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**HAWASSA UNIVERSITY**

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"EDUCATION IS THE MOST POWERFUL WEAPON WHICH YOU CAN USE TO CHANGE THE WORLD."  
NELSON MANDELA

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## Original Article

# English major EFL students' code-switching frequency in an EFL classroom at tertiary level in Ethiopia: The case of Mekelle University

Gebrewahid Tsige Gerezgher <sup>1\*</sup>, Hailom Bantevirga Amaha <sup>2</sup>

<sup>1</sup> College of Social Sciences and Humanities, Adigrat University

<sup>2</sup> College of Social Sciences and Humanities, Addis Ababa University

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### CORRESPONDING EMAIL

\* Corresponding author email:  
gebrewahidtsige@yahoo.com

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### KEYWORDS:

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### Abstract

*This research was conducted to investigate English major EFL students' code-switching frequency in an EFL classroom at tertiary level with particular reference to Mekelle University. To achieve this objective, data were gathered through classroom observation audio record and close-ended questionnaires. A total of 109 students, who were selected using available sampling, took part in the study. The data obtained was analyzed quantitatively. The techniques used to analyze the data were frequency, percentage, Kruskal Wallis H test, and ordinal logistic regression. The result obtained shows that first year students code-switched almost never while second year and third year students code-switched rarely and about half of the time respectively. It was again found that first year students use 8.9% Amharic to 91.1% English while second year and third year students use 20.6% Amharic to 79.4% English and 25.1% Amharic to 74.9% English respectively. Besides, a statistically significant difference in code-switching frequency was obtained among the three class years. First year students code-switch less frequently while third year students did more. Finally, a statistically significant relationship was found between students' code-switching and class year of the students, mother tongue of the students, the type of school they came from, their parents' educational status, their Amharic language speaking skill, and their perception towards code-switching. Based on the findings, it was concluded that English major second year and third year students are using Amharic excessively. However, the students' code-switching had to decrease as their grade level increased. They also had to consider their classmates who know little or no Amharic. The excessive use of Amharic will reduce their exposure to English language learning which is dangerous in language acquisition and learning that needs their teachers serious follow up.*

## 1 Introduction

In multi-ethnic and multi-cultural countries such as Ethiopia, Malaysia, Nigeria, and the Philippines code-switching (CS) in English as a Foreign Language (EFL) or in English as a Second Language (ESL) classes is a common practice (Cook, 2001; Sert, 2005) that arises due to lack of proficiency in the target language (Atkinson, 1987) or to enhance the learners' TL learning (May and Aziz, 2020). Ethiopia's population for 2025 is forecasted to be

129.8 million. It comprises more than 80 ethnic groups who speak more than 80 languages and nine regional states. Among these languages, ten of them have more than one million speakers. These are Oromo (34.5%), Amhara (26.9%), Somali (6.2%), Tigray (6.1%), Sidama (4.0%), Guragie (2.5%), Welaita (2.3%), Hadiya (1.7%), Afar (1.6%), Gamo (1.5%), and others (12.7%) ([Population Census Commission of Ethiopia, 2007](#)). Though the country is endowed with many languages, due to political reasons, Amharic is the country's federal working language. It is also used as a working language in four regional states that have different mother tongues (MT) and two city administrations of the country. It is spoken by 22 million people as an MT and 4 million people as a second language ([Population Census Commission of Ethiopia, 2007](#)). This indicates that Amharic is the second language used by more than 83% of the country's population.

As Ethiopia has never been colonized, the teaching and learning of English language as a subject started in 1908 and as medium of instruction after World War II ([Anteneh and Ado, 2006](#)). English language is spoken only in high schools and universities. It has a place neither in the government offices nor in the community's day to day communications. Therefore, it is a foreign language. This leads students and teachers to have a poor performance of English language ([Tekleselassie and Boersma, 2018](#)). As a result, CS in the EFL classes is a common phenomenon. The Education and Training Policy ([Ministry of Education, 1994](#)) and the Constitution of the country ([House of Peoples' Representatives, 1995](#)) declare students to learn using their MT up to grade eight. It adds Amharic to be taught as a subject beginning from grade three. Additionally, it states that English has to be taught as a subject beginning from grade one and as medium of instruction beginning from grade nine up to universities. Even though all the government and non-government schools are required to function within the general framework of the national curriculum of the 1994, they do not go accordingly. In the non-government schools, the use of English as medium of instruction starts from grade one. While CS in the EFL classes of the government schools is a common practice, using MT in the school compounds or in any content subjects of the non-government schools leads both students and teachers for punishment ([Gibson, 2011](#)).

## 2 Research Problem

When students of the government and non-government schools completed their preparatory schools, they joined to the 45 universities which are governed by the federal government. The assignation of the students to the universities is done by the Ministry of Education. After the students join to the universities, some of them are assigned to the Department of English Language and Literature. These students felt in dilemma on whether to code-switch or not because they came from schools which follow different practices. As the universities are federal institutions and as Amharic is the federal government's working language, the use of Amharic in the EFL classes is common though there are students who know little or no Amharic since it is not a MT to majority of them. [Sert \(2005\)](#) states that CS in the EFL classes helps students to learn better if all students and their teacher share the same native language. How about if the students do not share the same native language? Since the students have different native languages and they came from different practices of CS, the researchers are inspired to study the CS frequency (from English to Amharic and vice versa) of these students and the factors that affect their CS behavior.

There have been a number of studies ([Yigzaw and Beshir, 2010](#); [Abdulkadir, 2012](#); [Mesfin, 2016](#)) regarding classroom CS at elementary and secondary levels of education in Ethiopia where the students and teachers share the same MT. However, there is no research conducted at the tertiary level of education where the students and teachers have different mother tongues. This is a gap that former researchers have not tried to fill in.

Therefore, this study aims to explore the CS frequency of English major EFL students of tertiary level and the factors that affect their CS behavior that other researchers have not investigated yet. To achieve this objective, the following research questions were prepared.

1. How often do English major EFL students of the different years of study employ code-switching?
2. What percentage of Amharic to English do English major EFL students use?
3. Is there a statistically significant difference on the code-switching frequency among English major EFL students of the different years of study?
4. Is there a statistically significant relationship between demographic factors (class year, gender, age, perception, mother tongue, multilingual, place, school, parent education, parent economy, Amharic listening, and Amharic speaking) and English major EFL students' code-switching behavior?

### 3 Research Methods

#### 3.1 Research design

The research design chosen for this study was descriptive. According to [Cohen \(2000\)](#), a descriptive design is concerned with conditions or relationships that exists; practices that prevail; attitudes that are held; processes that are going on; effects that are being felt; or trends that are developing. So, as this study was intended to investigate the English major EFL students' CS frequency in an EFL classroom at tertiary level, the descriptive research design was found to be suitable to obtain the pertinent and valid information needed to achieve the specified objectives.

#### 3.2 Data gathering instruments

The instruments that had been used for this research were classroom observation and questionnaire.

##### 3.2.1 Classroom observation

[Cohen \(2000\)](#) stated that observation provides a live data from naturally occurring social situations. Due to this, observation was conducted by the presence of the researcher with a non-participatory role along with an audio-recording. A randomly selected six teachers, two teachers from each batch, were observed for a month. If the observation was conducted for a few days, teachers and students could hide their actual behavior of CS.

Every English course has three credits per week. One credit is 50 minutes. The programs were arranged in such a way that the two credits were taught consecutively - with no interruption between them and the other one credit on another day. The one credit hour period was observed and recorded during the pilot study. So, the two credit hour period was observed and recorded for this study. Therefore, four lessons (100 minutes per lesson) for each course of all batches, with a total of 24 lessons or 2400 minutes, were observed, recorded, and transcribed. This method of data gathering tool (the observation) was used since it provides the opportunity to identify the existence of the phenomenon and the proportion of Amharic to English.

### 3.2.2 Questionnaires

Questionnaire is one of the very commonly used methods of data gathering tools. There are two types of questionnaires: the open ended and the close ended (Muijs, 2004). In this case, the close ended questions were used because, in the open ended questions, participants are reluctant to respond them (Cohen, 2000). In this type of questionnaire, participants skip questions because they feel tired to write or they have no idea. Another drawback of this one is that participants' handwriting may not be readable and may alter the result (Dörnyei, 2007; Singh, 2007). Contrary to this, the close ended questionnaire allows respondents to respond them easily and allows the researcher to analyze them easily though they have their own shortcomings. They also depict quantifiable and measurable result. Therefore, a close ended questions (5 point Likert scale which ranges from strongly disagree coded as "1" to strongly agree coded as "5") which were adapted from Mokgwathi (2011) were distributed to all students in the presence of the researcher so as to ask any question if they had. The questions were designed to gather data about the participants' background information, their perception towards CS, how often they employ CS, and the factors that predict CS. The questionnaires were written in English as they were assumed to be understood easily; and they were distributed to all students (N = 109).

### 3.3 Validity and reliability

To assess the content validity of the questionnaires, they were given to three assistant professors of ELT who had an experience of teaching English language at universities for more than ten years, and their comments were incorporated. In addition, to estimate how reliable the instrument was, its internal consistency was computed using SPSS version 22. Accordingly, the finding displayed that the Cronbach alpha coefficient for the primary school teachers and teacher educator's questionnaire values were 0.78 and 0.83 respectively. These values are supported with Straub et al. (2004) suggestion; the reliability should be equal to or above 0.60. Furthermore, Hinton et al. (2004) have suggested four cut-off points for reliability, which includes excellent reliability (0.90 and above), high reliability (0.70-0.90), moderate reliability (0.50-0.70) and low reliability (0.50 and below).

## 4 Results

### 4.1 Participants' background information

The background information or the demographic factors of the participants is presented below.

Table 1: Background information of the participants

| QN | Background Information |                 | 1st Year |      | 2nd Year |      | 3rd Year |      | TOTAL |      |
|----|------------------------|-----------------|----------|------|----------|------|----------|------|-------|------|
|    |                        |                 | N        | %    | N        | %    | N        | %    | N     | %    |
| 1  | Gender                 | Male            | 17       | 42.5 | 15       | 46.9 | 20       | 54.1 | 52    | 47.7 |
|    |                        | Female          | 23       | 57.5 | 17       | 53.1 | 17       | 45.9 | 57    | 52.3 |
|    |                        | Total           | 40       | 100  | 32       | 100  | 37       | 100  | 109   | 100  |
| 2  | Age                    | 18–20           | 22       | 55   | 11       | 34.4 | 10       | 27.1 | 43    | 39.4 |
|    |                        | 21–23           | 18       | 45   | 17       | 53.1 | 16       | 43.2 | 51    | 46.8 |
|    |                        | >23             | -        | -    | 4        | 12.5 | 11       | 29.7 | 15    | 13.8 |
|    |                        | Total           | 40       | 100  | 32       | 100  | 37       | 100  | 109   | 100  |
| 3  | Place                  | Rural           | 31       | 77.5 | 22       | 68.8 | 24       | 64.9 | 77    | 70.6 |
|    |                        | Urban           | 9        | 22.5 | 10       | 31.2 | 13       | 35.1 | 32    | 29.4 |
|    |                        | Total           | 40       | 100  | 32       | 100  | 37       | 100  | 109   | 100  |
| 4  | School                 | Gov't           | 34       | 85   | 29       | 90.6 | 32       | 86.5 | 95    | 87.2 |
|    |                        | Non gov't       | 6        | 15   | 3        | 9.4  | 5        | 13.5 | 14    | 12.8 |
|    |                        | Total           | 40       | 100  | 32       | 100  | 37       | 100  | 109   | 100  |
| 5  | Parent Education       | Both literate   | 24       | 60   | 8        | 25   | 14       | 37.8 | 46    | 42.2 |
|    |                        | One literate    | 9        | 22.5 | 18       | 56.3 | 13       | 35.1 | 40    | 36.7 |
|    |                        | Both illiterate | 7        | 17.5 | 6        | 18.7 | 10       | 27.1 | 23    | 21.1 |
|    |                        | Total           | 40       | 100  | 32       | 100  | 37       | 100  | 109   | 100  |
| 6  | Parent Economy         | Poor            | 20       | 50   | 9        | 28.1 | 11       | 29.7 | 40    | 36.7 |
|    |                        | Medium          | 17       | 42.5 | 20       | 62.5 | 20       | 54.1 | 57    | 52.3 |
|    |                        | Rich            | 3        | 7.5  | 3        | 9.4  | 6        | 16.2 | 12    | 11.0 |
|    |                        | Total           | 40       | 100  | 32       | 100  | 37       | 100  | 109   | 100  |

As one can see in Table 1, the female participants (52.3%) were more than the male participants (47.7%) except in third year where the males outnumber than the females. As far as age is concerned, majority of the respondents (46.8%) lie in the age of 21 to 23 while a very few students (13.8%) were above 23 years old. The other feature of the students is the place they came from. As it is vividly put in Table 1, around one third (29.4%) of the participants only came from urban. One of the surprising characteristics of the students is the school they came from. Only 12.8% of the participant students who learned at non-government schools joined to the Department of English Language and Literature.

As far as the participants' parent is concerned, only 42.2% had an educated father and mother while the 21.1% of the students had an illiterate father and mother. With regard to the students' parent economy, only 11% of them had a rich family whereas 52.3% or around half of the students had middle income parents. Concerning to the students' mother tongue and their Amharic language competence, it is divulged in the next graph.

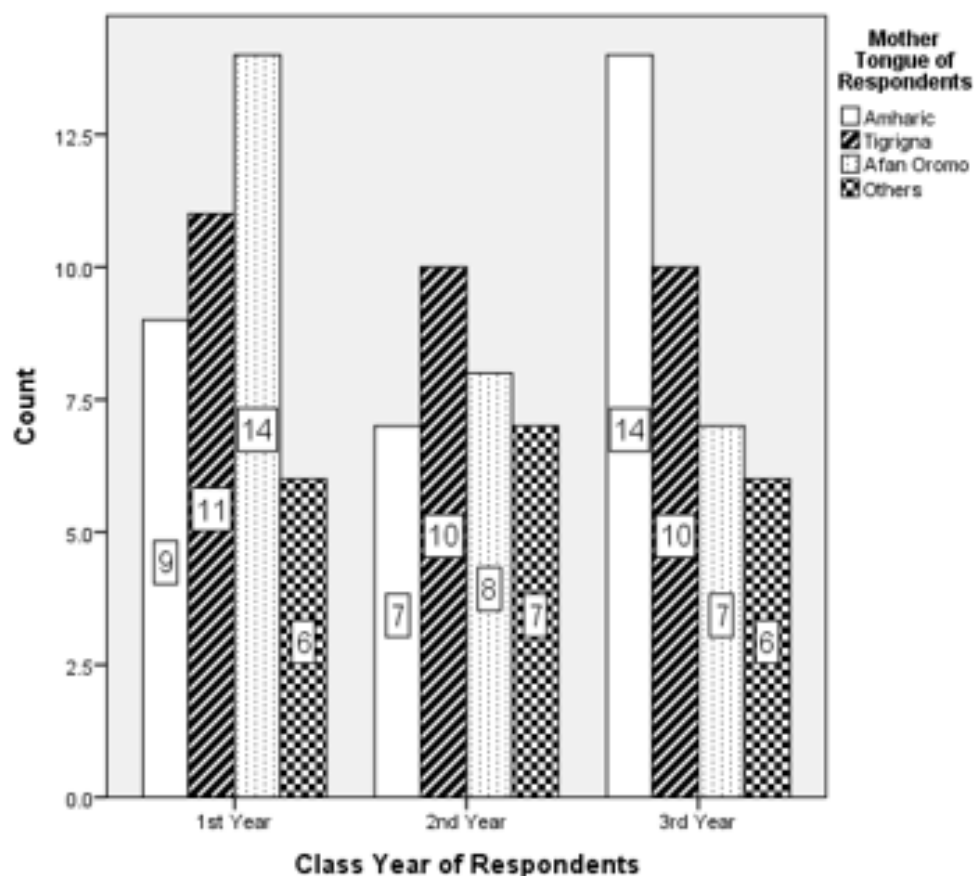


Figure 1: Students' mother tongue across the different class years

As it is seen in the graph 1, in first year, the students whose mother tongue was Afan Oromo exceeds than all other mother tongue students. With regard to second year, Tigrigna language as mother tongue speakers was the highest while the Afan Oromo mother tongue students and Amharic mother tongue students were the same. In third year, the Amharic language mother tongue students were more than the sum of that of the Afan Oromo language and other languages mother tongue students. Throughout the department, the sum of the Tigrigna mother tongue students was the highest (28.4%) whereas the other languages mother tongue students were the smallest (17.4%). As the students of these language speakers were small in number, the students' mother tongue is labeled as others. These languages were the different languages which are spoken in all regions of the Federal Democratic Republic of Ethiopia. The students' Amharic language listening and speaking skill is presented in the next table.

Table 2: Students' Amharic language listening and speaking skills

| QN | Background Information              |           | 1st Year |      | 2nd Year |      | 3rd Year |      | TOTAL |      |
|----|-------------------------------------|-----------|----------|------|----------|------|----------|------|-------|------|
|    |                                     |           | N        | %    | N        | %    | N        | %    | N     | %    |
| 7  | Amharic Language<br>Listening skill | Very Poor | 8        | 20.0 | 2        | 6.3  | -        | -    | 10    | 9.2  |
|    |                                     | Poor      | 13       | 32.5 | 5        | 15.6 | 3        | 8.1  | 21    | 19.3 |
|    |                                     | Good      | 7        | 17.5 | 14       | 43.8 | 16       | 43.2 | 37    | 33.9 |
|    |                                     | Very Good | 12       | 30.0 | 11       | 34.3 | 18       | 48.7 | 41    | 37.6 |
|    |                                     | Total     | 40       | 100  | 32       | 100  | 37       | 100  | 109   | 100  |
| 8  | Amharic Language<br>Speaking skill  | Very Poor | 11       | 27.5 | 5        | 15.6 | 2        | 5.5  | 18    | 16.6 |
|    |                                     | Poor      | 14       | 35.0 | 9        | 28.1 | 6        | 16.2 | 29    | 26.6 |
|    |                                     | Good      | 5        | 12.5 | 8        | 25.0 | 12       | 32.4 | 25    | 22.9 |
|    |                                     | Very Good | 10       | 25.0 | 10       | 31.3 | 17       | 45.9 | 37    | 33.9 |
|    |                                     | Total     | 40       | 100  | 32       | 100  | 37       | 100  | 109   | 100  |

As it can be seen from Table 2, many of the students were better in listening than in speaking. Besides, the students' Amharic language listening and speaking skills increased as their grade level increased. Comparatively, first year students had difficulty of listening and speaking skills of Amharic language than the other class year students. The classroom observation witnessed that some students of first year keep silent when asked a question to respond by their teacher while others were responding in their mother tongue which was other than Amharic. The other demographic factor is the students' multilingual. The detail of the students' multilingual is presented in the following graph.

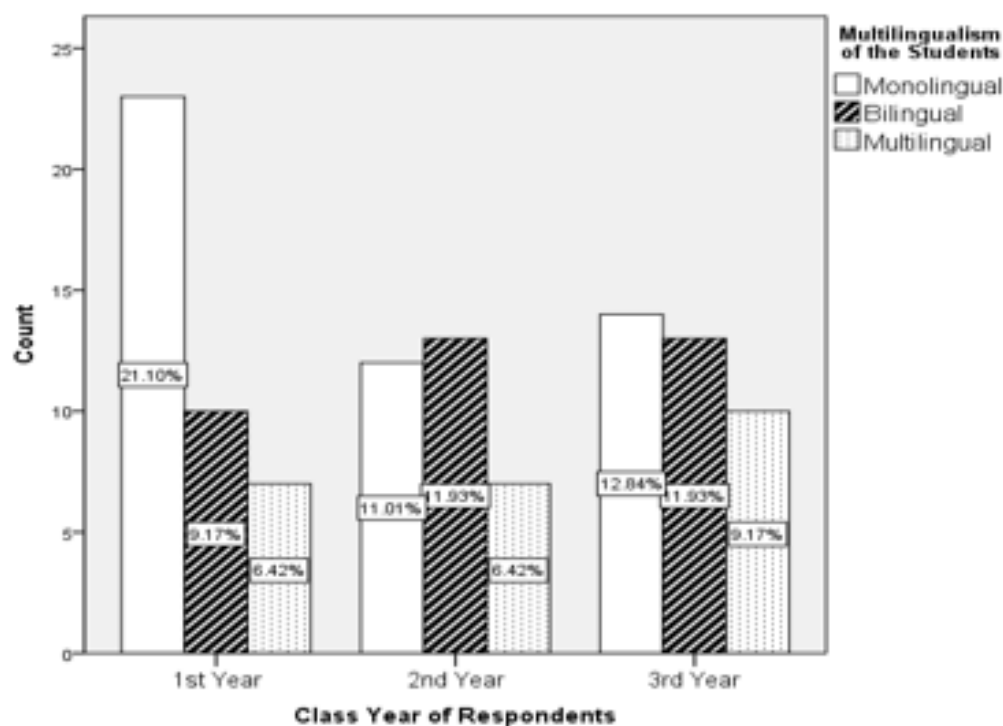


Figure 2: Multilingualism status of the students

It is clearly shown in the above graph that the sum of monolinguals in all class years is the highest (45%) while the sum of multi-linguals is the smallest (22%). First year monolinguals were by far higher than the other class year monolinguals while third year multi-linguals were higher than the other class year multi-linguals which is equal to the

first years' bilinguals. Besides, first year and third year had an equal amount of multi-linguals.

## 4.2 Students' Code-switching frequency

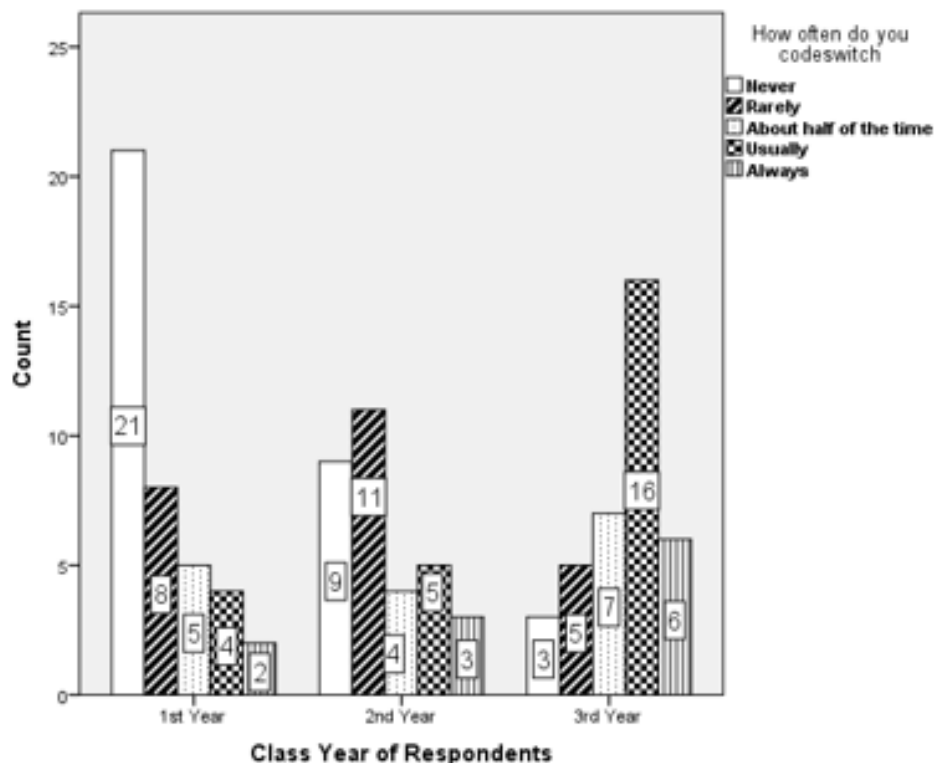


Figure 3: Students self-report on their own CS frequency

As it can be seen in the above graph (see Figure 3 above), majority of first year students never code-switch in to Amharic in the EFL classes while majority of the second year students do it rarely. As far as third year students is concerned, majority of them code-switch (use Amharic) in their English class time usually. Besides, it was found that first year students code-switch less frequently than second year and third year students. In other words, third year student's code-switch more frequently than the student's of first year and second year. This implies that the students' code-switching frequency increased as their grade level increased.

