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The Inclusion of Indigenous Knowledge in Primary Education: Focus on Debre Markos City Administration, Ethiopia

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Abstract

Indigenous education is realized throughout schools and can be taught in a variety of ways. The purpose of this study was to investigate and understand the inclusion of indigenous knowledge in the primary education system of Ethiopia with a focus on Debre Markos City Administration. To this effect, a descriptive qualitative case study design was implemented. The sources of data were teachers and principals selected based on purposeful and snowball sampling. The data gathering instruments were semi-structured interviews and semi-structured non-participant observations. These qualitative data were presented and analyzed based on our subjective interpretations and reflective analyses through narratives. The finding suggested that though not sufficiently, indigenous knowledge has been included in the present primary education system. The research result also showed that the indigenous-oriented curricula are not properly practiced due to a certain hindering factors. Therefore, it is implied that the government and educationalists need to go further in the efforts of inclusion of indigenous knowledge and practices, resolving the significant problematic challenges on its implementation. Teachers are also required to do their best to nurture their students in desirable ways.

Keywords: *Indigenous education, Indigenous knowledge, Indigenous curriculum, Challenges of indigenous education*

1. Introduction

Education is an engine that plays key roles in the socialization of children in a given society (Teshome, 2017). It is also means to preserve as well as transfer societal heritages, beliefs, norms, values, attitudes, behavior, and various knowledge of the society from generation to generation. To do so, schools are responsible to make children full-fledged members of their society. They are required to equip students with knowledge, skills, and attitudes the society

wish the new generation to learn. This is possible when the schools consider indigenous knowledge. The inclusion of indigenous knowledge and practices in the education system and its curricula are essential elements of contemporary schools. Scholars (e.g., (Magni, 2017; Teshager & Aweke, 2020) argue that education is relevant for learners when it is built on their life experience.

Indigenous knowledge transfer is not to be left as the family and community

affairs. There have been attempts to include indigenous and practices through formal schooling in many regions of the world (Magni, 2017). Globally, there is an increasing interest in revisiting indigenous knowledge where western knowledge has failed to solve problems. Scholars recommend that curriculum planners should consider infusing the curriculum content with the wealth of indigenous knowledge from the local communities. It is usually a mistake to think of indigenous knowledge and practices as ‘old-fashioned,’ ‘backwards,’ ‘static’ or ‘unchanging’ (Langill, 1999).

Indigenous knowledge can be defined as the overall view a particular society has and that inculcates practices, laws, holistic know-how, and guidelines regarding interrelationships within the society and with the natural environment (Yared et.al, 2020). For Kiggundu (2007), it is the totality of experience of a certain group of people, earned from birth and goes to the whole journey of life, and even tested and validated by the community or society of different generations at different times. It is a context-based life experience passed from generation to generation. In this regard, indigenous groups conceive education as learning for life experience. Indigenous education is helpful for students to be full-fledged members of their society and help them understand the lived realities that exist in that particular society. In this sense, students can contribute their share for the development of the society. Students could also learn best when they study about the lived experiences of the society in which they live. Africa has plenty of indigenous knowledge and wisdom transmitted from

generation to generation (Tedla, 1992) through education. However, much of what schools in Africa teach for the students is “Eurocentric” that is not directly related to the life experience of the learners (Edwards & Hewitson, 2008). Eurocentric curricula at primary, secondary, and tertiary levels are the major factors that negatively influence indigenous knowledge in Africa (Gair, 2007).

Ethiopia is rich in indigenous knowledge like folklores, traditional court system, traditional medicines, arts, literature, astronomy, women’s “muya”, and other capitals. It has a long history of well-established state and governance system. It is the owner of wonderful Rock Churches, obelisks, castles, natural heritages, norms, and values. It is also the owner of natural resources like international rivers and endemic wild animals. These all were nested in its own traditional education system which was a means of preserving the country’s culture and tradition. Teshager and Aweke (2020) boldly pointed out that the traditional system of education and the corresponding indigenous knowledge have made tremendous contributions towards enabling the country to be the master of its own destiny in the field of medicine, agriculture, architecture, and literature. Religious education in general and Church education in particular made Ethiopia to have the only ancient written scripts in sub-Saharan Africa and well-developed numeral system of its own (Eyasu, 2016).

