



The Other Side of Literacy Development: The Role of Kansanshi Mining Plc in Literacy Development in the Solwezi District of Zambia

Sylvia Mwanza-Kabaghe^{1,2}, Tenso Kalala¹, Jacqueline Jere-Folotiya³, Onward S. Mandebvu¹

¹Kansanshi Mining Plc. Corporate Social Responsibility Department Solwezi, Zambia ²The University of Zambia, School of Education: Department of Educational Psychology, Sociology and Special Education ³The University of Zambia, School of Humanities and Social Sciences: Department of Educational Psychology

***Corresponding Author:** Sylvia Mwanza-Kabaghe, Kansanshi Mining Plc. Corporate Social Responsibility Department Solwezi, Zambia

Abstract: Literacy's value cannot be overstated; it not only enriches a person's life but provides possibilities for people to gain skills that will help them care for themselves, their families, and the community in which they live. Kansanshi Mining PLC's Education Quality Improvement Programme aims to boost literacy levels in Solwezi district through its many programmes.

Several organizational development philosophies and tools, such as the theory of constraints, the McKinsey model of organization analysis, the Pareto principle, facilitation of multi-stakeholder processes, governance and accountability in service delivery, are used to implement Kansanshi Education Quality Improvement Programme (KanEQIP) programmes. These include teacher Continuing Professional Development (CPD), materials supply to schools, adult literacy and entrepreneurship skill development, Early Childhood Education (ECE), and governance and accountability in service delivery.

Because literacy development is too vital to be left to governments alone, Kansanshi Mine uses its Corporate Social Responsibility (CSR) to help improve the literacy skills of communities in Solwezi district.

1. INTRODUCTION

The role of literacy in development is universally acclaimed. Governments all over the world allocate a large part of their annual budgets to basic education, a big part of which goes towards developing basic literacy and numeracy in school children. UNESCO (2006) Several international and bilateral development agencies such as UNESCO, UNICEF, USAID, World Bank and DFID have also invested significant resources in the promotion of literacy in the developing world. All this because literacy plays an important role in personal, societal and national development UNESCO, 2006.

Literacy has been variously defined by different authors and organisations. For example, UNESCO defines literacy as the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts (UNESCO, 2004; 2017). The *European Literacy Policy Network* cited in Montoya (2018) define literacy as the ability to read and write at a level where individuals can effectively understand and use written communication in all media (print or electronic), including digital literacy. The *OECD: Survey of Adult Skills (PIAAC) (2014)* defines literacy as understanding, evaluating, using and engaging with written text to participate in the society, to achieve one's goals and to develop one's knowledge and potential. It measures adults' proficiency in key information-processing skills - literacy, numeracy and problem solving in technology-rich environments.

From the foregoing, it is evident that literacy is a multi-faceted and multi-layered concept that keeps changing over time. The roles and responsibilities of stakeholders in its development are similarly changing. While governments and international development organisations have carried the burden of literacy development, business has increasingly become concerned and involved. The Chief Executive Officers of some of America's leading companies have made literacy their business too (Business

Roundtable, 2016). They contend that proficiency in reading is essential for the future development of a skilled labour-force and that without a skilled labour-force America's business competitiveness comes under significant stress.

For all parties in developing countries the challenges of achieving universal literacy in their populations are myriad including poverty, access to ICTs, access to electricity and the urban-rural divide. The utilitarian value of literacy has never been greater given the rapid growth and increasing access to information, and the emerging global challenges such as religious fundamentalism, emergence of fringe politics and their propensity for conspiracy theories, and the outbreak of the COVID-19 pandemic (Li and Yu 2022). The ability of an individual to access and evaluate information, to determine fact from fad, to differentiate science from conspiracy theories and to inform individual and collective behaviour has indeed never been more important. In this context the need for parties to work together to address the illiteracy challenge to development has never been greater. Zambia is one of the countries that has been consistently striving to improve the literacy levels of its population.

