

## **Teachers' Perception on Integration of Indigenous Knowledge Systems in Competence Based Curriculum at Selected Primary Schools in Buuri East Sub-County**

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### **Abstract**

Globally, the discourse on integration of indigenous knowledge in school curriculum in Sub-Saharan African countries, Kenya included, is and continues to be a dominant theme. Despite the numerous pleas for integration of indigenous knowledge in school curriculum, the majority of stakeholders feel there is need to integrated indigenous knowledge in formal school curriculum. This study sought to explore how various indigenous knowledge systems (IKs) are integrated in primary schools in Buuri east sub-county in the wake of new competence-based curriculum in Kenya. The objectives of the study were; to explore the various types of IKs; to examine the extent to which (IKs) have been integrated in the school curriculum; and to determine hindrances to effective integration of (IKs) in the curriculum. The study adopted descriptive survey research design. Cluster sampling technique was applied, where a sample of 13 clusters were sampled. Data was collected using questionnaires from 65 teachers who were purposively selected from the sampled cluster and analyzed using statistical package for social science (SPSS). Descriptive statistics were generated and presented in in tables and figures. The findings indicated that only 36% of the respondents were aware of what IKs systems were, and as a result, its integration into the curriculum wouldn't be possible. However, it was found out that the most practiced IKs in the region were Agriculture, weather patterns and food habits at 33%. History and culture IKs were found to be preferred for integration at grade 1. This would help in enculturating culture and historical identity of the local community. Inadequate resources, unsupportive parents, unclear guidelines and mixed cultures in school set ups hampered the integration of IKs in the curriculum. The study recommends clear policies, regulations and guidelines on integration of IKs in the Competence Based Curriculum be put in place.

**Keywords:** *Indigenous knowledge, competence based curriculum, integration, teaching and learning*

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## **1.0 Introduction**

Curriculum is the means a country uses to empower its citizens with essential skills, knowledge, values and attitudes that allow them to be sanctioned for both national and individual growth. Curriculum therefore, should be geared towards meeting the needs of its citizens and the nation at large (Kabita, 2017). Curriculum forms a link between knowledge, institutions and the society (Msila, 2016). According to Mandikonza (2019), Curriculum knowledge should be able to integrate the learners' early knowledge learnt at home, and use facets of this prior knowledge as the preparatory to enable learners understand the ideas pronounced in the curriculum-based textbooks. This will enable epistemological access while at the same time enhancing application of concepts in learners' lives that are in the curriculum.

Indigenous Knowledge Systems (IKS) are unique accumulated tools, practices, cultural values, norms and beliefs of a given culture or society (Tharakan, 2017). The IKS existed and developed independently before the initiation of the modern scientific knowledge system and was used as a way of teaching and learning in addressing the African societal economic, ecological, political physical and socio-culture needs (Emeagwali, 2015). Ezeanya-Esiobu (2019) noted that the socio-cultural features and economic practices that various communities share, have pushed IKS integration in the formal education practice. Shava (2016) noted that knowledge, attitude, or skill learned within IKS is to guarantee societal steadiness and therefore its integration in the formal school curriculum is paramount. A curriculum that separates

indigenous knowledge against modern knowledge fails in teaching learners' the unique cultural forms on how people grow and develop their societal worlds. It also disregards ways in which "modern" cultural beliefs and practices are related to the indigenous peoples ways of life (Semali & Mehta, 2012).

Incorporating indigenous knowledge systems in the school curriculum, resources and teaching has numerous benefits. Firstly, it appreciates the indigenous people that have a deep knowledge base that might have been ignored or disregarded. It also provides a platform for indigenous learners in our schools to see how essential they are to other learners around them. Lastly, it assists the non-indigenous learner to develop an understanding on how to connect the disconnect that arises between indigenous and non-indigenous people (Says, 2014). According to Kenya Institute of Curriculum Development [KICD] (2017), Competence Based Curriculum (CBC) emphasizes on the learners' ability to demonstrate acquisition of knowledge, skills and competencies and applying them to real-life situation to solve problems. The application of these competences is meant to encourage indigenous knowledge systems (IKS).

Globally, there has been a dominant theme by scholars in United Nations Organizations and African countries on the value of integrating indigenous knowledge in the formal school curriculum. Particularly, the indigenous knowledge is viewed as a valuable resource for its significant contribution in supporting sustainable development and in poverty

alleviation. Over the years, there has been a discussion on indigenous knowledge across the world. Various studies have shown that colonial government brought knowledge in the Sub-Saharan African countries which was meant to overpower and silence the African knowledge.

