, communication and physical coordination, while African notions include characteristics of social responsibility, generosity, cooperation and obedience, (McConachie 1995). Western concepts of intelligence and its measure, in their quest for uniformity, strip the local concept of intelligence of its richness and depth. The richness and depth of the local concepts of intelligence are influenced by regional environment, geographical, traditional

and cultural activities and values that shape society and its people. If schooling is to be a source of empowering enlightenment rather than an instrument of domesticating indoctrination, its intellectual content must recognize the potency and creative imagination of a growing child (Serpell 1993). If the purpose of schooling is to include cultural enrichment and socio-economic progress rather than debilitating social conflict, cultural demoralization and economic stagnation, an active dialogue that involves research exploration is required among the varied perspectives of education's multiple interest groups (Serpell 1993).

7.0 LIST OF REFERENCES

Azuma, H., & Kashiwagi, K. (1987). Descriptions for an intelligent person: A Japanese study. *Japanese Psychological Research*, 29, 17-26.

Ball, J. & Pence, A. (1999). Beyond developmentally appropriate practice: Developing community and culturally appropriate practice. *Young Children*, March 1999, 46-50.

Ball, J. & Pence, A. 2000. *A Post-Modernist Approach to Culturally Grounded Training In Early Childhood Care and Development*. Australian Journal of Early Childhood

Banda, F. (1998). The classification of languages in Zambia and Malawi. RSA: Vivlia publishers and book sellers (PTY) Ltd.

Barnaby, J. (1992). Culture and sovereignty. In D. Engelstad & J. Bird (Eds.), *Nation to nation: Aboriginal sovereignty and the future of Canada* (pp. 39-44). Concord, ONT: Anansi.

Berk, L.E. (2003). Child Development- Six Edition. USA: Illinois State University.

Berry, J. W. (1984). Towards a universal psychology of cognitive competence. In P. S. Fry (Ed), *Changing conceptions of intelligence and intellectual functioning* (pp. 35-61). Amsterdam: North Holland.

Blacking, J. (1982). Songs and Dances of the Venda people. In David Tunley (ed.) *Music and Dance*, fourth National Symposium of the Musicological Society of Australia, Perth: University of Western Australia, Department of Music, pp. 90-15.

Boring, E.G. (1923, June 6). Intelligence as the tests test it. *New Republic*, 35, 35-37.

Bower, B. (2003). Essence of G. *Science News*, 163, 92-93.

Burns, N. R., & Nettelbeck, T. (2003). Inspection time in the structure of cognitive abilities: Where does IT fit? *Intelligence*, 31, 237-255.

Bryman and Bell, (2007). *Business Research Methods* (2nd edition). London: Oxford University Press.

<http://research-methodology.net/research-methodology/ethical-considerations/>.

Accessed on August 13th, 2019.

Carmody, B. P. (2004). *The evolution of education in Zambia*. Lusaka: Bookworld Publishers.

Cardwell, M. (1996). *Schaum's A-Z Psychology*. New York: McGraw-Hill.

Castle, E. B. 1966. *Growing up in East Africa*. London: Oxford University Press.

- Cole, M. 1990. Cognitive development and formal schooling: the evidence from cross-cultural research. In L.C. Moll (ed.), *Vygotsky and education: instructional implications and applications of sociohistorical psychology*. Cambridge: Cambridge University Press.
- Chaplin, J.P. (1985). *Dictionary of Psychology: Second Revised Edition*. New York: Dell Publishing.
- Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N.K.
- Chen, M.J. (1994). Chinese and Australian concepts of intelligence. *Psychology and Developing societies*, 6, 101-117.
- Chen, M. J., Braithwaite, V., & Huang, J. T. (1982). Attributes of intelligent behavior: Perceived relevance and difficulty by Australian and Chinese students. *Journal of Cross-Cultural Psychology*, 13, 139-156.
- Chen, M. J., & Chen, H. C. (1988). Concepts of intelligence: A comparison of Chinese graduates from Chinese and English schools in Hong Kong. *International Journal of Psychology*, 223, 471-487.
- Chishiba G.M. & Manchishi, P.C. 2016). The Language Strategy in the Zambian Educational System from 1924 to 2014. *International Journal of Language and Literature June 2016, Vol. 4, No. 1, pp. 54-59*

- Corbin, J L. & Strauss, A. (2008). Basics of Qualitative Research (3rd ed.): Techniques and Procedures for Developing Grounded Theory: Sage.
<https://methods.sagepub.com/book/basics-of-qualitative-research>. Accessed April 18th, 2020.
- Craik, F. I. M. & Lockhart (1972). Levels of Processing: A Framework for Memory Research. *Journal Of Verbal Learning And Verbal Behavior* 11, 671-684.
- Craik, F. I. M. Levels of processing: Past, present . . . and future? *Memory*, 2002, 10 (5/6), 305–318
- Cresswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches: Second Edition*. California: Sage Publishing, Inc.
- Das, J. P. (1994). Eastern views of intelligence. In Sternberg, R. J. (Ed.), *Encyclopedia of human intelligence* (Vol. 1, pp. 387-391). New York: Macmillan.
- Dasen, P. (1984). The cross-cultural study of intelligence: Piaget and the Baole. *International Journal of Psychology*, 19, 407-434.
- Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 509–535). Thousand Oaks, CA: Sage.

Dilip, B. (2017). What is the etymological meaning of education?

<https://www.quora.com/What-is-the-etymological-meaning-of-education>.

Accessed January 17th, 2020.

Duckworth, A. (March 26, 2016). Don't Grade Schools on Grit. *The New York Times*.

New York, USA.

Durojaiye, M. O. A. (1993). Indigenous psychology in Africa. In U. Kim & J. W. Berry (Eds.), *Indigenous psychologies: Research and experience in cultural context*.

Newbury Park, CA: Sage.

Ejuu, G. 2019. African indigenous games: Using Bame Nsamenang's Africentric

thoughts to reflect on our heritage, pedagogy, and practice in a global village:

Journal of Psychology in Africa. Volume 29 (Issue 4), pages 319-327. [Source:

<https://www.tandfonline.com/doi/abs/10.1080/14330237.2019.1647496?scroll=top&needAccess=true&journalCode=rpia20>]. Accessed January 23 2020].

Examinations Council of Zambia (2011). *Special Paper I*. Lusaka (Zambia):

Examinations Council of Zambia.

Examinations Council of Zambia (2011). *Special Paper II*. Lusaka (Zambia):

Examinations Council of Zambia.

- Gill, R., & Keats, d. M. (1980). Elements of intellectual competence: Judgment by Australia and Malay university students. *Journal of Cross-Cultural Psychology*, 11, 233-234.
- Glaser, B. (1992). Basics of Grounded Theory Analysis. Mill Valley, CA: Sociology Press.
- Gonzales, N., Moll, C.L., Amanti, C. ed. 2005. Funds of Knowledge: Theorizing Practices in Households, Communities, and Classrooms. New Jersey: Lawrence Erlbaum Associates, Inc., Publishers.
- GRZ (Government of the Republic of Zambia. (1996). *Educating our future: National policy on education*. Lusaka: Ministry of Education/Zambia Educational Publishing House.
- GRZ (Government of the Republic of Zambia. (2013). *National literacy framework*. Lusaka: Ministry of Education, Science, Vocational Training and Early Education.
- Hughes, A. (2003). *Testing for Language Teachers: Second Edition*. Cambridge, UK: Cambridge University Press.
- Jahoda, G. (1982). *Psychology and Anthropology: A Psychological Perspective*. London: Academic Press.
- Kaplan, R. and R.B. Baldauf, Jr. (1997) *Language Planning: From Theory to Practice*. Johannesburg: Multilingual Matters Ltd.

- Kapwepwe, S.M. (1970). Closing address by his Honour The Vice President, the Honorable Simon Mwansa Kapwepwe. In *Report on First National Education Conference*, held at Evelyn Hone College of Further Education, Lusaka, 30th September-2 October 1969. Lusaka: Ministry of Education.
- Kashoki, M.E (1999) Language Policy in Multilingual Countries vis-à-vis Language Maintenance, Language Shift and Language Death. In *Journal of Humanities*. Volume 2 1998-1999. University of Zambia. Pp 41-63.
- Kelly, M. (1991). *Education in declining economy. The case of Zambia 1975-1985*. Washington, DC: World Bank.
- Jaramillo, A. & Mingat, A. (2008). Early childhood care and Education in Sub-Saharan Africa: what would it take to meet the Millennium development Goals? In *Africa's Future, Africa's Challenge: Early Childhood Care and Development in Sub-Saharan Africa*, ed. M. Garcia, Al Pence, and J. L. Evans, 51-70. Washington DC: The World Bank.
- Jenkins, R. (1998). *Questions of Competence: Cultural, Classifications and Intellectual Disability*. Cambridge: Cambridge University Press.
- Lane, W. 1976. "Jesuit Religious Education. Zambesi to Zambia, 1875-1975." Unpublished M. Ed. Thesis. University of Dublin, Ireland.