2. EARLY LITERACY SITUATION IN ZAMBIA

The literacy situation in Zambia can be traced back to a time when missionaries came to Zambia. According to Kombe and Mwanza (2020), around 1890 when missionaries came to Zambia, the education system used local languages to teach and learn literacy. However, the coming of the British South African Company to Zambia and the eventual British rule in Zambia around 1924 saw an increase in the use of English in the school system. After independence, Zambia continued to use English as a medium of instruction in schools from preschool to university. This meant that children learned to read and write in an unfamiliar language (Kelly, 2000). This posed a challenge, as children had to learn both the language and the skill to read at the same time. Tambulukani (2002) contends that the fact that reading in Zambia was carried out in English - a language that most children knew very little of or had no knowledge about contributed to the extremely low levels of both reading and writing. Other scholars such as Matafwali (2010), Tambulukani & Bus (2011) cement this view by stating that children learn to read better if they are taught reading in a familiar language.

After 30 years of using English as a medium of instruction, the literacy levels were still not satisfactory (MOE, 1996; National Assessment Study, 2018). As an attempt to improve the literacy levels, the Ministry of Education introduced a new literacy programme, the Primary Reading Programme (PRP) with the New Break Through to Literacy (NBTL) in the first grade as the main component which promoted teaching children in a familiar language (Mubanga 2010, Mwanza, 2011). However, subsequent studies consistently showed that the reading skills in Zambian children were still low (SACMEQ; 1998; Nkamba & Kanyika, 1998; Kalindi, 2005; Matafwali, 2005; Matafwali, 2010; Mubanga, 2010; Mwanza, 2011; Tambulukani & Bus, 2011; USAID Education Data, 2019)

The introduction of a new government in 2011 led to a policy shift on the language of instruction in Government schools which emphasised the use of the seven regional local languages as the media of instruction in all subjects from Grade One to Grade Four. The English language is taught as a subject, first orally and transitionally to reading and writing (National Literacy Framework 2013). Implementation of this policy commenced in 2014.

It was expected that the literacy levels in primary schools would improve after introducing the policy, however, studies done a year later (Mwanza-Kabaghe, 2015; Mubanga, 2015) still showed that learners were reading two levels below their grade. The NAS (2018) found that only 45% of Grade Two children in Zambia could read a single word of a text. This is an from the 2015 results which showed that 65% of Zambian school children scored zero in reading, indicating that they could not read any of the words provided. Even with this noted improvement, the level of reading is still below the desirable stage. Results from the NAS (2014 & 2018) disaggregated according to provinces show that North Western Province (the province of interest in this article) ranked eighth out of the ten provinces in the country. Findings show that the province has 41% non-readers in Grade Three, a worrisome situation and an indication that these learners did not acquire the basic reading skills. In 2021, USAID Education Data conducted a nation wide EGRA in Zambia. The authors hope that the

statistics will not be as gloomy, given the efforts made by government and other stakeholders in the province to support early grade literacy teaching and learning and notwithstanding the potential negative impact of COVID-19 on learning.

Many stakeholders such as multi and bi-lateral organisations, e.g., World Bank, UNICEF, USAID, DFID and local implementing partners such as VVOB, Save the Children, Bookbus, Child Fund, World Vision and Kansanshi Mining Plc, to name a few, have joined government to improve literacy in the country. However, there is still need for more actors to join in this national endeavor. Families, churches and the community at large all play an important role. In addition, there is need to interrogate the literacy development models and the assessment methodologies currently in use.

3. THE ROLE OF KANSANSHI MINING PLC IN LITERACY DEVELOPMENT IN SOLWEZI DISTRICT OF ZAMBIA

Studies have identified various factors that affect literacy teaching and learning (Kombe and Mwanza, 2020; Mwanza and Mkandawire 2020; Mubanga 2015; Mwanza-Kabaghe 2015; Ilon 2013; Mandebvu 2012; Jere-Folotiya *et al.*, 2014). These factors include inadequate infrastructure, insufficient reading materials, inadequate teaching and learning materials, mismatch between language of instruction and language of play, poor work culture by some teachers, the backwash effects, inadequate school facilities, pupil absenteeism, family factors such as social economic status and teacher factors (Burchfield *et al.*, 2002a; Strategic Carr-Hill *et al.*, 2001; Marketing & Research Inc 2013).