They viewed African knowledge as being illogical, unscientific, ungodly and anti-development (Mawere, 2015; Shizha & Makuvaza, 2017; Ezeanya-Esiobu, 2019). However, Ezeanya-Esiobu (2019) observed that colonialism is rooted in the mental process of the colonized through the “curricula content and design, community organization of learning, instructional practices, and the forms of assessment that inevitably class and label students into categories of success or failure of schooling”. The indigenous philosophies of an interdependent universe and the importance of its place in their societies is not adequately recognized, appreciated and even supported by the curricula, assessment strategies and the teaching methodologies associated with mainstream schooling of the worldview.

Ezeanya-Esiobu (2019) argues that, classroom content must integrate “instructional strategies and techniques, specific curriculum content and design, and forms of assessment” to ensure real independence through the right kind of education. Specifically, the author calls for liberating training to have a comprehensive attention to IKs as a tool to examine the current situation. Indigenous knowledge has the probability to facilitate learning. Magni (2017) and Wals (2019) noted that one is able to learn from the way of life of indigenous

societies based on congruence with people and nature. To achieve this, connecting learning with the culture and historical identity of learners and the native learning environment is imperative.

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There have been efforts to integrate IKs in the curriculum. Education in Tanzania is highly treasured as a human resource and as a means for skyward communal mobility. Policies in educational at primary and secondary levels emphasize the need to develop practical skills and classroom study. Nyerere's program of schooling in Tanzania today, commonly known as "Education for Self-Reliance" [ESR], has remained crucial to formal education.

Both primary and secondary schools stress on the need to develop technical skills in Kilimo (Agriculture), Ufundi (mechanics) and Elimu ya Maarifa ya Nyumbani (home economics). The policies were to develop a skilled labor force while preventing the development of an educated elite class with no experience or interest in manual labor. These policies had components such as compulsory inclusion of agricultural science into school curricula. As a consequence, most contemporary primary schools have a small garden that students cultivate (Semali & Stambach, 1997).

Nyerere's ideas about indigenizing education were radical and resonated well with education reforms that were taking place in other places of Africa at that time in particularly , Ghana, Nigeria, Zambia, Botswana, Kenya, Zaire, Uganda and Zimbabwe. However, there is nowhere the "traditional" African education component has become evident in policy documents as it was in ESR.

Despite numerous efforts to reform the Kenya postcolonial education administration, the primary school curriculum, to a large extent, is still a product of British colonial education. As a result, this has significantly undermined access to quality, reliable and relevant education. Indigenous people have been affected by the formal education in schools which have been used to acculturate, assimilate, Christianize and civilize them. Chahine et al. (2013) pointed out that despite IKS being seen as important and recognized for solidifying native communities, preservation of social and traditional capitals, it has functioned as a separate but parallel system of knowledge that has not been potentially integrated into mainstream knowledge.

Herbert (2006) noted that to design and effectively implement indigenous curricula, subjects such as teachers' perception towards integration of IK, application of IK, strategies of integrating IK, learners' knowledge of IK and the challenges, including language, beliefs, resources and theoretical frameworks for the implementation of indigenous curricula need to be discussed. To realize the benefits of integrating IK in the general

school curriculum, evaluating what IKS to be taught, at which level and how they should be taught is necessary. Many stakeholders such as teachers, parents and policy makers feel that it is still not yet very clear on which content of IK needs to be included in the curriculum (Ronoh, 2017).

Webb (2016) suggests that to effectively incorporate indigenous knowledge in the school curriculum, one should be clear on what knowledge is termed to be indigenous knowledge, and explore the relevance of its inclusion into the school curriculum. This study discusses how indigenous knowledge is being integrated in schools to promote learning and teaching processes in the wake of new competence based curriculum in primary schools in Kenya. The specific objective of the study were to explore the Various types of Indigenous Knowledge Systems, examine the extent to which indigenous knowledge systems have been integrated in the school curriculum and discuss hindrances to effective integration of indigenous knowledge systems in the school curriculum.