A classroom observation was made to reveal the exact amount of English and Amharic words utilized by the students in the EFL classes, and the finding is presented as follows.

Table 3: The proportion of Amharic and English language words uttered in the class across the different grade levels of students

| Class Year | Courses  | Lessons  | English Words |       | Amharic Words |        | Total Words |     |
|------------|----------|----------|---------------|-------|---------------|--------|-------------|-----|
|            |          |          | #             | %     | #             | %      | #           | %   |
| 1st Year   | Course 1 | Lesson 1 | 978           | 92.9  | 75            | 7.1    | 1053        | 100 |
|            |          | Lesson 2 | 879           | 89.6  | 102           | 10.4   | 981         | 100 |
|            |          | Lesson 3 | 1086          | 94.6  | 63            | 5.5    | 1149        | 100 |
|            | Course 2 | Lesson 4 | 1156          | 87.7  | 162           | 12.3   | 1318        | 100 |
|            |          | Lesson 1 | 1062          | 93.7  | 71            | 6.3    | 1133        | 100 |
|            |          | Lesson 2 | 973           | 90.8  | 99            | 9.2    | 1072        | 100 |
| 2nd Year   | Course 1 | Lesson 1 | 1193          | 81.3  | 275           | 18.7   | 1468        | 100 |
|            |          | Lesson 2 | 793           | 77.1  | 236           | 22.9   | 1029        | 100 |
|            |          | Lesson 3 | 1601          | 83.4  | 319           | 16.6   | 1920        | 100 |
|            | Course 2 | Lesson 4 | 794           | 78.8  | 214           | 21.2   | 1008        | 100 |
|            |          | Lesson 1 | 1008          | 82.6  | 212           | 17.4   | 1220        | 100 |
|            |          | Lesson 2 | 1516          | 76.5  | 466           | 23.5   | 1982        | 100 |
| 3rd Year   | Course 1 | Lesson 3 | 1071          | 75.9  | 340           | 24.1   | 1411        | 100 |
|            |          | Lesson 4 | 1436          | 79.2  | 377           | 20.8   | 1813        | 100 |
|            |          | Total    | 9,412         | 79.4  | 2,439         | 20.6   | 11,851      | 100 |
|            | Course 2 | Lesson 1 | 996           | 78.3  | 276           | 21.7   | 1272        | 100 |
|            |          | Lesson 2 | 855           | 71.4  | 342           | 28.6   | 1197        | 100 |
|            |          | Lesson 3 | 1079          | 77.1  | 320           | 22.9   | 1399        | 100 |
|            |          | Lesson 4 | 743           | 74.5  | 254           | 25.5   | 997         | 100 |
|            |          | Lesson 1 | 1151          | 75.6  | 372           | 24.4   | 1523        | 100 |
|            |          | Lesson 2 | 822           | 76.9  | 247           | 23.1   | 1069        | 100 |
|            |          | Lesson 3 | 1297          | 72.8  | 484           | 27.2   | 1781        | 100 |
| Total      |          | 7,854    | 74.9          | 2,629 | 25.1          | 10,483 | 100         |     |

The above table presents the six courses (24 lessons or 2400 minutes) classroom observation audio record of the three class year students. As it is seen in the above table, the students' words were categorized as English words and Amharic words.

With regard to first year students, they uttered a total of 9180 words. From these words, the 8364 (91.1%) were English while the remaining 816 (8.9%) were Amharic. When we come to second year students, 11851 words were spoken which were 9412 (79.4%) English and 2439 (20.6%) Amharic. As far as third year students is concerned, a total of 10483 words were uttered. From this total, 7854 (74.9%) were English, and the rest 2629 (25.1%) were Amharic.

This indicates that a consistent result was found from the questionnaire and the classroom observations. The classroom observation witnessed that first year students code-switched (8.9%) fewer than second year (20.6%) and third year (25.1%) students. To say it differently third year student's code-switch more frequently than first year and second year students.

Almost all of the students in the interview, participants of all grade levels, also reported the use of Amharic in the English lesson to be less than ten percent.

#### Example:

*"As to me, Amharic has not to cover more than ten percent of the whole period."*

Year 1; Student B

*"I prefer less than ten percent."* Year 3; Student F

The amount of Amharic language used at the three different grade levels was found to be excessive. Mesfin (2016) found the students of grade 9, 10, 11, and 12 students using 3%, 0.29%, 0.25%, and 0.22% of L1 respectively. Abdulkadir (2012) also displayed that 11-15%, 6-10%, and less than 5% of L1 out of the L2 class time to be used by 1<sup>st</sup> year, 2<sup>nd</sup> year, and 3<sup>rd</sup> year students of college respectively. Besides, Yigzaw and Beshir (2010) displayed that 22.3% of the class time was covered by Amharic which they said it too much. Kayaoglu (2012) recommends below 10% of L1 to be used at university level.

From this, it is concluded that the amount of Amharic which was used by second year and third year students is too much which is above the findings of all the researches which are conducted till now at national and international levels. As this indicates excessive usage, it could hinder the students’ target language learning which Krashen (1985) calls ‘it reduces students’ exposure to the target language’. Therefore, there was a gap on how they perceive and how they practice.

4.3 Code-switching frequency difference among the groups

The other objective of this study was investigating if there was a statistically significant difference in the CS frequency of the students across the different class years. In order to do so, Kruskal Wallis H Test was carried out, and the Kruskal Wallis H Test for the frequency of the three groups’ CS is presented in the following table.

Table 4: Kruskal Wallis H Test result of the three groups’ CS frequency

| Class Year of Respondents    | N   | Mean Rank |
|------------------------------|-----|-----------|
| How often do you code-switch |     |           |
| 1st Year                     | 40  | 22.40     |
| 2nd Year                     | 32  | 38.76     |
| 3rd Year                     | 37  | 58.56     |
| Total                        | 109 |           |

| Test Statistics | How often do you code-switch |        |
|-----------------|------------------------------|--------|
|                 | Chi-Square                   | 37.727 |
|                 | df                           | 2      |
|                 | Asymp. Sig.                  | 0.000  |

The Kruskal Wallis H test indicates that there was a statistically significant difference in CS frequency among the different class years ( $\chi^2 = 37.727$ ,  $df = 2$ ,  $N = 109$ ,  $p = 0.000$ ) with a mean rank frequency score of 22.40 for 1<sup>st</sup> year, 38.76 for 2<sup>nd</sup> year, and 58.56 for 3<sup>rd</sup> year students.

Once a significant difference between the three groups was obtained, Kruskal Wallis pair-wise comparison (Post Hoc) was run to make multiple comparisons and to see where the difference lies. As it can be seen in Table 5 below, a statistically significant difference between all pairs of the groups was found. The difference was more high in the pairs of first year and third year ( $p = 0.000$ ) with a mean rank of 22.40 for first year and 56.56 for third year. The CS frequency difference was again high for the pair of second year and third year ( $p = 0.003$ ) with a mean rank of 38.76 for second year and 56.56 for third year. This implies that there was a huge difference on the CS frequency among the different class years. From this, we can conclude that there was an excessive use of Amharic in second year and third year students which could hinder their EFL learning. Because, though it is expected to diminish the students’ CS as their grade level increased, it was found an opposite.

Table 5: A pairwise comparison of the students class year CS frequency

| Sample1_Sample2   | Test Statistic | Std. Error | Std. Test Statistic | Sig.  | Adj. Sig |
|-------------------|----------------|------------|---------------------|-------|----------|
| 1st Year_2nd Year | -16.360        | 6.284      | -2.603              | 0.000 | 0.028    |
| 1st Year_3rd Year | -36.162        | 5.931      | -6.098              | 0.000 | 0.000    |
| 2nd Year_3rd Year | -19.802        | 5.931      | -3.339              | 0.003 | 0.003    |

Each row tests the null hypothesis that the Sample 1 and Sample 2 distribution are the same.

#### 4.4 Factors that affect students' code-switching

This study found that there were a lot of factors that affect students' CS. The factors that affect the participants' CS were obtained through the ordinal logistic regression. Before OLR was run, the assumptions of OLR were tested. Their detail is presented in the following sub-heading.

##### 4.4.1 Testing the assumption of ordinal Logistic Regression (OLR)

OLR has four assumptions. So, before this model is run, these four assumptions have to be tested. The first assumption states that the dependent variable has to be ordinal. In our case, as the dependent variable is about the frequency of CS, it has five ranked groups named as never, rarely, about half of the time, usually, and always though no one responded for usually and always. As these categories are ordered, the dependent variable is ordinal. This indicates that the first assumption for running OLR is met.

The second assumption is that the independent variables have to be continuous, ordinal, or nominal. In this case, the independent variables are both nominal and ordinal. Their detail is presented below.

Table 6: List of the independent variables for students

| SN | Independent Variable | Groups                                             | Label   |
|----|----------------------|----------------------------------------------------|---------|
| 1  | Gender               | 1=Male, 2=Female                                   | Nominal |
| 2  | Age                  | 1=18-20, 2=21-23, 3=Above 23                       | Ordinal |
| 3  | Class Year           | 1=1st Year, 2=2nd Year, 3=3rd Year                 | Ordinal |
| 4  | Mother Tongue        | 1=Amharic, 2=Tigrigna, 3=Afan Oromo, 4=Others      | Nominal |
| 5  | Multilingual         | 1=Monolingual, 2=Bilingual, 3=Multilingual         | Ordinal |
| 6  | Place                | 1=Rural, 2=Urban                                   | Nominal |
| 7  | School               | 1=Government, 2=Non-gov't                          | Nominal |
| 8  | Parent Education     | 1=Both Illiterate, 2=One Literate, 3=Both Literate | Ordinal |
| 9  | Parent Economy       | 1=Poor, 2=Medium, 3=Rich                           | Ordinal |
| 10 | Amharic Listening    | 1=Very Poor, 2=Poor, 3=Good, 4=Very Good           | Ordinal |
| 11 | Amharic Speaking     | 1=Very Poor, 2=Poor, 3=Good, 4=Very Good           | Ordinal |
| 12 | Perception           | 1=Negative, 2=Positive                             | Nominal |

As it is seen in the above table, the independent variables are nominal and ordinal. Therefore, the second assumption, as well, is met.

The third assumption states that there should not be multicollinearity. This assumption revealed that there should not be any correlation among any of the independent vari-

ables. To attest this, the variance inflation factor (VIF) was run through the SPSS version 22, and the result is presented in the following table.

Table 7: Variance Inflation Factor (VIF) of the independent variables

| Model                          | B      | Std. Error | Beta   | Tolerance | VIF   |
|--------------------------------|--------|------------|--------|-----------|-------|
| 1 (Constant)                   | -0.405 | 0.563      |        |           |       |
| Students' Gender               | -0.082 | 0.154      | -0.049 | 0.746     | 1.340 |
| Students' Age                  | -0.035 | 0.097      | -0.033 | 0.766     | 1.305 |
| Students' Class Year           | 0.537  | 0.088      | 0.596  | 0.651     | 1.535 |
| Students' Mother Tongue        | 0.075  | 0.094      | 0.099  | 0.403     | 2.482 |
| Students' Multilingualism      | 0.008  | 0.085      | 0.008  | 0.796     | 1.257 |
| Place that Students Come from  | -0.085 | 0.154      | -0.053 | 0.680     | 1.470 |
| School that Students Come from | -0.024 | 0.235      | -0.010 | 0.717     | 1.394 |
| Parents' Educational Status    | 0.149  | 0.091      | 0.154  | 0.710     | 1.408 |
| Parents' Economic Status       | 0.290  | 0.131      | 0.195  | 0.802     | 1.247 |
| Amharic Lang. Listening Skill  | 0.200  | 0.092      | 0.269  | 0.412     | 2.425 |
| Amharic Lang. Speaking Skill   | -0.006 | 0.094      | -0.008 | 0.314     | 3.189 |
| CS Perception of Students      | 0.025  | 0.013      | 0.017  | 0.854     | 1.172 |

As it is shown in the above table, the minimum VIF was found 1.172 which was for perception of students towards CS while the maximum was 3.189 which was for Amharic language speaking skill of the respondents. Pallant (2007) states that if the VIF of any independent variable is above 10, there is multicollinearity; otherwise, there is no collinearity. He adds that if the VIF is above 10, the ordinal regression's assumption is not met. In such case, we do not use ordinal logistic regression. But in our case, the VIF value of all independent variables is below 10. Therefore, the third assumption is met. This means we can use OLR.

The last assumption is that there should be proportional odds. This states that the coefficient of the groups of all dependent variables has to be the same. The result of this assumption is found in the "Test of Parallel Lines" table. In this case, if the p-value is above 0.05, we accept the null hypothesis. This is to mean that the relationship between each pair of outcome groups is the same. When this happens, we said the assumption is met. The detail is presented below.

Table 8: Testing the proportional odds assumption for students' CS

|                 | -2 Log Likelihood | Chi-Square | df | Sig.  |
|-----------------|-------------------|------------|----|-------|
| Null Hypothesis | 110.428           |            |    |       |
| General         | 80.564            | 29.862     | 3  | 0.154 |

a. Link function: Logit.

As it is shown in Table 8 above, the p-value (sig) is 0.154 which is above 0.05. This indicates that the last assumption is met. Once the four assumptions of the OLR were checked and met, an OLR was run using the SPSS version 22 so as to determine the factors that affect students' CS.

#### 4.4.2 Running the ordinal Logistic Regression (OLR) analysis

This study displayed different factors that affect students' CS. Twelve factors were tested through OLR. Before looking at the contribution of each factor, the overall test of the

null hypothesis which states there is no factor that significantly affect students' CS was attested. Due to this, the model fit shown below which was run through SPSS version 22 shows that all factors affect students' CS well ( $p = 0.000$ ). Goodness of fit was again run to look at if the actual (observed) and the predicted (latent) outcomes were consistent. The null hypothesis of this idea states that both the actual and the predicted outcomes have to be consistent. If this idea is to be accepted, the p-value has to be above 0.05. The goodness of fit which tests this hypothesis showed that the null hypothesis is accepted. As it is shown in the table below, both the Pearson and deviance p-value is above 0.05. The strength of all the factors for affecting the outcome variable was also tested through pseudo R square. So, as it is clearly seen in the table below, the Nagelkerke R square result was found to be 79.3%. This indicates that 79.3% of the variation in the dependent variable was explained by the factors in the model while the remaining 20.7% was accounted for other variables which are not considered in this study.

Table 9: Model fit, goodness fit, and pseudo R square of independent variables for students

| Model          | -2 Log Likelihood | Chi-Squared | Sig | Pseudo R-Square                |
|----------------|-------------------|-------------|-----|--------------------------------|
| Intercept Only | 174.489           |             |     | Cox and Snell .70              |
| Final          | 75.745            | 98.742      | .00 | Nagelkerke .79<br>McFadden .61 |

After checking the above models, the next table displays the factors that affect students' CS.

As it is clearly shown in the above table, among the twelve factors that affect students' CS, six of them were found to be significant. These were class year of the students, mother tongue of the students, the type of school they came from, their parents' educational status, their Amharic language speaking skill, and their perception towards CS.

The second column of the above table shows that among the six significant factors, the coefficient of the variables for students' class year, students' mother tongue, their parents' educational status, and their perception towards CS is negative. This implies that these factors affect students' CS negatively. The students' Amharic language speaking skill and the type of school they came from, however, affect the students' CS positively as the coefficient of these two factors was found positive.

We got significant and negative coefficient for students of all class years. These negative coefficients tell us that lower scores are more likely in the compared group than the reference group. This means, first year students code-switched less frequently than third year students ( $p = 0.000, \beta = -5.714$ ). In other words, the odds of first year students CS frequency was  $\exp[-5.714] = 0.003$  times the odds of third year students. Similarly, second year students code-switched less frequently than third year students. Conversely, third year students code-switched more frequent than first year and second year students.

Abdulkadir (2012), Mesfin (2016), and Cook (2001) reported that the students' grade level is one factor that affects students' CS. However, they found the students' CS to decrease as their grade level increased which is an opposite finding with this one.

Table 10: Factors that affect students' CS (Parameter Estimates)

| Parameter Estimates |                          | Estimate       | Std. Error | Wald   | df | Sig.  | 95% Confidence Interval |             |
|---------------------|--------------------------|----------------|------------|--------|----|-------|-------------------------|-------------|
|                     |                          |                |            |        |    |       | Lower Bound             | Upper Bound |
| <b>Threshold</b>    | [StudCodSwitchFreq = 1]  | -17.218        | 3.800      | 20.529 | 1  | 0.000 | -24.666                 | -9.770      |
|                     | [StudCodSwitchFreq = 2]  | -11.786        | 3.175      | 13.782 | 1  | 0.000 | -18.008                 | -5.563      |
| <b>Location</b>     | [StudGender=1]           | 1.350          | 0.934      | 2.088  | 1  | 0.148 | -0.481                  | 3.181       |
|                     | [StudGender=2]           | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudAge=1]              | -2.122         | 1.272      | 2.782  | 1  | 0.095 | -4.616                  | 0.372       |
|                     | [StudAge=2]              | -3.937         | 1.237      | 10.136 | 1  | 0.061 | -6.360                  | -1.513      |
|                     | [StudAge=3]              | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudClassYear=1]        | -5.714         | 1.354      | 17.816 | 1  | 0.000 | -8.368                  | -3.061      |
|                     | [StudClassYear=2]        | -2.529         | 1.010      | 6.268  | 1  | 0.012 | -4.508                  | -0.549      |
|                     | [StudClassYear=3]        | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudMotherTongue=1]     | 2.658          | 3.218      | 0.682  | 1  | 0.006 | -3.649                  | 8.965       |
|                     | [StudMotherTongue=2]     | 1.739          | 6.382      | 0.074  | 1  | 0.019 | 0.785                   | -10.770     |
|                     | [StudMotherTongue=3]     | 0.954          | 1.909      | 0.250  | 1  | 0.047 | -2.788                  | 4.695       |
|                     | [StudMotherTongue=4]     | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudOtheLanguages=1]    | -0.533         | 1.048      | 0.258  | 1  | 0.611 | -2.588                  | 1.522       |
|                     | [StudOtheLanguages=2]    | -2.619         | 1.250      | 4.392  | 1  | 0.066 | -5.068                  | -0.170      |
|                     | [StudOtheLanguages=3]    | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudPlace=1]            | 1.177          | 0.879      | 1.796  | 1  | 0.180 | -0.545                  | 2.900       |
|                     | [StudPlace=2]            | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudSchool=1]           | 2.783          | 2.314      | 1.446  | 1  | 0.000 | -1.753                  | 7.319       |
|                     | [StudSchool=2]           | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudParentEducation=1]  | -2.540         | 1.123      | 5.115  | 1  | 0.024 | -4.741                  | -0.339      |
|                     | [StudParentEducation=2]  | -1.533         | 1.008      | 2.313  | 1  | 0.128 | -3.509                  | 0.443       |
|                     | [StudParentEducation=3]  | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudParentEconomy=1]    | -3.062         | 1.519      | 4.062  | 1  | 0.054 | -6.040                  | -0.084      |
|                     | [StudParentEconomy=2]    | -2.174         | 1.346      | 2.610  | 1  | 0.106 | -4.812                  | 0.464       |
|                     | [StudParentEconomy=3]    | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudAmharicListening=1] | -3.844         | 2.223      | 2.989  | 1  | 0.084 | -8.202                  | 0.514       |
|                     | [StudAmharicListening=2] | -4.277         | 2.363      | 3.276  | 1  | 0.070 | -8.909                  | 0.354       |
|                     | [StudAmharicListening=3] | -2.784         | 1.568      | 3.154  | 1  | 0.076 | -5.857                  | 0.289       |
|                     | [StudAmharicListening=4] | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [StudAmharicSpeaking=1]  | -4.124         | 2.013      | 4.198  | 1  | 0.040 | -8.068                  | -0.179      |
|                     | [StudAmharicSpeaking=2]  | -3.945         | 1.754      | 5.059  | 1  | 0.024 | -7.383                  | -0.507      |
|                     | [StudAmharicSpeaking=3]  | -3.694         | 1.506      | 6.022  | 1  | 0.014 | -6.645                  | -0.744      |
|                     | [StudAmharicSpeaking=4]  | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |
|                     | [Stud_percep_CP=1]       | -1.910         | 0.897      | 4.531  | 1  | 0.033 | -3.668                  | -0.151      |
|                     | [Stud_percep_CP=2]       | 0 <sup>a</sup> | .          | .      | 0  | .     | .                       | .           |

Link function: Logit. <sup>a</sup>This parameter is set to zero because it is redundant.

Table 10 shows that the coefficients ( $\beta$ ) for the students' mother tongues are positive and the p value is below 0.05. This means students' mother tongue influences their CS frequency. By taking the exponent of these coefficients, we obtain an odds ratio (OR)<sup>1</sup> which indicates the odds of CS frequency. So, it is concluded that there was a strong association between students' mother tongue and CS frequency. If the OR is less than one, the comparison group code-switched less frequently than the reference group. If the OR is above one, however, the comparison group code-switched more frequently than the reference group (Strand, 2012). In our case, the other mother tongue

<sup>1</sup>Odds ratio is the exponent of the logit or the coefficient ( $\beta$ ), and it is calculated using Windows Excel. It expresses the likelihood of an event occurring for two groups. Odds Ratios from 0 to below 1 indicate the event is less likely to happen in the comparison than in the base group, odds ratios of 1 indicate the event is exactly as likely to occur in the two groups, while odds ratios of above 1 indicate the event is more likely to happen in the comparator than in the base group.

students were our reference group. For example, the odds of Amharic mother tongue students CS frequency is  $\exp(2.658) = 14.267$  times of the odds for other mother tongue students. Besides, the Tigrigna and Afan Oromo mother tongue students code-switched  $\exp(1.739) = 5.691$  and  $\exp(0.954) = 2.596$  times of the odds for the other mother tongue students respectively. To say it differently, other mother tongue students code-switched less frequently than the Amharic, Tigrigna, and Afan Oromo mother tongue students.

Contrary to this, Tekleselassie and Boersma (2018) found no relationship between CS and students' mother tongue. Their participants, however, had good command of speaking and listening Amharic though it was not their mother tongue. In Tekleselassie and Boersma (2018) study, 80% of the students were Amharic mother tongue while the remaining 20% were other languages mother tongue. This indicates that there was a huge difference between the number of participants whose mother tongue was Amharic and those whose mother tongue was other than Amharic. This difference may have led to the difference between this study and the former one.

The type of school that the students came from was another factor that affects students' CS. It was found that the odds for students who came from government schools code-switched  $\exp(2.783) = 16.167$  times of the odds for the students who came from the non-government schools. This shows that students who came from non-government schools code-switched less frequently than that of the other groups.

In the non-government schools, students are not allowed to use Amharic at any time. Due to this, the students who came from such schools are not expected to code-switch as they adapted such practices in their primary or secondary schools. It is because of this reason that the type of school that students came from affects students' CS.

The parents' educational status was found to affect students CS frequency negatively as  $p = 0.024$  and  $\beta = -2.540$ . For example, the odds for both parents' illiterate students was  $\exp(-2.540) = 0.079$  times of the odds for both parents' literate students. This indicates that students who had illiterate parents code-switched less frequently than those who had literate parents. We reach at this conclusion because  $\beta$  is negative and OR is less than one (see Table ??).