The modern education system which was introduced in 1908 was dominated by ideologies of western countries (Teshager & Aweke, 2020; Teshome, 2017). During Emperor Minilik II, France’s education

system was adopted to Ethiopia along with the French curriculum and language. Emperor Hailesilassie's education system was British and American oriented. The education system of socialist government was brought from USSR and East Germany. After the downfall of the socialist government in 1991, a new education and training policy was developed, endorsed, and implemented by EPRDF in 1994. Still, the education system was not based on the cultural realities of the country. It was not derived from the indigenous knowledge and philosophical foundations of Ethiopia (Aweke & Teshager, 2020). Students themselves became unwilling to learn local experiences due to the deep-rooted influence of the non Ethiopianized world views (Teshome, 2017).

The current education system of the country is still criticized for lacking domesticity at all levels of schooling. The researchers experiences also show that the majority of students at all levels of the educational hierarchies lack the required competence levels. Our experiences tell that considerable indigenous cultural knowledge and practices of Ethiopia are eroded from time to time. The essential values of the country such as collectivism and altruism are replaced by individualism and selfishness. There was no time other than the present when considerable citizens fail to love their mother land. These all seem to have been resulted due to inconsideration of the indigenous knowledge and domestic philosophical foundations of the country. In support of this, the Federal Ministry of Education suggested that one of the basic causes of this problem is complete reliance

on the western education ideology (MoE, 2018).

In recent days, the Ethiopian modern education sphere not only denies the relevance of indigenous culture but also is producing learners who detested their own traditions and values (Yared et.al, 2020). Teshome (2017) also witnessed that indigenous knowledge has been marginalized in the Ethiopian education system. Similarly, Cláudio et.al (2023) and Yared et.al (2020) viewed that Ethiopian schools' curriculum at all levels both its contents and pedagogy focus on foreign worldviews. Eyasu (2016) made a retrospective study on Ethiopian traditional education entitled as "*Quest of Traditional Education in Ethiopia: A retrospective Study*" and articulated the contribution of the traditional education for particular groups of people in the country. Teshager and Aweke (2020) reviewed an article entitled as "*The Implications of Ubuntu/Synergy for the Education System of Ethiopia*" and indicated that the indigenous knowledge which is conceived as born, developed, and have been stayed long in the society is not made part of the modern education system of Ethiopia.

MoE (2018) has also conducted an assessment on the education system of the country so as to revise the curriculum. The inclusion of indigenous knowledge and its impact on the overall achievement of the education system were not properly addressed (MoE, 2018). Of course, Ethiopia cannot be an island free from the influence of globalization. Yet, ignoring indigenous knowledge and practices is making a divorce between the existing generation and the previous ones. Therefore, there is a need to

integrate the global knowledge and the local knowledge. This glocalization strategy is the intermingled approach which can help produce individuals who have both universal and tacit knowledge. This type of education will enable the country to secure social transformation; improve political and economic stability; and socialize generations who have local, national, regional, and universal mind set up.

True education is about creating appropriate structures for the transmission of culture, knowledge and wisdom for the benefit of each of our respective cultures. King and Schielmann (2004) contended that quality indigenous education is guided by pedagogical principles and methods developed in participation with indigenous communities and based on their culture and tradition. The authors further pointed out that successful education programmes require well-trained teachers and active learning techniques; relevant curriculum based on indigenous as well as western practices; adequate facilities and learning materials; participatory governance and management; and respect for and engagement with local communities and cultures.

To the level of our understanding, there is no adequate study done on the inclusion of indigenous knowledge and practices in the present Ethiopian curriculum. Therefore, the main purpose of this study is to investigate the place of indigenous knowledge and factors that affect inclusion of indigenous knowledge in the revised primary education system of Ethiopia by considering primary schools in Debre Markos City Administration. To do so, the following research questions were formulated:

1. How do teachers and principals view the inclusion of indigenous knowledge in the revised primary education system?
2. What are the factors that hinder the practices of indigenous knowledge in primary education system?
3. How could the indigenous knowledge be integrated into the primary education system?

2. Methods and Materials

2.1. The Research Approach

Scholars claimed that research methodologies can be divided into two major paradigms called positivism and interpretivism (Rehman & Alharthi, 2016; Cohen, Manion & Morrison, 2007). Positivism assumes that reality exists independently of humans and strives to understand the social world like that of the natural world (Rehman & Alharthi, 2016). Shah and Al-Bargi (2013) claimed that the positivist paradigm has been criticized for it fails to deal with human beings like any other natural objects. The interpretive paradigm, on the other hand, is distinguished by anti-positivist, humanistic, and constructive thought and behavior (Burrell & Morgan, 2005; Shah & Al-Bargi, 2013). It looks on subjectivity and individual consciousness for explanation (Burrell & Morgan, 2005).