#### ***Various Indigenous Knowledge Systems***

Indigenous knowledge systems are grounded at the grass roots level of different communities and are regarded as the foundation on which communities base their decisions on the local issues that affect them. The decisions they make are related to different areas of endeavor, including resource use, agriculture, health care, conservation management, information provision for education and public outreach among the community (Mandikonza, 2019;

Tharakan, 2017). Eyong (2007) noted that indigenous knowledge system; healing practice, knowledge of plants and animals, agricultural, food habits, conservation techniques, governance, early warning systems and scientific and technical skills are still being utilized in rural communities. However, in the urban setup in Central Africa, the indigenous knowledge system is reluctantly utilized.

### ***Integration of indigenous knowledge systems in school curriculum***

The colonial education curriculum exhibited knowledge and cultural supremacy in the African continent. The result of this was the conversion of religions, Africans were assimilated into the western cultures, improvement in economy, practices and values. The knowledge and cultural supremacy of the colonial education grinded down the African indigenous people's way of learning (Owuor, 2007). Discussions on efforts to detach the curriculum from a single account of knowledge and cultural supremacy to a plurality of cultures and traditions in the curriculum has been ongoing in the Africa continent, Kenya being one of them (Woolman, 2001; Ndlovu-Gatsheni, 2015).

Since independence, the education reforms in Kenya has been ongoing to reconstruct the curriculum to mirror the various ways of knowing among indigenous people, to empower Kenyans, and to promote social change (Ominde Report, 1964). In 2012, ministry of education task force report made a proposal to have the national philosophy guide the education sector in developing potential of individual learners physically,

emotionally and intellectually; where teaching and learning rigorous skills was being emphasized instead of abstract ideas. The aim of curriculum review is to explore the alternative ways of utilizing resources that are locally available in addressing political and socio-economic problems that face Kenya. Therefore, there is need for curriculum reforms, training and education policies that are geared towards integrating IKs and western culture into the school system.

According to Ronoh (2017), the way to increasing the education relevance is by having a curriculum that is environmentally related, and which is grounded on the community needs and conditions. The responsibility of indigenous academics is to uphold and galvanize all-inclusive model of indigenous knowledge so as to expose the affluence of indigenous languages, teachings, experiences and world views, that have been left out from the current education institutions and the knowledge of Eurocentric systems. Further, Ronoh noted that decolonizing western dominated school curricula can be achieved by repossessing the cultural identities entrenched within the indigenous traditions, hence making education more practical and relevant in fixing Kenyan needs.

Chebii et al. (2020) for example, pointed out that integration process of traditional medicine into primary health care is as a result of modern health facilities being unable to meet the increasing Kenyan population healthcare demands. The gap between the lived experience within local community, and the formal education

systems can only be bridged by Indigenous Knowledge systems which play a significant role of bringing local relevance to education process.

### ***Challenges of integrating indigenous knowledge in school curriculum***

The complex nature of indigenous knowledge and practices makes it impossible for integration process in the Kenyan education curriculum. The complexity of IKs involves its incorporation into individual's way of life, making it invisible and hard to recognize the components that needs to be applied in innovations (Owuor, 2007). Ezeanya-Esiobu (2019) opines that learning materials on indigenous peoples and their ways of life are rare to find. History textbooks that are available have always portrayed indigenous people in negative terms.

Additionally, educational programmes in many cases have failed to offer indigenous people the platform to participate in process of decision making, curriculum design, teacher selection, teaching methods and the definition of standards. Owuor (2007) concurs by stating that 'absence of indigenous personnel in curriculum review process signifies the continued existence of assumptions from the foreign on what constitutes school knowledge that is valid, and how to assess such kind of knowledge. Owuor (2007) argues that the Kenyan educators and policy makers have been faced with dilemma as a result of the interface between indigenous knowledge and school. The dilemmas are as a result of how to achieve integration which requires both commitment and involvement of all

education stakeholders; namely, educators, policy makers, parents, members of the community and teachers.

Ng'asike (2019) noted that Kenyan parents put a lot of emphasis on the performance of their children in national examinations. They believe that good results can be achieved if teaching and learning is done in English from a tender age. Absence of agreement in recognizing the role of indigenous knowledge, innovation and practices remains a big challenge in realizing a successful and practical educational change that addresses needs of learners and communities. King and Sabine (2004) opine that Indigenous education is an intercultural and bilingual education system that recognizes the existence of several cultures in a society.

However the challenge is valuing and recognizing the varied cultures, knowledge systems and languages that apply in education in order to avoid creating language hierarchies and knowledge systems. Owuor (2007) observes that the challenges in Kenya and other African states is defining their own development model capacity to guide them in expanding their own point of authority from the bigger web of dependence on developed nations.

