

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900

Open access books available

186,000

International authors and editors

200M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Community Learning Centres as Podia for Technology Enhanced Ubiquitous Learning: A Botswana Case

Rebecca Nthogo Lekoko

Abstract

This chapter explores ways in which technology can complement quality foundational education in Botswana. Quality here implies acquiring good foundation for future learning and appropriate lifeskills. Indicators of good foundation are monitored performance as per the national policy including learners' positive attitude towards learning. Learning is systematically organized with clear requirements for progression from foundational to upper levels of education. Botswana's foundational education is the first 10 years of schooling. Currently, poor performance at the national Primary School Leaving Examination (PSLE) examination persists, amplifying unsatisfactory performance in foundation education. In the current inclusive practices, parents as co-players can be actively involved to strengthen and complement foundational years of education. Community Learning Centres (CLCs) can be used to facilitate involvement of community members like parents. CLCs are present in almost each village and readily available as platforms for community participation hence their potential to be podia for ubiquitous learning platforms. Ubiquitous means provision of continuous learning in and outside the school environment. For CLCs to truly function as podia for ubiquitous learning, they should be equipped to provide digital learning (must have computers, necessary software and reliable internet connection); they must be accessed for free and using flexible times; they must give credit to community members as custodians of cultural learning needed to promote the principle of 'balance', that is, accommodate principles of formal and one's cultural learning. Existing centres such as Kitsong Centres, Lifelong Learning Centres, Community Libraries and Community Halls can provide a diversified system of Community Learning Centres (CLCs) to serve as podia for ubiquitous learning. With direct investment and recognition, CLCs can complement or strengthen foundational years and indeed serve as centres for ubiquitous and lifelong learning.

Keywords: community learning centre, ubiquitous learning, foundational education

1. Introduction

Technology can be used to facilitate or complement quality foundational education. In Botswana, the goal of "providing an excellent start in education so that they (learners) have better foundation for future learning" has been dolefully attempted

especially in the period 2015-2020 [1]. Many children have moved from one level to another with low pass marks and some having failed.

Performance in Botswana's first ten (10) years of foundational education continues to decline indicating the need for improvement. Education at this level can be improved or complemented with the provision of other forms of learning. For Botswana, structures and spaces located in the communities such as Kitsong Centres, Lifelong Learning Centres and Community Libraries can serve as learning centres that can complement formal foundational years of schooling. These centres are present in almost each village and readily available as podia for ubiquitous learning platforms. Ubiquitous means that learning ever-present in our contexts and continuous learning means learning in and outside the school environment. Community Learning Centres (CLCs) can facilitate the lifelong lifestyle needed to complement the standardized learning in formal classrooms. For CLCs to truly function as podia for ubiquitous learning, they must be adequately equipped to play this role. To attract children to use the CLCs, computers with necessary software and reliable internet connection must be in place. These should be accessed for free and allow flexible times. The suggested CLCs meet the stated requirements though they are not planned to actively facilitate learning together of children and parents as custodians of cultural learning.

The CLCs model proposed encourages a greater investment on ICTs that are compatible with community needs and are placed in community learning spaces. This is important because learning because part of the community's ways of life. Both learners and the community members are given the opportunity to learn together. In a situation like this, the principle of 'each one teaches the others' becomes significant in giving children confidence of being capable learners and co-creator of knowledge. Unlike in formal classroom environments, children do not rely on teacher-directed/instructed learning but children and their parents have freedom to decide what to learn, when and how. It is important that parents too be given this opportunity to learn with their children and help to see how what is learned connect to their context (situation that surround them in the community) thus promoting the development of lifeskills. Everybody, children and adult will appreciate learning as ubiquitous.

2. Overview of Botswana's foundational education

In 2018 Botswana's population was estimated at 2.33 million and this population context is as indicated below.