Linked with the paradigms, quantitative and qualitative are the two primary corresponding research methodologies. While qualitative research is grounded in interpretativism, quantitative research is grounded in logical-positivism (Best & Kahn, 2006). A quantitative research approach is dealing with numbers and anything that is measurable in a systematic

way of investigation of phenomena and their relationships (Creswell, 2012; Best & Kahn, 2006). However, qualitative research is mainly concerned with non-numerical data to explain realities based on subjective interpretations (Cropley, 2019; Creswell, 2012). Qualitative study researchers admit subjectivity and focus on developing patterns or themes from the data collected.

The nature of the problem and that of the research questions in this investigation demand qualitative approach so as to get detailed information and understand the place of indigenous knowledge and associated factors that affect the treatment of indigenous-oriented modern education in an integrated way. We employed this approach to gain insight into the views of experts about how the factors impede the efforts of indigenous knowledge friendly education and how to improve the future endeavors. Thus, we exerted more effort to explore and understand the inclusion of indigenous knowledge and experiences, the hindering factors, and the ways of incorporating indigenous elements through the application of qualitative methods.

2.2. The Research design

The main purpose of this study was to investigate and understand the place of indigenous knowledge in the education system of primary schools. To this end, the researchers used a descriptive case study design. Descriptive case study is used in many situations to contribute to our knowledge of individual, group, organizational, social, and related phenomena (Yin, 2003). Hancock and Algozzine (2006) also claimed that most case studies are grounded in deep and varied

sources of information. The nature of the stated problems in our study is more of social realities which are intangible and need alternative methods. The investigators used this method for it can provide a fuller and complete picture of the issue under study.

More specifically, combined case study was employed. The combined case study was assumed to be instrumentally supportive to having a thorough exploration (Stake, 2005; Miles et al., 2014). Stake (2005) suggests that combined or collective case studies are instrumental in obtaining a more thorough understanding of the phenomena in question. Thus, it was our preference to conduct the research on three primary schools in order to get a complete picture of the infusion of indigenous elements in the curriculum. We believe it provides more powerful descriptions and explanations, improves transferability, and helps with better theorizing (Miles et al., 2014).

2.3. Sources of Data

The main data sources were teachers and principals. Teachers were considered to be one of the major sources of information about their understandings, beliefs, and their own efforts on the inclusion of indigenous cultural values and practices. Principals were key sources regarding the inclusion or exclusion of indigenous practices in the curricula and their perceptions of teachers' overall practices in promoting indigenous knowledge besides academic efforts. We have treated our sources in an ethical way. We requested the school principals' permission and explained the purpose of the research, the type of information we sought, and the procedures of the research. With regard to participants, we have presented

written consent agreements related to their right to withdraw at any time; their right to review the data; and anonymity during data presentation.

2.4. Case Selection and Sampling

It is believed by case study researchers that purposeful sampling is used to provide unique samples or representative samples (Best & Kahn, 2006; Creswell, 2012). The researchers intentionally selected information-rich cases and key informants to understand the central phenomenon in depth as advocated by intellectuals in the field like Patton (2002) and Suri (2011). The aim of this research and the nature of its basic questions demanded purposeful sampling in selecting the research sites and participants as suggested by scholars such as Best and Kahn (2006) and Suri (2011).

The research sites were selected based on their own uniqueness in terms of performance and experience of teachers. As one strategy of purposeful sampling, snowball sampling was employed to hunt for those information-rich people until the saturation of data was ensured. Suri (2011) and Patton (2002) contended that snowball sampling involves seeking information from key informants about details of other information-rich cases in the field. Creswell (2012) also explained that it is a form of purposeful sampling that typically proceeds after a study begins and occurs when the researcher asks participants to recommend other individuals to be sampled. To this end, we built rapport with the staff so as to maximize involvement of participants in data generation as well as to ensure cooperation in selecting and recruiting possible informants (Creswell, 2012).

Accordingly, Primary school A, Primary school B, and Primary school C were selected purposefully in consultation with Debre Markos City Education Office experts.