Linehan, S. (2004). Language of instruction and the quality of basic education in Zambia
(Background paper prepared for the education for all global monitoring report
2005: The quality imperative).

Mtonga, M. (2012). *Children's Games and Play in Zambia*. Lusaka: UNZA Press.

Masters, J. (1997). <http://www.tradgames.org.uk/games/Nine-Mens-Morris.htm>. Accessed
on May 31st, 2019.

Mc Mahon, J. W., Mc Mahon, F. B. & Romano, T. (1985). *Psychology and You: Second
Edition*. USA: West Publishing Company.

Ministry of Education, (1973). Psychological Services: *Annual Report*. Lusaka.

Ministry of Education. 2000. The Development Of Education: National Report Of
Zambia, Lusaka, Zambia.

Moghaddam, F. M. *Modulative and Generative Orientations in Psychology: Implications
for Psychology in the Three Worlds*: Journal of Social Issues, Vol. 46, No.3,
1990, pp. 21-41

Mukela, R. M. (2014). *The Role Of Indigenous Music And Games In The Promotion Of
Cognitive Development In Zambian Children In Senanga And Shangombo
Districts Of Western Province* (Unpublished MA Thesis). University of Zambia,
Lusaka.

Munn L. Norman. (1962). *Introduction to Psychology*. Boston: Houghton Mifflin Company.

Mwanakatwe, J.M. (1974). *The Growth of Education in Zambia Since Independence*. Oxford University Press: East Africa.

Mwondela, W.R. (1972). *Mukanda and Makishi: Traditional Education in Northwestern Zambia*. National Educational Company of Zambia (Neczam): Ndola

Myers, R.G (1998). *The Parent Education project in Mexico*. Consultative Group on ECCD. Washington, DC: World Bank.

Nsamenang, A. B. (1992). *Human Development in a Cultural Context: A third World Perspective*. Newbury Park, CA: Sage.

Nsamenang, A.B. (2004). *Cultures of Human Development and Education: Challenges to Growing up African*. New York: Nova.

Nsamenang, A.B. 2006. *Cultures in Early Childhood Care and education*. “Paper commissioned for the EFA Global Monitoring Report 2007, Strong Foundations: Early Childhood Care and Education ”.UNESCO: Paris.

Nsamenang, A.B. (2008). (Mis)Understanding ECD in Africa: The Force of Local and Global Motives. In *Africa’s Future, Africa’s Challenge: Early Childhood Care*

- and Development in Sub-Saharan Africa, ed. M. Garcia, Al Pence, and J. L. Evans, 135-149. Washington DC: The World Bank.
- Oburu, P.O. (2004). *Social Adjustment of Kenyan Orphaned Grandchildren, Perceived Caregiving Stresses and Discipline Strategies used by their Fostering Grandmothers*. Department of Psychology, Göteborg University, Sweden.
- Odero, L. A. 2016. The dramaturgy of Kalongolongo: A genre by Children: J. Humanities. (Zomba), 24, 2016 (Accessed 23 January, 2020)
- Oduor, M. J. R. *Reclaiming the Human Sciences and Humanities through African Perspectives*. (Eds): Lauer, H. & Anyidoho, K. Legon, Accra: Sub-Saharan Publishers, 2011. ISBN: 978-9988 - 647 - 33 - 9 (VOLUME 1)
- Ohannessian, S. & M.E. Kashoki [eds.]. (1978). *Language in Zambia*. London: OUP
- Oppong, S. *A Critique of Early Childhood Development And Practice In Africa: Africanus Journal of Development Studies Volume 45 | Number 1 | 2015 pp. 23–41*. South Africa: Unisa Press.
- Pence, A. & McCallum, 1994. *Developing Cross-Cultural Partnerships: Implications for Child Care Quality Research and Practice*. In *Valuing Quality in Early Childhood Services: New Approaches to Defining Quality*. London: Paul Chapman Publishing Ltd.

Piaget, J. (1950). *The psychology of intelligence*. San Diego, CA: Harcourt Brace Jovanovich.

Raven, J. (2008). General introduction and overview: The Raven *Progressive Matrices* Tests: Their theoretical basis and measurement model. In J. Raven & J. Raven (Eds.). *Uses and Abuses of Intelligence: Studies Advancing Spearman and Raven's Quest for Non-Arbitrary Metrics* (Chapter 1, pp. 17 – 68). Unionville, New York: Royal Fireworks Press.

Report of the U.N./E.C.A./F.A.O. Economic Survey Mission on the Economic Development of Zambia. Ndola: Falcon Press, 1964.

Rogoff, B. (2003). *The cultural nature of human development*. New York, USA: Oxford University Press.

Rogof, B. (2003). *The Cultural Nature of Human Development*. Oxford: Oxford University Press.

Ruzgis, P. M., & Grigorenko, E. L. (1994). Cultural meaning systems, intelligence and personality. In R. J. Sternberg and P. Ruzgis (Eds.), *Personality and intelligence* (pp. 248-270). New York: Cambridge.

Ryan, K. (n.d). Moral Education, A Brief History of Moral Education, The Return of Character Education, Current Approaches to Moral Education. [Source:

<https://education.stateuniversity.com/pages/2246/Moral-Education.html>.

Accessed on 06 January 2020].

Ryan, K. 1988. Teacher Education and Moral Education: Journal of Teacher Education.

[Source: <https://journals.sagepub.com/doi/pdf/10.1177/002248718803900505>].

Accessed on 06 January 2020.

Schuman, A. 2000. *Parental and Institutional Decision Making About Children's*

Healthy Development: Conflicts and Interests Across Cultures. Journal of Immigrant Health, Vol.2, No. 1, 2000.

Schunk, D. H. (2009). *Learning Theories, An Educational Perspective: Fifth Edition*.

USA: Pearson Education, Inc.

Schweinhart, L. J. Barnes, H. V. and Weikart, D. P (1993). Significant Benefits: The

High/Scope Perry Preschool Study through age 27. Ypsilanti, MI: High/Scope Press.

Schweisfurth, M. 2013. Learner-Centred education in international Perspective.

Journal of International and Comparative Education, 2013, Volume 2, Issue 1.

Segall, M. H., Dasen, P. R., Berry, J. W., Poortinga, Y. H. (1999). Human Behavior in

Global Perspective. Boston: Allyn and Bacon.

- Serpell, R. (1974). Aspects of intelligence in a developing country. *African Social Research*, No.17, 576-596.
- Serpell, R. (1977). Strategies for investigating intelligence in its cultural context. *Quarterly Newsletter of the Institute for Comparative Human Development*, 11-15.
- Serpell, R. (1978). In S. I. Ohannessian & M. E. Kashoki (Eds.), *Language in Zambia-Some developments in Zambia since 1971* (pp. 424-447). London: International African Institute.
- Serpell, R. (1982). Measures of perception, skills and intelligence. In W. W. Hartup (Ed.), *Review of child development research* (Vol. 6, pp. 392-440). Chicago: University of Chicago Press.
- Serpell, R. (1993). *The significance of schooling: Life journeys in an African Society*. Great Britain: Cambridge University Press.
- Serpell, R. (1997). Literacy connections between school and home: how should we evaluate them? *Journal of Literacy Research*, 29 (4), 587-616..
- Serpell, R. (2000). Intelligence and culture. In R. J. Sternberg (Ed), *The Handbook of Intelligence* (pp.549-577). Cambridge, UK & New York, USA: Cambridge University Press.

Serpell, R. (2008). Participatory appropriation and the cultivation of nurturance: a case study of African primary health science curriculum development. In P. R. Dasen & A. Akkari (Eds), *Educational theories and practices from the “majority world”* (pp. 71-97). New Delhi: Sage.

Serpell, R. & Haynes, B. P. 2004. The cultural practice of intelligence testing: Problems of international export:

Serpell, R. (2008). Participatory appropriation and the cultivation of nurturance: A case study of African primary health curriculum development. In P. R. Dasen & A. Akkari (Eds), *Educational Theories and Practices from the Majority World*. New Delhi, India: Sage.

Shaffer, D. R. & Kipp C. (2007). *Developmental Psychology, Childhood & Adolescence: Seventh Edition*. Canada: Thomson Wadsworth.

Siegler, R. S. (1998). *Children’s Thinking: Third Edition*. New Jersey (USA): Prentice Hall.

Sifuna, D. N. (1990) *Development of Education in Africa: The Kenyan Experience*, Nairobi: Initiatives Ltd.

Sinha, D. (1986). *Psychology in a Third World Country: The Indian Experience*. India: Sage Publications.