Every citizen has rights to education and the government of Botswana cogently stated that in providing any services, no-one would be discriminated either by religion, language, ethnic background, gender, etc. (Republic of Botswana, Presidential task [2]). **Table 1** is meant to shed light of ages at the foundational years of education. The population statistics indicate that young people (0-24 years) constitute a larger fraction of the population and the discussion in this paper focuses on this group.

To give a clearer overview of education in Botswana, one would have to reflect on both types (school-based and none school based) and levels of education from early childhood education to post graduate studies. However, the primary focus of this chapter is foundational years of schooling and the focus shall be at this level.

Botswana's education has a clear structure and pattern. Basic or foundational years of schooling as referred to in this chapter take a total of twelve years of formal schooling. This duration excludes early childhood education that has recently been recognized as an integral aspect of formal basic education. The twelve years has

Age structure	Males	Females	Proportion of the population
0-14 years	357, 003	350, 657	31.95%
15-24 years	207, 209	211, 629	18.91%
25-54 years	401, 082	450, 437	38.45%
55-64 years	51, 195	69, 835	5.46%
64 years & over	50, 206	65, 605	5.23%

Source: CIA World Factbook [3].

Table 1.
Population age structures, 2018.

been divided into seven (years) of primary education, three (3) years of junior secondary school and two (years) of senior secondary school [1]. The table that follows gives a bird-eye-view of the said continuum (**Table 2**).

Botswana has committed to ensuring that the right of every child to schooling is adhered too. First and foremost, public education is the responsibility of the government of Botswana through free school fees and feeding arrangements. As of now, there are two types of schooling paths, public and private schools. This means that all children 6 or 7 years who are ready to start primary schools are not barred by school fees. A handful of children (10%) of those eligible still do not go to school. The current policy driven education in Botswana is Education and Training Sector Strategic Plan [1]. Coming up with this plan was inspired mainly by the shortcomings of the current education systems; among them, poor quality of educated, restricted access or closed access for some children like those in the rural area, minority ethnic groups and people with disabilities. What other notable effort to ensure that all children get education is the launching of out-of-school education for children (OSEC). OSEC was launched in March 3, 2020, making a great milestone in efforts towards leaving no one behind in education.

While it is commendable that many children are in public schools, the country still faces challenges in providing an excellent start for all children from 0 to 16 years children to lay a good foundation for their future learning. Some children, perhaps many, judging by the performance in the exit standard 7 examination are whisked into progressing from one level to another because of automatic progression. It may be recalled that automatic progression is seen by some countries like Botswana as an open access strategies to basic education. Open access should be accomplished by quality education. Quality at the foundational years of schooling

Classification of education	Level of education	Grades	Learners' age	Duration	Award
Primary	Primary School	1 to 7	6 to 13	7 years	Primary School Leaving Certificate (PSL)
Secondary	Junior Secondary School	8 to 10	13 to 15	3 years	Junior Certificate (JC)
	Senior Secondary School	11 to 12	15 to 17	2 years	Botswana General Certificate of Secondary Education (BGCSE)

Source: [1].

Table 2.
Structure of the primary and secondary education system in Botswana.

means given learners a good start to proceed and succeed in their future learning. Successful foundational years are imperative to turn children aspirations for bright future learning and living into reality. Botswana needs to do more to provide a very strong start in education for its young children as the foundation is currently shaky.

A focus on the level of education that follows the foundational years also indicates that Botswana is yet to work hard to achieve quality education. This quality means that education must exhibit relevance to the needs of the country. This is learning that comes more as a result of the interplay of schooling and individual efforts. At this stage learners are to be given opportunities to develop their lifelong learning prowess; to be given a space for self-directedness and become active drivers of their learning. It is a learning discourse that develops “personal qualities needed for life and work” [1]. According to the ETSSP, this stage targets children of ages 16 to 18 years. The school for them is means to nurture personal qualities needed for life and work. Schools are there to continuously enable learners to “learn to improve their skills and enrich their lives” [1].