Informed by local and international studies, Kansanshi Mine Plc (KMP), a subsidiary of First Quantum Minerals (FQM), through its Corporate Social Responsibility (CSR) department education section developed an education programme called the Kansanshi Education Quality Improvement Programme (KanEQuIP) to improve education quality in schools. At the core of the programme, is literacy improvement in Solwezi district. KanEQuIP uses several methods, all of which seek to complement the school's role in developing children's technical ability to read hence the title of this paper 'The other side of literacy development'.

Before implementing the KanEQuIP, a baseline study conducted found that indeed literacy development in Solwezi district is affected by many factors (Mandebvu, 2012). The following are notable findings:

- a) Severe teaching and learning resource constraints with;
 - i. Textbook pupil ratios upward of 1:20
 - ii. Virtually no supplementary readers
- b) Inordinate teacher-pupil ratio of more than 1:80
- c) Teacher competence and motivation, and
- d) Leadership and management practices that focused more on input and process management rather than being outcomes driven.

Informed by the baseline study of 2012, KMP developed the KanEQuIP Model of literacy development.

4. THE KANEQUIP MODEL

The education section works with the education authorities at provincial, district and school levels as well as the community to enhance their participation in the delivery of education. KanEQuIP plays a supportive role to the duty-bearers in their delivery of service rather than supplanting them. Our modus operandus also uses several organisational development philosophies and tools such as the theory of Constraints, the McKinsey Model of organisational analysis, the Pareto principle, facilitation of multi stakeholder processes and governance and accountability in service delivery.

KanEQuIP focuses on improving the quality of education at pre-primary and primary school levels in 33 schools located around the mine site. These schools constitute 52% of the primary schools in Solwezi district. The programme attempts to address the factors that negatively impact literacy development referred to earlier. The following are some of the notable ways through which KanEQuIP addresses these factors:

5. CLASSROOM ENVIRONMENT

A literacy-rich classroom environment exposes children to written and oral language in a wide variety of ways and gives children the opportunity to develop their literacy skills (Titus, 2021). In its quest to improve the classroom environment and literacy development among children in Solwezi district, the KanEQuIP has been providing resources needed in classrooms to make the environment literacy rich. These resources include books, both educational and reading for pleasure; material production training and classroom display seminars with the belief that access to a wide and frequently rotating range of books exposes children to literacy and encourages them to learn to read independently (Titus, 2021). The programme has since June 2021 launched a mobile library vehicle that goes to schools to lend books to pupils as well as conduct reading sessions through the librarian assisted by the classroom teachers.

Another factor that affects literacy in the classroom environment is the teacher pupil ratio. McEneaney, Lose, & Schwartz (2006) note that teacher expertise and teacher-student ratio are factors that contribute to optimizing instruction for students at risk of developing difficulties in literacy learning. Schwartz *et al.*, (2012) found a reduction in literacy performance as group sizes of pupils increased. In many African countries, including Zambia, the proclamation of free primary education by the Ministry of Education led to an increase in enrolment without a corresponding increase in infrastructure, teaching and learning materials and teachers (Kalemba & Mulauzi, 2020). An increase in access did not correspond to an increase in quality of education. In addition, the high levels of teacher attrition and exodus of teachers from the teaching profession due to delayed deployment and better opportunities for career progression in other sectors. Due to these and many other factors, this leaves fewer teachers to service the increasing learner population (MoGE, 2016). KanEQuIP believes that teacher pupil ratio affects literacy learning as informed by the baseline results (Mandebvu 2012) which found that the teacher pupil ratio was as high as 1: 80 or more. The programme has endeavoured to reduce the teacher pupil ratio through infrastructure development. So far, two 1x5 classroom blocks have been built at two different schools in the district in a bid to try and decongest the classrooms and enhance literacy development. Efforts to improve the quality of teachers is highlighted in the CPD section of this paper.