- Snelson, P. D. 1974. *Educational Development in Northern Rhodesia, 1883-1945*.
Lusaka: National Educational Company of Zambia.
- Sternberg, R. J. (1997). *The triarchic theory of intelligence*. In D. P. Flanagan, J. L. Genshaft, & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (p. 92–104). The Guilford Press.
- Sternberg, R. J. (Ed.). (2000). *Handbook of intelligence*. Cambridge University Press.
- Sternberg, R. J., & Grigorenko, E. L. (2000). *Teaching for successful intelligence*.
Arlington Heights, USA: Skylight Training and Publishing Inc.
- Sticht, T. (2000). *Functional Context Education: Making Learning Relevant*. ERIC
(Education Resources Information Center).
[www.https://files.eric.ed.gov/fulltext/ED480397.pdf](https://files.eric.ed.gov/fulltext/ED480397.pdf). Accessed August 07th,
2020.
- Strauss, A. (1987). *Qualitative analysis for social scientists*. Cambridge, England:
Cambridge University Press.
- Swadener, B. B, Kabiru, & Njenga, A. (1997). “Does the Village Still Raise the child? A
Collaborative Study of Changing Childrearing in Kenya.” *Early Education and
Development*, 8 (3), 285-306.

Tucker, B. 2004. Literature Review: Outcomes-focused Education in Universities. Learning Support Network, Cambridge University. *In Outcomes Based Focused Education Overview, Parag, G.*
<https://www.researchgate.net/publication/317209834>. Accessed February 11, 2020.

UNICEF (2010) <http://www.tradingeconomics.com/kenya/school-enrollment-primary-percent-net-wb-data.html>. Accessed on August 13, 2019.

Van der Gaag, J. & Tan, J. P. (1998) The Benefits of Early Childhood development Programs: An Economic Analysis. Washington DC: World Bank.

Vernon, P. E. (1969). *Intelligence and Cultural Environment*. Great Britain: Butler & Tanner Ltd.

Wadende, P. (2011b). *Chwuech*: Sustained art education among Luo women of Western Kenya. *Journal of adult and Continuing Education*, 17 (2).

Wadende, P. Akinyi, (2011)"Chwuech Manimba: Indigenous Creative Education Among Women of the Luo Community of Western Kenya". Theses and Dissertations- Counseling, Leadership, Adult Education, and School Psychology.
<https://digital.library.txstate.edu/handle/10877/4127>. Accessed February 16th, 2018.

Weisner, T. S (1997). "Support for children and the African Family Crisis."In African Families and the Crisis of Social Change, ed. T.S. Weisner, C. Bradley, and C.P. Kilbride, 20-44. Westport, CT: Bergin and Garvey.

Wober, M. (1974). Towards an understanding of the Kiganda concept of intelligence. In J. W. Berry & P. R. Dasen (Eds.), *Culture and Cognition: Readings in cross-cultural psychology* (pp. 261-280). London: Methuen.

Yang, S., & Sternberg, R. J. (1997b). Taiwanese Chinese people's conceptions of intelligence. *Intelligence*, 25, 21-36).

Zinkin, P. & H. McConachie, H. (eds) (1995). *Disabled Children and Developing Countries*. London: The Mac Keith Press.

Appendix No. 1. Bemba language group

1. Concepts of Intelligence:

1.1. ‘CIFYALILWA’ - WHAT WE ARE BORN WITH:

- i). “*Amano cifyalilwa*”¹⁹⁰ - Intelligence is genetically acquired.
- ii). “*Amano cifyalilwa*” - Intelligence is genetically acquired.
- iii). “*Amano cifyalilwa*” - Intelligence is genetically acquired.
- iv). “*Amano cifyalilwa*” - Intelligence is genetically acquired.
- v). Natural intelligence enables a person to perform works that are in accordance to what people want: “*Umuntu ulebomba icinto ishalondoloka...ukubomba kulingana nefyo abantu balefwaya.*”
- vi). School only adds onto our intelligence in order that we are able to interact with other people who come from outside our world: “*Isikulu litulundilapofye ukutula twaishiba ukulainshanya nabanensu abale fuma ku fyalo fimb.*”
- vii). We are born with intelligence: “*Amano tufyalwa nayo.*”
- viii). To be born with- to inherit/genetically acquired: “*Amano kufyalwa nayo.*”

1.2. ‘MAMBULWA’ - GATHERED/COLLECTED:

- iii. Intelligence is gathered from our interaction with others: “*Amano mambulwa pantu tula sambilila ukufuma ku banesu.*”
- iv. Intelligence is gathered from interaction with others: “*Amano mambulwa pantu tula sambilila ukufuma ku banesu.*”
- v. Intelligence is gathered from interaction with others: “*Amano mambulwa pantu tula sambilila ukufuma ku banesu.*”
- vi. Is gathered from interacting with others: “*Amano mambulwa pantu tula sambilila ukufuma ku banesu.*”
- vii. Guided learning from others then build up: “*Tusambililafye ku banesu elyo twailundilapo fwebene.*”

1.3. ‘NI MBUTO TU LONDOLAFYE’ - IT IS SEEDS WE COLLECT:

- iii. Intelligence is seeds, we simply harvest from others: “*Amono ni mbuto tu londolafye.*”
- iv. You ask your friend where you don’t know, and your friend shows you: “*Waipusha umunobe pafyo taushibe akulangako.*”
- v. Intelligence is seeds: “*Amano ni mbuto.*”
- vi. To gather intelligence like seeds is to listen to what people say: “*Ukutanda amano nga imbuto- kuumfwa ifyo abantu balelanda.*”

1.4. ‘BUCENJESHI’ - CLEVERNESS:

- i. To be clever is to be able to say nice things verbally but not being able to do them in reality: “*Ku landafye ifisuma pakanwa ukwabula ukuficita.*”
Other respondents described this characteristic of intelligence to include sweet talking others, being sneaky, and going behind people.

¹⁹⁰ All italicized words hereforth are responses from research respondent of the language group under investigation.

- ii. Convincing people of what a person will do but fails to do it and runs away: *“Ukucenjela kulandafye pakanwa ifintu ifyo umuntu taacite.”*
- iii. Cleverness is to say nice things verbally but without much sense: *“Kucenjela fye pakanwa lelo amano takweta.”*
- iv. Sweet talker---Talkativeness: *“Kulandalandafye.”*
- v. Being sneaky, passing behind: *“Niulya ucita ifya bu fufuntungu. Ukupita kumbali.”*

2. Characteristics of Intelligence (Assessment Criterium):

2.1. Social Responsibility

Characteristics that relate to intelligence under social responsibility include:

- i. *“U mwana uisambika eka”* - Bathes himself/herself.
- ii. *“Umwana ushilwa”* - Does not fight
- iii. *“Unaya ubwali no kutwa”* - Who cooks nshima and pounds maize, millet, sorghum, etc.
- iv. *“Umwana u wami fyalile isuma”* - Who dresses properly.
- v. *“Alecula uwa busaka ukwabula ifiko”* - One who is growing up with neatness and cleanliness.
- vi. *“Ukumfwa ukwabula ulubuli”* - Listens and does not fight.
- vii. *“Kucita ifilesekesha abantu boonse”* - Doing what is pleasing to everyone.
- viii. *“Ufwala bwino-ukulondoloka”* - A child who dresses properly.
- ix. *“Ukufuuka”* – Patience.
- x. *“Umwana ushiinsendela”* - A child who does not take things without permission.
- xi. *“Umwana ufwala bwino”* - A child who dresses properly.
- xii. *“Ukusunga ifintu”* - Responsibility when parents go away.
- xiii. *“Ukutina umulilo/ ukutina icishishi”* - Fears what is harmful.
- xiv. *“Ukukonka ifyo abafyashi balecita”* - Follows after the good things that the parents are doing.
- xv. *“Ukubomba imilimo iyapang’anda”* - Does house chores.
- xvi. *“Unaya ubwali”* - Cooks Nshima.
- xvii. *“Ubusaka pang’anda pale moneka apa busaka”* - Cleans the house/home and keeps it clean.
- xviii. *“Utungulula abafyashi mukucita ifisuma”* - Who leads parent to do good.
- xix. *“Ukupyanga pa lubansa”* - Sweeping the yard/does chores.
- xx. *“Ukupyanga mu kitchen”* - Sweeping in the kitchen/does chores.
- xxi. *“Ukutapa utumenshi”* - Drawing water.
- xxii. *“Ukukwata akatina”* - To have self-restraint.
- xxiii. *“U mwana uangalila mu pepi neng’anda”* - A child who plays by home and not far away from home.
- xxiv. *“Umwana usheenda ubushiku nangu u kubwela ubushiku”* - A child who neither move in the night nor comes back home late at night.
- xxv. *“Ukuitalusha ku fibi- ubwalwa”* - To refrain from bad things- beer.
- xxvi. *“Imikalile isuma”* - Conducts himself/herself according to societal norms.
- xxvii. *“Imibele isuma- ushitukana insele”* - Conducts self properly and does not insult.
- xxviii. *“Imibele isuma”* - Conducting oneself properly.
- xxix. *“Ukutemwa abantu- uku afwilisha abashikwete”* - To love people by helping those who do not have.