The finding of this study is in line to Nation (2003), Nazary (2008); and Blackman (2014). As they reported, literate peoples code-switch at home and in their work place. Due to this, their children may adapt such kind of speaking at their home and apply it in their school.

The students' Amharic language speaking skill was found to affect the students CS frequency negatively since  $\beta$  is negative and  $p < 0.05$ . To elaborate this, the odds for students who had a very poor Amharic language speaking skill was  $\exp(-4.124) = 0.016$  times of the odds for students who had a very good Amharic language speaking skill. This means, those who had a very poor Amharic language speaking skill code-switched less frequently than those who had a very good Amharic language speaking skill. Moreover, the odds for students who had poor Amharic language speaking skill was  $\exp(-3.945) = 0.019$  times of the odds for students who had very good Amharic language speaking skill. And the odds for students who had good Amharic language speaking skill was  $\exp(-3.694) = 0.025$  times of the odds for students who had very good Amharic language speaking skill. This is to mean that the students who had very good speaking skill of Amharic language code-switched more frequently than the other groups.

Similar to this finding, Cook (2001) and Sert (2005) stated that the use of CS in the EFL classes depends on whether the students share the same language or not. They added that such practices occur in Nigeria and South Africa where the students couldn't speak and listen the different working languages of the country.

## 5 Conclusions

The findings of the study showed that first year student's almost never code-switched while third year students did more. As literature on CS show, the students CS frequency had to decrease as their grade level increases. The study divulged that the EFL classroom was covered by Amharic with 8.9%, 20.6%, and 25.1% for first year, second year, and third year students respectively.

## 6 Implications

The amount of CS is too much at tertiary level especially for English major students. This indicates that the learners' English language performance is declining as their grade level increased. The CS frequency of the learners of all class years was found significant where the third year students' CS was found about one-fourth of the class time. These students are going to be English language teachers after a few months, but it is really questionable how they are going to teach English. The findings also show that there was a statistically significant relationship between the students' CS behavior and demographic factors like class year of the students, mother tongue of the students, the type of school they came from, their parents' educational status, their Amharic language speaking skill, and their perception towards code-switching. Therefore, EFL teachers and Education Quality Heads of the University have to give due attention to what is happening.

The communicative language teaching (CLT) that is in practice nowadays allows both students and teachers to use CS in FL teaching and learning cautiously since it facilitates target language learning and teaching if it is used and handled properly. It, however, warns both interlocutors to avoid an over use of it as it reduces the students' exposure to the target language because it is only the classroom that exposes the students to the FL in countries such as Ethiopia where English is taught as a foreign language. This implies that use students' L1 (CS) in FL learning and teaching limited and reasonably.

CS is practiced by both the students and the teachers. This study investigates only students' CS frequency. However, teachers' CS frequency as well has to be investigated as teachers have a lion's share in the teaching and learning process. Further research has to be conducted if there is a difference on the frequent use of CS between students and teachers. Besides, since English is used as medium of instruction in the tertiary level educations of Ethiopia, the content subject (non-English major) students' CS frequency needs also to be investigated. Moreover, the number of students who participated in this study is small. This might have an impact on the conclusion arrived. Hence, another research has to be conducted with large number of participants to bolster the literature on CS. These are some of the limitations of this study which needs further research.

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## Data Availability

Data can be made available on the behavior of the request

## Declaration of interests' statement

The author declare no competing interests.

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## Research Original Article

# Elucidating enclosed truths in Ethiopian Education System during imperial periods: a realist review

Eshetu Mandefro <sup>1\*</sup>

<sup>1</sup> Educational Planning and Management, College of Education, Hawassa University

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### CORRESPONDING EMAIL

\* Corresponding author email:  
eshe1974@gmail.com

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### KEYWORDS:

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## Abstract

*Ethiopia undertakes inordinate opportunities and challenges to shape its education system. Notwithstanding the positive connotations of understanding the Ethiopian educational system, the exact educational configuration should be clarified. Thus, this realist review examined Ethiopian education during the imperial period, its growth patterns, external and internal challenges, and the colonial influences that hindered education transformation. The diversification of political party-oriented leadership in the education system from internal perspectives and hidden neo-colonialist ideology-oriented support from external bodies were identified as enclosing the truth offered by the imperial government in education development. Furthermore, it has been found that the enclosed facts that the imperial government sacrificed for generations to advance education for nation-building have been covered in dust by prudish politicians in the last three decades. It also identified the inhibiting and promoting efforts of international partners during the imperial period in education in Ethiopia.*

## 1 Introduction

Education is a process through which humans use it as a vital tool to transfer socially constructed experiences from generation to generation. Education is critical for sustaining culture through generations and for providing quality human capital that can respond to social, economic, political, and technological activities (Mandefro, 2020; UNESCO, 2015a). However, in the process of human activities, education is beset with an array of changes and advances in the development of academic spheres (Mandefro, 2022; UNESCO, 2015b; Mandefro, 2019).

Exclusively, there are two commonly known forms of education: traditional and modern. Traditional education is intended to pass on values, manners, skills, customs, and desirable social practices from one generation to another. The onset of different forms of traditional education (cultural, indigenous, and religious) in Ethiopia is unclear (Mandefro et al., 2016; Semela, 2014). Nevertheless, it has an ancient foundation, as society has used it to shape lifestyles. Traditional education in Ethiopia still has potential and is provided in different forms to socialize children with their indigenous knowledge, culture, and religious matters. In Ethiopia, empowering children with indigenous knowledge, culture, and religion is the shared responsibility of the family, socially recognized elders, and religious leaders. For example, religious education is one of the dimensions of traditional education that has contributed to and been a vital asset for indigenous knowledge and cultural

development in Ethiopia. For instance, the Ethiopian Orthodox Church contributed inspiring assets such as exceptional rhetorical scripts (Ethiopic alphabet), numbers, calendars, and indigenous cosmological knowledge that Ethiopia contributed to African cultural development (Pankhurst, 1972; Wagaw, 1979; Tefera, 1996). Owing to these unique assets, Ethiopia is one of 18 countries in the world with scripts and numbers. Generally, traditional education is the foundation of literature and is reserved as a cultural heritage and passed on to generations. Moreover, indigenous education in Ethiopia has been well thought out as a fantastic avenue for providing literacy to Ethiopian children and equipping them with the initial tools of learning that contribute to further education (Melesse and Bishaw, 2017; Semela, 2014; Wagaw, 1979; Tefera, 1996).

Notwithstanding its importance, traditional education is far from using science and technology (Melesse and Bishaw, 2017). At the offset of the 19th century, an unexpected but significant event that awakened all Africans was made by Emperor Menelik II. The event was the victory of Africans over prudish colonial ideology in the battle of Adwa. This phenomenon laid the foundation for modern education in Ethiopia. Consequently, modern education began during the reign of Menelik II in 1906. Hence, the admiration of Ethiopian victors over Italians at the Battle of Adwa in 1888 increased the international recognition of the country, especially to support the modern education system.

Recognizing these facts, Emperor Menelik II was highly convinced that education was an indispensable tool to create human capital to respond to the demands of internationalization in social, economic, political, and technological affairs to familiarize the country with other nations. Therefore, the purpose of this review article is to provide a more comprehensive understanding of the development of the education system in Ethiopia, focusing on the enclosed truths that imperial governments have contributed to the advancement of nation-building through education. Specifically, this realist review article is more focused on the policy and governance of the education system, curriculum, contents, and structure of education, language, policy and media of instructions, teacher and leader recruitment, selection, training, and development strategies. This article also scrutinizes the internal cultural barriers and external colonial influences that have hindered the development of education in Ethiopia. It also assesses the efforts, support, and misconceptions made by Western partners in the Ethiopian education system. Moreover, the article presents enclosed truths that have been covered by ethnocentric political ideology in the last three decades that both imperial governments have contributed to nation-building in education.

## 2 Research Methods

### 2.1 Realist Review

A realistic review is an appropriate method for achieving the objective of this study. Realism is a systematic approach aimed at searching for information and refining explanations of the relationships between contextual elements, situations, mechanisms, and intervention outcomes (Pawson et al., 2005). Realism philosophy holds that mechanisms matter because they generate outcomes, and contextual elements should be taken into account since they influence the processes by which an intervention produces outcomes (Wong et al., 2013). In the context of this article, a realistic assumption is significant in understanding the enclosed realities of the purpose of education during the imperial government period compared with the mechanisms used by the prudish political system covering these realities to sustain ethnocentric ideology in the last three decades. In this regard, the mechanisms used by the ethnocentric governance system in the last three decades in the education sector have negatively affected our understanding of the contribution of the imperial government to nation-building. Thus, as discussed by Pawson

and [Manzano-Santaella \(2012\)](#), the realist methodology used in this study allows for an interpretative, reflexive, and iterative review process to best understand the facts that contribute to the development of modern education in Ethiopia.

## 2.2 Sources of data

A systematic literature review was performed between March and October 2022. The purpose of this review was to identify studies related to the historical development of education in Ethiopia. Searching for information included different databases covering various disciplinary fields such as the Education Resources Information Center (ERIC), Scopus, Web of Science, Google Scholars, SocIndex, Published books, Published Theses, and websites and resource centers of Higher Education Institutions. As a result, this article used several secondary sources of information because it aimed to review the literature to assess and describe the variety of facts that are not well addressed and described to create a comprehensive understanding of education development, particularly in imperial governments in Ethiopia.

## 2.3 Inclusion and exclusion criteria and review process

The initial information was limited to peer-reviewed articles published in academic journals and research reports published by nontraditional academic institutions such as UNESCO, OECD, UNICEF, and the World Bank. To be included, articles and research reports published by both traditional and nontraditional academic institutions needed to adhere to various inclusion criteria, such as had to concern (1) traditional education, (2) the evolution of modern education, and (3) the pros and cons of the development of education in Ethiopia. Moreover, articles, books, and research reports had to (4) incorporate policies and practices of education in Ethiopia; (5) policy and governance of the education system; (6) curriculum contents and structure of education; (7) language policy and medium of instruction; (8) teacher and leader training and development policies and strategies; and (9) include a presentation of empirical data. Thereafter, information from articles, research reports, and books was extracted to construct findings describing the realities of the education system in the imperial era. No further restrictions on the selection of articles, books, or research reports were applied on methodological grounds. Finally, the most vital components of the education system, such as philosophical and historical foundations, policy and governance systems, curriculum and its structures, school organization and management, the medium of instructions, teacher and school leaders' training and development strategies, assessment, evaluation and certification, and other relevant issues that have not been assessed together by others are addressed to demonstrate a complete image of education during the imperial period.

## 3 Results

### 3.1 Glimpse of Ethiopian Menelik II Reign

The fundamental reason Emperor Menelik II established modern education in Ethiopia was the irreversible need to cope with the opportunities and challenges of globalization at the beginning of the 20th century. As indicated in the introductory section, Emperor Minilik II recognized whether indigenous or religious education was not satisfied with the needs of political, economic, technological, and foreign relations and maintained the country's popularity ([Wagaw, 1979](#); [Tefera, 1996](#)). Among the prevalent conditions,

the formation of a centralized government, the establishment of diplomatic relations with other countries, the commencement of construction of the Franco-Ethiopian railway that linked the country with neighboring countries, and the demand for mechanics and technicians to introduce modern means of communication, such as telephone, radio, and postal systems, and many others required trained people (Wagaw, 1979).

With the introduction of modern education in Ethiopia, Emperor Menelik II also faced strong opposition from internal forces, such as Orthodox Church leaders, and external forces, such as the Coptic Church of Alexandria and Syria. They believed that the goal of modern education was to infect youth with secular objectives that opposed their canons. Moreover, they assumed that secular education could promote anti-Ethiopian attitudes by hosting foreign religions and menacing ideas that undermine their status in society (Wagaw, 1979). However, Emperor Menelik carefully handled the problems raised by the Orthodox Church by establishing a diplomatic relationship by recruiting teachers from the Copts Churches of Egypt. This is because these teachers are assumed by church leaders to respect the Ethiopian Orthodox Church, as both have similar canons. Another strategy used by the emperor to facilitate the foundation of secular education in Ethiopia made the purpose of education to equip the ruling elite (most of them from the Church) with foreign language knowledge for better contact with foreigners and make the ruling elites competent in court affairs and defining law articles based upon the experiences of others. As a result, French, English, Italian, and Amharic were the dominant languages used by Ethiopians during the onset of secular education in Ethiopia (Tefera, 1996; Wagaw, 1979).

Underpinning the secular education development in Ethiopia, Emperor Menelik II also used the strategy that the education system founded on the legal ground by endorsing the education law policy. Recognizing this truth, Menelik issued the first historic educational proclamation in 1906. Proclamation is the first written education law or policy that provides legal grounds for introducing modern education into the country, and it has been stated as follows:

“In other countries, not only do the younger practice.” An additional inspiring concept that we have to recognize from the proclamation is that high emphasis has been placed on technical and vocational education. Therefore, it can be said that the Proclamation hoped to enhance the all-rounded development of Ethiopian children. Another interesting connotation we must understand from the proclamation is that education is compulsory and free for all school-aged children.

The emperor’s interest was in recognizing education as a vital tool for creating quality human capital that Ethiopians can respond to the demands of globalization in social, economic, political, and technological advancements to seem equal to other nations in the world. Additional messages we have to draw from the proclamation are that the value given to educating citizens is to gain knowledge and create new things and innovations for social, economic, political, and technological development.

Although several preparations have been made, much has not been achieved during Menelik’s reign. In 1913, after the emperor’s death became accustomed, only four schools, Menelik II School in Addis Ababa, one school in Harar, one school in Dessie, and another school in Ankobar (where Menelik II was born) were established in Ethiopia. While the proclamation approved that the attendance of schools was free, parents were not interested in sending their children to school because they were under the strong influence of the Church’s clergy (Wagaw, 1979). The achievement of these schools was in addition to foreign languages, moral education, Ethiopian history, Ge’ez, reading, and writing as part of the curriculum. However, all subjects were brought directly from France. As a result, it

was neither relevant to the Ethiopian context nor to recognize the existing realities and indigenous knowledge of Ethiopian society (Mengistie, 2020).

After Menelik's death, Empress Zewditu (daughter of Menelik II), came to power in Ethiopia. Following her father's example, she also made a second historic educational proclamation in 1929. The second education proclamation charted by the Empress is described as follows:

... those parents who failed to send their children to school and made them learn reading and writing skills, respecting the empress and God would have to be penalized 50, 50 Ethiopian Birrs each, and the birth collected from such penalties would be given to the respective church and used to serve the needy people. The baptism priest was also requested to advise religious children to send them to school. If they fail to send their children to school, the priest should inform their respective government representatives. Teachers were requested to teach the children. Church leaders are also expected to provide life skill advice to their people. Moreover, parents need to initiate their children's learning of local skills that can help them lead their future (Bender, 1976).

Similar to Menelik's proclamation, Empress Zewditu's education proclamation includes essential concepts that hoped for the development of modern education in Ethiopia. Some of the important points of the proclamation are discussed below.

The Proclamation emphasizes the motto of education. The central intent and individuals responsible for leading the education system were endorsed by priests and church leaders. Education was mostly non-formal, without uniformity or curriculum; it was mainly focused on reading and writing. Among the strengths of the proclamation, it placed a high emphasis on practical, technical, and vocational education to transform the lives of society. Therefore, technical and vocational education is considered a basic tool for improving the economic advancement of the youth. In recognizing the importance of technical and vocational education, the proclamation highly emphasized that a family who is not training their children in technical education is considered a murderer who made an individual disabled. Proclamation also places a high emphasis on the humanitarian, moral, and ethical dimensions of education. Basic education is compulsory for those age groups- 7-21 years old.

The type of education envisaged in the proclamation was more of the traditional church education type than its form of modernity, which intentionally happened to mollify public opposition (Tefera, 1996). Thus, it was no longer effective in the development of education in Ethiopia. From the above proclamations, it is clear that education mainly focused on reading and writing. The curriculum was borrowed from the West and it was mostly language; the teachers were expatriates, the medium of instruction was French, and the content of most of the other subjects dealt only with Western experience and ideology that was not relevant to the Ethiopian context (Tefera, 1996). Recognizing the fact that Ernest wrought in 1931, as cited in Pankhurst (1972), recommended that Ethiopian children be educated in their languages and teachers, training Ethiopian teachers, writing Ethiopian textbooks for Ethiopian students, and expanding primary, secondary, and tertiary education in Ethiopia.

The literature discussed in the preceding sections is ostensible that in the dark age of Ethiopia, where they are isolated from other brothers in the world due to illiteracy, Emperor Menelik II made surprising efforts to modernize Ethiopia by introducing modern education into the country. The history of Ethiopia tells us that apart from introducing secular education into the country, Emperor Menelik II has made irreversible breakthroughs and contributions in defining territorial integrity, national unity, and sovereignty for Ethiopia. Furthermore, working with his Ethiopian brothers and sisters and using his

devised leadership quality, he has made a commemorative history for all human beings by discarding the anti-humanitarian colonialism ideology of the land of Africa. Regarding the modernization of the education system in Ethiopia, although he did not achieve his plan due to rigid cultural and religious creeds, he laid down irreversible milestones by opening the eyes of all Ethiopians towards education and contributing much to today's Ethiopia.

### 3.2 A Glimpse of Ethiopian Education during Haile Selassie Reign

Emperor Haile Selassie's arrival to power in 1930 was considered a renaissance period in the Ethiopian education system. Emperor Haile Selassie started the expansion of education in Ethiopia by establishing his first school, Teferi Mekonen Primary School, in Addis Ababa in 1925 (Tefera, 1996; Pankhurst, 1972). Like Menelik II, the emperor faced opposition from conservative church leaders while making all his efforts to open this school throughout the country. Recognizing that education is vital for nation building, Emperor Haile Selassie established a Ministry of Education and Fine Arts in 1930 (Tefera, 1996). Following the formation and organization of the Ministry of Education, some steps were taken in the system, including the allocation of the education budget and other related administrative activities, such as recruiting educational advisors to the Ministry of Education from the USA have been made. As a result, Professor Ernest Work was appointed to advise and produce proposals for improving the Ethiopian education system (Pankhurst, 1972).

Like Emperor Menelik II, they were entirely imported from Western countries. As a result, French and English serve as the medium of instruction. However, French was dominant in teaching other subjects such as mathematics, chemistry, physics, history, geography, gymnastics, and sports. Moreover, most of the teaching staff were French (Tefera, 1996). By 1935, when the Fascists struck, there were 21 government schools, and the other two schools were run by missionaries. The best achievement of this period seems to be the survival of a new educational system imported from abroad.

The modest attempt made by Emperor Menelik II and further enhanced by Emperor Haile Selassie to modernize the country through Western education was disrupted by the Italian occupation in 1936 (Tefera, 1996). In the process of Ethiopian education, this period was considered a Dark Age, in which all efforts made by the two imperial governments and international partners were entirely collapsed by the fascist Italian army. Recognizing the severity of the problems, Markakis (1974) explained the situation as between 1936-1941 the Italian occupation nipped the novel process of modern education in Ethiopia in the bud.

Moreover, Markakis (1974) stated that the fledgling system of state education was completely demolished, students and teachers were dispersed, the meager collection of educational materials was scattered and destroyed, foreign teachers left, and school buildings were commandeered by the Italian army (Tefera, 1996). After destroying the educational system that started in the country, Italians attempted to establish their own educational system. Accordingly, an educational ordinance was issued in 1932 for East African colonies (Pankhurst, 1972).

Accordingly, the Italian army established two different kinds of educational institutions, i.e., the "National" (Italians) and schools for the Colonial Subjects (Ethiopians). The schools for colonial subjects were controlled by the governor to ensure that fascist ideology was pursued (Pankhurst, 1972). The education ordinance stated that the medium of instruction was a local language. Accordingly, Amharic, Tigrigna, Oromigna, Kafficho, and Somali varieties have been used in different regions (Tefera, 1996). This was, however, not for pedagogical or cultural values, but rather to promote their "divide-and-rule" policy

of colonialism. Thus, it is possible to infer that the Italians destroyed the newly emerged educational system and tried to install a system that they thought would sustain their colonial rule.

### 3.3 The British Period (1942-1950)

After the Italian forces were defeated by the Ethiopian army for the second time in 1941, there were no functional schools, no Ethiopian teachers, and all efforts made by both imperial governments to build the education system have been destroyed by Italian forces. There was also a severe shortage of educated people who could run government offices (Pankhurst, 1972). Recognizing these facts, Emperor Haile Selassie began the reconstruction of the education system with the support of British advisors. Consequently, in 1942, schools were reopened using teachers and teaching materials from Britain or British colonies and protectorates. However, between 1944 and 1950, the education system was characterized by sluggish growth with an acute shortage of resources (Tefera, 1996). After the liberation period, foreign advisors from Britain and teachers were entirely engaged in the formation of the education proclamation. The proclamation was prepared mainly with British assistance; as a result, English became the medium of instruction. The curriculum, structure, and textbooks used were those of East African British colonies, and students were prepared for the London General Certificate Examination (LGCE) (Negash, 1996).

To enhance the expansion, a Board of Education was established in each region, and an educational tax was declared. To supplement the government's efforts, private and voluntary organizations were encouraged to open schools. With the proclamation made to regulate their activities, missionaries were officially invited, for the first time, to participate in providing education and other services. At the end of the 1950s in Ethiopia, all types of schools, such as primary, secondary, and teacher training institutes, one commercial school, one technical school, and a few agricultural schools provided functions to Ethiopian citizens. With this rapid growth, the urgent requirements for semiprofessionals were at least partially met (Pankhurst, 1972).

### 3.4 The American Period (1951-1974)

This was a period in which remarkable changes were observed in the history of modern education in Ethiopia. As the first step in which the USA was involved in the Ethiopian education system, Ethiopia signed the "Point Four program" of Technical Assistance with the US government in 1951. This was also a period of declining British predominance and increased American influence on the Ethiopian education system (Pankhurst, 1972). Accordingly, as per the direction of American experts, who replaced British advisors, the Ministry of Education was reorganized, the structure was changed, and textbooks started being shipped from the United States (Tefera, 1996).

The major change, however, was the adoption of a series of five-year plans aimed at a controlled expansion in education (Pankhurst, 1972). The emphasis was not on offering wider educational opportunities but on producing limited personnel to meet the manpower needs of the country. However, the expected change was not achieved in primary education by 1961, which was the end of the first five-year plan. Only 6.6% of eligible children attended primary school (United Nations Economic Commission for Africa, 1961). The Ministry of Education organized a committee to evaluate the educational program and make recommendations. In 1962, the committee came to a plan by 1980, a country to be achieved: 82.8% of primary education, 19.2% of second education, and 1.9% of college education. Conversely, the government rejected the proposal as it was

too expensive and unrealistic for the country's economy. Instead, it chooses to concentrate on its own five-year national education development plan, which focuses on limited manpower training rather than on the expansion of education (Mengistie, 2020).

In the late 1960s, students, parents, and teachers expressed widespread dissatisfaction with the government, which called for basic changes and reforms in the education system (Tefera, 1996). In response to these demands, in 1969, the National Commission for Education studied and recommended a review of the entire education sector, and the government accepted (Pankhurst, 1972). In 1971, an agreement has been signed with International Development Agency (IDA) to finance a project called "Education Sector Review" which was aimed to conduct a comprehensive assessment and draw suggestions to bring change and improvement in the Ethiopian education system, (Tefera, 1996). The "Education Sector Review" was planned and conducted with the broad participation of Ethiopian experts. This phenomenon was the first step that reflected Ethiopians' capacity in planning and policy formulation in education (Tefera, 1996). However, the imperial government failed to build a sufficient consensus around these changes. Moreover, before introducing a change by decree, there was a widespread negative public reaction to the proposed reforms. Consequently, this public reaction played a role in precipitating the revolution in 1974 (Tefera, 1996).