The continuum described in the two preceding paragraphs is illustrated in the figure below (**Figure 1**).

It has already been mentioned that the first goal of “providing an excellent start in education so that they (learners) have better foundation for future learning” has been dolefully attempted especially in the period targeted by the ETSSP, that is, 2015-2020. Many children have progressed from primary to secondary school with low pass marks and some having failed. In fact Makwinja [4] reveals that poor results have been regular trends in Primary School Leaving Examination, which comes at the end of 7 years of primary schooling; Junior Certificate of Education done at the end of the third year of the lower secondary education and the Botswana General Certificate of Secondary Education, that marks the end of their high secondary education, before proceeding to tertiary education. Many children in these years of school had been failing. Many reasons have been given for these failing performances.

In Makwinja’s [4] study that explored reasons for continuous poor performance in schools, it was reported performance in schools has “plummeted year after year despite the various innovations embedded in the educational policies” (p. 48). She cites (p. 49) a number of reasons, that,

in remote rural areas, the way of life of the communities exacerbate the dropout rate since children may leave school to follow their parents during seasonal harvesting and planting seasons. Some may be affected by migratory patterns of semi-nomadic communities, language barriers and economic pressures on poor families,

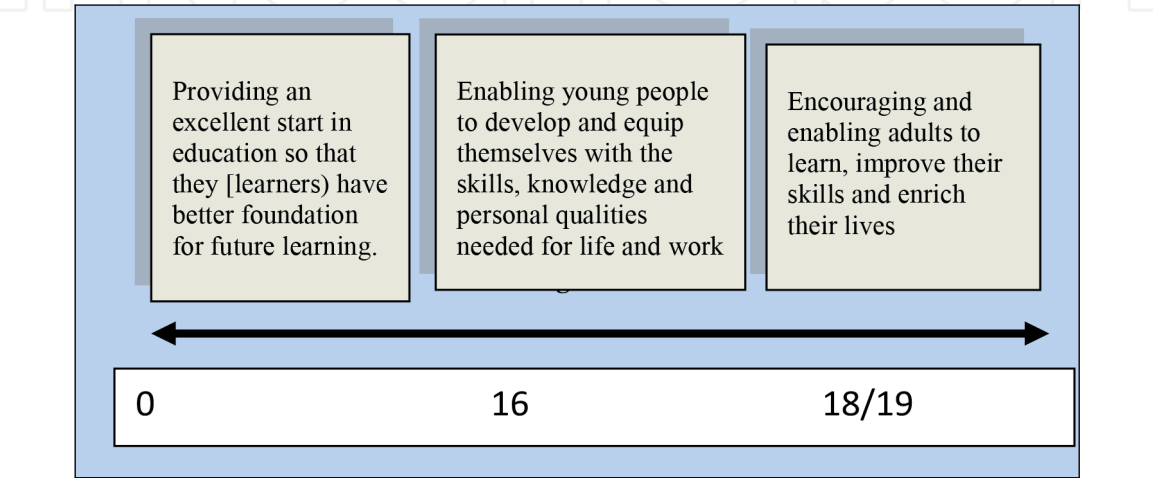


Figure 1.
Continuum of the education system. Source: [1].

Percentages/marks	Grade	Grade description
80-100	A	First Class Honours (Outstanding)
70-79.99	B	Second Class Upper Division (Very Good)
60-69.99	C	Second Class Lowe Division (Good)
50-59.99	D	Third Class (Pass)
40-49.99	E	Fail
0-39.99	F	Fail

Table 3.
Botswana education grading system.

especially the boys. At secondary school level, girls drop out more due to teenage pregnancy.... Some children from poor families or disadvantaged minorities work as farm labourers.