- xxx. *"Takwata nobutani- ni kapekape"* - He/she is generous.
- xxxi. *"Ulebomba imilimo isuma"* - Who does good works.
- xxxii. *"Ukupyanga mung'anda"* - Sweeping the house.
- xxxiii. *"Ukusamfya imbale"* - Washing dishes.
- xxxiv. *"Ukunaya ubwali"* - Cooks nshima.
- xxxv. *"Ukusamba elyo aya mukwangala"* - Bathing before going out to play with others.
- xxxvi. *"Umicitile isuma"* - Good acts.
- xxxvii. *"Umwana ukonkelesha ifyo bale chita abafyashi"* - A child who imitates good works that the parents are doing.

2.2. Industrious

- i. *"Ukwata ibala"* - Who owns/possesses a field.
- ii. *"Ulima"* - Who cultivates and grows crops.
- iii. *"Ukula ing'anda"* - Who is able to build his/her own house.
- iv. *"Umwana ukonka ku mabala"* - A child who goes along to the fields to work.
- v. *"Ngo ulebomba incito nako kalembako kale ku konkelesha"* - A child who joins the parent when the parent is working.
- vi. *"Umwana ulecita ifyo abakalamba balechitako...e.g. nga bale luka umuseke, nawo amba uku luka imiseke"* - A child who joins by imitating adults at such tasks as making reed mats.
- vii. *"Umwana ukonka ku milimo"* - A child who accompanies those going to the fields for work.
- viii. *"Umwana ulekonka ku milimo"* - One who follows parents to the fields to help in fieldwork.
- ix. *"Ukonka abafyashi ku milimo"* - Who follows parents when they go to the fields to work with them.

2.3. Obedience

- i. *"Ukutumikwa"* - Accepts to be sent.
- ii. *"Ukuumfwila"* - Pays heed.
- iii. *"Ukuumfwila abafyashi"* - Heeds instructions from parents.
- iv. *"U cita efyo ndelanda"* - Who does what he/she is told.
- v. *"Umwana utina ico abakalamba balemulesha"* - A child who stops doing what elders stop him/her from doing.
- vi. *"Umwana ule umfwila ifyo ulemweba we mu fyashi. E.G. Nga bamweba ati tiye kuibala, akonka"* - A child who heeds instructions from parents.
- vii. *"Umwana umfwila nga wa mutuma"* - A child who heeds when she/he is sent.
- viii. *"Ukucita ifyo bamweba aba kalamba"* - A child who does what the elders tell him/her to do.
- ix. *"Kukonka ifyo abakalamba balekweba"* - To do what elders tell you to do- obedient.
- x. *"Umwana uleka ukucita ico mwamukanya ukucita"* - A child who stops doing what he/she is told to stop doing.
- xi. *"Ukumfwila"* - One who heeds.

- xii. *"Ukukonka ifyo abafyashi baletufunda"* - Follows instructions that are given by parents.
- xiii. *"Ukucita efyo abafyashi balemweba"* - A child who carries out what parents tell him/her to do.
- xiv. *"Umwana uumfwa"* - A child who pays heed, is obedient.
- xv. *"Ukonka ifyo wa mweba"* - To do/follow what he/she is told---obedient.
- xvi. *"Uumfwa ifyo balemweba abakulu"* - One who heeds what he/she is told by adults.
- xvii. *"Ukuumfwila ifyo bamukanya"* - To heed what is instructed. E.g. fire burns, the child stops.

2.4. Respect

- i. *"U mwana u fukama paku posha abeeni nangu te ba bululu bakwe"* - Kneels when greeting visitors even if they are not his/her relatives.
- ii. *"Nga wakeeta kayasuka bwangu nokwiisa mu mucinshi mucinshi"* - When you call him/her, she/he answers quickly and comes with respect.
- iii. *"Umucinshi"* – Respect.
- iv. *"Ukufukama pa bakulu"* - Kneels before elders.
- v. *"Uamucinshi. Nga bamwita aleisa muku fukama"* - One with respect. When called, he comes and kneels.
- vi. *"Muchinshi"* – Respect.
- vii. *"Ukufukama abakulu nga ba mwiita"* - Kneeling when elders call him/her.
- viii. *"Ukufukama abakalamba ngabalemwita"* - Kneeling down when elders call him/her.
- ix. *"Uku asuka no mucinshi- mukwai"* - Answering/responding with respect.
- x. *"Ukuasuka muchinshi muchinshi"* - Answering with respect.
- xi. *"Ukufukama ku bakalamba ngabalemwiita"* - Kneeling before elders.
- xii. *"Ushi palamina umwaume kano nga wa kobekelwa"* - Does not get into intimate relationship with any boy unless she is formally engaged.

2.5. Honest / Trust worth / Reliable

- i. *"Umwana utumikwa"* - A child who can be sent to do something.
- ii. *"Ukutumikila"* - Is reliable enough to be sent.
- iii. *"Ukutumika (usungeko ifi neifi)"* - Is reliable enough to be sent.
- iv. *"Ukutumika (wa mweba ati leta aka, aleta/ bomba abomba)"* - Is reliable to be sent, you tell him/her, bring this, he/she brings; work here, he/she works.
- v. *"Ukutumikwa"* - Reliable to be sent.
- vi. *"Ukutumikwa- kasamfye impoto"* - To be sent. E.G. to wash pots.
- vii. *"Ukutumikwa – katape amenshi aya"* - To be sent- go and draw water, he/she goes.
- viii. *"Taakwata ubufi"* - Who does not tell lies.
- ix. *"Imiendele yakwe yacishinka"* - Is honest.

Appendix No. 2. Lunda language group

2. Characteristics of Intelligence (Assessment Criterion):

2.1. Social Responsibility

- iv. “*Chihandilu chidi chachiwahi chikupu*” - The way of life and how he conducts himself.
- v. “*Wahemang’a chiwahi hawakwawu*” - The way he relates to others.
- vi. “*Washakamang’a mpiji yeneneni hamukala nawa vwali jindi kulonda ayikwashiku nyidimu*” - He spend time home to help parents with house chores.
- vii. “*Wahembang’a nawa mpiji*” - He is time conscious.
- viii. “*Maana azatishang’a neyi anamwinki yakuzata he tala*” - His behavior when he/she is assigned to do house chores.
- ix. “*Watong’ojoka ha mpinji yakufunta kwitala*” - He minds time to get back home knowing parents might need him.
- x. “*Kwakwashang’aku ni akwawu kubukla kwila Yuma yatama*” - He advises friends to refrain from engaging in bad vices.
- xi. “*Wasolweshang’a kavumbi*” - The way that child conducts himself towards elders.
- xii. “*Welukang’a mpiji yakufunta kwitala neyi nayi na kuhema yomweni*” - He knows what time to get back home.
- xiii. “*Kansi wahemang’a yakwikala yena diyi mukulumpi*” - When playing with friends he takes the role of a leader.
- xiv. “*Maana azatishang’ayi amawahi*” - The way the child conducts himself at home.
- xv. “*Wakwashang’a akulumpi na nydimu ya hetala*” - He helps the parents with house chores.
- xvi. “*Wakisang’a Yuma wanyi*” - He is not wasteful.
- xvii. “*Neyi wamumbanda wa kwashang’a amama yindi nyidimu mwitala*” - She helps the female parents with house chores.
- xviii. “*Wakwashang’a akulumpi na nydimu ya hetala*” - He helps the parents with house chores.
- xix. “*Welukang’a mpiji yakufunta kwitala neyi nayi na kuhema yomweni*” - He knows what time to get back home.
- xx. “*Weleng’a Yuma yamukunkulwayi wanyi*” - He has self-control.
- xxi. “*Wakisang’ana Yuma wanyi*” - He is not wasteful.
- xxii. “*Wekalang’a chilombu kaha nawa hi ntwamina yawakwawu*” - He has leadership skills.
- xxiii. “*Welang’a Yuma kulondela neyi ochu yekalang’a*” - He does things in an orderly manner.
- xxiv. “*Wakwashang’a akulumpi na nydimu ya hetala*” - He helps the parents with house chores.
- xxv. “*Wa kwashang’a amvwali jindi na nyidimu he tala*” - He helps his parents with house.
- xxvi. “*Wakisang’a Yuma wanyi*” - He is not wasteful.
- xxvii. “*Kansi wa lukisa wanyi, weluka kuhemba Yuma*” - He is careful with anything given to him.
- xxviii. “*Wahoshang’a hela kwila Yuma ya alumbuluka chikupu*” - He articulates issues well.