In this study, the principals were selected by default as they were the heads of the schools. They were considered key informants in many respects. The teachers were selected in consultation with the principals and then, using snowball techniques, by considering experience, resourcefulness, genuineness, and information-richness. These event-driven participants were approached and taken as data sources when we watched related incidents or heard informal conversations in any encounter. In support of this, Patton (2002) argues that emergent sampling can be used to take advantage of new opportunities during actual data collection. Accordingly, one principal and four teachers from school A, one principal and five teachers from school B, and one principal and six teachers from school C, with a total of eighteen key informants were selected.

2.5. Data Gathering Instruments

Qualitative case study demands a variety of instruments to collect detailed information over a sustained period of time (Stake, 2005; Creswell, 2012). Accordingly, semi-structured interviews and observations were employed as data gathering tools in this investigation.

Interview: Interviews are one of the most commonly recognized forms of qualitative research data collection tools (Creswell, 2012; Masson, 2002). Interview data consists of direct or verbatim quotations from people about their experiences,

perceptions, opinions, feelings, and knowledge, with enough contexts to be interpretable (Patton, 2002). In this investigation, semi-structured interviews were conducted with principals and teachers on a face-to-face individual and group basis respectively, as supported by Mason (2002). To this end, interview guides were developed and presented to participants in order to examine the implementation of curriculum at the expense of indigenous knowledge and practices at school levels, the inclusion or exclusion of indigenous knowledge at textbook levels, the cause of exclusion (if any), and the way how to incorporate in the future. In order to understand their feelings, perspectives, knowledge, and experiences, we used the style of every day conversation rather than in a formal question and answer situation, as suggested by Hancock (2002). For ease of conversation, Amharic language was employed.

Observation: In interviews, participants may be asked about how they and others behave in certain situations, but there is no guarantee that they actually do what they say they do (Hancock, 2002). In this investigation, non-participant semi-structured observation was employed. The nature of the research questions demands prolonged time and deep engagement to observe and generate credible data. Accordingly, we developed observation guide and stayed for two weeks in each school and observed pedagogical centers, teaching-learning processes, discipline management, and events of different kinds. As a strategy, we recorded what we watched and wrote reflective notes.

2.6. Methods of Data Analysis

The philosophy that underpins qualitative research is broadly interpretivist in that it is concerned with how the social environment is interpreted, understood, experienced, produced, or constituted (Mason, 2002). The qualitative case study depends on data analysis characterized by the explanation of deeper meanings and understandings through the subjective views of participants (Akinyode & Khan, 2018). Creswell (2012) noted that it is fundamentally interpretive, which includes developing a description of an individual or setting, analyzing for themes or categories, and finally making an interpretation or drawing a conclusion. Huberman and Miles (1994) also stated that once actual field notes, interviews, or other data are available, data summarization and categorizations as well as writing stories and so on are essential activities in the data analysis endeavors.

The qualitative data analysis depends on an investigator's own style of rigorous thinking, along with the sufficient presentation of evidence and careful consideration of alternative interpretations (Creswell, 2012). In this study, what we did first was getting to know our data and preparing the data for analysis, as it is suggested by scholars like Creswell (2012). We organized the original data, transcribed in full script, and decided about whether to analyze the data by hand or with software programs (Creswell, 2012). We agreed and performed our data analysis manually since it was found to be manageable by the investigators of this paper. We used pseudonyms to label the schools and participants.

We have formed and coded categorical themes and condensed related response categories into over-arching themes (the place of IK, challenges of IK inclusion, and ways of IK inclusion) after which interpretation and discussion were made through narrative structure. Interview reports were presented in vignette form and analyzed based on our interpretations and reflective analyses from the perspective of participants. Finally, the findings were interpreted and discussed in light of the literature and our professional views. As the research sites involve different cases, we conducted cross-case analysis to deepen our understanding and arrive at conclusions as suggested by Miles et al. (2014).

3. Results and Discussions

3.1. Views on the Inclusion of Indigenous Knowledge in Primary Education

Indigenous knowledge (IK) has been ignored and dismissed from primary education and curriculum for several years. In response to this, a new curriculum has been developed and implemented in primary schools. In this study, all participants commonly reflected that the curriculum has included IK though not sufficiently. Teachers and principals in the three schools commonly agreed that the new curriculum is relatively better than the former one. It tries to address our indigenous practices. They felt that the textbooks hold considerable contents and learning experiences from the locality. One of the General Science teachers, Melkamu, in school A explained, “Environmental Science contains tena adam, tosigne, dama kese and other medicinal plants. There are also activities which enable students to practice IK.” (18/08/15 E.C). In a

nutshell, it is fair to conclude that the newly implemented education system has accommodated many contents from IK and practices.