### 3.5 Curriculum changes & development

The application of French methods to Ethiopian students was fraught with difficulty. For instance, Ethiopians were unfamiliar with the assessment methods used at that time. The monarchy relied on a non-Ethiopian curriculum that did not consider local differences. For example, students in most schools were required to take the French Government Examination of Competence (Zewudie and Bridge, 2000). As a result, the involvement of foreigners (particularly the large number of French and Egyptian advisors) had a significant impact on curriculum selection and organization, which did not always address the needs and interests of Ethiopians. Thus, issues regarding the educational structure and formal curriculum in Ethiopia began during the Haile Selassie Reign.

Along with many structural changes, different curricula that conform to these structures have been suggested. Curriculum changes during the Haile Selassie period can be divided into four phases. The initial phase of the curriculum development group consisted of foreign staff organized to craft a formal school curriculum in Ethiopia in 1947. This curriculum consists of a 6+6 structure; with six years of primary education followed by six years of secondary education (Tefera, 1996). The subjects included in the curriculum were Amharic, English, Science, Art, Geography, History, Arithmetic, Music, Handcraft, and Physical education. Amharic was the medium of instruction for all subjects in Grades 1 and 2. There was an assumption that there was a gradual transition to the use of English as a medium of instruction in grades 3 and 4 in the teaching of art, science, physical training, handicraft, music, geography, history, and arithmetic. English was suggested to be the medium of instruction in Grades 5 and 6 for all subjects except the Amharic subject (Tefera, 1996).

Despite attempts made in the first curriculum, serious problems were observed in its implementation. For example, textbooks translated from other languages to Amharic did not reflect Ethiopian reality, shortages of teaching and learning materials, and the secondary school syllabus was entirely based on the standards of British schools. In the teaching of the Amharic Bible was selected as the textbook from Grades 1 through 4, which significantly affects non-Christian children from populations; teaching in English at a primary level significantly impacts students' learning where English is not their first language. Thus, the curriculum was criticized because its content was foreign, which is irrelevant to the Ethiopian context (Mengistie, 2020; Tefera, 1996; Pankhurst, 1972). To

overcome these problems, the government appointed a committee to prepare a relevant curriculum for Ethiopian students for the second time.

For the second time, the modern education curriculum was developed in 1949. In this curriculum, the structure of education has changed from 6+6 to 8+4 to overcome language problems, particularly English difficulties, as a medium of instruction at the primary level and the desire to extend elementary education (Mengistie, 2020). The language of instruction was English, starting in Grade 4. Apart from the subjects included in the first curriculum, the second curriculum included social science and humanities and technical and vocational education subjects with high emphasis on engineering, mechanics, electricians, agriculturalists, artisans, and experts. Having approved this curriculum, between the years of 1949-1963, all primary and secondary schools implemented it. However, throughout the implementation process, the stakeholders identified serious problems, such as not considering the Ethiopian situation, focusing only on the formal type of education, and pupils learning both foreign languages and content at the elementary level had difficulty grasping either (Mengistie, 2020; Negash, 1996). Thus, to solve these problems, the government has planned to revise the curriculum for a third time.

After According to Negash (1996), the third curriculum, with an experimental approach, was influenced by the US between the years 1954-1974. In 1954, the US States began to shape Ethiopian education policy through an advisory group (Negash, 1996). The report of this committee included the introduction of community schools for basic education; the educational objectives should be achieved towards universal fundamental education; and students should display effective command of communication in Amharic (Negash, 1996). Then, the curriculum was prepared, and based on the recommendation made by the committee, before implementing the new curriculum; a pilot test was conducted to determine its effectiveness (Mengistie, 2020). Completing the pilot program, both teaching and learning improved as Amharic was used as the medium of instruction for the primary level; however, the absence of books and teaching materials was reported as a major problem. To solve these problems, the Ministry of Education established a textbook production unit (Negash, 1996). After completing the experimental program in 1963, another curricular change was made for the fourth time during the reign of Emperor Haile Selassie.

The fourth curriculum during Emperor Haile Selassie provided the structure (6+2+4) for six years for primary education, two years for junior secondary education, and four years for senior secondary education. Amharic became the medium of instruction at the primary level (Grades 1 to 6) to teach subjects like Amharic, English, Arithmetic, Social studies, Natural Science, Health and Safety, Morals, Agriculture, Arts and Crafts, Homemaking, Physical education, and Music, (Negash, 1996). The fourth secondary school curriculum is highly technical and vocational (Tefera, 1996). Notwithstanding all the efforts made by Emperor Haile Selassie, there was a disparity between the educational program and the needs arising from the social situation and demands for education in Ethiopian society. Thus, there were strong requests from educators, university students, government officials, students, and parents to improve the educational system further (Tefera, 1996).

Based upon the observable problems and criticisms made by different stakeholders on the ineffectiveness of different curricula and education strategies, Emperor Haile Selassie was forced to develop a comprehensive official document called the Education Sector Review (ESR) in 1971, which was discussed in Section 4.3. The education crisis and related problems such as social crises, economic limitations and poverty, political interests, and technological limitations in Ethiopia mobilized students and teachers to lead to a successive wave of local and national strikes that began early in 1974 and continued unabated until the overthrow of the imperial system in September 1974.

### 3.6 Teacher training and development

We have made a detailed discussion regarding modern education in Menelik II, where the system was highly characterized by a series of problems. Menelik has not only faced problems with planning for teacher training, but also has serious challenges in establishing primary schools in Ethiopia. Thus, at the time, it was impossible to think about teacher education in Ethiopia. After Menelik's death, Empress Zewoditu's government collapsed and no progress has been made in teacher training and development. According to [Semela \(2014\)](#), the history of teacher education began in Ethiopia after the collapse of Italian occupation in 1941.

Having collapsed the Italian occupation, the reconstruction of the education system in Ethiopia began with support provided by Britain. Emperor Haile Selassie recognized that the rapid expansion of education was unrealistic unless Ethiopia created its local capacity. This was the correct time to begin reform of teacher preparation ([Semela, 2014](#)). Consequently, the 1st historical teacher training program in the Menelik II School compound was introduced in 1944 ([Semela, 2014](#)). Following this, an independent and formal teacher training institution (TTI) was established in Addis Ababa in 1946 ([Kelemu, 2000](#)). Until the early 1970s, the system had been modestly expanded with the opening of three new TTIs in Harar, Dabre-Berhan, and Jimma Town ([Semela, 2014](#)). Moreover, [Semela \(2014\)](#) noted that, between the late 1960s and the 1970s, three more diploma teacher training colleges were established: Kotehe College of Teacher Education, Bahir Dar Academy of Pedagogy, and Alemeya College of Agriculture.

According to [Semela \(2014\)](#), in the Emperor Haile Selassie regime, three phases of teacher education reform were renowned. The first phase was between 1944-1954, which is recognized as the onset of the teacher education program in Ethiopia. This was the first time standards for admission for primary school teacher training were established. Accordingly, one year of teacher training in a certificate program was provided to prepare primary school teachers. The second phase of teacher training was between 1955-1965. The Ministry of Fine Arts strengthened the certificate and created a new diploma for the education program. Regarding this, [Semela \(2014\)](#) elaborated that a one-class secondary school teacher training program began at Haile Selassie I University (HSIU) in 1959. These improvements indicate the growing importance of maintaining quality standards for teachers, apart from expanding educational opportunities ([Semela, 2014](#)). The third phase is considered the last teacher education program reform of the Emperor regime, which survived for only two difficult years (1966-1968). Unlike the earlier admission criteria, the duration of teacher training in the certificate program was increased to two years. In addition, the new graduate teachers should successfully pass both the exit examinations of their respective institutions and the national examination, which was centrally administered by the MoE, to join the teaching profession.

According to the discussion above, Emperor Haile Selassie's government established a significant milestone for Ethiopian teacher education, training, and development programs. Furthermore, the reign of Emperor Haile Selassie is regarded as Ethiopia's 'Golden Age' of teaching careers ([Negash, 1996](#)). This was because teachers were held in high regard by the community at the time, paid more than other civil servants, and had a high level of prestige and status in society ([Semela, 2014](#)). However, teacher-training programs in Ethiopia have not been successful at all levels in addressing the country's teacher shortage. According to [Semela \(2014\)](#), up to 90% of teachers in primary and secondary schools are unqualified to the level to which they are assigned to teach.

### 3.7 The school leadership training and development

School leadership training in Ethiopia has a history that is similar to that of teacher training and development. During the imperial reign, school leadership, training, and development in Ethiopia had three phases. The first phase had a background similar to the opening of the 1st Menelik II School in Addis Ababa. The arrangements for hiring teachers and school heads were made between Menelik and the church leaders. Consequently, the first Coptic teachers and their headmasters were hired in Egypt (Negash, 1996).

Hence, the first school in Ethiopia (Menelik II) was initially directed by the Egyptian instructor Hanna Saleb (Pankhurst, 1998). In 1925, Doctor Werkinah Eshete was the first Ethiopian to be assigned as the school director to lead the Teferi Makonnen School in Addis Ababa (Wagaw, 1979). From the onset of secular education until 1935, Coptic and French head teachers mostly executed the responsibilities of managing and leading schools and other educational institutions (Bishaw and Lasser, 2012). Recognizing this fact, Ernest Work proposed, among other things, that building schools by local staff was the priority area he had suggested to the government (Shibeshi, 2008). However, no actions were taken during that time, because it failed to appreciate its necessity by the people, the incapability of the education system, and political instability, especially the fascist Italian impact on the education system (Areaya, 2008; Shibeshi, 2008). Consequently, many of the school directors' positions were held by expatriate staff (Asayehgn, 1979). Likewise, expatriate staff members occupied many advisory positions in the Ministry of Education.

Starting from the second half of the 1940s, the development of Ethiopia's school leaders was in progress, as Ethiopians started to graduate from teacher training schools. It started with the graduation of 24 Ethiopians in 1946 (Gemechu, 2018). As the only trained Ethiopian teachers in the country, they were called upon to perform various duties such as administration, accounting, and community leadership, in addition to their teaching responsibilities (Wagaw, 1979). Specific to the principal, jobs started as supervising teachers when those in the position were responsible not only for a single school but also for the education system (Ali, 2012). This development could be considered as a second phase in the developmental stages of school leadership in Ethiopia during the Emperor's Haile Selassie reign.

In the late 1940s, the start of Ethiopian substitution by expatriate staff was a step forward in the right direction. The expansion of education services throughout the country has forced the government towards school leaders' training programs. Furthermore, the growing number of schools and the rate of enrollment also put pressure on the government to begin leadership training in the Ethiopian education system (Tekleselassie, 2002). Moreover, to reduce the salary and other administrative costs necessary for expatriate staff, role confusion and language barriers in local communities are among the reasons for beginning the school leadership training and development program in Ethiopia, which is considered the third phase of leadership reform (Gemechu, 2018).

In 1995, educational administrative personnel and inspectors' training began at the Teacher Training Institute (TTI) in Addis Ababa (Wagaw, 1979). Accordingly, experienced teachers who graduated from TTI were recruited through a six-week inspection training program. At the end of the same year, 24 inspectors had graduated from the program (Wagaw, 1979). The training was discontinued in 1953 until more inspectors were needed' (Wagaw, 1979). The program reopened in 1955 and teachers and head teachers attended a one-year inspection course at Haile Selassie I school, which was later called Kokebe Tsibha School (Ministry of Education, 1994).

Likewise, in 1962, one-year and summer in-service training programs for elementary school directors and supervisors were established at Haile Selassie I University (Asayehgn,

1979). Educational personnel with two or more years of experience were recruited to join the leadership training program; thus, after completing the training, they would become better educational leaders and agents of change (Asayehgn, 1979). The school directors' program was prepared by training primary and secondary school directors and supervisors (Ministry of Education, 1994). The education and leadership training program also started in the early 1970s at the Bahir Dar Academy of Pedagogy, currently known as the Bahir Dar University (Gemechu, 2018). These are facts about leadership training and development recorded in Ethiopia in the imperial era.

## 4 Conclusions

This literature review indicates that the traditional educational system in Ethiopia has two forms: indigenous and religious. Indigenous education socializes children by teaching social norms, values, beliefs, etc. Parents and elders were responsible for educating their children. Religious education, however, was responsible for inculcating the canon of a particular faith and morally developing followers. Thus, religious education has an organized and hierarchically structured system that involves reading, writing, computing, and singing. The methods of teaching, for instance, church education, included oral memorization and reaction, and the evaluation was based on checking the mastery of orally learned materials. Nevertheless, because of their significance, neither indigenous nor religious education alone has contributed to social transformation, economic development, regional and international integration, political and diplomatic collaboration, and inculcation of technology and innovation in Ethiopia. Furthermore, these types of education systems alone did not contribute to the country introducing itself to other worlds and providing its unique assets to the world and nation-building. Educational thoughts about Ethiopia should emanate primarily from its social, political, cultural, economic, and educational context. Failure to develop the Ethiopian education system from indigenous and religious educational experiences greatly affects the relevance of the Ethiopian education system.

Recognizing that Emperor Menelik II is the Ethiopian liberation hero and the figure of the African liberation movement, Emperor Menelik II has struggled with both internal and external forces to introduce modern education into Ethiopia. This is because he recognized and committed to changing the world through education and educating people. In realizing his vision, one remarkable phenomenon was called the Battle of Adwa, in which Ethiopians took over the Italian army. Through this process, Ethiopians had the opportunity to open their doors to modern education in the 19th century. In response to several national and international interests, modern education in Ethiopia began in 1908 through Menelik II's leadership. It is ostensible that Emperor Menelik II was convinced of the importance of modern education in connecting Ethiopia with another world, as it is an obligatory tool to create quality human capital that can respond to the demands of globalization in social, economic, political, and technological activities that Ethiopia has opportunities to familiarize itself with other nations. Moreover, the emperor was politically motivated to establish a central government and there was a need for educated people to establish diplomatic relations. At the same time, new types of communication services, such as telephone, postal systems, radio, and rail transport, are needed for trained personnel.

Although there was opposition, especially from Church leaders, to the introduction of modern education, some schools opened from 1908 to 1935 in different areas of the country. These schools and students discontinued their formal activities from 1936 to 1940 due to Italy's invasion of Ethiopia. When Ethiopia restored its independence in 1941, it embarked on reopening schools, considering education as a key factor in development. The curriculum was dominated by Western cultures, which were irrelevant

to the Ethiopian context. First, it was French-influenced, followed by British, and finally American. Although the curriculum underwent different changes and reforms at different times, it was not relevant to the Ethiopian context and could not serve the expected purpose.

Regarding teacher training and development, Emperor Menelik II faced serious challenges in beginner teacher education in Ethiopia. As a result, there was nothing to do regarding teacher education and training. After defeating Italian occupation, the reconstruction of the collapsed education system, Emperor Haile Selassie, began teacher education and training in Ethiopia in 1944. Following its introduction, Emperor Haile Selassie laid down an important milestone in Ethiopian teacher education, training, and development programs. This period was considered as the Golden Age for teaching careers in the Ethiopian educational system. However, teacher training programs have not been successful at all levels in dealing with the shortage of qualified teachers in Ethiopia.

Along with the teacher education and training program, the educational leadership training and development program in Ethiopia is undergoing similar reforms largely associated with changes in the political system of the country. Therefore, it can be argued that educational reforms were, for the most part, politically driven, with a significant degree of intervention and support from international actors. However, based on analyses of the policy and governance history of Menelik II and Haile Selassie, there are harmonies and similarities across the historical development of the education system and state ideologies. However, the challenges, attitudes of society towards education, and strategies used by these two regimes to provide education access, teacher training, leadership training, and development vary. Moreover, throughout both imperial eras, the Ethiopian education system was not left free to develop through Ethiopian realities and culture.

Although educational reforms in Ethiopia were initially generated by Ethiopian forces, such as Menelik II, they were later taken over by foreign powers that used education as a means to inculcate their political interests and ideology in Ethiopian society. The central reasons for foreign domination are closely associated with Ethiopia's economic, political, and national security and dependence. On the other hand, we appreciate and give high respect and value to these foreign brothers for their efforts and support in modernizing Ethiopia's education. Moreover, in the Dark Age, both emperors forwarded their efforts to modernize the Ethiopian education system.

## 5 Implications

We Ethiopians, and other brothers in the world should recognize and give high value to the efforts made by both governments to advance Ethiopian education. In reviewing the literature in this article, we also understand that there were bitter truths that were covered in dust by prudish politicians, divide-and-rule ideologists, and fraudulent ethnocentric ideologists that both imperial governments sacrificed for nation building and contributed to sustaining and developing the Ethiopian education system.

Moreover, the historical disorder of educational practices in Ethiopia still contributes to the unbalanced development of education in the country. This is the result of emphasizing the direction of political elites to achieve their short-term political goals at the expense of a larger Ethiopian society. As a result, these trends in education cost the country and seem Ethiopian today's shape. Therefore, it is time to lay a foundation and reasonable paradigm shift for the Ethiopian system to make it relevant with appropriate access and quality to transform Ethiopia into a middle- or high-income country, although defending the invisible hands of neocolonialism, ethnocentrism, corruption, prudish political ideologies, and promoting the growth and live-together ideology of the 21st century. We hope that this article also suggests that educational advisories, policymakers,

textbook writers, donors, and so on were not adequately dealing with our (Ethiopian) wonderful indigenous knowledge. Today, these scenarios have led us to be victimized by foreign policies and indirectly dependent on them. Therefore, we (Ethiopians) stand together to invest our knowledge, resources, time, and energy to make our education system realistic to its country and to advance the Ethiopian social system.

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## Data Availability

Data can be made available on the behavior of the request

## Declaration of interests' statement

The author declare no competing interests.

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## Original Article

# Re-thinking teachers education curricula from indigenous curriculum construction principle: a case study of College of Teachers' Education in SNNPRS and Sidama Regional State, Ethiopia

Abraham Tulu <sup>1\*</sup>, Tesfaye Fantahun <sup>2</sup>

<sup>1,2</sup> College of Education, Hawassa University

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### CORRESPONDING EMAIL

\* Corresponding author email:  
abritul@gmail.com

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### KEYWORDS:

Indigenous knowledge;  
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## Abstract

*Integrating primary teachers' education curricula with the school curriculum through indigenous knowledge is a means of decolonizing the western curriculum and contextualizing it by assisting learners to understand and synthesize their own environments. The purpose of this study is to explore the extent to which indigenous knowledge is reflected in the college of teachers' education Science and Mathematics curricula in light of indigenous knowledge. Mixed research design with exploratory sequential method was employed. Data were gathered from 58 science and mathematics teacher educators, 91 Primary school Science and Mathematics teachers, 7 colleges of teacher' education deans and vice deans, 4 regional education bureau officials, and 4 regional education bureau senior curriculum experts. Among four colleges of teacher' education in SNNPR, Bonga and Hosaena colleges were selected by simple random sampling technique and the Hawassa College of teacher education was selected from Sidama Region regional state. The instruments used to collect data were: questionnaires, interview, FGDs and document analysis. The data obtained through questionnaires were analyzed quantitatively by using frequency, percentage and mean. Whereas the information gathered by interview guide, FGD, and documents analysis were transcribed qualitatively analyzed, interpreted and expressed thematically. The study finding revealed that the extent to which indigenous knowledge are reflected in the existing colleges of teachers' education Science and Mathematics courses is very minimal, the colleges of teachers' education curricula are dominated by the Western curricula knowledge. Furthermore, there are teacher educators who perceive IKs as old, traditional and contributing nothing. Teacher educators' commitment and motivation in applying IKs in the classroom instruction, lack of organized indigenous resources was also identified as hindering the inclusion and implementation of indigenous knowledge, besides, the effort to include indigenous knowledge in the curricula has remained unpractical. To this end, education stakeholders such as policy makers, educators, curriculum developers, and parents shall work together to overcome the challenges in the inclusion and implementation of indigenous knowledge in both the college of teachers' education and primary education Science and Mathematics curricula. It is recommended that both Western and Indigenous knowledge must coexist in the college/school Science and Mathematics curricula in order to serve the current needs of society.*

## 1 Introduction

Every child has the right to an education and to a system of education that values the child's culture, language, and community as well as unrestricted access to schooling and participation (UNICEF, 2004). UNESCO (2011) mentioned the importance of Indigenous knowledge for sustainability by saying "Education program that promote Indigenous knowledge, sustainable lifestyles and sustainable development will further enhance these capacities such as critical thinking and problem-solving skills (UNESCO, 2011)

Indigenous knowledge is knowledge that arises directly out of the children's real-life experiences, and its incorporation into the school curriculum can motivate and bolster the intellectual fortunes and interests of the learners as students realize that recognition is given to what they already do, know, and say in their own communities (Mawere, 2015). Indigenous knowledge is resources that can help to solve local problems, to prevent conflict, to build solidarity in communities, to manage local affairs, and thus contribute to global solutions (World Bank, 2004).

Indigenous knowledge is a critical component of the economical low-income people social capital and a key asset in their efforts to reclaim control of their lives. Indigenous knowledge, like any other type of knowledge, must be constantly applied, challenged, and adapted to changing local contexts. To be liberating, education must focus on relevant contexts and local African knowledge's that can assist African society in coping with the challenges of a rapidly changing global economy (Msila, 2016)

The basic component of any country's knowledge system is its Iks. It encompasses the skills, experiences and insights of people, applied to maintain or improve their livelihood (World Bank, 1998). Semali and Kincheloe (1999) define Iks as "The dynamic way in which the residents of a certain area have come to understand themselves in relationship to their environment and how they organize that folk knowledge of flora and fauna, cultural beliefs, and history to enhance their lives" (Semali and Kincheloe, 1999).

There is a growing consensus that some of the solutions to problems that currently plague developing societies and communities must proceed from understanding the dynamics within the local context. Such dynamics include the role of Iks (Indigenous knowledge) and practices in the development processes (Dei, 2002; Angioni, 2003; UNESCO, 2003).

There have been robust debates on the integration of Iks into national curricula (O'Hern and Nozaki, 2014; Breidlid, 2013) and initial attempts to include Iks in the curriculum have sometimes met with resistance from different people who have varied views about the specific knowledge items which should be included (Hodson, 2009). Mpofu and Vhurumuku (2017) suggested that to achieve the education goals in African countries, integrating Iks with science, technology, engineering, and mathematics is the key. These shows including Iks both in colleges of teacher education and primary school science and mathematics curricula became imperative. Based on this background, the study intended to analyze the college of teachers' education science and mathematics curricula through indigenous Curriculum Construction perspectives.

## 2 Research Problem

Indigenous knowledge is the social capital of the people, their main asset to invest in the struggle for survival, to produce food, to provide for shelter or to achieve control of their own lives (Ellen and Harris, 1996). They are developed and adapted continuously to gradually changing environments and pass down from generation to generation and closely interwoven with people's cultural values. Significant contributions to

global knowledge have originated from indigenous people, for instance, in medicine and veterinary medicine with their intimate understanding of their environment.

The current global discourse on the value of incorporating indigenous knowledge in formal education systems in Sub-Saharan African countries, has been a central theme by scholars, African governments, and the United Nations Organizations (Angioni, 2003; Dei, 2002; UNESCO, 2006) particularly its potential contribution to sustainable development at the micro level and poverty alleviation. It is argued that if African states are to play a central role in directing goals of education for sustainable development, then there is need to integrate the African perspectives of knowledge as a reciprocal body of knowledge to western education in order to ensure relevance and practicality in addressing local problems affecting societies especially the devastating effects of HIV/AIDS pandemic (Dei, 2002; Mudimbe, 1988; Shiva, 2002; UNESCO, 2006). Indigenous knowledge's have now become the central issue in global discourses as a strategy to solutions on social, economic, and political problems of African states (Owuor, 2007). The indigenous approach to Education for Sustainable Development advocates for educational process that are based on a holistic perspective, practically based, and conceptualized to the local, national, and international needs of the students (Owuor, 2007).