- xxix. “*Maana yindi amawahi ni chihandilu chindi chachiwahi*” - Exhibiting good behavior.
- xxx. “*Wavwalang’a ja lumbwa*” - Dressing code in children.
- xxxi. “*Welang’a ja wukumpi hakuhema nawa kwawu*” - He performs leadership role when playing with friends.
- xxxii. “*Hakuhema wasakulang’a kwikala diyi ntwamina yawakwawu*” - Plays leadership role among friends.
- xxxiii. “*Kansi ona wekalang’a mukulumpi hadi akwawu atwansi ha kuhema cha mwekeshang’a nawu ewu kansi wa maana*” - The roles they play during childhood while playing depicts intelligence, depending on which role one chooses.
- xxxiv. “*Kuvwala yakuvwala kudi mwaana ya mwekeshang’a maana mudi ona mwaana*” - The dress code of a child tells the intelligence in that child.
- xxxv. “*Ni antu ejima mwashakamang’ayi amutiyang’a kuwaha*” - His behavior is acceptable in society.
- xxxvi. “*Wekalang’a wamaana amawahi nawantu*” - Good behavior towards other people.
- xxxvii. “*Wadishang’a kwikala hi mukumpi wa nshimbi hakuhema*” - He has leadership qualities.
- xxxviii. “*Neyi muntu ona eluka wanyi enza nindi yang’s mwital usendi chuma unyinke, wakanag’s nindi ching’a avwali analweji kwila chenchu, hekwawu ona muntu hi kombi*” - While at home, if a stranger asks him to take an item from home to give him, he refuses saying until my parents can permit me.
- xxxix. “*Wahembanga chisemwa chindi chimukwashi kwiluka kwafumai*” - He preserves his culture to make him know his roots.
- xl. “*Wadigishang’a mu yilwilu yatama wanyi, hela kwenda nawakwawu anatweshi kumwilisha kulonda ni yena ekali waluwa*” - He refrains from bad vices by avoiding bad company and peer pressure.
- xli. “*Wekalang’a wakumwenaku kudi akwawu mu yilwilu yidi yayiwahi*” - He becomes a role model in the area.
- xlii. “*Wehulang’a kulonda eluki chisaka chindi nochu asemuka*” - He seeks to know his family background.
- xliii. “*Chihandilu chndi chachiwahi hakwila ni akwawu atalilang’aku kudi yena*” - He has good character for others to emulate.

2.2. Cognitive Ability

- i. “*Wakwatang’a yuma ya kushikola swayi swayi*” - He is a fast learner at school.
- ii. “*Welang’a chiwahi kushikola*” - He is good at school.
- iii. “*Kushikola weleng’a chiwahi ni kupasa chiwahi*” - His schoolwork is exemplary.
- iv. “*Watang’ang’a munyikanda yindi*” - He has time to study his books.
- v. “*Wasolweshang’a Yuma ya wukmpu ni kutwaminina akwawu*” - He exhibits leadership qualities.
- vi. “*Wekalang’a wa maana kushikola*” - He is brilliant at school and at home.
- vii. “*Wakalang’a ma maana akuhyanisha akushikola*” - His schoolwork is exemplary:
- viii. “*Wenkang’a nyikanda yidi neyi nafumi kushikola kudi amvwali jindi kulonda tali ochu anakuzatayi*” - He gives his schoolwork to the parents after school.
- ix. “*Kansi wabulang’a kujimbala Yuma anamuleji*” - Someone who is not forgetful.

- x. *“Wekalang’a na maana ku shikola”* - He is intelligent at school: He is intelligent at school.
- xi. *“Wakeng’anga kuya kushikola nakutang’a”* - He has interest to go to school.
- xii. *“Yitong’ojoka yindi ya maana akuhayamisha”* - Having wise thinking.
- xiii. *“Wa lalamenang’a wanyi swayi swai”* - He is not forgetful.

2.3. Industrious

- i. *“Waleng’ang’a tuyuma twa ndambo na ma waya twakuhemesha nawa kwawu”* - He is creative using clay or wires items.
- ii. *“Wamweshang’a wutwamina wakutwaminina akwawu”* - He exhibits leadership skills.
- iii. *“Wazatishang’a maana yo mweni hakuzata Yuma”* - Wisdom in his reasoning when it comes to perform some tasks.
- iv. *“Welang’a yakuhayamisha”* - Doing great things.
- v. *“Wapang’ang’a tuyuma twakuhemesha twatuwahi”* - He is creative.
- vi. *“Wekeng’ang’a kubumba wumba tuyuma twatuwahi tuna ahemeshang’ayi”* - He molds items out of clay or making wire car.
- i. *“Kansi wa maana hela kuhema nawakwawu, welang’a yuma yakuhayamisha yakuleng’a leng’a”* - He is creative when playing with friends.
- vii. *“Neyi anamwinki mudimu wawuzatang’a mu mpiji yatela”* - He accomplishes given assignments in good time.
- viii. *“Welang’a nyidimu yakuhayamisha”* - His work is exemplary.
- ix. *“Nyidimu yelang’ayi hi yakuhayamisha ni akulumpi hiyakutweshi kuyila nehi”* - The various assignments he does that even elders cannot do.
- x. *“Kansi welang’a ja maana jakuwumba wumba hela kutung’a tuyuma twama waya”* - He is creative.
- xi. *“Weleng’a leng’ang’a tuyuma twakuhemesha nawakwawu”* - He is creative.
- xii. *“Wazatang’a jakuhayamisha muna ashakamayi”* - He performs unique works in society.
- xiii. *“A Lunda hi a diimi dimu ahandishilang’amu ntang’a jawu nawa chamwekshang’a maana awu”* - Lunda child farms a lot to sustain their families that is intelligence as a tribe.
- xiv. *“Weleng’a yuma yakuhayamisha yakila antu amavulu hi yayilang’aku”* - He creates things that some people may not do.
- xv. *“Munatweshi kumona nyidimu ankuzatai yakuhayamisha chidi ney kutung’a ke tala, hela kupanga ka motoka ka mawaya ni chikwawu tuhu”* - He is innovative.
- xvi. *“Natwishi kwila chuma chakuhayamisha, kumbum, ba hela ngo’mbi wa maseki, hela kutung’a yitala dindi”* - The kind of special tasks he can perform such as constructing a house, making a wire car etc.
- xvii. *“Wazatang’a Yuma yakuhayamisha chidi neyi ja kuleng’a leng’a najikwawu tuhu muchihandilu chindi”* - He has special abilities to create something as a child.

2.4. Obedience

- i. *“Walondelang’a oju amulejang’a akulumpi”* - He follows parent directives.

- ii. *“Wa lundelang’a jina mulejiwu kudi a kulumpi”* - He follows instructions as given by parents.
- iii. *“Wahembang’a yinamulejiwu”* - Keeps instructions given.
- iv. *“Kansi wononoka hama”* - He is obedient.
- v. *“Kansi wononoka hama”* – Obedient.
- vi. *“Kansi wononoka”* - He is obedient.
- vii. *“Wekalang’a wononoka”* - He is obedient.
- viii. *“Kansi wononoka hama”* - He is obedient.
- ix. *“Kansi wovwahila chikupu”* - He is obedient.
- x. *“Kansi ona wononoka hama”* - He is obedient.
- xi. *“Kansi ona walondelang’a ajina anamuleji kwila chachiwahi”* - Follows instructions.
- xii. *“Walondelang’a nshimbi neyi china veni akuleja kwila”* - He follows instruction according to what was assigned.
- xiii. *“Kansi wa kidizozo”* - He is obedient.
- xiv. *“Mwaana ona walondelang’a oju anamuleji kwila”* - A child who follows Instruction.
- xv. *“Kansi wa kwovwahila”* – Obedience.
- xvi. *“Mwaana womvwahila kudi amvwali”* - He is obedient to parents.
- xvii. *“Walondeang’a nshimbi mwakwilila yuma anamwinki kuzata”* - The way he performs assignment given to him, he follows instruction.

2.5. Respect

- i. *“Kansi wakavumbi chikupu”* - Has respect.
- ii. *“Idi kanavumbi nawa kulumpi”* - Respect t for elders.
- iii. *“Wamweshang’a kavumbi kudi akulumpi”* - He has respect for elders.
- iv. *“Kansi wakavumbi”* – Respectful.
- v. *“Wekalang’a kawavumbi”* - A child who is polite.
- vi. *“Wekalang’a wakavumbi nawa kulumpi”* - He is respectful to elders.
- vii. *“Kansi wakavumbi”* - He respects elders.
- viii. *“Wekalang’a kawavumbi”* - A child who is polite.
- ix. *Kansi wakavumbi* - He respects elders.
- x. *“Wekalang’a na kalemsha”* - A child who is polite.
- xi. *“Wa kavumbi”* - He has respect.
- xii. *“Wenkang’a kavumbi akulumpi”* - He respects elders.
- xiii. *“Wekalang’a wakavumbi”* - He has respect for elders.
- xiv. *“Hoshelu yindi nawa kulumpi yayiwahi kaha nawa yakavumbi”* - The way he relates with elders.
- xv. *“Wekelang’a wakavumbi”* - He is respectful.
- xvi. *“Wundi nachihandilu cha kuvumbika akumpi”* - He respects elders.

2.6. Honest/ Trustworthy/ Reliable

- i. *“Kansi welang’a ja walala ha twambang’aku”* - A child who is honest.
- ii. *“Kansi wa bula kubajama”* - A child who is honest.