She has also acknowledged that some children in the remote areas are challenged to walk long distance to school, making it impossible for them especially during inclement weather. These conditions affect interest and pattern of attendance as well as progression to higher levels of education hence poor results year after year. Makwinja clarified her contention of poor performance using 2014 Botswana General Certificate of Secondary Education (BGCSE). During this year (2014), “only 25.75% (5, 796) obtained Grade C or better. The rest of the candidates obtained Grade D or below” (p. 49). The grading system in Botswana follows this pattern (Table 3).

Formal education is expected to empower learners to move from lower to higher level of education. Those children who progress with poor performance end up joining hundreds of millions of children worldwide who reach young adulthood without even the most basic skills like calculating the correct change from a transaction [5]. For Botswana, this would be an unfortunate situation as education is one of the areas given receiving the largest share of total government expenditure. Expenditure on education, for example, averaged 28% of the total national budget in the years 2006/7 to 2009/10 [1]. The example of Botswana here is a case of high spending in education that does not translate into more learning and improved human capital [5]. It is important for countries experiencing this challenge to be very direct about how to address the situation. The proposed use of community learning centres (CLCs) as podia for ubiquitous learning is meant to complement poor performance at the foundational years of schooling. Poor performance is a consistent reminder that if levels of performance do not improve then young people, who are engines of productivity in the future are ruined [6]. As Adesina urged, all African countries should educate their youth in order for them to ignite a new age of inclusive prosperity on the continent. A good start should be at the foundational years of education.

3. Community learning centres as a potential podia for ICT driven ubiquitous learning

Discussion about potential use of technology to enhance learning cannot leave out an issue of partnership in learning. The government is responsible for public education in Botswana, for example, at the foundational level, free tuition and feeding is provided. A comprehensive and inclusive approach requires government

to partner with other stakeholders and indeed Botswana a long history of wide stakeholder involvement in the education delivery and financing [1]. This tradition would be most useful in the proposed involvement of community members at the foundational education level. Community Learning Centres (CLCs) could be powerful platforms for both use by community members as well as serve as podia for technology enhanced learning. CLCs are structures located in the communities to be used for free by community members. Examples of CLCs are shown below.

The proposed idea in this chapter is to use the above structures in the communities (CLCs) as podia for ubiquitous learning to complement the first ten (10) years of schooling in Botswana. Structures in **Figure 2** above are found in respective communities and provide free and easy access to computers and internet. As of now, these structures are not meant to be podia for completing the formal education systems. Rather, they are centres where people can go to access technology (computers and internet) for wide-ranging purposes like social connection, business ideas and lifelong learning purposes. A brief description of each CLC is given below.

3.1 Kitsong Centres

In 2009, Mascom Kitsong Center initiative was introduced in response to the global need of transforming small villages into knowledge based economies. The initiative is also meant to empower the youth and supports the current Vision 2036 pillar of Sustainable Economic Development by enabling digital literacy (The Patriot Newspaper) [7]. *Kitsong* Centres are operated through a private-public partnership Private Public Partnership (PPP) with the then Ministry of Communications, Science and Technology. As of 2018, there were about 110 villages