In many Sub-Saharan African countries, there is tension between Eurocentric Western science and the Iks of African students, though both of which are products of their respective socio-cultural constructs. These two worldviews, when experienced by students in science classrooms, do not complement each other. If not properly mediated during science lessons, this could potentially lead to "complicating the learning process and potentially resulting in cognitive conflict" (Le Grange, 2007). Ethiopia is a country of more than 80 ethnic groups with diverse languages. Ethiopian society has diverse knowledge that relate to the natural and human built environment. Before the introduction of a western oriented curriculum, Ethiopians had their own indigenous knowledge that helped them to solve problems.

The findings of the National Learning Assessments conducted in the years 2000, 2004 and 2008 for grades four and eight students of Ethiopia show that the average score for mathematics was less than 40% while science subjects was 1023 than 50% (Ministry of Education, 2008). This is very contradictory with the Ethiopian Education and Training Policy which states that every student should score at least 50% in all subjects as a minimum requirement. In Ethiopia, the percentage of primary school teachers who passed the licensing examination is 24.3% (Ministry of Education, 2020b). Similarly, the SNNPR percentage of primary school teachers who passed the licensing examination is only 10% (SNNPR Education Bureau, 2020b). This implies that primary school teachers who failed in the examination have been deployed to teach primary school mathematics and science subjects. This implies the low achievement of the students is because of the integration and the alignment of curriculum by indigenous knowledge.

In the Ethiopian, Iks are marginalized in the existing school curriculum and it needs de-marginalization of Iks by incorporating them into the existing curriculum (Teshome, 2017). Furthermore, the Ethiopian Education Development Road map (2018) confirms the emphasis given to Ethiopian Iks in the general education curriculum is very minimal and efforts to incorporate them into the existing are still at infancy stage. Moreover, the FDRE, GECF (2020), mention the current curriculum of Ethiopia was not able to give appropriate space for the teaching and learning of indigenous knowledge and emerging and nationally pressing issues. Similarly, the ten year general education development plan (Ministry of Education, 2020b) reveals that there Iks are lack in the existing general education curriculum.

The Ethiopian Education Development Road map (2018) identifies that the frequent changes in teacher training modalities for primary schools is a serious handicap in teacher training and the existing teachers training modality is neither aligned to the country's primary

school education structure nor produces effective graduates for the specified level. Furthermore, it shows the medium of instruction in CTE's as well as university teacher training faculties is English. In the case of CTE's, graduates are deployed to teach in the mother tongue of the primary school students. As a result, it is difficult to deliver a subject matter in the mother tongue of the students. It also shows that graduates of English, mathematics and natural science are found to be least competent to teach their subjects were identified as the gaps and challenges in teachers' preparation.

The current pressing issues in the teacher education program are mentioned as follows: issues related to the quantity and relevance of subject matter knowledge, nonalignment between pre-service teacher education program and the school curriculum, challenges related to program structure, relevance and effectiveness of professional courses, pedagogical content knowledge and concerns related to incentives for good teachers (SNNPR Education Bureau, 2020a). These mismatches are related to content, skills in handling hands-on and minds-on activities, the use of a wide range of teaching and learning strategies, the use of methods for continuous assessment and methods of meeting the needs of students with special educational needs.

Although, there are some researchers who have done about IKs in Ethiopian general education (from 'O' class-grade12) curricula, it is hard to get research result for the college of teachers' education science and mathematics curricula. Thus, the researchers want to fill the gap by explore the extent to which IKs are integrated in the colleges of teachers' education science and mathematics curricula and the alignment between college and school curricula in light of the IKs curriculum construction principle.

## 2.1 Research questions

To what extent do the mathematics and science curricula at colleges of teacher education include IKs content in the light of curriculum construction principle?

How do colleges of teacher education instructors perceive IKs and its inclusion in mathematics and science subjects?

## 2.2 Objectives

The overall objective of the study is to explore the extent to which IKs are reflected in the college of teachers' education science and mathematics curricula, and how the colleges of teachers' education and primary school natural Science and mathematics curricula are aligned with the light of IKs. This helps to:

Investigate the extent to which the existing colleges of teachers' education science and mathematics curricula reflect the IKs. Explore perceptions of teacher educators' on IKs and its inclusions in mathematics and science subjects.

## 2.3 Significance

The study analyzes the extent to which IKs are integrated into the existing college of teachers' education science and mathematics curricula and the alignment between college and primary education Science and Mathematics curricula. In doing so, the study will possibly have the following significance:

It informs the Ministry of Education, Regional Education Bureau, policy makers and experts, and other concerned bodies of the importance and inclusion of IKs in the colleges' Science and Mathematics curricula.

It provides information to the Ministry of Education, Regional Education Bureau, collage of teachers' education, and other concerned bodies on the alignment between college and primary school Science and Mathematics curricula in the light of IKs.

It helps the Ministry of Education and regional education bureaus to take remedial measures so as to produce critical citizens.

It provides information for further studies on IKs related to Science and Mathematics subjects.

### 3 Research Methods

#### 3.1 Research design

The positions of the researcher are pragmatism perspectives and apply explanatory mixed research design so as to collect, analyze, interpret and report the data scientifically (Creswell and Plano Clark, 2007). It is the overall plan for connecting the conceptual research problems with the pertinent (and achievable) empirical research. In other words, the research design sets the procedure on the required data, the methods to be applied to collect and analyze this data, and how all of this is going to answer the research question (Grey, 2014).

Creswell (2009) defines research designs as plans and procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis. He says that the selection of a research design is based on the nature of the research problem, the researchers' personal experiences and the audiences for the study.

In order to achieve the objectives of the research employed an exploratory mixed method. A mixed methods research design is a procedure for collecting, analyzing, and "mixing" both quantitative and qualitative methods in a single study or a series of studies to understand a research problem (Creswell and Plano Clark, 2011). The basic assumption is that the uses of both quantitative and qualitative methods, in combination, provide a better understanding of the research problem and questions than either method by itself.

The purpose of an exploratory sequential mixed method design involves the procedure of first gathering qualitative data to explore a phenomenon, and then collecting quantitative data to explain relationships found in the qualitative data. A popular application of this design is to explore a phenomenon, identify themes, design an instrument, and subsequently test it (Creswell, 2009). In the exploratory sequential approach, the researcher first begins with a qualitative research phase and explores the views of participants. The data are then analyzed, and the information used to build into a second, quantitative phase (Creswell, 2009). The purpose of the exploratory study is to elaborate a concept, build up a model or advocate propositions (Yin, 1984).

In an exploratory design, qualitative data is first collected and analyzed, and themes are used to drive the development of a quantitative instrument to further explore the research problem (Creswell and Plano Clark, 2011; Teddlie and Tashakkori, 2008; Onwuegbuzie et al., 2010). As a result of this design, three stages of analyses are conducted:

after the primary qualitative phase, after the secondary quantitative phase, and at the integration phase that connects the two strands of data and extends the initial qualitative exploratory findings (Creswell and Plano Clark, 2011).

### 3.2 Target Population

Creswell (2012) defines a target population or the sampling frame as a group of individuals or a group of organizations with some common defining characteristic that the researcher can identify and study. The target populations for the study are CTEs (Arbaminch, Dilla, Bonga, Hosaena and Hawssa) and Science and Mathematics teacher educators.

### 3.3 Sample Size and Sampling Techniques

Creswell (2012) defines a sample as "It is a subgroup of the target population that the researcher plans to study for generalizing about the target population" (Creswell (2012): 142). In this study, two types of sampling techniques; simple random and purposive sampling were used. Before determining the sample size of the study, it is essential to consider some aspects of determining the sample size.

According to Cohen et al. (2018), the number of respondents acceptable for a study depends on the type of research design involved. He suggest a sample should be 30% if the population is large, while 35% may be required if the population is small. As a result, Bonga and Hosaena CTEs from SNNPR were selected using random sampling method (lottery method) and Hawassa CTE is selected based on availability sampling. Furthermore, the sample size for science and mathematics teacher educators was determined using Cohen et al. (2018) suggestion and out of two hundred eight (208) science and mathematics teacher educators in the three sample colleges of teachers' education sixty-two (62) were sampled using availability random sampling method. Furthermore, to get the insight of primary school science and mathematics teachers on alignment between the colleges' and primary education science a total of ninety one (91) primary School science and Mathematics teachers from twelve (12) nearby schools to the selected CTEs were sampled based on availability sampling technique.

Moreover, four senior curriculum experts (Mathematics, Physics, Chemistry and Biology) from SNNPR education Bureau and four Education officials, seven college deans and vice deans were sampled to get their insight concerning the major challenges that affects the inclusion of indigenous knowledge's into the existing colleges' Science and Mathematics curricula. The total number of the research target group and sample was presented as follow in Table 1.

Table 1: Target population and Sample size

| S.no | Target group                                                                 | Total population |
|------|------------------------------------------------------------------------------|------------------|
| 1    | Science and mathematics teacher educators                                    | 208              |
| 2    | Primary school science and mathematics teachers                              | 96               |
| 3    | College deans/vice deans                                                     | 9                |
| 4    | Regional Education Bureau Officials                                          | 6                |
| 5    | Regional Education Bureau science and mathematics subject curriculum experts | 4                |
|      | Total population                                                             | 173              |

### 3.4 Sources of data

To get valid and reliable information, the uses of appropriate data sources were vital. In this study, two sources of data namely primary and secondary data were used. The primary source of data includes the colleges' science and mathematics teacher educators, primary school chemistry, mathematics, physics and biology teachers, the colleges' deans and vice deans, and regional education bureau officials and senior curriculum experts.

Secondary data sources were considered from the college of teachers education curriculum frame framework, syllabi, and training modules and grade four and eight textbooks, teachers guides, minimum learning competencies for science and mathematics subjects. Moreover, Ethiopian Education and training policy (1994), Ethiopian Education Development Road map (2018), Ethiopian general education curriculum framework (2002,2020), and SNNPR Education Bureau reports (2020) were considered.

### 3.5 Data collection tools

#### 3.5.1 *In-depth interview*

Using interview, one can explore and probe participants' responses to gather in-depth data about the types of data used for the study were both quantitative and qualitative. Accordingly, the instruments, questionnaires, in-depth interview, focus group discussions, documentary analyses checklists were used as data collection tools.

Questionnaires for colleges' science and mathematics teachers and primary school teachers were designed to collect the necessary data. The questionnaires were developed based on the review of relevant literatures and the researcher's knowledge and experience on the issues under the study. The items contained the background information about the respondents, their views on the extent to which IKs are included both in college and primary school science and mathematics curricula, their perceptions on IKs, the alignment of the college and primary school science and mathematics curricula, and major challenges to include and implement IKs into the colleges' science and mathematics curricula. The questionnaires were translated from English to Amharic before administered to both the teacher educators and primary school teachers to make easy and better understating of the contents of the questionnaires for the respondents.

Their experiences and feelings (Gay et al., 2009). Interviews are useful to elicit factual data (Patton (1990), Wallace (1998)) and are a very useful way of collecting data. Patton (1990) notes that people are more willing to talk in an interview than the case would be if they were asked to write. In order to explore a topic before designing for the details and to identify potential problems, conducting interviews with the key informants is crucial.

We have conducted the total of 15 interview sessions with the colleges' deans and vice deans and regional education bureau officials and senior curriculum experts. The discussions were mainly focused on their perceptions' on IKs and its relation with students' academic achievement, the effects of globalization on IKs, the relation between medium of instruction and IKs, and the major challenges to include and implement IKs in the colleges' science and mathematics curricula. The interviews were made face-to-face in Amharic language and then translated in to English.

### 3.5.2 Focus group discussion (FGDs)

Kothari (1992) states that the focus group discussion is meant to focus attention on the given experience of the respondents and their effects. Under it, the interviewer has freedom to decide the manner and sequence in which the questions would be asked and also offers the opportunity to explore reasons and motives of the respondents. Hence, I have had conducted a total of fifteen (15) focus group discussions, FGDs, each group comprises of a total of members paying attention to gender balance, with college teacher educators and primary school science and mathematics teachers.

The FGDs were focused mainly on the extent at which IKs are included into the colleges' science and mathematics curricula, teacher educators' perception on IKs and the alignment between CTEs and primary schools' science and mathematics curricula, major challenges to integrate and implement IKs into the existing colleges' curricula. The FGDs were conducted entirely in Amharic language, since this is the language in which we can communicate each other's easily. The FGDs were first recorded by note-taking, and then translated and transcribed into English.

### 3.5.3 Document analysis

Document analysis is a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning around an assessment topic. It includes gathering information used in a formal description of the electronic text, studying the content and structure of the documents, identifying and naming the components of some class of documents specifying their interrelationships and naming their properties. Weiss (1998) holds that documents are "a good place to search for answers. They provide a useful check on information gathered in an interview." He further adds that when "other techniques fail to resolve a question; documentary evidence can provide a convincing answer." A part from providing evidence, Weiss (1998) has noted that documentary analysis also allows the analyst to become thoroughly familiar with the materials and helps to save on time.

The usefulness of documents as research tools is that they help corroborate and strengthen the evidence gathered using other tools. Document analysis observe Ary et al. (2010) are a good source of data that can provide good descriptive information, are stable source of data, and can help ground a study in its context (Ary et al., 2010).

This research made use of document analysis. The researcher collected and analysed the existing Ethiopian Education and Training Policy, 1994, Ethiopian Education Development Road map, 2018, Ethiopian general education curriculum framework, 2020, ten year Ethiopian Education Sector development plan, 2020, college of teachers' education Science and Mathematics courses curriculum framework, course outlines, grade four and eight Science and Mathematics subjects text books, teachers guides, syllabi, Ministry of education and SNNPR education bureau reports and SNNPR teachers licensing examination results.

## 3.6 Data collection procedures

The data was collected through questionnaires, interviews, focus group discussions, and document analysis. After administering the tools, we have contacted colleges' deans and school principals to request for cooperation having an official support letter from SPNNR. After getting the consent of the participants; first, the questionnaires were disseminated

to selected respondents. Then after, the concerned participants also interviewed and FGDs were carried out simultaneously.

### 3.7 Validity and reliability test

Validity explains how well the collected data covers the actual area of investigation (Ghauri and Gronhaug, 2005). Validity basically means measure what is intended to be measured (Field, 2005). Huck (2007), indicate testing for reliability is important as it refers to the consistency across the parts of a measuring instrument. Moreover, Wilson (2010) suggests although reliability is important for study, it is not sufficient unless combined with validity. In other words, for a test to be reliable, it also needs to be valid.

Hence, the validity of the questionnaires designed for teacher educators and primary school teachers, the interview guides for the colleges' deans and vice deans, regional education bureau official and curriculum experts, and the guiding questions for FGDs was checked by my research advisors, SNNP education bureau senior English language expert (colleague), education specialist (friend).

Furthermore, the reliability of the questionnaires, which were commented by my research advisors and then modified by the researcher, administered to seventeen (17) primary school science and mathematics teachers selected and nine (9) science and mathematics teacher and checked the reliability using Cronbach alpha coefficient. Cronbach Alpha coefficient is the most appropriate measure of reliability when making use of Likert scales (Whitley, 2002, Robinson et al., 2009). No absolute rules exist for internal consistencies, however most agree on a minimum internal consistency coefficient of .70 (Whitley, 2002, Robinson et al., 2009).

Accordingly, the Cronbach alpha coefficient for the primary school teachers and teacher educator's questionnaire values were 0.78 and 0.83 respectively. These values are supported with **straub2004validation**<empty citation> suggestion; the reliability should be equal to or above 0.60. Furthermore, **hinton2004spss**<empty citation> have suggested four cut-off points for reliability, which includes excellent reliability (0.90 and above), high reliability (0.70-0.90), moderate reliability (0.50-0.70) and low reliability (0.50 and below) (**hinton2004spss**).

However, as it is seen see from Appendixes F and G there were items both in the questionnaires developed for primary school teachers and teacher educators which need content and translation. Such as from primary teacher questionnaire items related teacher perceptions on the inclusion of IKs in the existing school science and mathematics curricula, items P1 (0.79), A5 (0.79) and C6 (0.80) and also from questionnaire developed for teacher educators, items P9 (0.853) and C7 (0.85) were revised in content wise, translation and rearrangement of the items so as make them clear for the respondents.

### 3.8 Method of data analysis

Data analysis is the vehicle used to generate findings and to answer research questions (Creswell and Plano Clark, 2007: 147). In this study, both quantitative and qualitative data analysis techniques were employed.

### 3.8.1 Quantitative and analysis

To analyze the quantitative data, both descriptive and inferential statistics were used. Depending on the nature of the basic research questions the descriptive analysis such as percentage, mean score, standard deviation was used to guide the analysis and interpretation of the findings. I have applied SPSS software version 26 for quantitative analysis purpose.

### 3.8.2 Qualitative and analysis

Data collected from open-ended questionnaires, interviews, FGDs, and from documents were analyzed qualitatively. Content analysis was used to explore the extent to which IEs are integrated into the existing colleges and primary school mathematics and science curricula and also the alignment between the college and school mathematics and science curricula. Content analysis is a strict and systematic set of procedures for the rigorous analysis, examination and verification of the contents of written data (Flick, 1998; Mayring, 2004). Krippendorff (2004) also defines content analysis as "a research technique for making replaceable and valid inferences from texts (or other meaningful matter) to the contexts of their use" Krippendorff (2004): 18).

## 3.9 Ethical consideration

Blanche et al. (2009) asserted that the purpose of research ethics is to protect the welfare of the research participants. They argued that research ethics also involved not only the welfare of the informants but extend to areas such as scientific misconduct and plagiarism. The ethical consent was obtained before collecting information from respondents through formal communication. In conducting the study, I could consider different ethical issues. These are: the purpose of the research and who the researcher is and the study's potential benefits to the profession in the field of education. The responses were anonymous, they were offered to withdraw if and when they felt uncomfortable to continue, and how long they would be required to respond to the instruments them to participate in the study as ethical issues.

After going through the consent with the participants, the participants were also advised that the final copy of the research study would be made available to them through the regional education bureau and college of teachers' education in case they needed to see it.

## 4 Result and discussion

This section includes the presentation, analysis and interpretation of data collected on re-thinking college of teachers' education curricula through indigenous curriculum construction principles: College of teachers' education in focus in SNNPRs

Table 2: Background information of the participants

|                                              | Male       | %     | Female    | %    |
|----------------------------------------------|------------|-------|-----------|------|
| College teacher educators                    | 55         | 94.8  | 3         | 5.2  |
| Primary school teachers                      | 75         | 82.4  | 16        | 17.6 |
| College deans and vice deans                 | 7          | 100.0 | 0         | 0.0  |
| Regional Education Bureau Officials          | 3          | 75.0  | 1         | 25.0 |
| Regional Education Bureau curriculum experts | 3          | 75.0  | 1         | 25.0 |
| <b>Total</b>                                 | <b>143</b> |       | <b>21</b> |      |

Source: Field survey, 2021

From Table 2 above, it can be shown that, the total number of the study respondents from the five groups were 58 (female = 3) College teacher educators, 91 (female = 16) primary school teachers, 7 College dean and vice deans, 4 (female = 1) regional education bureau officials and 4 (female = 1) regional education bureau Science and Mathematics subjects senior curriculum experts. Hence, a total of 164 participants were involved in the study.

#### 4.1 The place of IKs in the college of teachers' education science and mathematics curriculum

This section presents data analysis and a discussion of the extent to which IKs have been incorporated into the college of teachers' education science and mathematics curricula. The focus is to ascertain how much IKs contents are included in the curriculum framework, course description general objective, and the courses outline of the college science and mathematics subjects. In doing so, first we presented and discuss the data gathered from all secondary sources and then, substantiated by the primary sources of data.

We critically investigate the current Education and Training policy document regarding the place of IKs in it and the results are discussed as follow: Subarticle 3.6.7 it states "traditional education will be improved and developed by being integrated with modern education" and sub-article 2.2.8 states it is important "to make education a supportive tool for developing traditional technology, and for utilizing for technology". Moreover, sub-article 3.1.3 states "ensuring the curriculum developed and textbook prepared at the central and regional levels are based on sound pedagogical and psychological principles and are up to international standards, giving due to attention to concrete local conditions and gender issues", and sub-article 3.5.1 reads "cognizant of the pedagogical advantage of the child in learning in mother tongue and the rights of nationalities to promote the use of their languages, primary education will be given in nationality languages" (Ministry of Education, 1994:10-26).

From the above provisions of the existing Education and Training Policy (1994), we can understand that there is an effort to include Ethiopian IKs in the curriculum, of Ethiopia. This is in line with Teshome (2017) who argue that there is an attempt to include IKs in the school curriculum in Ethiopia though there is problem of implementation. Furthermore, the new general education curriculum framework of Ethiopia, EGECE, (2020) revealed that "the existing general education curriculum framework was not able to give appropriate space for the teaching and learning of indigenous knowledge and emerging and nationally pressing issues (Ministry of Education, 2020a:8). Here we focused to investigate the EGECE, because the college of teachers' education curriculum in Ethiopia is designed based on general education curriculum framework. "In order to ensure the successful implementation of the general education curriculum, the framework basically envisages the alignment of the teacher education curriculum in both its preservice and

in-service modalities with the dictates of general education curriculum framework” (Ministry of Education, 2020a:3).

To get data regarding the inclusion of IKs in the colleges’ science and mathematics subjects, we have collected data from mathematics and science (Biology, Chemistry, and Physics) subjects’ curriculum framework focusing on the courses description, the general objective/s of each course and the course outlines. The findings are:

According to the Ethiopian ministry of education revised curriculum for Biology major students in the linear program (2007), would-be teachers are expected to take a total of fourteen (14) biology courses as major courses. The extent to which IKs are included into the BIOLOGY courses are analyzed thematically (content analysis) and discussed as follow:

In Biology 113, Introduction to Algae and Fungi course, the course description states that ‘practical activities such as identification of some algae and fungi in their locality’. This implies the course allow students to appreciate and use some economically important groups of algae and fungi found in their localities. However, it is difficult to get components of IKs in all the course’s objectives. Therefore, since the existing education in Ethiopia is categorized under objective based education system, we argued that IKs lack appropriate place in this course.

In Biology 221, Introduction Invertebrate Zoology, there is only one course objective related to IKs which reads as ‘at the end of the course students are able to identify the importance of invertebrates to man, his crops and domestic animals’. Implies, the course helps students to be familiar with their day-to-day life activities.

In Biology 204, Ecology and Conservation, the course description states the following: field trips to appropriate ecosystems in the country to enhance students understanding on the ecosystems of Ethiopia and introduction to the area of conservation biology. It also includes an examination of the historical and ethical background underpinning the current conservation movement, the values of biodiversity and ecosystem services, and threats to biodiversity due to the impact of human use.

Furthermore, it includes ecological concepts that are utilized in conservation management practices, the role of national policy and institutions in implementing conservations.

And also, in Subject Area Methods II, TECM 242, course, there are concepts related to IKs like preparation and improvisation of instructional media, preparing appropriate teaching aids from locally available materials and develop better social skills.

From the above, it is clearly understood that the colleges’ Biology subject curriculum framework try to includes some IKs components, such as identification of some algae and fungi in their locality, identifying the importance of invertebrates to man, his crops and domestic animals, practical knowledge on Ethiopian ecosystems, national policy and institutions in implementing conservation and the future directions of conservation, and preparation and improvisation of teaching aids from locally available materials and develop better social skills.