- iii. *“Neyi akumwihula ma lwihu, wakulang’s mehu mu kwoloka”* - When asked questions, he/she answers correctly.
- iv. *“Wehulang’a ma lwihu kulonda abuli kuluwang’esha jina ana mwihuli”* - He/she asks questions to seek clarification on what is being asked.

Appendix No. 3. Luvale language group

2. Characteristics of Intelligence (Assessment Criterium):

2.1. Social Responsibility

- i. *“Jila achikuzachingamo milimo yaha zuvo vanamuhane”* - The way he/she works on given house chores.
- ii. *“Apwa wa wunyoji na wutongwe”* - Orderly in doing things.
- iii. *“Wakulama lwola hakuzata”* - Time conscious.
- iv. *“Achikukafwako vakwavo kufuma kuvilinga vyavipi”* - He guides his/ her mates to refrain from bad activities.
- v. *“Achi kuhembanga vyuma vanamuhane kuli visemi jenyi”* - He is mindful with things entrusted to him.
- vi. *“Achikulitetekelanga kwijiva lwola lwakuhiluka kuzuvo”* - He guides himself to know the right time to go home.
- vii. *“Achikukafwangako visemi na milimo yaha zuvo”* - Helps parents with house chores.
- viii. *“Nge wa pwevo azanga kupwa chisemi cha vakwavo”* - A girl child emulates motherly behavior.
- ix. *“Achikukafwangako visemi jenyi na milimo yaha zuvo”* - Helps parents with house chores.
- x. *“Kanyike wa mangana ambwende”* - Follows cultured manners.
- xi. *“Twamiso yenyi muchitungilo yapwa yakukupuka”* - His lifestyle is excellent.
- xii. *“Azanga kulondezeza vakulwane havinga vyavo vyamwaza”* - He imitates the way of life for elders.
- xiii. *“Twamiso yachiyoyelo chenye yapwende yakusuwulwisa vakulwane”* - His behavior pleases elders.
- xiv. *“Aznga kupwa twamina yavakwavo hakuhema”* - He takes leadership roles when playing with friends.
- xv. *“Kuchi kulihaka muvilinga vyavipiko”* - He doesn't indulge in bad vices.
- xvi. *“Achi kukafwangako na vakulwane mu milimo ya kuliseza seza”* - He helps elders in various assignments.
- xvii. *“Achi kukafwangako vakwavo vanyike kulihenda kuthato yayipi”* - He advises his friends not to indulge in bad vices.
- xviii. *“Nge wa pwevo achi kuzanga kulifwanyisa nge chisemi wa pwevo”* - Girl child exhibits motherly position in life.
- xix. *“Azanga kusolwesa nge hi twamina”* - He exhibits leadership qualities.
- xx. *“Apwa kanyike wakulikacha nakulinga vyama vya mbwende”* - Child's ability to conduct himself well in doing things.
- xxi. *“Azanga kuneha hamwe vakwavo vanyike managa vaheme kaha yikiye achikupwanga mukulwane chipwe twamina”* - He organizes friends to make things like a company and he becomes the leader.
- xxii. *“Nge wapwevo azanga kuzata hamwe na chisemi chenye wa pwevo”* - She works closely with the female parent.
- xxiii. *“Azanga kuhulisa chikota chenye okwo vafuma mutanga yavo”* - He asks questions from elders about their family tree: - Proverb: *Wisdom comes from a small ant mold into a big hill: “Mangana afuma mulifwesa kuya mukawumbu”*.

- xxiv. “*Jila achikuzachingamo milimo yaha zuvo vanamuhane*” - The way he/she works on given house chores.
- xxv. “*Achikukafwanga visemi jenyi milimo ya hembo*” - He helps with house chores.
- xxvi. “*Apwa wakulama lwola yakuhiluka kwimbo nge nayi nakuhema*” - He minds time to get back home.
- xxvii. “*Nge vanamuhane milimo achikuyizatanga mulwola lwakutamo*” - He minds time when given an assignment to perform.
- xxviii. “*Kanyike achikulamanga lwola lwakuhema na lwola lwakuhiluka kwimbo yavene*” - He minds time to get back home.
- xxix. “*Achikafwangako visemi milmo ya hembo*” - Helps parents with house chores.
- xxx. “*Azanga kulilongesa vya chisemwa chenye*” - Learning his culture.

2. 2. Cognitive Ability

- i. *Apwa wamangana akuzomboka*” - He is very knowledgeable.
- ii. *Kanyike uze azanga kutala mumikanda yenye*” - He spends time to go through his schoolbooks.
- iii. Has wisdom to reason:

Proverb: To know a *ripe cob of maize one does not need to remove the covers to know if it is ripe: Chivyale cha kuhya kaveshi kuchisonyako.*

- iv. *Ali nalwola lwakuhaka muchima ku shikola yenye*” - He has time to concentrates on his schoolwork.
- v. “*Achikulinga vyuma vya mangama*” - She shows wisdom in the way she conducts herself.
- vi. *Vilinga vyenyi vyalisezako navakwavo vosena*” - He reasons differently from others.
- vii. “*Ali na mangana akulinga vyakukomowesa*” - Wisdom to perform things that are unique.
- viii. “*Vilinga vyenyi kushikola vya mwaza avize vya kupasa lika*” - His schoolwork is exemplary.
- ix. “*Apwa kanyike wa chinyingi*” - He exhibits wisdom.
- x. “*Achi kuhulanga vihula nagana alilongese mangana*” - He asks questions to learn and get wisdom.
- xi. “*Vishinganyeka vyenyio vyapwa vyakuhamisa*” - He Reasons beyond ordinary.
- xii. “*Achi kuhakanga muchima kushikola*” - Concentrates on his schoolwork.
- xiii. “*Apwa wamangana akuzomboka*” - He is very knowledgeable.
- xiv. “*Vilinga vyenyi vyalisezako navakwavo vosena*” - He reasons differently from others.
- xv. “*Achikulinganga kanawa kushikola*” - His schoolwork is exemplary.

2.3. Industrious

- i. “*Apwa muntu uze nahase kutaka vyuma*” - One who is very creative.
- ii. “*Kanyike alinga vyakukomowesa vya kutunga tunga na ndambo chipwe tu mawaya*” - He is creative.
- iii. “*Alika vyakukomwesa muchiyoyelo chenyi*” - He does extraordinary things.
- iv. “*Achikukavangizanga twamiso na vilinga vya vakulwane*” - He/she emulates elders.
- v. “*Azanga kukavangiza ji ndondelo ja visemi jenyi ja mwaza*” - The works parents do will try by all means to emulate them.
- vi. “*Zachishilo yenyi yapwa yambwende*” - He exhibits good works.
- vii. “*Kanyike wuze alinga vyuma vyakukomowesa nge anakuhema navakwavo vanyike*” - He can do marvelous things like being creative when playing with friends.
- viii. “*Azanga kulondezeza vize navalinga vakulwane*” - He imitates what elders do at home.
- ix. “*Achi yunga tunga tuvyuma, pamo twa mawaya chipwe ndambo kaha twa wutongwe*” - He is creative.
- x. “*Apwa kanyike vwa kutaka taka tuvyuma twakuhemesa navakwavo*” Is so creative.
- xi. “*Kanyike wakutaka tuvyuma twakuhemesa navakwavo vanyike, twa jisambo, twa mavu navikwavo*” - He is creative (molding clay items, wire cars etc.).
- xii. “*Achikulondezezanga vyama vya wukulwane*” - He emulates works done by elders.
- xiii. “*Kanyike wa vishinganyeka vyakuliseza navakwavo*” - He is creative
- xiv. “*Kanyike uze alinga vyuma vyakukomowesa vize navahona chipwe vakulwane kuvilinga*” - He creates things that even elders cannot do.
- xv. “*Vachi kumusangijekanga nawa kuli watu hamilimo yenyi yakukomowesa*” - He receives praises from adults for the marvelous things he does.
- xvi. “*Achi kusolwesanga wutwamina*” - Exhibits leadership qualities.
- xvii. “*Apwa kanyike achi kutakanga vyuma vyakuhemesa nge ndambo, mawaya hamwe tuhu namapepa*” - Very creative when playing with others.
- xviii. “*Achikusolwesanga mangana hakulinga vyama*” - He exhibits wisdom when doing things.
- xix. “*Azanga kulinga milimo yakukomwesa yize navahona numba vakulwane kulinga*” - His work is very challenging that even adults admire it.
- xx. “*Apwa kanyike waku taka taka vyuma vya mbwende*” - He is creative.
- xxi. “*Azanga kulondezeza vize navalinga vakulwane*” - He imitates what elders do at home.
- xxii. “*Kanyike wakutaka taka vyuma halwola lwakuhema navakwavo*” - He is creative.
- xxiii. “*Achikulondezezanga vyama vya wukulwane*” - He emulates works done by elders.
- xxiv. “*Achikulinganga vyuma vya mwaza vyakusehesa navakulwane hakuvimona*” - He does special activities.
- xxv. “*Chiyoyelo chenyi cha chinyingi cha kukomowesa*” - His way of life and the unique way of doing things.