6. PARENTAL BELIEFS

Parental beliefs on literacy development affect children's literacy skills. Evidence has shown that parents who understand the importance of reading and literacy development are more likely to be supportive of their child's literacy than parents who do not understand the need for certain literacy-based activities, such as phonics or phonemic awareness lessons (Lynch, 2007). Chansa-Kabali, Serpell & Lyytinen (2014) noted that parental beliefs were manifested in favourable reading attitudes and enabled parents to create reading opportunities for the children. Furthermore, they noted that the parents' perceived benefits of education, even among parents with low literacy and educational levels, built interest and created opportunities for their children to learn to read. Lynch (2007) contended that parents who enjoy reading themselves, and do so frequently, are more likely to engage their children in literacy-based activities. It is also true that low parental literacy levels could explain why Zambian parents rarely read to their children (Chansa-Kabali, 2017, Mwanza, 2020).

Zuckerman *et al.* (2019) point out that high parental illiteracy levels, especially among women in low- and medium-income countries, may pose a challenge for shared book reading. It is therefore important to provide opportunities for adult literacy learning for parents that are unable to read so they are empowered with literacy skills, which in turn, benefit their children. Mwanza-Kabaghe (2015) found that children whose parents could read performed better in literacy than those coming from families where parents did not read to their children. The same was true of parents who had participated in adult literacy programmes (Cawthera, 1997). Therefore, parental literacy is one of the ways in which KanEQuIP endeavours to help in literacy development. This is done through supporting volunteer teachers to teach the adults essential skills such as literacy, numeracy and entrepreneurship in the community where they live. KanEQuIP has 17 adult literacy groups in Solwezi district where parents are taught how to read and the importance of reading. Sensitisation programmes are also conducted where parents are told about the benefits of taking children to school as well as ensuring that they learn to read and write.

7. READ ALOUDS

Studies have shown that reading aloud affects the development of vocabulary (Purcell-Gates, McIntyre, & Freppon, 1995; Whitehurst *et al.*, 1999; Beck, McKeown, & Kucan, 2002; Brabham & Lynch-Brown, 2002; Collins, 2005) and language is important for the development of literacy (Matafwali 2010, Mwanza-Kabaghe 2015; Mwanza-Kabaghe *et al.*, 2015). It increases children's ability to recognize words (Stahl, 2003). Researchers have demonstrated that when caregivers and more competent others read to young children on a consistent basis, they provide the tools for future literacy and language success. Researchers like Bus & van IJzendoorn (1995); Wells, (1986) and Septiani & Syaodih, (2020) established that availability of diverse literacy stimulating activities such as book reading, storytelling, singing, rhyming, and role play can help children develop their early literacy abilities. Children should be exposed to rich literacy experiences both at home and at school early in life in order to acquire foundation literacy abilities. With the understanding that Read-alouds are a highly valued adult-child literacy experience—shared both at home and in the classroom which also fosters positive attitudes and motivation toward wanting to be a reader (Beauchat, Blamey and Philippakos 2012), Kansanshi encourages teachers through trainings especially in ECE and early primary to read to the children. Through the mobile library, the librarian reads to learners and discusses the stories with them at least once a week. Teachers are also encouraged to do the same once or twice a week.