However, the findings from the FGDs with the colleges’ teacher educator reveal that the extent to which IKs are included and implemented in biology courses at almost negligible; Participant BL1 highlighted the inclusion of IKs in the colleges’ biology courses saying: “I have more than 15 years’ experience as biology lecturer in the colleges, still now; I didn’t get a single concept related with IKs both in content and methodology part”. Participant HOL1 shared his views on the extent to which IKs are included in the college Biology courses and he narrated that: “Although I believed in the importance of inculcating IKs in the college curricula not only in Biology courses but also in all the courses provided as

the college level, I can assure that, there are no IKs components in the existing college biology courses". However, participant HAL1 disagreed with the above responses and he said that: "It will be difficult to reach on such conclusion without researching the issues, in my opinion there are some components of IKs in the colleges' Biology courses like bee-keeping, natural resource conservation, I am afraid of their inclusion and implementation in the actual classes by lecturers".

Similarly, the course breaks down for diploma Chemistry major linear program would-be teachers are expected to take a total of sixteen (16) major Chemistry courses. The extents to which IKs are included in each of these courses are examined critically and discussed as follow:

In general Chemistry I, Chem 101, one of the general objectives for the course reads as 'After completing this course, the student will be able to explain the role of chemistry in the society' and practical Organic Chemistry, Che 243, one the general objective for the course states 'after completing this course, the student will be able to prepare ordinary soap and examine its properties'. The, course description for applied chemistry, chem 351, states the following:

"The course involves the study of energy resources and consumption, chemical industries and production of some important chemicals (acids, bases, salts, fertilizers, petroleum, detergents, plastics, textiles, leather, food, and drugs), local chemical factors, agricultural (fertilizers, pesticides) chemistry environmental Chemistry (soil, water, atmosphere), environment, impact of anthropogenic chemicals on the environment" (2007:65).

Moreover, two of the general objectives of the course stated as 'At the end of the course students will be able to explain environmental impacts of local industries and suggest possible ways of safe use of natural resources.

In Methods of Teaching chemistry, TeCh 242, general objectives of the course read as "At the end of the course students will be able to show implications of the objectives of education and training policy of the country and prepare instructional materials for teaching chemistry from local sources".

The finding shows there are some components of IKs in the colleges' chemistry courses like, chemistry in industry, agriculture, health, food and environment sectors indicating some efforts so far done to include IKs. This is in line with participant HAL2 views' read as: "Even if there are some component of IKs in the colleges' Chemistry courses such as in practical general chemistry, solution and solubility, in practical organic chemistry, distillation of "local Araki", in chem 245, extraction of local "Dataa", coffee leaf and how it is extracted, I cannot say IKs have appropriate place in the college chemistry courses".

This is further strengthen by participant HOL2 by saying, "There are a lot of IKs in our locality which can easily incorporate in the colleges' chemistry courses, unfortunately, the course doesn't allow and motivate us to include, it is copied from some Western realities, [silent...] we Ethiopian have so many rational herbal medicines like 'ginger, garlic, 'Tenaadam', 'Feto'....but they lack attention to include in our education".

The investigation on the Physics courses confirmed that in all the thirteen (13) courses would-be are expected to take, it is hardly found word, phrases, and concepts related to IKs neither in the course's description nor in the general objectives of each courses. This is supported with the result of FGDs with teacher educators and their response for the open-ended questions of the questionnaire. Participant HOL3 mentioned his views' as: "I have more than 15 years' experience as physics lecturer in the colleges, still now; I didn't get a single concept related with IKs both in content and methodology part".

Furthermore, HAL3 and BL2 agreed with the above response and they anchor the ideas by saying: "The college physics courses didn't include concepts related to IKs though there are contents like Simple machine, energy and renewable energy sources which could easily include IKs".

Therefore, from the result of content analysis and teacher educators' views, I strongly argued that the college of teacher education physics curricula strongly ignored the IKs though there are practical and related to the communities' day to day life activities.

Finally, the result of content analysis of the all the ten (10) Mathematics courses would be teachers enrolled in mathematics department are expected to take confirms that it is hard to find words, concepts, and phrases about IKs in all courses. This is in line with the result of the FGDs with teacher educators. Participant BL3 explained that: "During my experience as college mathematics lecture, I did not find IKs in the colleges' mathematics courses both in the content and methodological aspects, and I haven't applied the concept of IKs in my classes. Though, I believe that it is possible to include IKs in the college mathematics courses like, in unit of measurements, geometry, measurement, functions, and arithmetic and geometric progression".

Moreover, to get data regarding the place of IKs in the courses (in the unit, objectives, examples, activities, exercise, projects) and the curriculum framework, course outline, syllabi of the courses' science and mathematics teacher educators are currently teaching and the extent to IKs are included and implemented into their teaching-learning strategies, assessment techniques, and practical activities, I have collected quantitative data from them using a five point rating scales. The results are summarized into three categories, Disagree (DA), Undecided (UN) and Agree (AG) in Table 3 and the findings are discussed in percentage and mean.

Table 3: Teacher educators' views on the extent IKs contents are included into the college science and mathematics courses

| S/No | Statements                                                                                                                                                                        | DA         | UD         | AG         | Mean |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------|
| 1    | The course you are currently teaching contains elements of indigenous knowledge (units, objectives, examples, exercise)<br>%                                                      | 30<br>51.7 | 5<br>8.6   | 22<br>38.0 | 2.70 |
| 2    | The syllabi, curriculum framework, and courses in Science and Math's subjects in colleges allow you to teach indigenous knowledge concept in your classes<br>%                    | 33<br>56.9 | 9<br>15.5  | 15<br>25.8 | 2.51 |
| 3    | Assessment techniques and project works practiced in your college Math's and Science curricula include IKs content<br>%                                                           | 34<br>58.6 | 11<br>19.0 | 11<br>18.9 | 2.43 |
| 4    | I believe practical examination in Science and Mathematics is based on modern science/academic scenario of learning.<br>%                                                         | 11<br>19.0 | 6<br>10.3  | 40<br>69.0 | 3.72 |
| 5    | The practical activities of Math's and Science subjects have incorporated indigenous knowledge and they promote to use locally available materials to perform the activities<br>% | 26<br>44.8 | 10<br>17.2 | 20<br>34.5 | 2.88 |
| 6    | The content of Math's and Science subjects and teaching methodologies is western curricula dominated with no/little local IK contents and methodologies<br>%                      | 9<br>15.5  | 7<br>12.1  | 41<br>70.7 | 3.80 |

Source: Field survey, 2021

As show in Table 3 above, the college science and mathematics teacher educators were asked to express their views on the extent to which the course they are currently teaching

contain IKs in the units, objectives, examples, exercises, projects and their responses are as follow: The majority 30 (51.7%) replied IKs have no place in the colleges' mathematics and science curricula, 22(38.0%) said IKs have place, and 5 (8.6%) of the respondents were unable to decide whether IKs included or not. Furthermore, as shown from the table the mean for the item (2.70) indicate that the respondents were disagreed on the issue; the courses they are teaching have components of IKs in the units, unit objectives, examples, and exercise.

As indicated in the table in item 2, they were also asked to express their views on the colleges' science and mathematics courses curriculum framework and syllabi allow them to teach IKs concept for learners, and their responses are: The majority 33(56.9%) of the respondents dis-agreed, 15(25.8%) agreed, and 9(15.5%) said it is difficult for them to response the question. The mean value for the item (2.51) tells us the respondents dis-agreed with the discourse the current colleges' science and mathematics courses curriculum framework and syllabi allow teacher educators to teach IKs concept for learners.

Teacher educators were asked to express their view on the current assessment techniques they are practicing in their teaching and learning include IKs contents and their responses are as follow; the majority of them 34 (58.6%) replied the assessment techniques they are practicing in their college do not consider IKs contents, 11 (18.9%) stated the assessment techniques consider IKs, and the remaining 11 (19.0%) were not able to decide on the issue raised. And also the mean value for the item (2.43) indicate that teacher educators disagreed with the notion the assessment techniques currently practiced by college teacher educators considered IKs contents.

As item 4 indicate in Table 3 above, teacher educators were asked to express their views on practical examinations in science and mathematics are based on modern science/academic scenario of learning. The majority 40 (69.0%) of the respondents agreed that the practical examination in the colleges' science and mathematics courses are based on the modern/Western style of learning, 11(19%) dis-agreed, and 6(10.3%) were kept silent. Moreover; the mean value for the item (3.72) shows they agreed on the practical activities/examination in science and mathematics courses are based on Western knowledge production systems.

Item 5, about the inclusion of IKs in the practical sessions and can perform using locally available teaching-learning materials, their responses are the majority 26 (44.8%) dis-agree, 20 (34.5%) agree, and 10 (17.2%) were unable to response. The mean value for the item (2.88) tells us teacher educators are disagreed with the discourse that the practical activities found in the colleges' science and mathematics courses includes IKs and can be performed using locally available resources.

In the last item 6, teacher educators were asked about the domination of the Western knowledge at the expense of IKs in the colleges' science and mathematics courses both in subject matter and methodology, the majority of the respondents 41(70.7%) agreed that the curriculum is western dominated and it does not give space for IKs, on the other hand, 9 (15.5%) dis-agree with the domination of Western knowledge in the colleges' science and mathematics curricula, and 7(12.1%) of the respondents were not able to decide whether there is domination of Western knowledge or not. The mean value for the item (3.80) clearly indicates teacher educators agreed that in the colleges' science and mathematics courses there is a domination of Western knowledge at the expense of IKs.

The findings above show that, though, the existing Ethiopian education and training policy, 1994, provides an opportunity for the inclusion of local or IKs, the above findings and discussions on the extent to which IKs are included into the existing colleges' science and mathematics curricula, clearly shows IKs are alienated. It is in the words of Breidlid (2013):97 "probably intentionally so vague and ambiguous that one wonders

what was to be included and excluded from the variety of values, worldviews and knowledge systems...". While on one hand, the national education and training policy is fairly considerate of the localization process, curriculum content on the other hand is not locally sensitive and thus not reflective of the indigenous policy decision. This is in line with (Kedir, 2007; Semela, 2017) who argue that the teacher training system is characterized by frequent reforms due to the global influences associated with lack of emphasis on local contexts and absence of genuine societal participation.

The domination of Western knowledge over IKs in sub-Saharan African countries is also supported with Shizha (2013) who states that in sub-Saharan Africa, curriculum, both in content and pedagogy continues to teach students a foreign culture and worldview in a foreign language that inhibit learning experiences of students. Shava (2016) also claims that the western education system denies learners space to bring into the educational processes knowledge from their own lived experiences. Instead, their experiences are considered inferior and their accumulated IK as valueless and insignificant. Therefore, curriculum content is still predominantly dominated by the western hegemonic epistemology at the expense of IKs (Dei, 2002; Shizha, 2010).

This is evidence that science and mathematics curricula still predominantly represent the Western Scientific paradigm at the expense of local knowledge. It confirms Ngugi's (1981) notion of "colonization of the mind". Despite considerable strides of inclusion of IKs especially at policy level, de-colonization of the education system has not quite come to realization and still carries signs that are demonstrative of a colonized curriculum.

Therefore, including and implementing IKs, in the colleges' science and mathematics curricula, means acknowledging the social identities of the learners and developing positive experience and the attitude of learners towards science and mathematics. It brings students' school experiences closer to their home lives and gives them the opportunity to develop their talents and abilities to full potential, gain confidence and self-esteem, use their initiative and creativity, gain life skills and make informed decisions, and to understand and experience pluralism and democratic coexistence (UNICEF, 2004). Thus, the current science and mathematics curricula of the college of teachers' education should need immediate attention to inculcate IKs and implement so as to encounter the Western hegemonic knowledge.

## 4.2 Perceptions of colleges' science and mathematics lecturers on IKs and its inclusion

In this sub-section we present, analyse and discuss the findings of the data obtained by questionnaires, FGDs, and interviews from the research participant perceptions on IKs and its inclusion into the colleges' science and mathematics curricula. Respondents were asked to define the notion 'IKs' in their own words and some of their definitions are summarized and discussed as follows:

IKs are traditional knowledge" this definition indicates IKs as 'tradition' which is an inherited or customary pattern of thought, action, or behavior. Traditions are just a component of IKs. IKs are knowledge that have been created by the locals out of their own experiences locally". (2018) doesn't necessary give a definition but describes how this knowledge is generated and brings the idea of local to the discussion.

IKs are knowledge to do with ancestors". This definition positions IKs in the past as something that ended historically.

"It's the knowledge that deals with the culture". Culture knowledge is more embracing because of its broad nature that imply the whole way of life of a given people which

may include, their language festivals, values, beliefs and traditions. Culture, includes all aspects of a people's way of life such as their sporting activities, music, dance, economic activities, education system, their legal and political system, the fundamental rights of a human being, spiritual, material, intellectual and emotional aspects of a human being.

They also define IKs by giving various examples of medicinal herbs, fishing and farming methods, methods of food preservation, traditional methods of conserving wild life, knowledge of trees and their uses, beer brewing, and weaving and handicraft.

Although, some of their definitions fit with the United Nations (2004) view that IKs as a body of knowledge that indigenous people of a historical and geographical locality have lived on for a prolonged period and have developed and transmitted to future generations. We argued that this perception could be problematic to multicultural communities such as Ethiopia in that it tends to exclude inhabitants of that particular area who may not be otherwise indigenous to the area and may not have used the IKs of the people of that area. Similarly, associating IKs to the long occupancy of a given people to a given place could be thought-provoking.

They were also asked what they understand from the concept Indigenous knowledge and some of the concepts stated are summarized as: tradition, orally passed on from generation to generation, knowledge created out of a sustained stay to a locality, local, ancestral, static knowledge, and cultural. While the key terms listed maybe somewhat accurate in their description of IKs, they are also problematic and pose a challenge when used in the context of the locals.

As Semali and Kincheloe (1999), describe the terms, local, traditional, ancestral, and orally passed on tend to reflect the Western perspective of the concept of IKs which is mainly associated with the ideas of primitive, static, inferior, wild and the natural. Furthermore, Odora Hoppers (2002) describes this as "inverted mirror of Western identity" (Odora Hoppers, 2002:8) which breaks negative connotation about IKs and significantly contributes to the deviation of IKs in science education. The West often seems to perceive indigenous practices as irrational, mythical, unscientific and superstitious and incapable of contributing to 'development'.

While the conception of IKs as a preserving national heritage came out prominently among respondents, the aspect of it being a national resource was missing. **odora2002indigenous<** sees IKs as a combination of knowledge systems encompassing technology, social, economic and philosophical learning, or education, legal and governance systems. Indigenous knowledges are dynamic, and enables people to live harmoniously with their environment and as Breidlid (2013) observes, many people and majority population groups in Africa still adhere to cultures, belief systems and epistemologies that differ from the hegemonic Western ones.

Furthermore, we have asked college of teacher educators to express their perceptions specifically focusing on IKs and colleges' science and mathematics curricula, IKs and students learning achievement, IKs and societies' need, IKs and nations', and development through four scale Likert scale questionnaire and their responses are presented, analyses and discussed as follow:

Table 4: Perceptions of teacher educators on IKs content and application

| S/No | Statement                                                                                                                                                                                                         | DA         | UD        | AG         | Mean |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|------------|------|
| 1    | I believe that there is a room to include IKs in the existing college science and mathematics subjects.<br>%                                                                                                      | 36<br>62.1 | 8<br>13.8 | 12<br>20.7 | 2.41 |
| 2    | I have a positive perception that IKs enhance critical thinking and logical reasoning of learners if the contextualized in Science and Mathematics courses at college level<br>%                                  | 6<br>10.4  | 4<br>6.9  | 47<br>81.0 | 4.26 |
| 3    | I believe integration of IKs and practices into Science and Mathematics teaching enhances students' understanding and improve learning achievement<br>%                                                           | 2<br>3.4   | 1<br>1.7  | 54<br>93.1 | 4.47 |
| 4    | I believe that if IKs are systemically and holistically included into school's curriculum contextually, students' achievement will be improved.<br>%                                                              | 2<br>3.4   | 2<br>3.4  | 52<br>89.7 | 4.39 |
| 5    | I believe IKs shall be considered to be an essential body of knowledge that can be integrated into the school curriculum to make teaching and learning contextual and meet the dynamic needs of the society.<br>% | 2<br>3.4   | 4<br>6.9  | 51<br>87.9 | 4.37 |
| 6    | I believe practical examination in Science and Mathematics should include IKs and connected to practical life of the societal problems.<br>%                                                                      | 2<br>3.4   | 1<br>1.7  | 54<br>93.1 | 4.49 |
| 7    | I feel teacher educators are responsible to connect IKs in their actual classroom setting while teaching<br>%                                                                                                     | 1<br>1.7   | 3<br>5.2  | 53<br>91.4 | 4.26 |
| 8    | Medium of instruction will play vital role for promoting and teaching IKs contents<br>%                                                                                                                           | 4<br>6.9   | 7<br>12.1 | 46<br>79.3 | 4.18 |
| 9    | I believe it is impossible to include IKs in the existing curricula.<br>%                                                                                                                                         | 47<br>81.0 | 5<br>8.6  | 6<br>10.4  | 2.01 |
| 10   | Inculcating IKs in the curriculum helps for holistic development of a nation<br>%                                                                                                                                 | 3<br>5.1   | 2<br>3.4  | 52<br>89.7 | 4.4  |

Source: Field survey, 2021

From Table 4 above, Item 1, teacher educators were asked to express their beliefs on whether there is a room to include IKs in the current colleges' science and mathematics curricula or not, and, in this regards, the majority of the respondents 36 (62.1%) replied that the existing colleges' science and mathematics curricula have no place to include IKs, 12 (20.7%) replied that there is a room to include IKs in the current colleges' science and mathematics curricula, and 8(13.8%) replied that they cannot decided whether there is a space to include or not. From the mean value of item 1, (2.41) it is clearly understood that the respondent strongly dis-agreed with the discourse that teacher educators believed that there is a room to include IKs in the existing college science and mathematics subjects. Furthermore; Participant BL3 stated the following: "Science the current colleges' curricula are copied from other counties like America, Germany, and Great Britain and pasted. How can we talk about the space for IKs if all the colleges' teaching and learning materials are brought from Western counties?"

Item two in the table is about perceptions of teacher educators on the positive effects of IKs on enhancing the critical thinking and logical reasoning of learners' and their responses are analyzed and discussed: the majority 47 (81.0%) of replied that if IKs are included in the colleges' science and mathematics curricula in a contextualized way, learners' critical and logical reasoning power will enhanced. This is supported with [UNESCO \(2011\)](#) which states "Education programs that promotes indigenous knowledge sustainable lifestyle and sustainable development will further enhance critical thinking and problem-skills solving ([UNESCO, 2011](#); 61)". On the other hand, 6(10.4%) of the respondents disagreed and 4 (6.9%) said they do not know. From the mean value for the item (4.26) it is understood that the respondents are strongly agreed that if IKs are included in the colleges' science and mathematics curricula in a contextualized way, learners' critical and logical reasoning power will increase.

Item three in the table is about teacher educators' perceptions on integrating IKs contents and practices into science and mathematics and its positive effect on students' understanding and learning achievement. Almost all 57(93.1%) of the participants agreed on if IKs contents and practice are included and implemented in the colleges' science and mathematics courses the students understanding and hence academic achievement will improve. On the other hand, 2(3.4%) of the respondent dis-agreed with the above discourse, and one respondent cannot decide the relation between IKs and students understanding and academic achievements. Moreover, the mean value for the item (4.47) indicates the respondents are strongly agreed on the strong positive relation between IKs and students' understanding and academic achievement. During the FGDs session with teacher educators, participant BL4 explained: "Including and implementing IKs in the colleges' science and mathematics subjects will enhance students' understanding on both factual and conceptual knowledge and hence will improve their academic achievement".

Furthermore, Participant BL5 strengthened the above statement by saying: "Including IKs in the colleges' curricula will make the teaching-learning process easy, students start their learning from what they know, that means it will promote a meaningful learning. Since it starts from the society's real problems, students' creativity and academic achievement will increase".

The above findings imply that if IKs and practices are included and implemented in the colleges' science and mathematics curricula, student's prerequisite knowledge, they have got from their environment and family will help them to foster understanding of the formal education, this will help to improve their academic achievement.

Item four in the table above is about teacher educators' perception on systematically, and holistically, and contextually inclusion of IKs and its positive effects on students' academic achievement. The majority of the respondent 52(89.7%) agreed, whereas only 2(3.4%) disagreed, and 2(3.4%) were unable to react to the item. The mean value for the item (4.39) tells us the respondents were strongly agreed on IKs should include in the existing curricula systematically, holistically and contextually so as to improve the learners' academic achievement. The finding is aligned with the existing literature of the holistic nature of IKs and proposed that native knowledge should contain the complex set of technologies improved and sustained by the indigenous community ([Battiste, 2002: 2](#)).

Item five in the table above is teacher educator perceptions on considering IKs as an essential body of knowledge and should be integrated into the school curriculum to meet the dynamic needs of the society. Their response are analyzed and discussed below as follow: The majority of the respondents 51 (87.9%) agreed, 2 (3.4%) dis-agreed and 4 (3.9%) they do not know. Moreover, the mean value of the item (4.37) indicated that the respondents were strongly agreed that IKs should be considered as an essential body of knowledge and should integrated in the curriculum so as to meet the dynamic needs of the society. This finding is alighted with the existing literature that highlights IKs are

essential knowledge and should be include in the curriculum so as to meet the dynamic needs of the society. Some of the solutions to problems that currently plague developing societies and communities must proceed from understanding the dynamics within the local context; such dynamics includes the role of indigenous knowledge and practices in the development processes. (Dei, 2002; Angioni, 2003).

Furthermore, the World Bank (2004) states that indigenous knowledge is a resource that can help to solve local problems, to prevent conflict, to build solidarity in communities, to manage local affairs, and thus contribute to global solutions. Similarly, Van Niekerk (2004) states that curricula have to be contextualized in order to address problems, topics and issues that face the dynamic society.

In item six, teacher educators were asked about their perceptions on the importance of including IKs in practical examinations of science and mathematics courses that are connected to the practical life of the societal problems. The majority of the respondents 54(93.1%) agreed, 2 (3.4%) disagreed, and only 1(1.7%) was not able to respond on the issues. The mean value (4.49) for the item indicate the respondents were strongly agreed on the inclusion of IKs in the practical examinations of the colleges' science and mathematics courses and the examination should connected to practical life of the societal problems.

Item seven in the table above is about perceptions of teacher educators on the responsibilities of science and mathematics lecturers to connect IKs in their actual classroom setting and they replied as follow; 53(91.4%) of the respondent believed that science and mathematics lecturers have the responsibilities to connect IKs in their actual classes, 1 (1.7%) believed that it is not the responsibility of the educators, 3 (5.2%) of respondents were not decided on the issue at all. Furthermore, the mean value for the item (4.26) show that the majority of the respondents are strongly agreed on the concept that teacher educators have responsibilities' to include and implement IKs in their actual classrooms teaching-learning processes.

Moreover, During the FGDs participant HOL3 explained that: "Not only science and mathematics lecturers are responsible to include and teach IKs in their classes but also other course lecturers should be responsible. We, teachers, must see indigenization not only as a way of making science a reality in the lives of the learners but also as a way of improving our students' academic performance".

Item 8 is all about how teacher educators perceive the role of MOI in promoting and teaching IKs contents. The majority 46 (79.3%) of participants agreed that MOI will play a vital role in promoting and teaching IKs contents, 4 (6.9%) were dis-agreed on the importance of MOI, and 7(12.1%) were unable to respond the question. As we can see from the mean value for the item (4.18) the participants were agreed on MOI will play the vital role for promoting and teaching IKs contents.