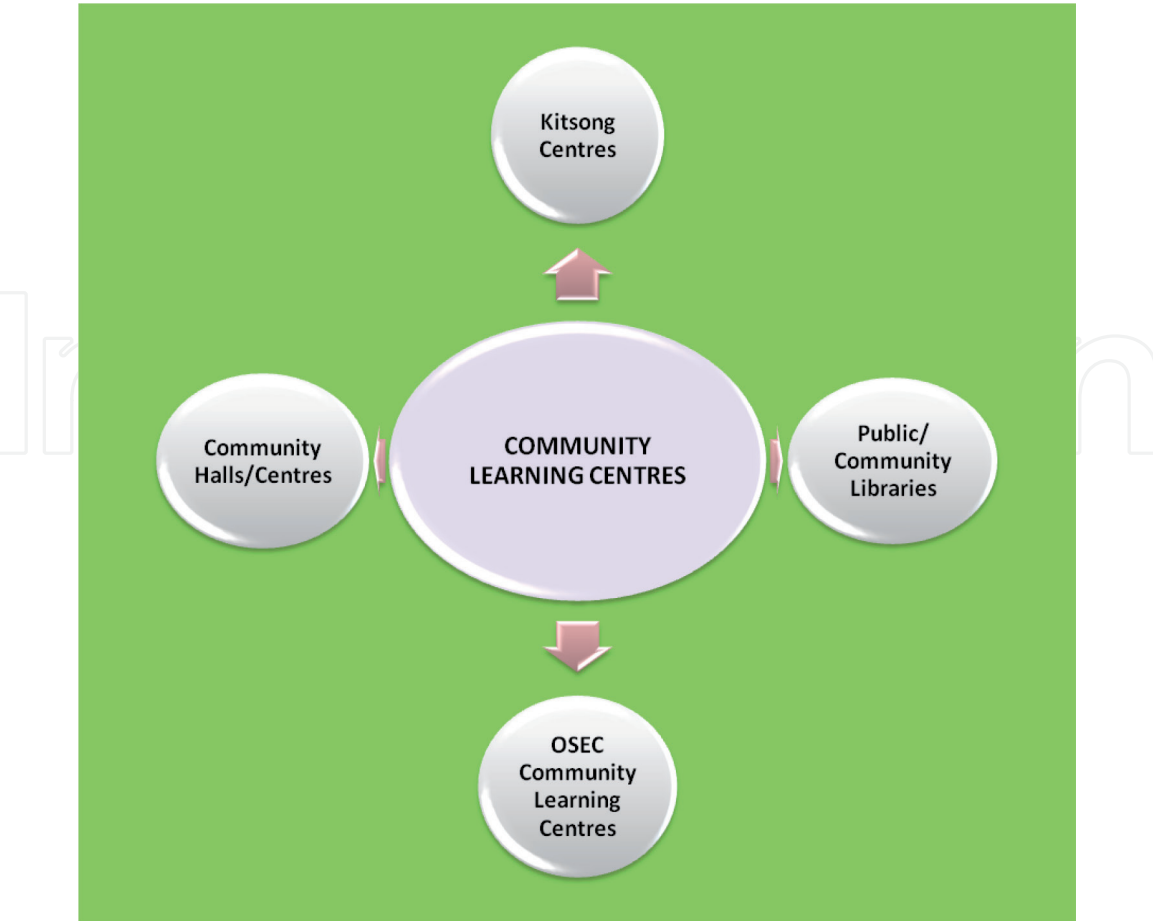


Figure 2.
Potential CLCs for ubiquitous learning.

across the country that is serviced through these centres. Services provided among others, include Internet, access to local content on important areas such as agriculture, entrepreneurship, financial and government support. Training, and business support and web hosting are part of the services. The services have made tremendous improvement in the lives of some Batswana.

A case to use to clarify the benefits of Kitsong centres is that of Sethamiso Derrick Lehutso who graduated Bachelor of Science (BSC) in Software Engineering and operate a Kitsong Centre in Kopong Village. He commends the centres as true liberating Information and Communications Technology (ICT) services for the residents of Kopong. He described the centres as playing a major role to inform, educate and create awareness on ICT among the different segments of the society. Village authorities like Dikgosi (Chiefs) have been taught how to use computers and Molefe Primary School teachers have been skilled in how best to use Microsoft word, Excel and PowerPoint and all these have been great success. As documented in The Patriot Newspaper [7], in all parts of the countries, the centres community members have received the following services

- email and internet
- computer training
- graphics design services
- mobile money services
- bought SIM cards and airtime
- secretarial services
- online company registration

In addition to services listed above, Kitsong Centres have benefited entrepreneurs and farmers in different ways like cattle registration system commonly known as (BAITS) and mapping coordinates and locations of boreholes and farms in the area. Currently, Kitsong Centres are favourable to success and the country can take advantage of this positive reception to re-orient them to work as podia for ubiquitous learning as suggested in this chapter.