### ***Contextual Background***

Buuri East sub-county is an electoral constituency in Kenya. It is one of the 11 sub-counties found in Meru County. The constituency has an area of 69.21 km<sup>2</sup>. Buuri East sub-county was selected since it is quasi-urban, and hence removed from the urban and represents the status of indigenous knowledge systems outside town set-up.

Buuri East sub-county is divided into two educational zones; Kiirua and Kibirichia educational zones. There are various indigenous knowledge systems in Buuri East sub-county, which includes: agriculture, herbal medicine, history and culture, weather patterns, food habits, values and norms of the society (Gakuubi & Wanzala, 2012). For the purpose of this study, Kiirua educational zone was considered.

## **2.0 Materials and Methods**

This research study was conducted in selected primary schools in Buuri East sub-county, where a descriptive research design was used. According to Jwan (2010), use of descriptive research design is applied when data collected is used to describe persons, settings, organizations, or phenomena. Descriptive survey research is the process in which data is collected to answer questions concerning various subjects. The target population comprised of 53 primary schools. Cluster sampling technique was employed, where a sample of 13 clusters (schools) were selected.

Questionnaires were administered to 65 teachers who were purposively selected from a sampled cluster since they are currently implementing the competence based curriculum. The questionnaire was pilot tested for validity and reliability by administering to teachers randomly selected in Imenti North Sub-county, municipality zone. Respondents were assured of confidentiality and anonymity and, hence, encouraged to provide truthful and honest information. Data was analyzed using statistical package for social science (SPSS) version 20 where descriptive statistics were generated and presented in

terms of frequency and percentages in tables and figures.

## **3.0. Results and Discussions**

The study issued 65 questionnaires to teachers engaged in teaching the Competence Based Curriculum. The returned questionnaires were 54 in number which was equivalent to 83% response rate. This indicates an excellent response rate which implies that the results can be used for generalization of the study findings.

### ***Various Indigenous Knowledge Systems***

A question meant to establish whether the respondents understand what IKs are was asked. The results showed that only 36% of the respondents were aware of what indigenous knowledge was all about. This lack of understanding of what IKs are, meant that even its inclusion to the curriculum was not possible. However, the respondents felt that it was important for IKs to be integrated in teaching and learning.

An attempt to establish the various indigenous knowledge systems that existed in the community that could be integrated in the curriculum was sought. It was clear that agriculture, weather patterns and food habits were the most practiced IKs at 33%. Others were science and technology 19%, governance 8%, and herbal medicine 6% – all of which need to be integrated in teaching and learning. Moreover, many schools expressed the need to integrate guidance and counselling, values and norms of the society in the CBC.

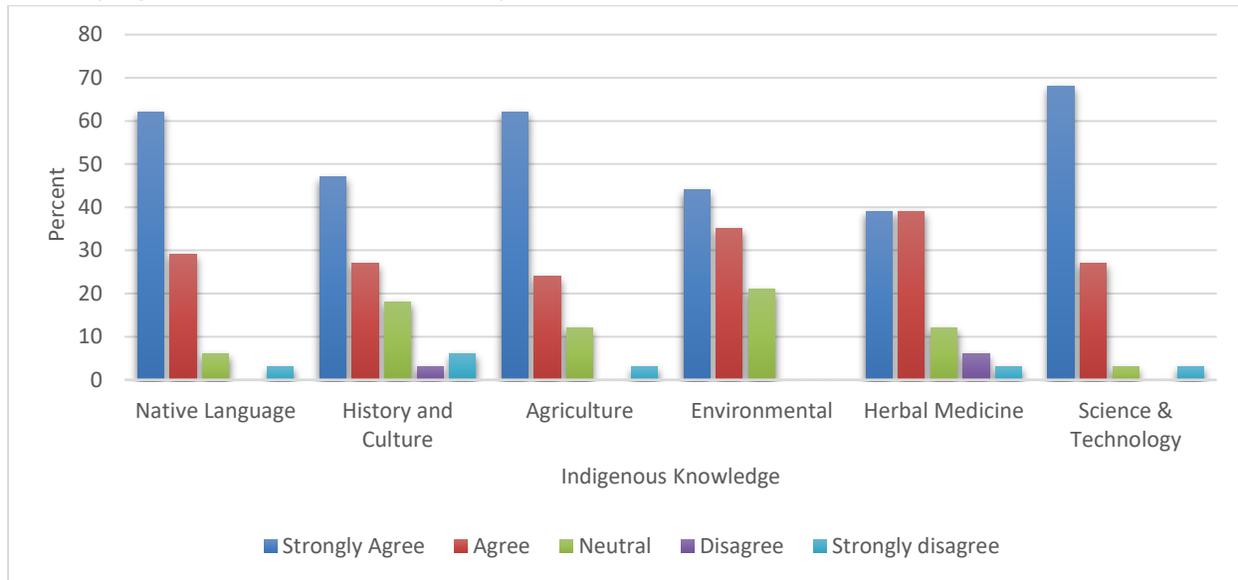
***Integration of indigenous knowledge systems in the school curriculum***