It is believed that growth and development of a nation will be facilitated if the education system is linked with indigenous practices. In this regard, participants like Melkamu want to give emphasis for indigenous knowledge by reflecting views as follows:

The Ethiopian education system had been under the influence of western countries. This phenomenon detached our schools from the local realities. Our practices were considered as backward. This thought is still working. In doing so, we are becoming to live neither of the two cultural realities-there is cultural dilemma. (Melkamu, 18/08/15 E.C).

The vignette here indicates that Ethiopia has been under the colony of western countries in terms of culture. The western societies tried to implant their culture in Ethiopia by removing the existing ones. In other words, the voice from the home learners has been left out of the education discussion and lacks a platform to be heard. In this regard, the participant is saying that we have to live our practices instead of western cultural practices. He also gave witness that the present curriculum tries to address indigenous contents and learning experiences. We as researchers feel that there should be a proper balance between foreign cultures and our possessions. It will be wise to traditionalize modernity rather than to modernize traditionality.

It is also confirmed by participants that the present primary school curriculum seems to reflect Ethiopian realities. One of the

participants, Taye from school A, disclosed his feelings as “The contents and activities focus on local realities. There are issues related to the Great Renaissance Dam. It is a pride for Ethiopia.” (18/08/15 E.C). Taye tries to demonstrate his pride about the patriotic activities performed by Ethiopian people. According to his belief, it is one of the manifestations of sense of Ethiopian nationality. In this regard, there seems preservation of Ethiopian identity which is the typical justification of indigenization.

Taye further adds, “There are also words and expressions originated from the native possessions.”(18/08/15 E.C). The teacher here explained that the textbooks and other curricular materials are organized using locally known terminologies by avoiding unfamiliar words. This shows that the present education system seems to go back to the basics. True education should start from our possessions and go to the global ones through different means. This is also complemented by Melkamu who expressed his views as;

IK is the starting point of all developmental endeavors. An education that relies on the culture of others usually result in failure. It can also be said that the current curriculum approach is still in line with the western ones. (18/08/15 E.C).

The participant here tries to recommend that the development process of any nation will fail if the education system is entirely dependent upon alien cultural practices. He also contends that the present curriculum has relation with the western education system. In this regard, we feel that the education

system of any country should not totally be detached from the other ones. We cannot be out of the world order. It is advisable to make a balance between the Ethiopian localities and the world realities.

The principal of school A, Beyene, asserted that the school was selected as a pilot school to test the current curriculum. In this regard, he described his experiences about the present education system as;

Fortunately, our school was considered as a pilot school to tryout the new curriculum. The implementation was so effective. The education system tries to give emphasis for vocational education. Arts, Music, and Sport are organized separately. The curriculum generally reflects our realities. For instance, shilela, fukera, poems, and dressing styles are incorporated. The curriculum enables students to make different creativities like drum, mesenko, kirar, tsinatsil, and other indigenous materials. I have also observed that some subjects have activities in relation to personal hygiene and environmental sanitation. (Beyene, 19/08/15 E.C).

The vignette here reveals that the newly implemented curriculum has been reported to have important indigenous elements. The curriculum tries to accommodate religious and non-religious indigenous musical instruments. In the different instructional materials, there are explicit contents and learning experiences that enable students to practice indigenous creativities. In the curriculum, the discussion of hygiene and sanitation and the tasks that instruct them to

clean the environment in practice will make students healthy, self-disciplined, and work-loving. This will help students to know their country and become true Ethiopians.

In addition to interviews, we also observed some manifestation of indigenous practices in the same school. During our visit (on 19/08/15 E.C), we tried to observe the room where children's creativity and crafts are stored. In this room, various pictures of wild and domestic animals, sculptures of household items such as plates and pots, musical instruments, traditional needlework reflecting various women's arts, and so on are arranged in a proper order. In addition, we observed that various theatres were performed by the students during the flag ceremony taking place in the morning. Typical Ethiopian music (shillela), dancing (fukera), and historical drama about the victory of Adwa were presented in front of the mass. This also shows that the present education system has started to pay attention to IK in practice. This kind of participation allows students to know their own identity and understand the art of their country.