- xxvi. “*Kanyike wakuzangama mumilimo yenyi hazuvo chipwe ku shikola*” - He is active in the works he does being at home or at school.
- xxvii. “*Ovyo alinga vyapwa vyakukomowesa*” - He makes things that are unique.

2.4. Obedience

- i. “*Wa kwononoka*” - He is obedient.
- ii. “*Mukakukavangiza shishimbi na jishiko*” - He follows instructions.
- iii. “*Kanyike wa kwononoka*” - He is obedient.
- iv. “*Kanyike wakwononoka*” - He is obedient.
- v. “*Achikukavangizanga nawa vize navamulweza kulinga kuvikavangiza munona munona*” - He follows instructions.
- vi. “*Kanyike wakwononoka*” - He is obedient.
- vii. “*Kanyike wakwononoka*” - He is obedient.
- viii. “*Awuze kanyike evwilila vilongeselo vya mwaza kuli vakulwane*” - That one who gets counsel from elders.
- ix. “*Achi kwivwililanga vize navamulweza vya managana kuli vakulwane*” - He listens to the elders’ advice.
- x. “*Kanyike wakwononoka*” - He is obedient.
- xi. “*Kanyike wambwende*” - He is loyal.
- xii. “*Kanyike wakwononoka*” - He is obedient.
- ii. “*Kanyike wa kwononoka*” - He is obedient.
- iii. “*Kanyike wakwononoka*” - He is obedient.
- iv. “*Kanyike wakwononoka chikupu*” – A very obedient child.
- v. “*Kanyike wa kwononoka*” - He is obedient.
- vi. “*Kanyike wakwononoka*” - He is obedient.
- vii. “*Kanyike wakwononoka*” - He is obedient.

2.5. Respect

- i. “*Wakalemesa navakulwane*” - He has respect for elders.
- ii. “*Apwa kanyike wa kalemesa*” - He has respect for elders.
- iii. “*Kanyike wakavumbi*” - He has respect.
- iv. “*Kanyike wakavumbi*” - He has respect.
- v. “*Kanyike wakavumbi na kalemesa*” - Has respect.
- vi. “*Kanyike wa kavumbi*” - He has respect.
- vii. “*Apwa wakalemesa nava kulwane*” - He has respect for elders.
- viii. “*Kanyike wa kavumbi*” - He has respect.
- ix. “*Kanyika wakavumbi navakulwane*” - He has respect for elders.
- x. “*Kanyike wa kalemesa na vakulwane*” - He has respect for elders.
- xi. “*Kanyike wa kavumbi nava kulwane*” - He has respect for elders.
- xii. “*Kanyike wakavumbi*” - He has respect.
- xiii. “*Apwa wakavumbi navakulwane*” - Respect for elders.

2.6. Honest/ Trustworthy/ Reliable

- i. “*Kanyike va fwelela kuli vakulwane*” - He is trusted by elders.
- ii. “*Yikiye apwa twamina vakwavo hi navamukavangiza*” - He leads other and others follow.

- iii. *“Keshi kumukamba kulinga mililimoko alilingila yavene”* - He works with minimum supervision.
- iv. *“Kanyike uze achikuzatanga milimo ya hazuvo chakuhona kumu kamba”* - A child who does house chores without much supervision.

2.7. Common Sense/ Initiative

- i. *“Apwa kanyike wakutaka taka vyuma kaha kaveshi kumukambako”* - He exhibits a lot of initiative.
- ii. *“Kanyike wuze vasangijeka kuli watu nge nazate milimo chakuhona kumu kamba”* - He receives praises according to the work he performs without being instructed.
- iii. *“Apwa kanyike wakulinga vyuma vya mbwende vyakuhona kumulweza, echi kulilingilanga yavene”* - He has a lot of initiative that he performs to help his parents.

Appendix No. 4. Kaonde language group

2. Characteristics of Intelligence (Assessment Criterium):

2.1. Social Responsibility

- i. “*Kikala na milangwe*” - Having wisdom.
- ii. “*Wukwasha bansemi banji*” - He helps his parents.
- iii. “*Kechi ukeba kwitwezha mubintu byatama ne*” - He avoids involving himself/herself in bad vices.
- iv. “*Wi ngila mingilo ya pa nzubo mwine kwakubula kumukanjikizha*” - He does house chores voluntarily and willingly.
- v. “*Mujishinda mo obila bintu mu ndonda ya wama*” - The way he conducts himself.
- vi. “*Wingila mingilo yapa nzubo*” - He does house chores accordingly.
- vii. “*Pa kukaya nabakwabo uye wikala ntangi*” - Playing with friends, he takes leadership roles.
- viii. “*Ulenga lenga tubintu pakukaya nabakwabo*” - One who is creative during the time they play with friends.
- ix. “*Wusakisha kufunda kisho kyanji, wipuzha bansemi banji*” - He is eager to learn his culture by asking his parents.
- x. “*Byubilo byanji bya wama*” - Character that pleases People.
- xi. “*Wufunjisha bakwabo byubilo byawama*” - The one who teaches friends good morals.
- xii. “*Watemwa kulondela byubilo bwawama byuba bantu mu kikalankulo*” - Emulates good character exhibited by some people in society.
- xiii. “*Watemwa kwikanya kubyubilo bya tama*” - He has self-control.
- xiv. “*Pakukaya ne bakwabo aye wikala ke ntangi*” - He takes leadership roles when playing with friends.
- xv. “*Mwaana wa byubilo byawaama*” - Has good Character and behavior.
- xvi. “*Kechi onawuna onawuna bintu ne*” - He is not wasteful.
- xvii. “*Watemwa kukopela byubilo byawana mu mpuzha mo ekala*” - Emulates good character exhibited by people in the area he lives.
- xviii. “*Kechi ukeba kwitwezha mubintu byatama ne*” - He avoids involving himself/herself in bad vices.
- xix. “*Wulanguluka kuba bintu mwine kwakubula kumubula byakuba, kikatakata mingilo ya panzubo*” - He does things without being told especially house chores.
- xx. “*Wufunjisha bakwabo byubilo byawama*” - The one who teaches friends good morals.
- xxi. “*Watemwa kwikanya kubyubilo bya tama*” - He has self-control.
- xxii. “*Wusakisha kufunda kisho kyanji, wipuzha bansemi banji*” - He is eager to learn his culture by asking his parents.
- xxiii. “*Wa maana mu byubilo byanji*” - Has wisdom when he conducts himself.
- xxiv. “*Wulondela bintu mu ngayo ne ndonda ya lumbuluka pakuba bintu*” - He is orderly in doing things.
- xxv. “*Wingila mingilo yapa nzubo mwayila bulongo*” - Given to do house chores he/ she does it accordingly.
- xxvi. “*Mwana awa wingila bintu byawama avya ne Bantu bebisanchila*” - The one who performs acceptable things that people appreciate.

- xxvii. *“Ukwasha bansemi banji pa nzubo kwingila mingilo”* - Helps his parents with house chores.
- xxviii. *“Mwana wipuzha”* - He seeks advice from the parents.
- xxix. *“Ke buba byatama watemwa kwikanya ku bwibilo byatama”* - Refrains from doing bad deeds.

2.2. Cognitive Ability

- i. *“Wufunda bintu bukiji”* - He learns fast.
- ii. *“Byo alemba mu mabuuku wanji bulongo ne kutanchika bulongo”* - The way he writes in his book is orderly and neat.
- iii. *“Uji na maana ku sukulu kyakine”* - He is very intelligent with schoolwork.
- iv. *“Kusukulu wingila bingi bulongo”* - His schoolwork is exemplary.
- v. *“Wutaa maana bingi kusukulu”* - He concentrates on his schoolwork.
- vi. *“Watemwa kupituluka mu binembelo byanji byakusukulu”* - He has time to study his books after school.
- vii. *“Wufunda bintu bukiji”* - He learns fast.
- viii. *“Kechi wulubamo bintu bikiji ne”* - He doesn’t forget easily.
- ix. *“Wufunda bintu bukiji”* - He learns fast.
- x. *“Kechi wulubamo bintu bikiji ne”* - He doesn’t forget easily.
- xi. *“Wutaa maana kusukulu”* - He concentrates on his schoolwork.
- xii. *“Wufunda bintu bukiji bukiji”* - He learns things very fast.
- xiii. *“Uji namilanguluko ya wama pakwingila bintu”* - His reasoning in terms of performing tasks given is good.