A question meant to establish the level of agreement from the respondents on the

inclusion of the various IKs that were perceived valuable and which may perhaps be integrated in the curriculum was asked. The findings were as indicated in Figure 1.

**Figure 1**

***Level of agreement on the inclusion of the various IKs in the school curriculum.***



From the analysis, majority of the respondent either strongly agreed or agreed, (the highest ranking being 68% and 39% respectively), to the incorporation of native language, history and culture, Agriculture, Environmental, Herbal Medicine and Science and technology Indigenous Knowledges in the competence based curriculum, an indication that these IKs played a key role in the delivery of the new curriculum. This is in concurrent with Shava (2016) who found out that IKS guaranteed societal steadiness, and therefore its integration in the formal school curriculum was paramount.

Further, to have a clearer understanding on how Indigenous Knowledge could be integrated in the curriculum to ensure

learners gain the required competencies, respondents were asked to share their opinion at which grades or levels of learning would best fit specific IKs. From the analysis, majority of the respondents felt that it was more appropriate to integrate the native languages Indigenous Knowledge system into PP1 and PP2, since both were rated at 39% and 21% respectively. The results further showed that History and culture Indigenous knowledge systems were the most preferred in grade 1 curriculum.

However, despite the high rating, it is also key to note that all the IKs were deemed to play a critical role in the grade 1 class curriculum as over quarter, 25%, of the respondents felt that each and every IKs should be integrated in this grade. Moreso,

Agricultural Indigenous knowledge would best fit at grade 2, while Herbal medicine Indigenous knowledge would be highly preferred for integration at grade 3. Wals (2019) concurred with the above sentiments by acknowledging that lessons can be learned from indigenous communities lifestyles based on harmony with nature and among people. This can be achieved by linking learning to historical identity and culture of learners and the local environment.

Moving further to the integration of various IKs to specific subject areas, the study finding revealed that majority of the interviewed teachers, 42% felt that native language would best be integrated in literacy activities. The other subjects that native language was perceived to integrate best was in Kiswahili and English activities. This could be attributed to the fact that culture is entrenched in the native languages. These findings agree with Ronoh (2017) study on Indigenous Knowledge in the School Curriculum, where participants suggested integration of the Xhosa cultural structures into learning of Xhosa language in the curriculum as a native language. On the other hand, it was found that Cultural patterns were best integrated in Environment, Religious

Education, Movement and Creative activities, since these subjects were highly rated at 41%, 11% and 16% respectively. Further, over 50% indicated that Weather Patterns, Crop Farming and Cultural sites IKs would be best integrated in Environment subject while herbal medicine and food preservation would integrate well in the Hygiene and Nutrition subject. Pottery indigenous knowledge was preferred to be best integrated in movement and creative subject at 64%.

The variation in the preference of specific IKs on various subjects is an indication of varied views on where to place various IK items in the school curriculum. This is also in concurrence with various authors; namely, McInerney et al. (2011), Ronoh (2017) and Sobel (2014), whose studies also recognize that it was important to integrate IKS items in various subjects and grades. To find out the extent to which teachers integrated various community indigenous knowledge in their teaching, the respondents were asked to rate their sentiments on a four point Likert scale to the thirteen Community Indigenous Knowledge items that were provided. The findings are as indicated in Table 1.