When we come to school B, we find that the environmental science and art lessons are built on IK and practices. A fourth grade environmental science teacher, Lemlem asserts “the curriculum is tied to the local community and its ways of life. I believe that the activities provided to them would enable the students to look for the resources and materials around them.” (19/08/15 E.C). From this expression, we can understand that IK has a place in the curriculum. In this regard, the contents and activities of the subject will make students explore their environment and thus make them know their

country better. One of the Arts teachers, Demsew in the same school, has a similar argument concerning his subject. He states,

Even though it is limited, the contents of the lesson are organized based on the materials available in the local area. The activities that are given make our students identify and make almost all the musical instruments around them. (19/08/15 E.C).

Any education that has its origin in the country is true education. The destination is a typical strategy to create a generation that is equipped with the wisdom of nationalism and global integration. In addition to this, if there are such task-oriented contents, it will help students to develop their special talents. This is how education becomes meaningful. . One of the English teachers in School C, Tenagne, has a similar position concerning the contents of the subject. She put, “English subject for grade 6 is full of passages and activities related to traditional games like *gebeta*, known persons with their patriotic behavior, endemic wild animals, and cultural monuments.” (20/08/15 E.C).

One of the grade 7 Mathematics teachers in school C, Mulusew, said, “The contents of Mathematics are mostly indigenous. It talks about traditional saving, deposit on bank, price of local crops, etc.” (20/08/15 E.C). As it can be seen here, the subject tries to use IK and practice to teach students how to save money and evaluate the cash values of locally grown crops the way their parents are doing. Learning based on the experiences they know from their families become meaningful to students. In addition to making the education concrete, it ensures

that IK practices are preserved. The principal of school C, Getachew, concluded that the curriculum is generally considered to be IK-oriented. It is important also to note that this kind of teaching-learning endeavors should be combined with essences of modern education.

In School C, we noticed something special; unmanned shops. In these shops, there are no persons to sell items. Students select the items they want, put the money, and take it away. Such traditional and indigenous values of loyalty profiles are not new in Ethiopia. Yet, these kinds of values have been eroding from time to time. In this regard, the principal, Getachew, stated, “It has been implemented since 2020 and testified that the students of grade 1-4 do it faithfully, while the students of grade 5-8 take the goods from the shops by stealing.” (20/08/15 E.C). From this we can understand that as the students grow older in age, the moral behavior decreases. It can be assumed that they inherited this from their elders. A scholar named Rousseau said that children are innocent when they are children, but when they grow up, the adults they observe behave inappropriately, so they imitate them. Therefore, care is needed to enable students to build and grow with a good personality. It shows that there are things that need to be done in the community. Yet, what we have noticed in this school is a typical way to restore those exciting indigenous values.

3.2. Factors Hindering the Inclusion of Indigenous Knowledge in Schools

There are different factors that affect the inclusion and practices of indigenous related education. With regard to inclusion of IK as

content, materials are developed and organized by subject specialists. Yet, curriculum specialists have played no role on the preparation of primary school materials. One of the manifestations of this problem is that when the content of each type of subjects is organized, it is not from easy to difficult. The other one is that Environmental Science subject in particular does not follow the principle of horizontal integration of content. This is more likely because a curriculum specialist is not involved in the process of curriculum material preparation.

The major problem is related to the practices of the newly implemented curriculum and its materials. Participant teachers and principals during the interview reported that lack of well-trained teachers is among the obstacles in the curriculum implementation process. Taye in school A for instance expressed field specialization related problems as follows:

Physics, biology, chemistry, and geography are merged together in grades 1-6. The integration is not full integration. It is just putting the different subjects in separate units. On top of that the teachers are not prepared in all these subjects. A geography graduate is assigned to teach chemistry, biology, and physics parts included in the textbook of Environmental Science, and the vice versa. This is a challenge. (Taye, 18/08/15 E.C).

In fact, since all teachers are graduated with specialized degree, they do not have had a basic knowledge of all subjects. However,

this expression shows us that a teacher who has graduated in one subject has difficulty in teaching the basic content of elementary school in another. Furthermore, there is knowledge gap on some teachers with respect to their specialties. This is boldly asserted by Melkamu and the principal of the school. Melkamu said, "...there are teachers who are less able to understand the concepts of their own field of specializations. For instance, some teachers face difficulties to explain to students the meaning of *Ras* as a title." (18/08/15 E.C). In this scenario, we say that basic in-service training and capacity building are necessary for the working teachers.