2.3. Industrious

- i. *“Wulenga bintu byakulenga lenga nobe tulubi, ne bintu bikwabotu”* - He is creative.
- ii. *“Wuba bintu mundonda”* - The way he does things in an orderly manner.
- iii. *“Buuba bintu byakukumya nobe byakulenga lenga namaboko anji”* - He is creative.
- iv. *“Wulondela bintu mu ngayo ne ndonda ya lumbuluka”* - The way he does things in an orderly manner.
- v. *“Mingilo yanji yikala yakukumya kubonse beyimona”* - His work is impressive to all those who see it.
- vi. *“Mwanyike wulenga bintu avya ne bakulumpe ba konsha kuba”* - Creative in doing things sometimes making things that elder do.
- vii. *“Watemwa byakulenga lenga”* - He is creative.
- viii. *“Mwanyike wa milangwe”* - He has special knowledge of doing things.
- ix. *“Watemwa byakulenga lenga”* - He is creative.

2.4. Obedience

- i. *“Wa lukokelo”* - Obedient.
- ii. *“Wuba bintu kwesakanya na mikambizho yo bemupa”* - He does things according to instruction.

- iii. *“Wulondela mikambizho ya bakulumpe inge bamubula kuba kintu”* - Follows instructions given to him by elders.
- iv. *“Wulondela mafunde bamubula”* - He keeps instructions given to him.
- v. *“Wa lukokelo”* - Is obedient.
- vi. *“Wulondela mafunjisho bulongo”* - Following advice given.
- vii. *“Wa Lukokelo”* - Obedience.
- viii. *“Wulondela mafunjisho bulongo”* - Following advice given.
- ix. *“Mwana wa lukokelo”* - Obedient.
- x. *“Wulondela mikambizho”* - Follows instruction.
- xi. *“Wa Lukokelo”* - Obedience.
- xii. *“Wulondela mikambizho”* - He follows instructions.
- xiii. *“Wulondela mikambizho”* - Follows instruction.
- xiv. *“Wulondela mafunjisho bulongo”* - Following advice given.
- xv. *“Mwaana awa ulondela mikambizho bapana ba kulumpe amba obe”* - He follows instructions given by parents.
- xvi. *“Mwaana wa lukokelo”* - He is obedient to parents and other adults in society.
- xvii. *“Wa lukokelo”* - Is obedient.
- xviii. *“Mwanyike wa Lukokelo”* - He is obedient.
- xix. *“Wulondela mafunde bamubula”* - He keeps instructions given to him.
- xx. *“Wa Lukokelo”* - Obedient.
- xxi. *“Mwana umo wa lukokelo kyakine”* - He is obedient.
- xxii. *“Byubilo byanji byakulondela mafunjisho abakulumpe”* - He follows teaching from the parents.
- xxiii. *“Wa lukokelo”* - He is obedient.
- xxiv. *“Mwaana wulondela mikambizho bemupa kulondela”* - Follows instructions.
- xxv. *“Mwaana walukokelo”* - He is obedient.

2.5. Respect

- i. *“Wikala na mushingi naba kulumpe”* - Respect for elders.
- ii. *“Mo etabila ne kwisamba naba kulumbe”* - The way answers elders.
- iii. *“Wa mushingi nabakulumpe”* - He shows respect to elders.
- iv. *“Uji na mushingi naba kulumpe”* - Respect to elders.
- v. *“Ngasukilo yanji kuba kulumbe yikala ya mushingi”* - The way answers elders.
- vi. *“Wa mushingi”* - Has respect.
- vii. *“Ngasukilo yanji yawama kuba nkulumpe”* - The way he answers elderly people when called upon.
- viii. *“Mwanyike wa mushingi”* - He has respect for adults.
- ix. *“Uji na mushingi”* - He has respect for adults.
- x. *“Ke wamwenga ne”* - He is not rude.
- xi. *“Uji na mushingi naba kulumpe”* - Respect to elders.
- xii. *“Uji na mushingi naba kulumpe”* - Respect to elders.
- xiii. *“Mwaana wa mushingi naba kulumbe”* - He respects elders.
- xiv. *“Uji na mushingi naba kulumpe”* - Respect to elders.
- xv. *“Wa mushingi”* - Has respect.
- xvi. *“Mwana wa mushingi”* - He is respectful.

- xvii. *“Mwana wa mushingi naba kulumpe”* - He respects elders.
- xviii. *“Wa mushingi nabakulumpe”* - Has respect for elders.
- xix. *“Wa mushingi naba kulumpe”* - Respect for elders.
- xx. *“Wumweshwa mushingi nabakulumpe”* - He exhibits respect for elders.
- xxi. *“Wa lukokelo”* - He is obedient.

2.6. Common Sense/Initiative

- i. *“Wiyilangulukila kuba bintu aye mwine”* - Thinking for himself to do right things in life.
- ii. *“Watemwa kwi yipa mwine byakuba, biji none kovwa masanyi, kutema nkunyi nebikwabotu”* - He commands himself to do things at home like washing plates, bringing firewood etc.
- iii. *“Wulanguluka kuba bintu mwine kwakubula kumubula byakuba, kikatakata mingilo ya panzubo”* - He does things without being told especially house chores.
- iv. *“Wiyubila bintu aye mwine kwakubula kumukambizha”* - One who does things on his own without being forced.
- v. *“Wusalulula byawama ne byatama”* - He is able to differentiate good and bad.
- vi. *“Ulenga lenga tubintu pakukaya nabakwabo”* - One who is creative during the time they play with friends.
- vii. *“Ulenga lenga tubintu pakukaya nabakwabo”* - One who is creative during the time they play with friends.

Appendix No. 5. Tonga language group

2. Characteristics of Intelligence (Assessment Criterium):

2.1. Social Responsibility

- vii. "*Ulateka meenda*"¹⁹¹ - Draws water.
- viii. "*Micito mibotu*" - By good works.
- ix. "*Ulateka meenda*" - Draws water.
- x. "*Ulabalanganya bazyali*" - Takes care of his/her parents.
- xi. "*Taputi amunzi*" - He/she is not naughty at home.
- xii. "*Uleembela ngombe*" - Herds cows.
- xiii. "*Ulagwasyana kubeleka milimo ya ang'anda*" - Helps out with house chores.
- xiv. "*Ulajika*" - Cooks.
- xv. "*Kupyaanga ang'anda*" - Sweeps the house.
- xvi. "*Ulatambula beenzu*" - Receives visitors.
- xvii. "*Ulabikkila maano ziyubwa alubuwa*" - Takes care of households.
- xviii. "*Kutambula beenzu abulemu*" - Receives visitors with respect.
- xix. "*Uli amicito ya maano*" - Has sensible acts.
- xx. "*Kutebba nkuni*" - Goes to collect firewood.
- xxi. "*Kukunka mulilo*" - Prepares a fire.
- xxii. "*Ufwambaana kucita ncaatumwa*" - Does what he/she is sent to do rapidly.
- xxiii. "*Uzyibilwa ku micito*" - Is known by good works.
- xxiv. "*Kubwezelela mitiba bamaninzya kulya*" - Collects dishes after people have eaten.
- xxv. "*Kusalazya mpobali kulida*" - Cleans up after people have eaten.
- xxvi. "*Ugonka nkuni*" - Cuts firewood.
- xxvii. "*Kusanzya mitiba*" - Washes dishes.
- xxviii. "*Ukukula alubuwa*" - Sweeps the yard.
- xxix. "*Ulagwisya mitiba bamaninzya kulya*" - Collects dishes /clears the table after people have eaten.
- xxx. "*Kuteka meenda*" - Drawing water.
- xxxi. "*Kusanzya mitiba a mipika*" - Washing plates and pots.
- xxxii. "*Kucita cintu ceelede*" - Doing what is required.
- xxxiii. "*Nkuba a maano abuponi*" - To have a sense of how to live with others.

2.2. Cognitive Ability

- vi. "*Ulicizyi kubeleka*" - Knows how to work.
- vii. "*Kucizyiba milimo*" - Knows work.
- viii. "*Ulicizyi kubeleka kabotu*" - Knows how to work well.
- ix. "*Muyumu kubeleka*" - Is Hardworking.
- x.
- xi. "*Munkutwe*" - Zealous to carry out tasks.
- xii. "*Muyumu ku milimo*" - Is Hardworking.
- xiii. "*Bunkutwe ku milimo*" - Is Hardworking.

2.3. Obedience

- i. *“Uchilila malailile”* - Follows instructions.
- ii. *“Uchilila malailile”* - Follows instructions.
- iii. *“Ulamvwa kwaambilwa”* - Listens to what he/she is told.
- iv. *“Uswiilizya caamba bazyali”* - Listens to what parents tell him/her.
- v. *“Ulacita ncaatumwa”* - Does what he/she is sent to do.
- vi. *“Kubeleka milimo njaatumwa”* - Does what he/she is sent to do.

2.4. Respect

- v. *“Uli abulemu kubazyali”* - Has respect for parents.
- vi. *“Uli abulemu”* - Is respectful.

2.5. Common Sense/Initiative

- vi. *“Ulaliyeeyela zyakucita mbuli kupyanga ang’anda”* - Has initiative.
- vii. *“Kuzyiba ncoelede ku cita”* - Knowing what to do.
- viii. *“Ulabika malasha ambaula”* - Puts charcoal into the brazier.
- ix. *“Utalindili kwaambilwa”* - Does not wait to be told.