**Table 1**  
*Extent of integrating the IKs in teaching and learning.*

Community Indigenous Knowledge Item	Integration Extence (%)			
	Greater extent	Moderate Extent	Minimal Extent	Low Extent
Folktales, Riddles, Proverbs	3	18	52	27

Weather Patterns	9	31	38	22
Agricultural IK	3	22	34	41
Herbal Medicine	6	22	47	25
Story Telling	9	15	27	48
Weaving	6	28	44	22
Knitting/ needle works	9	21	33	36
Pottery	15	24	33	27
Traditional Dances	16	19	41	25
Crop Farming	9	27	30	33
Historical and Cultural sights	18	30	21	30
Cultural Patterns	12	21	48	18
Cultural Beliefs	12	30	21	36

From the study findings, there was an indication of minimal incorporation of various Community Indigenous Knowledge in teaching, as 50% of the respondents admitted to incorporating, to a minimal extent, folktales, riddles, and proverbs in their teaching. Further, more than a third, 33% of the respondents acknowledged to have minimal integration of Weather Patterns, Agricultural, Herbal Medicine, Weaving, Knitting/ needle works, Pottery, Traditional Dances, Crop Farming, and Cultural Patterns Community Indigenous Knowledge in their teaching.

The minimal incorporation of Community Indigenous Knowledge in teaching by the teacher, and learning of the student is a factor that could hamper its integration in the wake of the implementation of new Competence-Based Curriculum. These findings contradicts with the McInerney et al. (2011) and Sobel (2014) concept of place-based

education which argues that incorporation of Community Indigenous Knowledge in teaching forms a basis to teach concepts in various subjects across the curriculum such as arts, mathematics, social studies, language and science. Education policy implementation is a complex, evolving process that involves many stakeholders and can result in failure if not well targeted. Therefore, the study sought to find out the Government effort towards integration of indigenous knowledge in competence based curriculum.

Respondents were asked to state whether or not they were aware of the existence of guidelines and policies put in place to govern the integration of indigenous knowledge in the Competence Based Curriculum by teachers. Majority, 67% of the respondents indicated that the policies were in existence; an indication that there is support from the government to integrate IKs in teaching and

learning. However, when they were further asked to indicate whether or not they had been integrating indigenous knowledge in teaching, 87% of the teachers admitted not to have been integrating. The findings concur with Semali and Stambach (1997) study on indigenous education and curriculum in east Africa which indicated Tanzania had an educational policies at both primary and secondary levels that stressed the development of practical skills as well as classroom study.

#### ***Hindrances to effective integration of indigenous knowledge systems in the school curriculum***

To find out the reason why majority of the teachers were not incorporating IKs in their teaching, a follow up question on some of the challenges encountered during the integration was posed to them. Respondents highlighted that inadequacy of both teaching and learning materials, variation of cultures that has brought barriers and resistance, uncooperative parents and insufficient time to implement the given projects were the most common challenges teachers faced in their effort to integrate indigenous knowledge in teaching and learning.

#### **4.0 Conclusion**

The study sought to investigate integration of indigenous knowledge in the competence-based curriculum in primary schools in Kenya and how it could promote teaching and learning processes among pupils. The study found out that majority of the respondents were not aware of IKs systems and as a result, its integration into the curriculum would not be possible. Various IKs such as agriculture, history and culture,

weather patterns and food habits were the most preferred for integration in the curriculum.

These IKs were found to be best integrated at grades 1 with history and culture Indigenous knowledge systems taking lead at this level. It is expected that at this level learners are able to enculturate their culture and historical identity of the local community into learning. However, the study revealed that IKs were being integrated at a minimal extent in the curriculum. This minimal incorporation of IKs could hamper its integration in the wake of the implementation of new Competence-Based Curriculum. Nevertheless, challenges such as inadequacy of teaching and learning materials and variation of cultures hampered full integration of IKs in curriculum. To overcome these challenges, there is need for cooperation among all the key stakeholders; community, school and government. It is hoped that this study will stimulate critical deliberations in Kenya in regard to how best the integration can be done in the new CBC content to effectively impact a wider Kenyan people.

#### **5.0 Value and Implications**

The objective of curriculum reforms was to explore the alternatives to utilization of local resources as a means of addressing Kenya's political and socio-economic problems. The shift towards regional identity and enshrining local and indigenous knowledge is a progressive process that promises rich educational capital. The respondents recognized that to achieve education goals successfully, there is need to fully incorporate indigenous knowledge in the curriculum.

Local indigenous knowledge should be made part of the Competence Based Curriculum by the government, with additional support to give local cultures skills relevant to their setting. The government should also support schools in ensuring that the required

resources and infrastructure are in place to enhance its integration. It is the opinion of this study that the integration of IKs in CBC will find great benefits if it were to focus on elements presented in this paper as a means to achieving the objectives of the new curriculum reforms in Kenya.

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