In relation to lack of teaching materials, it is a challenge for implementing the new curriculum and education system. There are no adequate instructional resources like textbooks and teachers' guide. Textbooks are not available in all subjects. Teachers are made to write the information from textbooks on the blackboard. It is time consuming and boring for teachers. Taye from school A describes,

...we are forced to write everything on the blackboard. This is not only time consuming but also a problem for students to do their homework. Absence of teacher's guide has made us to be less confident on what and how to do as well as on determining the possible answers for exercises. (Taye, 18/08/15 E.C).

The teacher here is saying that writing everything on the blackboard is an obstacle to run effective teaching-learning activities. Moreover, students have no opportunity to independently do tasks what the textbook orders. They have no exposure with textbook information thereby being entirely

dependent on teachers and in-school activities. Strengthening this, Demsew in school B claimed, "... we have material shortages to make the practical education come alive." In this scenario, it is less likely for students to practice IK in particular and to be engaged in overall learning in general. On the other hand, teachers have no confidence on answers of different exercises if there is no teacher's guide. Thus, it is advisable to make teacher's guide available since it is a blood vessel for teachers. If there are some shortages of teaching materials, we think it would be good if the concerned body should alleviate the problem.

The other challenge considered by teachers is the mismatch of contents with maturity level of students. Taye adds, "...the contents are so difficult for students to learn. They are beyond their level." (18/08/15 E.C). The teacher here discloses that there are contents which cannot be managed by the students. The maturity level of the students does not allow handling learning experiences provided. In this situation, it is unlikely to nurture the students from indigenous perspective. Therefore, educationalists are required to consider the age level of the learners when preparing materials constituting indigenous-oriented contents and learning experiences.

The same teacher complains about the feature of the textbooks. Taye boldly said that the textbooks have a few notes. In his words, "... the textbooks are full of activities. There is no adequate short note. This is a challenge for us to carry out the teaching learning processes." (18/08/15 E.C). From this teacher's expression we can observe that a book with no or less notes is

not constructive, but that having too many questions and activities is an obstacle to learning and teaching. The teacher here feels that textbooks are dominated by activities, with limited notes. This shows that the teachers are not satisfied with the activities presented in the textbooks.

The analysis here also indicates that the teachers are in the position to provide lessons in the form of lecture copied from the materials. We think that this teacher himself has learned and taught in a note-oriented manner. If we want students to understand ideas correctly and to bring about real behavioral change, the right way is to have limited notes and lots of activities. Scholars agree that students learn best when they are appropriately engaged in their own practice and research, not just listening to what they are told and reading what is written. It is argued that students will exert least mental effort if they are provided with highly defined contents and detailed information (McLauhan, 1964). If there are more activities that enable students to exert more effort, especially on their localities, they will be more likely to expose themselves IK and practices. This is a fertile ground for them to have fruitful learning.

The resources are not fairly distributed to rural and urban areas. Participants asserted that there are some activities that require students to use electricity and internet connections. Melkamu, one of the Environmental Science teachers in school A, describes “There is no availability of electricity and internet access in rural areas. It is difficult to implement some practical works in such areas.”(18/08/15 E.C). On the other hand, when students are given activities that demand them to visit different

government working sectors, respective experts are not willing to share their expertise. Melkamu explains as “...there are assignments that invite students to collect data from different government offices. Yet the officials are not supportive of providing necessary information. Some say that they have no information.” (18/08/15 E.C). If this happens, we feel that students will not have the opportunity to engage in practical tasks which in turn leads them to be far from indigenous experiences.

3.3. Ways of Integrating Indigenous Knowledge into the Education System

Participants felt that the education policy needs to be built up on the political, philosophical, social, and economic realities of Ethiopia in general and the local norms, values, traditions, experiences, problems and learning opportunities in particular. One of the teacher participants Beletu in school B stated, “...The elementary school curriculum and its practicability must focus on life-based learning, preparation of students for world of work, and creative learning.” Indigenous education should always be part of the formal as well as the informal curricula. This is possibly realized when elementary school teachers are trained by taking these issues into consideration. In support of this, Muluken in school B reported as,

...Awareness creation on the part of the teachers and educational experts and preparation of curriculum integrated with the true essences of IK and practices are means to make indigenous education practical in the elementary school education system. (19/08/2015 E.C).