Even if, this finding is aligned with the existing literature on the importance of incorporating indigenous languages into the science curriculum in helping students to understand scientific principles and to link Western science to indigenous ways of knowing (McKinley, 2005), studies on cultural beliefs and science in Africa conclude that the teaching and learning of science in school is not successful because the subject is not linked to everyday life experiences and the language of instruction alienates students (Clark and Ramahlape, 1999; Dlodlo, 1999; Dzama and Osborne, 1999; Shumba, 1999).

In item 9 above, teacher educators were asked to express their views on the possibilities of including IKs in the existing colleges' science and mathematics curricula and 47 (81.1%) replied that it is possible to include IKs in the existing college science and mathematics curricula, 6 (10.4%) replied it is impossible to include, and 5(8.6%) were not decided on

the issue at all. Moreover, the mean value for the item (2.02) indicates that the respondents disagree on the thought of impossibility to include IKs into the existing colleges' curricula. Furthermore, participant BL6 stated that: "It is possible to include mathematics IKs in the existing college curriculum; the problem is that lack of knowledge and skills on the inclusion of indigenous resources".

However, participant HAL4, replied for the open ended as follow: "It is not possible to include IKs in physics courses in all topics, in some topic there may be an opportunity to include IKs, I doubt, in social sciences, it may be possible. What I simply mean here is that certain topics and certain study areas can present these IKs to the learners. But it's not in every study area and certainly not in every subject".

The participant's argument is supported by Ernest stated that "to empower learners as individuals' citizens-in-society, by developing mathematical confidence... and to foster critical awareness and democratic citizenship via mathematics" (Ernest, 2007: 34). Research shows that how different indigenous groups have developed mathematical competence and practices, in particular "quantitative and qualitative practices as counting, weighing and measuring, comparing sorting and classifying" (D'Ambrosio, 1999:51).

Finally, in item 10, respondents were asked about their perception on the concept that if IKs are included and implemented in the colleges' curricula, it will contribute for the holistic development of the nation. The majority 52 (89.7%) of the respondents agreed, 3 (5.1%) disagreed, and 2 (3.4%) were unable to react for the item. From the mean value (4.40) it is understood that the participants are agreed that if IKs are included and implemented in the college curricula it will contribute for the holistic development of a nation. Their responses are supported by Asgedom (2005) and Woldeyes (2017) argument that modern education in Ethiopia does not play a meaningful role in the national development because it disregarded the IKs in Ethiopia. And also by Teshome (2019), 206) who argue that the "failure in investing in IKs and its integration into the school curriculum marginalizes the importance of indigenous knowledge to contribute to the national endeavor of the country in all aspects". Including and implementing IKs in the school curriculum will play a vital role for the holistic development of a nation.

## 5 Conclusions

Indigenous knowledge are now being considered to be an essential body of knowledge that can be integrated in the school curriculum to make teaching and learning contextual and meet dynamic needs of the society. Therefore, college of teachers' education Science and Mathematics curricula should include IKs contents which learners are familiar with, and then gradually move to the knowledge about regional, national and global environments. This essentially follows the philosophy of embarking on teaching and learning from the known to the unknown, which could be adopted if quality and relevancy of education is to be achieved.

Although, the current education and training policy, ETP, has some provisions which supports the inclusion and implementation of IKs in the curriculum, the college of teachers' education curricula was not able to give appropriate space for the teaching and learning of indigenous knowledge contents particularly in Science and Mathematics courses/subjects. Therefore, the inclusion and implementation of IKs contents in the colleges' curricula need adequate attention.

Furthermore, teacher educators lack basic philosophical and conceptual knowledge and skills of relevance of IKs to enhance critical thinking of learners and some teacher educators undervalued the effectiveness of indigenous knowledge in developing techno-

scientific skills applicable to scientific principles that can lead to sustainable use of indigenous resources.

However, indigenous knowledge are knowledge which encompassing technology, social, economic and philosophical learning, or education, legal and governance systems. And are dynamic, and enable people to live harmoniously with their environment. Thus, both the pre-service and in-service teacher training program curricula should revise in the light of IKs contents and to address both overt and hidden biases against indigenous knowledge in the college of teachers' education much needs to be done to change the attitudes of teacher educators toward indigenous knowledge.

Therefore, since integration of the IKs into the colleges' and school curriculum provides the necessary foundation for sustainable education which requires education programs that are locally relevant and culturally applicable and the most efficient way of strengthening indigenous knowledge is integrating the knowledge into school curricula, the current curriculum of Ethiopia should revise in the ways that it provides space for including the country's indigenous knowledge in the education system.

## 6 Recommendations

Based on the study key findings the following recommendations are forwarded.

1. The research finding shows that college of teachers' education science and mathematics curricula did not include IKs. Thus, failure in integration of IKs contents into the curriculum marginalizes the importance of IKs that contribute to the national endeavor of the country in all aspects. Therefore, revising the existing college curricula in light of IKs contents should be a top priority to policy makers and curriculum developers/experts.
2. Changes in the curriculum changes the knowledge discourse. Curriculum developers at all levels (national, regional, zonal) need equipped with the concepts and methodology on how to include IKs which are the essential attributes and skills required for the 21<sup>st</sup> century teaching profession. Therefore, the curriculum should be developed in a way that both Western and Indigenous knowledge systems coexisted which is important to realize sustainable education.
3. The integration of indigenous knowledge helps the production of knowledge and social relation that were ignored and marginalized by Western dominated knowledge. It also allows knowledge production to give space for indigenous knowledge. This requires ways of incorporating IKs into colleges' science and mathematics curricula. Therefore, there should be national institution working on surveying, selection, standardization, integration, implementation and feedback on including the various Ethiopian IKs in college's curricula.
4. In order to include and implement IKs contents in the curriculum, there should be a clear road map or guideline consisting of the strategies, clear set of principles or rules that define the actions that all implementer and stakeholders should take to achieve the desired goals.
5. Teacher educators' attitudes and perceptions are crucial and have implication for the inclusion of IKs contents and implementation in colleges' science mathematics courses. Therefore, a lot more work needs to be done in an effort to change attitudes, perceptions, institutions and communities, if inclusion is going to be a success. To do these I recommend, Using continuous professional development (CPD) as an opportunity and ideal platform for giving a renewed hope and attention to the discourse of IKs.

6. It is necessary for teacher education programs to rethink ways in which to prepare teachers for effective integration of multiple forms of knowledge when designing and implementing the teacher education curriculum.
7. Even if the current political system of Ethiopia is decentralization, and hence it's education system, the real decentralization education system should be exercised by regions and training institutions to address the local needs and inclusion of IKs contents.
8. The study reveals that globalization has both negative and positive effects on IKs, Thus, indigenous value addition is key to the survival of IKs. People can only contribute and benefit from globalization if they are endowed with knowledge, skills, and values and with the capabilities and rights needed to pursue their basic livelihoods in IKs play a vital role.
9. The policy goals of INGOs, NGOs, and development partners are achieved through two different ways. The first one is powers of persuasion and the second one is conditionality attached to loans. Therefore, the government of Ethiopia in general and the education sector in particular should be very conscious and proactive to their hegemonic discourse on knowledge production and it should be counter balanced by including IKs contents in the curricula.
10. Revitalizing the value of indigenous knowledge through curriculum reforms are vital if communities are to engage in sustainable economic development that is oriented to their local needs. This becomes necessary to rethink the education framework in order to determine terms of development within the macro and micro levels.

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## Data Availability

Data can be made available on the behavior of the request

## Declaration of interests' statement

The author declare no competing interests.

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## Original Article

# Effectiveness of school leaders in leading schools in Kambata, Ethiopia

Markos Mekuria Dolebo <sup>1\*</sup>

<sup>1</sup> Educational Leadership and Management, College of Education, Hawassa University

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### CORRESPONDING EMAIL

\* Corresponding author email:  
mekuriam211@gmail.com

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### KEYWORDS:

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## Abstract

*This study aims at assessing the effectiveness of school leaders in leading their schools in Kambata. Descriptive survey research design was employed. It was conducted in a sample of 10 primary schools and on 66 school leaders (principals, deputy principals and department heads), and 90 teachers. Questionnaire and focus group discussions were employed for data collection from teachers, school leaders and Woreda education experts. Percentage and frequency were employed to analyze behavioral matrix items; weighted mean was computed to find out average values against each item score of organizational factors affecting the effectiveness of leaders. Spearman's rank order correlation coefficient ( $\rho$ ) was used to test the perceptual variations between teachers and school leaders regarding subordinate related factors affecting leadership effectiveness. It was revealed that most primary school principals value interpersonal relations; want to promote happiness of everybody, afraid to say no and want to live peacefully rather than giving attention for the work to be done. It was found that school leaders' overestimate their performance which, was not revealed by other participants. The study also revealed that there were internal (teacher and school leader related) and external (socio-cultural environment and organization related) factors affecting the effectiveness of school leaders in discharging their functions. It was concluded that effective school leadership is a function of presence of effective, supportive and participative leaders, presence of effective and matured followers/subordinates and presence of good organizational climate, social values, economic and political conditions.*

## 1 Introduction

The problem of leadership has been one of man's major concerns since the days of antiquity. In modern days, leaders all over the world have taken their places in guiding the thoughts and efforts of people to the achievement of the common goals. In any organization people working there need leader's individuals who could be instrumental in guiding the efforts of groups of workers to the achievement of goals and objectives both of the individuals and the organization.

The objectives may not be very far reaching and the actions of the leaders may not be so dramatic, but the successful performance of the leadership role is essential to the survival of the organization (Mamoria and Gankar, 2008: 690-691). Success in school administration depends on one's overall leadership ability. For Clark and Clark (2002), leadership entails working together. It is an activity that occurs in a group in organization, or institution and which involves a leaders and followers who willingly subscribe to

common purposes and work together to achieve them. An administrator's leadership to a large extent determines how successfully his or her organization will be in delivering appropriate services and willing community support.

Mathews in [Cunningham](#) and [Cordeiro](#) (2006), describes educational leadership as giving purpose and direction for individual and group processes, shaping a school culture and values, facilitating the development of a strategic plan and vision for the organization, formulating goals and planning change efforts with staff, and setting priorities to student and staff needs. Research has begun to provide a more complete knowledge base regarding effective leadership ([Susan, 1985](#)). [Susan \(1985\)](#) developed an instrument to help people develop their own behavior style and to identify and understand the basic styles of others. Among the earliest of the vast research completed on leadership effectiveness were the Ohio State Studies ([Stogdill, 1974](#)). These Studies helped shift thinking away from a single-axis paradigm of leadership, often with democratic and autocratic at either ends of the continuum, to the two-dimensional paradigm of leadership that includes two continuum: consideration and initiating structure. Over hundred studies of leadership have examined this model. The general findings suggest that consideration and initiating structure are positively related to various measures of group effectiveness, cohesiveness and harmony. A leader who score high on both of these dimensions would be considered more effective based on traditional values held by organizations ([Cunningham](#) and [Cordeiro, 2003](#)).

Fielder (cited in [Cunningham](#) and [Cordeiro, 2006](#)) found that a leader's effectiveness in a given situation depends on the fit between his or her style and the task, authority level, and nature of the group. An effective leader, according to situational theory, is one who understands the facts of a situation and deals with them effectively ([Mamoria and Gankar, 2008](#)). To these authors, effective educational leadership largely depends on team work and participation of the staff within the organization. That means that effective and efficient utilization of human and other resources in the organization is not possible without active involvement of the staff. In addition, the intended educational objectives of the organization cannot be realized if there is no effective team work and involvement of the staff in leadership activities.

[Cunningham](#) and [Cordeiro \(2006\):141](#)) noted that, effective leaders use knowledge from many sources to inform and guide their actions and those of their subordinates. This information does not prescribe practice, but it does provide the impetus for important discussion, action, and ultimately organizational success. Leaders pay close attention to theory, research and successful practice in order to enhance judgment and improve the quality of decision making. According to [Cunningham](#) and [Cordeiro \(2006\):15](#)), effective leaders help to develop and support commitment of exemplary practice among the staff. The ideas that exist within the organization are key, and therefore the leader must work to help shape those ideas by what has been successful in the past and what might be successful in the future.

In general, identifying and recognizing the factors which impede leadership effectiveness is crucial for the effective operation of the organizational activities. It does not only ease the work, but also creates a good mentality toward educational leadership and mutual understanding among the staff and leaders. Thus, the problem of effective school leadership has become a great concern of this study in the Primary Schools of Kambata.

In this study many questions have been addressed to develop a design for effective leadership in Primary schools of Kambata. Thus, to guide the study, attempt was made to address the following basic questions.

- Does the leadership that the school principals employ affect their effectiveness in Kambata? Which ones?

- What are subordinate related factors affecting effectiveness of principals in Kambata?
- Does socio-cultural environment affect the school leadership effectiveness in the study area?
- Which organizational factors affect the leadership effectiveness of school principals most or least?

The main purpose of the study was to explore the leadership practices and factors affecting leadership effectiveness of primary school principals in Kambata, Ethiopia.

This study is expected to be useful and important for the following reasons.

1. It may give school leaders, supervisors and other education officials some ideas regarding the importance of team activities and participating or supportive leadership in schools and educational organizations, and it may strengthen their interests and attitudes to obtain professional satisfaction.
2. It may increase awareness among the school leaders, supervisors and other concerned education officials about the existing problems of school leadership in Kambata.
3. It may provide some alternative solution or remedy that may help to improve leadership effectiveness, so that school performance might be efficient and effective.
4. It may contribute additional information and document base for researchers who want to conduct further study in the area.

## 2 Research Methods

### 2.1 Research design

Since this is an exploratory study aimed at examining and identifying factors affecting leadership effectiveness as well as assessing the practices of school principals' leadership, descriptive survey research design was employed. To this end, the study employed two approaches. The first approach was reviewing and discussing some principles, theories, models and literature relevant to leadership and leadership effectiveness. This part dealt with the analytical framework most important and appropriate to the analysis and understanding of the general leadership effectiveness in the organizational functions. The second approach was gathering the relevant data to determine factors affecting the effectiveness of school principals' leadership. This section focused on both qualitative and quantitative data about the respondents perception regarding leadership practices and factors contributed to the effectiveness of leadership in the Primary Schools under study.

### 2.2 Sample and Sampling Techniques

Out of seven Woredas and Three Town Administration found in Kambata, three woredas and two town administrations were included in the study. Because of larger number of teachers and school leaders in the study area, the sample representation in the study was set by a technique of simple random sampling. In the questionnaire part, 66 school leaders (principals, deputy principals and department heads) and 90 teachers were participated in this study as sources of data. Besides, 10 woreda education officers and experts

were participated in focus group discussion from three randomly selected woredas and two town administrations purposively since they were assumed to have rich information on the problem under study.

Since the sample size was relatively large, the main data gathering tool was questionnaire. Besides, focus group discussion was held with woreda education officers and experts to triangulate illuminate and deepen the data collected through the questionnaire.

A questionnaire used to survey a behavior matrix of leaders that is developed by [Susan \(1985\)](#) called "North West-Regional Educational Laboratory (NREL)" was adapted and administered to teachers, school leaders (Principal, deputy principals and department heads). Besides, a focus group discussion was held with some woreda education officers and experts. The Purpose of the focus group discussion was to compare the reality about leadership styles school principals employ and factors affecting their effectiveness.

## 2.3 Methods of data analysis

Both quantitative and qualitative techniques of data analysis were employed. Percentage and frequency were employed; weighted mean was computed to find out average values against each item score of organizational factors affecting leadership effectiveness. Spearman's rank order correlation coefficient ( $\rho$ ) was used to test the perceptual variations between teachers and school leaders regarding subordinate related factors affecting leadership effectiveness.

## 2.4 Theoretical framework

Success in school mostly lies in a series of action steps that school leaders should implement. It is evident that effective leaders are healthy, intelligent, tactful and resourceful. Leaders are furthermore characterized by their use of different leadership styles and their ability to choose the right leadership style to fit the specific situation. [Bush \(2008\)](#) defined leadership in terms of leadership as influence and leadership as having vision. According to him, a central element in many definitions of leadership is that there is a process of influence. Leadership then refers to people who bend the motivations and actions of others for achieving certain goals; it implies taking initiatives and risks. [Ogawa and Bossert \(1995\)](#) see this influence as an organizational quality following differing internal networks of the organization. Leadership may also be understood as 'influence' but this notion is neutral in that it does not explain or recommend what goals or actions should be sought through this process.

However, certain alternative constructs of leadership focus on the need for leadership to be grounded in firm personal and professional values. [Greenfield and Ribbins \(1993\)](#), claim that the primary role of any leader is the unification of people around key values. The writers add that leadership begins with the 'character leaders, expressed in terms of personal values, self-awareness and emotional and moral capability.

As has been mentioned, the function of leadership seems to influence the overall performance of organizations. However, the lack of a unique definition of the concept of a principal's leadership, which is broadly accepted, creates problems in the examination of this impact. Indeed, leadership has been conceptualized and operationalized in many different ways. The fact that researchers have provided inconclusive results is not a sufficient argument for rejecting the concept of "leadership" altogether. For example, [Gronn \(2000\):318](#) argues that leadership is still needed but a fundamental reconceptualization of the nature of leadership within organizations is overdue.

A first step to this reconceptualization is the identification of the causes of the lack of a universal definition of the concept of leadership (Hallinger and Heck, 1998:190). A second step is the identification of the main assumptions about effective leadership which seems to be a very difficult task. However, the main assumption that could be broadly accepted is presented by Riley and Louis (2000):47) who argue that “there is no package for school leadership, no one model to be learned and applied regardless of culture or context, though leadership can be developed and nurtured”.

According to Terry and Franklin (2002), three main theoretical frameworks have dominated leadership research at different points in time. These included the trait approach (1930s and 1940s), the behavioral approach (1940s and 1950s), and the contingency or situational approach (1960s and 1970s).

Contingency and situational leadership theorists reject the conclusion that there is one best approach to leadership effectiveness. They suggest that time available, task specificity, competence and maturity of the staff, need for involvement, authority, and dynamics of the situation determine what style should be used (Cunningham and Cordeiro, 2006). These writers went on saying that other situational factors like groups size, rewards, leader status, method of appointment and technical background have also a contribution on leadership effectiveness. Although considerable conceptual and methodological progress has been made, little is known about the paths through which school leaders can enhance organizational and student outcomes and about the interplay with contextual factors (Hallinger, 2003:330).

The leadership style that is adopted by a leader can have a positive or negative influence on the effectiveness with which an aim is achieved, performances are executed, staff development is conducted, and job satisfaction is experienced in a school, all of which impact on the instructional program and academic achievement (Prinsloo, 2003:141).

Day, Harris and Hadfield’s research in 12 ‘effective’ schools in England and Wales concludes that ‘good leaders are informed by and communicate clear sets of personal and educational values which represent their moral purposes for the school’ (cited in Bush, 2008). Others consider effective leaders who have vision for their schools.

Hersey and Blanchard (cited in Terry & Franklin, 2002) in their leadership research confirmed that successful leadership depends on the relationship between organizational situation and the leadership style. According to them, organizational situation include such variables as the climate, managers and subordinate’s values, attitudes, and experience; and the nature of the particular work to be done, including time and money.

The vast majority of studies investigating school leadership and its impact on school effectiveness were mainly focused on a principal’s leadership. This tendency was based on the belief that the principal was the single source and direction of leadership in the school (Harris, 2003). Moreover, Kythreotis et al. (2010):234) found principal’s human leadership style has a direct impact on school achievement.

It is thus clear that the effectiveness of leaders who employ a situational leadership style depends on the fit between their brilliance of choosing the appropriate leadership style for the specific task to be executed, with cognizance of their level of authority, and the nature of the specific group that they are leading. There is therefore no fixed personality-based trait for effective leadership and management. School principals who employ a situational leadership style therefore continuously (2006:155; Hersey et al., 2001:38). In sum and despite the descriptions of all the possible leadership styles engendering leadership effectiveness, there is not a single leadership style promoted as a model for fitting all contexts and all situations.

It is apparent from the preceding discussions that leadership effectiveness is a product

of many forces that act and interact simultaneously. Every leader must achieve some degree of integration of these varying and complex forces; otherwise there is a void in the leader's leadership necessary to perform the managerial job effectively. Effective leaders must be clear in the set of beliefs they plan to practice and the impact their style has on the culture, ethos, and environment in which subordinates work. Leadership style guides the action and interaction of the work group serving as a catalyst for achievement while bringing together diverse people within an organization to work for the common good.

### 3 Results

Two data gathering instruments were used to collect data for the study. Questionnaire was distributed to 100 teachers and 70 school leaders (principals, deputy principals and department heads) who are currently serving in primary schools of Kambata. The response rate was 66 (85.7 %) for school leaders and 90 (90%) for teachers. In addition, focus group discussion was held with woreda education experts. Hence, this section briefly presents the findings and discussions of the study.

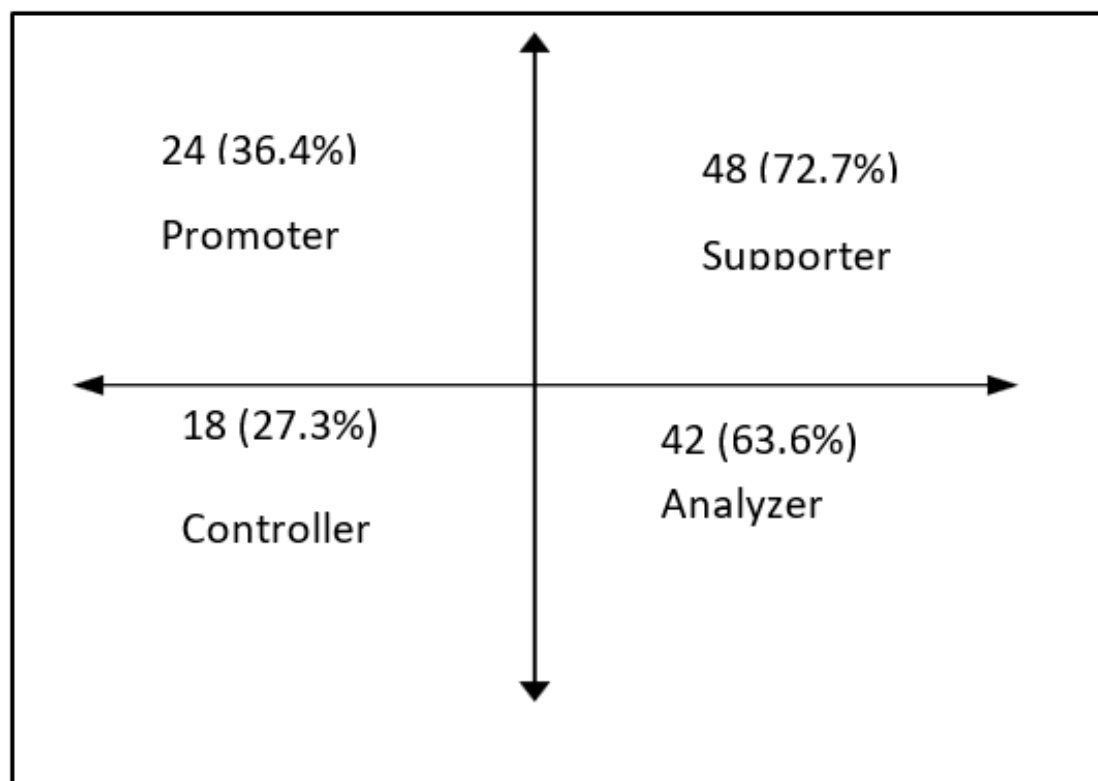


Figure 1: School leaders' perception regarding their most frequently applied leadership styles.