8. EARLY CHILDHOOD EDUCATION PROGRAMMES

It is well established in Western countries that pre-conventional children acquire knowledge about reading and writing through a variety of activities including exposure to print in their environment, reading books, name writing, and the like (Bus, 2001). In addition to this, The National Institute for Literacy (NIFL, 2007) reports that reading skills acquired during kindergarten provide the essential foundational links required for later reading success. Children in ECE learn how to handle a book, and may pretend to read and tell a story while looking at the pictures. They learn how to construct meaning from visual clues on the page. Learners learn the alphabetic principles, some letters-sound relationships, recognize high frequency words, and understand texts, usually narratives, containing language and thought processes within their experiential frame of reference (Sulzby & Teale, 1991; Graves, Juel, & Graves, 1998). KanEQuIP recognises the important foundational role played by Early Childhood Education in the overall physical, socio-emotional and cognitive development of children and school readiness. KanEQuIP has therefore supported ECE by building two model schools in the district which it uses for training ECE teachers. Teachers in the district are free to walk into the model schools to observe other teachers teaching pre-schoolers pre-literacy activities and to get clarification where needed. The programme also provides support by mobilising resources for ECE centres such as tables, chairs, books, toys and other resources needed to effectively run ECE centres. In addition to this, KanEquip holds ECE workshops for teachers that emphasise the importance of literacy. Topics covered during the workshops include child development and pre-literacy activities that are precursors for later literacy development.

9. TEACHER CONTINUING PROFESSIONAL DEVELOPMENT

CPD obligations are essential to every profession including teaching. This is because a teacher well vested in terms of knowledge and skills is highly likely to produce quality students who can eventually contribute to national development (Mwanza-Kabaghe and Mofu-Mwansa, 2018). Furthermore, teacher CPD keeps teachers abreast with new knowledge and skills that makes them confident and better teachers. Adu and Okeke (2014, p. 2721) postulate that 'CPD in the teaching profession should be seen as a structured approach to learning that helps to ensure competence to the practice of acquiring information, taking in knowledge, skills and application of practical experience.' They further explain that CPD can involve any relevant learning activity whether formal and structured or informal and self-directed. KMP helps teachers remain competent in their duties and abreast with new trends through trainings in teaching methodology and leadership to teachers serving in the KanEQuIP supported schools.

10. FEEDING PROGRAMME

Hunger is a global issue that affects about 1.2 billion people (FAO 2009). Every day, about 60 million children in poor countries go to school hungry, with Africa accounting for roughly 40% of them (Taylor and Ogbogu 2016). There is overwhelming evidence that many school-aged children,

particularly in developing countries, have less access to good food needed to provide them with adequate learning conditions (World Food Programme (WFPa), 2016; WFP, 2013; Agbon, Onabanjo, and Okeke, 2012; Gelli, 2006; Foeken, Owuor, and Mwangi, 2010; Karisa and Orodho, 2014; Malama, 2012; Tineke, 2007; Tomlinson, 2007, Adams et al 2019).)This led to the popularity of School Feeding Programs (SFPs) in developing countries, mostly among those affected severely by childhood hunger and malnourishment (Jomaa, McDonell and Probart 2016).These initiatives aim to improve schoolchildren's focus span and learning ability by giving meals in schools to alleviate short-term hunger, which could otherwise hinder their performance. In Zambia, SFP has been implemented since 1964, but its implementation under the School Health and Nutrition (SHN) recorded insignificant gains due to reliance on external funding from donors which proved to be unsustainable (MoE, 2007).

In 2011, the Zambian government launched aHome-Grown School Feeding Programme(HGSFP)to provide pupils in primary school with a meal daily in 22 selected districts namely; Chiengi, Kaputa, Kawambwa, Luwingu, Chilubi, Chama, Chadiza, Katete, Petauke, Nyimba, Mkushi, Masaiti, Lufwanyama, Mwinilunga, Mumbwa, Namwala, Siavonga, Kazungula, Sesheke, Senanga, Mongu and Kalabo (Kalaluka, 2014, Banda 2019; Banda and Mwanza-Kabaghe 2019).This initiative was not implemented in Solwezi district of North Western Province where Kansanshi Mine operates. Kansanshi recognises the research evidence that highlights the benefits of a SFP and provides meals to children in the schools around the mine. Acheck at one of the schools before the SFP commenced revealed that attendance was usually around 55% before the feeding programme. With the introduction of feeding before beginning of lessons, school attendance averaged 89% in the term that the feeding programme was introduced. The assumption is that if children can come to school regularly and stay in all the lessons and concentrate on lessons then they will learn thereby enhancing literacy development in a different way. Based on the positive results from the pilot school, the programme was rolled out to other primary schools.