This vignette shows that indigenous education involves a holistic approach where traditions and knowledge are included in subjects and learning experiences of any kind. Keeping this constant, participants claimed that secularism needs to be practiced in the primary schools if we want to effectively implement indigenous education. Muluken explained, "...there should not be direct religious and political intervention in schools. Otherwise, learning must be secularly integrated with local knowledge, traditions, and values." The teacher here is saying that learning and teaching must be done by taking practical local problems into consideration, maintaining the principles of secularism.

Our cultures and knowledge should be genuinely included in the curricula for indigenous children at all grade levels of the primary education. There is no quality in education where everything is based on a culture other than ours. In this regard, Beletu described as,

Indigenous education is vital for today's learners. Therefore, teachers and curriculum experts must work together to adapt the existing formal curriculum with IK and practices. Thus, the curriculum needs to be partly local and partly national, i.e. the issue of integration of the scientific knowledge with actual life experience of students is mandatory in the 21st century. (19/08/2015 E.C)

From the expression above, it is possible to conclude that IK and experiences become practical in elementary schools if the curriculum gives opportunities for teachers to use local resources as learning materials.

In a true sense, genuine learning is directly related to students' day-to-day life and local problems and also traditional knowledge become part and parcel of the actual teaching, learning and assessment processes. In this kind of scenario, the elementary school education can produce self-reliant citizens.

4. Conclusions and Implications

With the view that indigenous education is realized throughout the school and can be taught in a variety of ways, we attempted to investigate and understand the inclusion of IK in primary schools. The research suggests that though not sufficiently, IK has been included in the present education system compared to the former one. Still, there are essential indigenous contents excluded from the curriculum. There seems a tendency to focus on the western cultures and experiences. Therefore, the curriculum needs to further give opportunities for teachers to use local resources as learning materials. In other words, indigenous knowledge and practices need to become part and parcel of the actual teaching, learning, and assessment processes. This, we think, is the responsibility of the government and educationalists.

The finding also suggested that the indigenous-oriented curricula are not properly practiced due to a certain hindering factors. The first challenge is that teachers do not have adequate skills to incorporate IK and experiences as an integral part of their professional practice. It is hardly possible to conclude that teachers have proper level of understanding about IK. In most cases, teachers are more concerned with promoting academic learning and less with indigenous

learning. Thus, they are expected to take some sort of training with regard to how to play their part in the infusion of indigenous contents into their respective educational engagements. They are required to understand, believe, and do their best to nurture their students and correct the generation in desirable ways. Scholars like King and Schielmann (2004) articulates that quality indigenous education involves competent and qualified teachers who are familiar with indigenous culture and respectful to indigenous concepts.

The second challenge is related to organization of contents and learning experiences of the subjects. On one hand, they are organized giving less attention to simple-to-complex arrangement. On the other hand, there is a mismatch of contents or learning experiences with maturity level of students. In this situation, it is unlikely to nurture the students from indigenous perspective. Therefore, textbook writers are required to consider the age level of the learners when preparing materials constituting indigenous-oriented contents and learning experiences.

The third challenge was found to be lack of teaching materials. There are no adequate instructional resources like textbooks and teachers' guide. Textbooks are not available in all subjects. Hence, they are being entirely dependent on teachers and in-school activities. There are also some activities that require students to use electricity and internet connections, which are full of interruptions in the case of Debre Markos. When we come to the fourth challenge, we find unwillingness on the part of some experts to cooperate when students are given

activities that demand workplace and experience sharing.

The significant challenges articulated in this investigation are problematic in the teaching of indigenous culture. They have their own contribution to the disengagement of teachers in the efforts of integrating indigenous education. In this regard, substantial attention is needed from the government and other educational families to resolve the challenges. As King and Schielmann (2004) stated, quality indigenous education offers innovative solutions to the complex issue of incorporating IK. In a nutshell, indigenous education involves a holistic approach. This is quality in a true sense.

Limitations of the Study

We cannot talk about statistically significant patterns when the empirical basis is three schools and the data sources are limited to a small number of respondents. Whilst this descriptive case study will not answer a question completely, it will give some indications and allow further elaboration and hypothesis creation on the matter. On top of that, indigenous issues often require intensive research supported with content analysis. In light of this, we suggest other researchers to deal with the area and investigate such sensitive issues of the country through more advanced research methods.

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