3.2 Public/community libraries

Provision of computers with internet in the public libraries has known as Sesigo project in Botswana was sponsored through Bill and Melinda Gates Foundation, Global Libraries Initiative on the African continent. It was launched in 2009. Public libraries in about 78 of the 98 libraries of different types of public, branch and village reading rooms have made possible to free access and use of computers and the internet by everyone [8]. The Centres provide a computer communication system to enable public access to integrated e-mail and online information, especially for rural people. They disseminate locally generated, user-friendly, relevant information and knowledge resources [9]. In 2013, at the officially closing a global libraries initiative project the then Minister of Minister of Youth, Sport and Culture Mr. Shaw Kgathi applauded the public libraries for having transformed the lives of Batswana in diverse manner. The minister noted that the project has accelerated government efforts to roll-out e-services to the public. As well, access to computers

and internet is a great learning opportunity to communities in general. He noted positive contribution such as training on basic computers and accessing the internet to improve livelihood, like engaging in vegetable gardening [10]. Speaking at the same closing ceremony, Sebusang indicated that the project has begun to provide opportunities to pre-primary school going kids to acquire computer knowledge [10]. The foundation has thus been laid to create a friendly culture of parents using the libraries together with their children to promote skills that help improve performance in the first ten (10) years of schooling.

3.3 OSEC community learning centres

Lifelong Learning Centres are targeted at improving literacy levels and advancing general basic education to deserving citizens, particularly out of school children [11]. The OSEC Community Learning Centres are operated by the Ministry of Basic Education (MoBE), Department of Out-of-School Education and Training (OSET). Unlike the Kitsong and Libraries, these centres are not equipped with computers and internet for free use by the public. These centres provide specialist services to the out of school community, including those learning at OSEC Sites [11]. These centres provide learning and can be easily equipped with the needed network computers to provide technology enhance ubiquitous learning for parents and their children. They can be organized to promote communities with free and relaxed learning.

4. Advancement of CLCS AS podia for technology enhanced ubiquitous learning

A number of challenges experienced in the Botswana foundational years of schooling have been cited earlier in this chapter and some can be addressed by learning that takes place within community learning centres (CLCs), as proposed in this chapter. CLCs, for example, can contribute to the development of lifelong learning lifestyles and life skills that can help improve children's school performance. For CLCs to be effective, Botswana needs an appropriate policy together with the right mix of resources such as networked computers available for free and friendly environments and flexible time for the use of computers. It has already been stated that CLCs are found in many villages and some like Kitsong and the public libraries are equipped with computers and internet. Those with computers and internet are said to be indiscriminately benefitting the communities.

Furthermore, the proposed idea of using CLCs as podia for ubiquitous learning would mean organizing these centres to promote participation of community members as partners in the foundational education. Learning together of families and their children is a powerful strategy of fostering positive attitude towards lifelong learning and this arrangement can challenge educational disadvantage (Family Learning [12]). The goal is for parents to be actively engaged in their children learning in order to help improve their performance at foundational years of schooling. CLCs are not meant to duplicate education in schools but rather to give parents the platforms to take advantage of internet connectivity in CLCs to ignite lifelong learning habits; skills in reading, promoting creativity and thinking; using games to improve performance in a number of subjects like mathematics, languages and practical subjects. Again, with the involvement of parents or community members, embedding lifeskills in learning is possible. Skills mentioned above are key pillars for future learning and school performance of children who have acquired these skills can improve.