It has been observed in all the thirty-two schools on the feeding programme that attendance has been positively influenced. Children who had dropped out of school made efforts to return to school. Children are choosing to go to school at least for the food. We believe that they will learn enough to be attracted to school for its benefits and not for food only. The feeding programme has not been evaluated for its impact on literacy of the children but we believe it influences literacy in some way hence the other side of literacy development. At one school a pupil commented that at least their tummies are not disturbing while in class. Even a good teacher cannot teach pupils that are physically and mentally absent. Therefore, the feeding programme creates an enabling environment, which motivates learners to go to school, attend all lessons and pay attention to what is happening in class without feeling the pangs of hunger.

11. SOCIAL ECONOMIC STATUS

In the past four decades, various measures of reading achievement have shown that children from low-income families obtain significantly low scores than those from high-income families,(Dickinson & snow 1987, Jantz 1987; Nicholson and Gillien 1995; Matafawali 2005; Matafawali 2010; Mwanza-Kabaghe, Mubanga, Matafawali, Kasonde-Ngandu and Bus 2015). These studies suggest that the context in which one lives determines one's academic achievement including literacy development. Duke (2000)found substantial differences between low and high SES classrooms in all the domains that she examined including literacy. She stated that this could be the contributing factor to lower levels of achievement among low SES children. Hart and Risley (1995) state that children from low-income homes remain well behind their more economically advantaged peers when they enter school and as they progress through school. By Grade One the gap between less and more economically advantaged students is approximately 1,200 words; however, by Grade Three the gap increases to approximately 2,500 words(Hart and Risley, 1995).It is their understanding that if teachers make concerted and conscientious efforts to bolster children's language and vocabulary, this gap can be narrowed early. With this understanding of how low SES status affects literacy development among children from low SES, Kansanshi Mine PLC has endeavored to better the living conditions of people in areas surrounding the mine. This has been done by involving all the households in a number of activities such as conservation farming, providing subsidized farming inputs, sponsoring some children to school and helping with nutritional education.

12. LIMITATIONS

This paper reports programmes implemented by KMP. It is not reporting findings of a study carried out in a scientific manner, which may pose questions regarding bias and impressionistic reporting. The authors however, endeavoured to show how KMP endeavours to promote literacy using various programmes.

13. CONCLUSION

While teaching learners to be literate is the job of the education system, the dry ability to read only blossoms into full literacy the more the learner accesses an enabling environment and resources such as books to read, computers and other ICT technologies. Furthermore, education systems need to change the pedagogical processes to develop 21st century skills in learners rather than abstract knowledge to be reproduced in tests and examinations.

As previously presented, literacy development cannot be left to governments alone. It requires the concerted efforts of all stakeholders. KMP recognises this and this paper has explained how KMP is contributing to education, specifically literacy development. The rapid development and proliferation of communication technologies with the attendant deluge in the generation and dissemination of all kinds of information make literacy in all its forms a fundamental human right (Education for All Global Monitoring Report, 2006). The need for all citizens of the world to have the ability to process information and make sound decisions in the environment of the new global challenges cannot be over-emphasised. The world is a better place, the more of its people are literate. Therefore, corporates cannot be bystanders in this fight. Kansanshi Mining Plc is, in its humble way and from the other side, contributing to this noble cause.

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Citation: Sylvia Mwanza-Kabaghe et al. "The Other Side of Literacy Development: The Role of Kansanshi Mining Plc in Literacy Development in the Solwezi District of Zambia" *International Journal of Humanities Social Sciences and Education (IJHSSE)*, vol 9, no. 7, 2022, pp.16-25. DOI: <https://doi.org/10.20431/2349-0381.0907002>.

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