Finally, as stated in the Botswana Education, Training Sector Strategic Plan (ETSSP -2015-2020), “Botswana has a long history of wide stakeholder involvement in the education delivery and financing” [1]. This history would be most useful when deliberating in the proposed coordinated systems of Community Learning Centres (CLCs). To work towards equipping CLCs to function as podia for ubiquitous learning that can complement the first 10 years of education requires pulling of resources not only from the government but various sectors like the industry, the public and academia. Computers with internet have to be available to attract both children and their parents. Using computers with their parents would help children to be watchful and direct their children to access information that give them knowledge using in their education and homes. It is believed that the quality of learning outcomes can be promoted by aggressively harnessing Information technology to support teaching and learning in all schools and communities [13] and the proposed model of community learning centres advances this idea. Through this model, Botswana would invest in ICT that reinforces learning that acknowledges community members as learning mentors for their children. In this way, strong interpersonal relationship and unity of family can also be achieved. This type of interconnectedness gives a common purpose to families to ensure that none of their children is deprived to learn like others because of lack of access to computers and internet.

Author details

Rebecca Nthogo Lekoko
Department of Lifelong Learning and Community Development,
University of Botswana, Botswana

*Address all correspondence to: rnlekokorn@gmail.com; nthogo@hotmail.com

IntechOpen

© 2020 The Author(s). Licensee IntechOpen. This chapter is distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. 

References

- [1] Republic of Botswana. Education and Training Sector Strategic Plan, ETSSP 2015-2020. Gaborone: Government Printer; 2015
- [2] Force PT. Vision 2016: Towards Prosperity for all. Gaborone: Government Printers; 1997
- [3] CIA World Factbook (2019). Botswana Demographics Profile 2019. Retrieved from https://www.indexmundi.com/botswana/demographics_profile.html.
- [4] Makwinja V. Rethinking education In Botswana: A need to overhaul the Botswana education system. *Journal of International Education Research*. 2017;13(2):45-57
- [5] The World Bank (2019). The Education Crisis: Being in school is not the same as learning. Retrieved from <https://www.worldbank.org/en/news/immersive-story/2019/01/22/pass-or-fail-how-can-the-world-do-its-homework>
- [6] Adesina, A. (2016). Speech Delivered by President Akinwumi Adesina of the African Development Bank to the NEPAD Heads of State and Government at the 31st session of the NEPAD Heads of State and Government Orientation Committee, at the Africa Union Summit Addis Ababa, January 29, 2016. <https://au.int/fr/node/19652>.
- [7] The Patriot Newspaper (2018). Kitsong centres transform lives Address by the Minister of Transport and Communications Kitso Mokaila, during the 2018 Mascom Kitsong Centres Awards on 25th MAY 2018. Retrieved from <https://www.thepatriot.co.bw/news/item/5589-kitsong-centres-transform-lives.html>, (<http://www.botec.bw/index.htm>).
- [8] Grand B. et al. (2010). Sesigo Project Impact Assessment Baseline Study 9. Gaborone. University of Botswana. http://learningresources.ui.edu.ng/sites/default/files/SESIGO%20PROJECT%20REPORT_FINAL_JUNE%202010.pdf
- [9] Lekoko, R. N., Moesi, K., G. Okori, C. E. and Mukasa J. B. (2010). First Annual Impact Assessment Study: Sesigo Project. Pierian Springs Communications Research Company. <http://www.sesigo.org.bw/assets/files/Sesigo%20First%20Report.pdf>.
- [10] Kebonang, S. (2013). Sesigo project journey ends. Botswana Daily News of Aug 04, 2013. Retrieved from <http://www.dailynews.gov.bw/news-details.php?nid=4592>
- [11] Republic of Botswana, Ministry of Basic Education. Implementation Plan for out of School Education for Children 2019 to 2023. Gaborone: Government Printers; 2019
- [12] Family Learning Scotland (2018). Family Learning Framework Advice for Practitioners: <https://education.gov.scot/improvement/documents/FamilyLearningFrameworkApril2018.pdf>.
- [13] Botswana National Commission for UNESCO, Ministry of Tertiary Education, Research, Science and Technology, (2018). Botswana National Implementation Plan for SDG 4-Education. Gaborone: Government Printers.