Graph 2

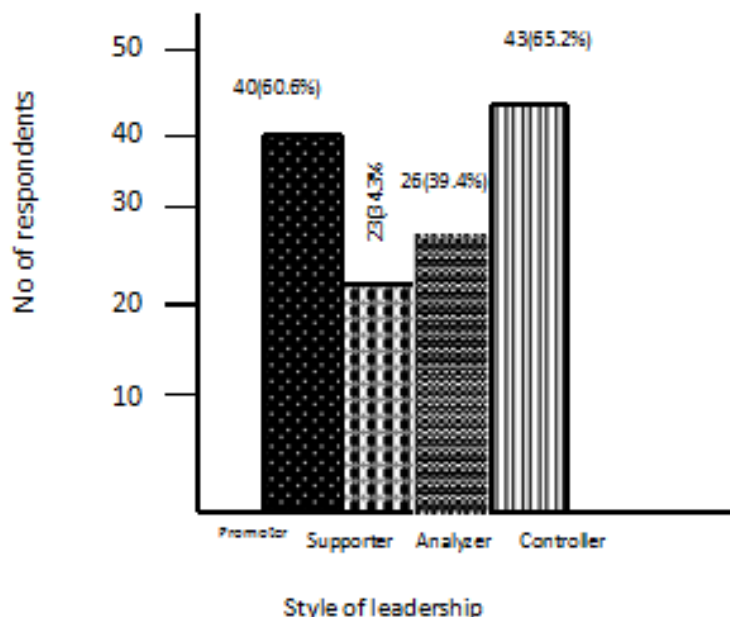


Figure 2: Leadership behavior of their superiors (bosses) as viewed by school leaders

The above two figures depict how school leaders view themselves and their immediate supervisors in the work situation.

There are great deals of diversity in the personal styles that people bring to their organizations. These styles serve as screens through which the individual views people, tasks, and organizations. Accordingly, to identify the behavior style of school leaders and to identify and understand the basic styles of others, the Northwest-Regional Educational Laboratory (NREL) behavior matrix instrument was used and the following results were obtained.

This placed the school leader and his/her supervisor into a quadrant on the behavior matrix.

The lines were next recognized in order to get four quadrants. Figure 1 and Figure 2 present the recognized lines in the form of behavior matrix. The marks were converted to axes and horizontal and vertical lines were drawn through the marks to determine the point where the two lines intersect.

This placed the school leader and his/her supervisor into a quadrant on the behavior matrix.

As indicated in Figure 1, and Graph 1, 48 (72.7%) of the school leaders considered themselves as supporter, while 18(27.3%) of them considered themselves as controllers. At the same time, 42(63.6%) of them pointed out that they use analyzer style of leadership, whereas 24(36.4%) of them said as they apply promoter type of leadership style. Here it can be generalized, that most primary school leaders in the study area use supporter and analyzer styles of leadership.

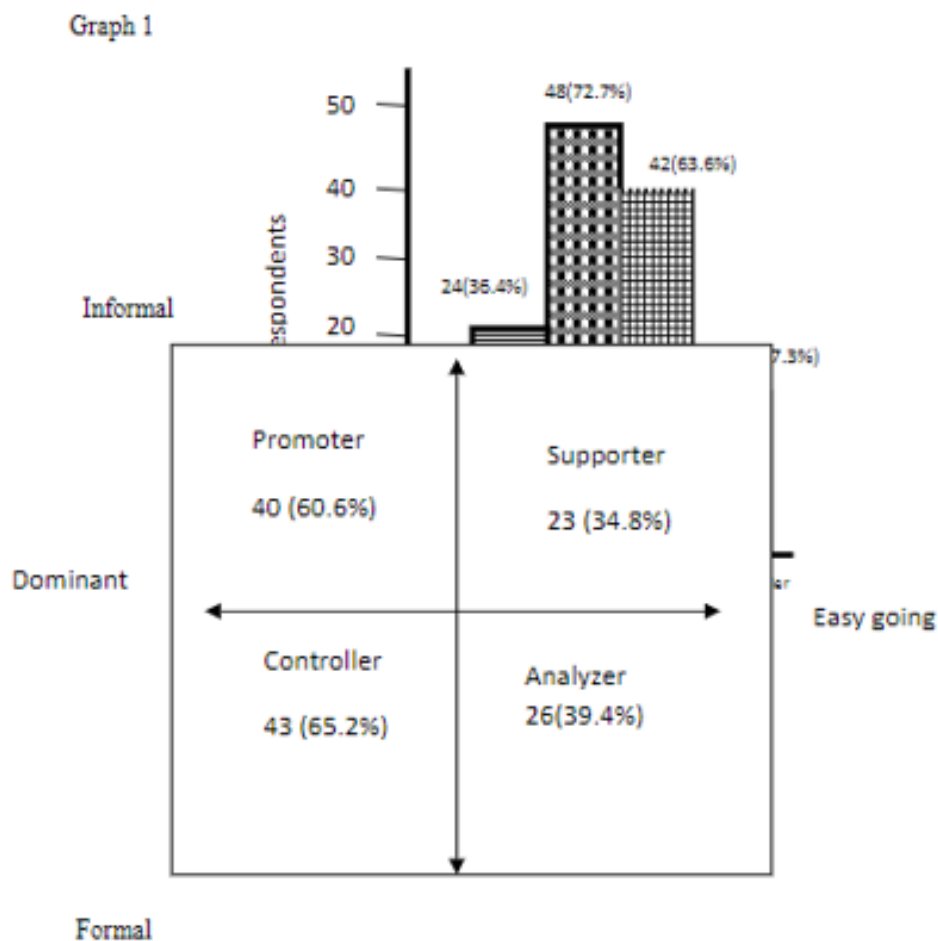


Figure 3

On the other hand in Figure 2 and Graph 2, majority, that is 65.2% of them revealed that their immediate supervisors are controllers and 23(34.8%) said that they are supporters. Besides, 40(60.6%) of the school leaders noted that their supervisors use promoter style of leadership, while 26(39.4%) of them pointed out that their supervisors apply the analyzer style of leadership. From Figure 2, one can easily understand that the immediate supervisors of school leaders frequently use controller and promoter style of leadership.

When viewed in behavioral matrix. Below are the descriptors for each of the quadrants in the behavior matrix. The description of the characteristics of school leaders and their immediate supervisors falling in each of these four quadrants starting with upper-left quadrant (promoters), according to Cunningham and Cordeiro (2003):139-140) are:

**Promotional Style:** promoters get involved with people in active, rapidly changing situation. These people are seen as socially outgoing and friendly, imaginative and vigorous. Some see promotional style as dynamic and energetic while others perceive the same behavior as egotistical. In the work situation, promoters can get things going but might sometimes settle for less than the best in order to get on to something else. They are frequently highly competitive and might need to learn to work with others in a collaborative manner.

**Supporting Style:** supporters value interpersonal relations. These people try to minimize conflict and promote the happiness of everybody. Some people see the supporting style as accommodating and friendly, while others describe it as "wishy-washy" and

“nice.” In the work situation, supporter might find it difficult to say “no,” therefore frequently finding themselves over committed. Supporters are people-oriented and non-aggressive. They rely on others to give direction about how to get the tasks done.

**Controlling Style:** controllers want results. They love to run things and have the job done in their own way; “I will do it myself” is a frequent motto of the controller. These people can manage their time to the minute. Some see them as business like and efficient, while others refers to them as threatening and unfeeling. In work situation controllers make sure the job is done. Controllers are confident in their ability, take risks and push forward.

**Analyzing Style:** analyzers are problem solvers. They like to get all the data before making a decision. Some say they are through, but others complain that they are slow. These people are frequently quiet and prefer to work alone. In a work situation, analyzers bring valuable conceptual skills. They ask the difficult, important questions. Inter personally, they might seem aloof and cool. Analyzers might miss deadlines, but they will have all the reasons to support the delay.

Table 1: School leaders’ response on their behavior in relation to the staff

| No | Items                                                         | Make a great effort to do this |      | Tend to do this |      | Avoid to do this |     | Make a great effort to avoid |     |
|----|---------------------------------------------------------------|--------------------------------|------|-----------------|------|------------------|-----|------------------------------|-----|
|    |                                                               | No                             | %    | No              | %    | No               | %   | No                           | %   |
| 1  | Closely supervise their subordinates                          | 56                             | 84.8 | 7               | 10.6 | –                | –   | 3                            | 4.5 |
| 2  | Set goals and objectives for their subordinates               | 46                             | 69.7 | 15              | 22.7 | 4                | 6.1 | 1                            | 1.5 |
| 3  | Set up controls to ensure the job done                        | 45                             | 68.2 | 16              | 24.2 | 3                | 4.6 | 2                            | 3.0 |
| 4  | Encourage subordinates to set their own goals and objectives  | 50                             | 75.8 | 16              | 24.2 | –                | –   | –                            | –   |
| 5  | Make sure that the subordinates work is planned               | 46                             | 69.8 | 16              | 24.2 | 3                | 4.5 | 1                            | 5.1 |
| 6  | Check with subordinates daily to see if they need help        | 43                             | 65.2 | 18              | 27.3 | 3                | 4.5 | 2                            | 3.0 |
| 7  | Step in as soon as reports indicate that the job is slipping  | 37                             | 56.1 | 15              | 22.8 | 4                | 6.1 | –                            | –   |
| 8  | Push subordinates to meet schedules if necessary              | 50                             | 75.8 | 12              | 18.2 | 3                | 4.5 | 1                            | 1.5 |
| 9  | Have frequent meetings to keep in touch with what is going on | 41                             | 62.1 | 19              | 28.8 | 4                | 6.1 | 2                            | 3.0 |
| 10 | Allow subordinates to make important decisions                | 50                             | 75.8 | 8               | 12.1 | 6                | 9.1 | 2                            | 3.0 |

The school leaders revealed that they are more of supportive however their immediate supervisors are more of controllers. Similar fact was also revealed by the education office experts in the focus group discussion. That is most school leaders in Kambata value interpersonal relations, want to promote happiness of everybody afraid to say no and want to live peacefully rather than giving attention for the work to be done. Their compliant on their immediate supervisors, might be associated with their characteristics of not disclosing their personal weaknesses. Thus, from the above figures (1 and 2) and graphs (1 and 2) as well as from interpretation of the behavior matrix, it can be concluded that successful leaders come from all quadrants of the matrix and an organization needs all four types of people to be successful.

Accordingly, majority (over 95%) of the school leaders who participated in the study pointed out that they closely supervise subordinates, set goals and objectives for their subordinates, set up controls to ensure the job done, check with subordinates daily to see if they need help, step in as soon as reports indicate that the job is slipping and push people to meet schedules. However, very few of them indicated the opposite. On the other hand, a great majority (over 92%) of them indicated that they encourage subordinates to set their own goals and objectives, have frequent meetings to keep in touch with what is going on and allow subordinates to make important decisions.

Table 2: Teachers' response on school leaders' behavior in relation to the staff

| No | Items                                                         | Make a great effort to do |      | Tend to do this |      | Avoid to do this |      | Make a great effort to avoid |      |
|----|---------------------------------------------------------------|---------------------------|------|-----------------|------|------------------|------|------------------------------|------|
|    |                                                               | No                        | %    | No              | %    | No               | %    | No                           | %    |
| 1  | Closely supervise their subordinates                          | 55                        | 61.1 | 21              | 23.3 | 13               | 14.5 | 1                            | 1.1  |
| 2  | Set goals and objectives for their subordinates               | 37                        | 41.1 | 39              | 43.3 | 10               | 11.1 | 4                            | 4.5  |
| 3  | Set up controls to ensure the job done                        | 47                        | 52.2 | 23              | 25.5 | 13               | 14.5 | 7                            | 7.8  |
| 4  | Encourage subordinates to set their own goals and objectives  | 33                        | 36.7 | 26              | 28.9 | 17               | 18.9 | 14                           | 15.5 |
| 5  | Make sure that the subordinates work is planned               | 53                        | 58.9 | 17              | 18.9 | 17               | 18.9 | 3                            | 3.3  |
| 6  | Check with subordinates daily to see if they need my help     | 32                        | 35.6 | 26              | 28.9 | 19               | 21.1 | 13                           | 14.5 |
| 7  | Step in as soon as reports indicate that the job is slipping  | 36                        | 40.0 | 26              | 28.9 | 22               | 24.4 | 6                            | 6.7  |
| 8  | Push subordinates to meet schedules if necessary              | 33                        | 36.7 | 24              | 26.7 | 9                | 10.0 | 14                           | 15.6 |
| 9  | Have frequent meetings to keep in touch with what is going on | 42                        | 46.6 | 25              | 27.8 | 15               | 16.7 | 8                            | 8.9  |
| 10 | Allow subordinates to make important decisions                | 28                        | 31.1 | 30              | 33.3 | 18               | 20.0 | 14                           | 15.6 |

Table 1 depicts the school leaders' response on their behavior in relation to their staff.

Majority (about 75% on average) of the teacher respondents revealed that their school leaders closely supervise subordinates, set up controls to ensure the job done, set goals and objectives for subordinates, make sure that the subordinates work is planned, step in as soon as reports indicate the job is slipping and push people to meet schedules.

While about quarter (25%) of them responded opposite to that i.e. they said that school leaders avoid doing these or making a great effort to avoid doing these things.

On the other hand, about 68% on average of the teacher respondents noted that the school leaders encourage subordinates to set their own goals and objectives conduct frequent meetings to keep in touch with what is going on and allow subordinates to make important decisions. However, significant number (about 32%) of them revealed that the school leaders' avoid or make a great effort to avoid doing these things.

Therefore, from the above two tables (Table 1 and 2) one can conclude that school leaders are over estimating as if they possess and demonstrate such a behavior which was not witnessed by teachers. Thus, majority of the school leaders in the study area can be described as mild theory X advocates or believers.

Table 3: Column Totals

| Column Totals    |                 |
|------------------|-----------------|
| Always (5)       | 550 X 4 = 33.33 |
| Often (4)        | 244 X 3 = 11.89 |
| Occasionally (3) | 66 X 2 = 2.00   |
| Seldom (2)       | 42 X 1 = 0.63   |
| Never (1)        | 83 X 0 = 0      |
| IS. Grand Total  | 47.05           |

Table 4: Column Totals

| Column Totals    |                 |
|------------------|-----------------|
| Always (5)       | 598 X 4 = 36.24 |
| Often (4)        | 276 X 3 = 12.54 |
| Occasionally (3) | 41 X 2 = 1.24   |
| Seldom (2)       | 30 X 1 = 0.45   |
| Never (1)        | 45 X 0 = 0      |
| C. Grand Total   | 50.47           |

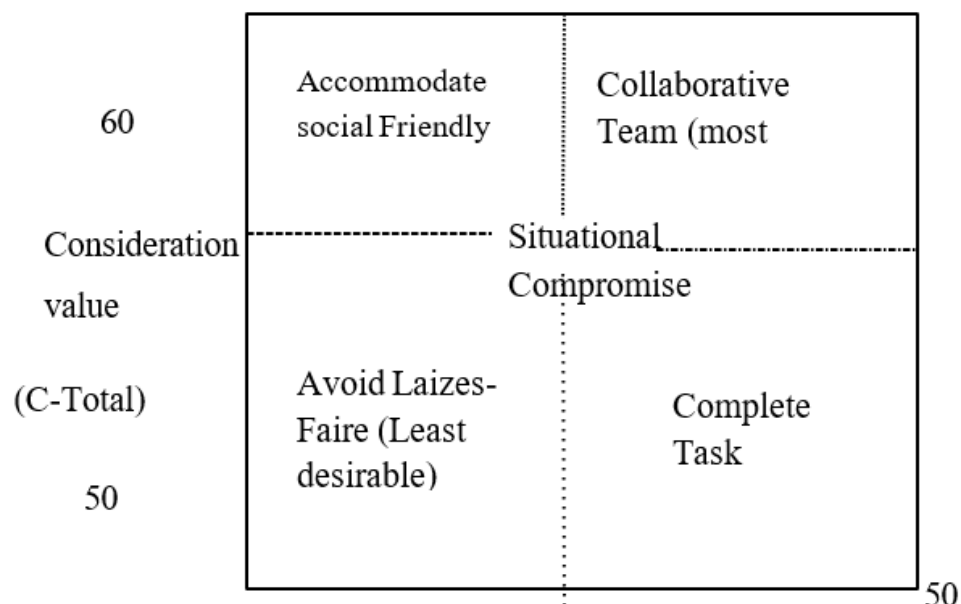


Figure 4: Charting Leadership Style Matrix

The above tables (3A1, A2, A3 and 3B1, B2, B3) show the styles of leadership in which school principals in Kambata Primary Schools most naturally apply in practice.

The columns on the left side of the survey questionnaire represent the initiating structure values. The right side columns represent consideration values. By recording the column totals in the initiating structure and consideration boxes above, (Total number of checks marked by respondents in each column of the leadership behavior survey, and by entering the totals in the square for the appropriate column) multiplying each of these totals by the weighted factors indicated, the above results were obtained. Adding weighted factor totals for a grand total, representing the initiating structure grand total and consideration grand total. Then charting both of these grand total values on the charting leadership style matrix to determine the quadrant of the selected leadership style, the above results were obtained. The results of initiating structure and consideration in both cases are almost similar.

According to the research participants (school leaders and teachers) the most naturally applied styles of leadership in the study area are situational balance and compromise type i.e. 5,5 of the new managerial grid developed by Blake and Mouton (1964 & 1978). This fact was exactly revealed by woreda education officers and experts that they said that the school leaders choose to leave with peace and compromise with everybody; they don't give maximum concern for work and people. The 5,5 style is located in the middle of the Grid figure, with a medium level of concern for both results and people. Like the 9,1 and the 1,9, the 5,5 leader believes there is an inherent contradiction between the two concerns. This contradiction can be resolved by balancing the needs of people with results, through compromises and trade-offs rather than trying to achieve the sounded possible results. Here, the objective is not to strive for excellence but to play it safe and work toward acceptable solutions. The 5,5 is often very informed, but his/her efforts are weakened by the objective of filling in with popular trends. Information gathered is not used for challenging standards and searching for creative solutions but is used to reduce or suppress controversy. Research suggests that it is important to become a team-participation (contribute and committed) leader, i.e. 9,9 style of leadership (Cunningham and Cordeiro, 2003:146).

Table 5: Organizational factors affecting leadership effectiveness

| No                | Factors                                                                                          | Leaders (n=66) |      | Teachers (n=90) |      |
|-------------------|--------------------------------------------------------------------------------------------------|----------------|------|-----------------|------|
|                   |                                                                                                  | Weighted Mean  | Rank | Weighted Mean   | Rank |
| 1                 | How much confidence and trust does management place in subordinates?                             | 3.21           | 15   | 2.92            | 14   |
| 2                 | How free do subordinates feel to talk to superiors about the job?                                | 2.92           | 11   | 3.06            | 16   |
| 3                 | How often are subordinates' ideas sought and used constructively?                                | 2.78           | 6    | 2.83            | 13   |
| 4                 | Is predominant use made of (1) fear, (2) threats, (3) punishments, (4) rewards, (5) involvement? | 2.56           | 1    | 2.53            | 4    |
| 5                 | Where is responsibility felt for achieving organization's goals?                                 | 2.64           | 4    | 2.33            | 2    |
| 6                 | How much cooperative teamwork exists?                                                            | 2.77           | 5    | 2.80            | 10   |
| 7                 | What is the usual direction of information flow?                                                 | 3.26           | 16   | 3.01            | 15   |
| 8                 | How is downward communication accepted?                                                          | 2.86           | 8    | 2.79            | 9    |
| 9                 | How accurate is upward communication?                                                            | 2.95           | 12   | 2.80            | 10   |
| 10                | How well do superiors know problems faced by subordinates?                                       | 2.89           | 10   | 2.29            | 1    |
| 11                | Are subordinates involved in decisions related to their work?                                    | 2.62           | 3    | 2.70            | 8    |
| 12                | What does the decision making process contribute to motivation?                                  | 2.88           | 9    | 2.61            | 5    |
| 13                | How are organizational goals established?                                                        | 3.00           | 13   | 2.80            | 10   |
| 14                | How much personal resistance to goals is present?                                                | 2.58           | 2    | 2.67            | 7    |
| 15                | Is there an informal organization resisting the formal one?                                      | 2.80           | 7    | 2.52            | 3    |
| 16                | What are the cost, productivity, and other control data used for?                                | 3.05           | 14   | 2.62            | 6    |
| <b>Grand Mean</b> |                                                                                                  | <b>2.86</b>    |      | <b>2.71</b>     |      |

Sixteen variables of organizational functions which could be practiced by school leaders were listed in Table 5. Out of these, only four items bear weighted mean scores that were above the minimum satisfactory point of the rating scale (3.0) for school leaders. The remaining twelve items hold values below the desired minimum point of the scale, i.e., 3.00.

The items described as "usual direction of information flow", "level of confidence and trust that management place on subordinates," "the cost, productivity and other control data used for", and "ways of organizational goal establishment" exhibited the biggest weighted mean values in the distribution i.e. 3.26, 3.21, 3.05 and 3.00 respectively for school leaders.

On the other hand, out of these sixteen organizational variables/factors, only two item bear weighted mean values that were above the minimum satisfactory point of the rating scale (3.0) by teacher respondents. However, fourteen items bear weighted means values that were below the minimum satisfactory point of the rating scale, i.e. 3.00.

Moreover, both groups of respondents reported that they were reasonably satisfied with the school variables/factors concerning "accuracy of upward communication", "acceptance of downward communication", decision making process contribution to motivation", and "existence of cooperative team". The weighted mean values for these items for school leaders were 2.95, 2.86, 2.88 and 2.77 respectively and for teachers 2.80, 2.79, 2.61 and 2.80 respectively. Nevertheless, teachers were relatively dissatisfied and considered as hindering factors for leadership effectiveness on items indicated by numbers

10, 5, 15 and 4. The school leaders also indicated their dissatisfaction on items indicated by numbers 4, 14, 11 and 5.

Furthermore, the overall level of effect of these factors could be determined by the combined or grand mean rates of the factors (variables). The grand mean computed for all the variables for the two groups of respondents (leaders and teachers) were 2.86 and 2.71 respectively. From the above table and discussions, it can be said that there are a number of organizational variables (factors) affecting the effectiveness of primary school leaders in Kambata. In addition, among these as indicated by woreda education experts are: lack of the necessary support from woreda management bodies, lack of monitoring and supervision from woreda education office, lack of commitment of supervisors, external interference and others.

Table 6: Rank order of the subordinate related factors affecting effectiveness of school leaders

| No | Factors                                           | Leaders (n=66) |      | Teachers (n=90) |      |
|----|---------------------------------------------------|----------------|------|-----------------|------|
|    |                                                   | Mean Rate      | Rank | Mean Rate       | Rank |
| 1  | Lack of motivation                                | 0.15           | 2    | 0.17            | 14   |
| 2  | Lack of commitment to accept responsibility       | 0.21           | 6    | 0.18            | 4    |
| 3  | Lack of training (knowledge and skills)           | 0.15           | 2    | 0.13            | 1    |
| 4  | Poor morale of subordinates                       | 0.18           | 4    | 0.20            | 7    |
| 5  | Lack of cooperation among teachers                | 0.21           | 6    | 0.17            | 2    |
| 6  | Poor relations between management and individuals | 0.14           | 1    | 0.18            | 4    |
| 7  | Lack of self-confidence                           | 0.19           | 5    | 0.19            | 6    |
| 8  | Poor communication abilities                      | 0.23           | 8    | 0.21            | 8    |
| 9  | Not striving for excellence                       | 0.39           | 10   | 0.22            | 10   |
| 10 | Fear to face challenges                           | 0.36           | 9    | 0.22            | 9    |

The data in Table 6 depict the rank order of subordinate related factors adversely affecting leadership effectiveness. Respondents were requested to rank these factors in the degree of priority that they may hinder leadership effectiveness. As reported by school leaders, poor relation between management and individuals, lack of interest and motivation and lack of training (knowledge and skills) and lack of morale of subordinates were ranked 1 to 4 in that order.

However, teacher respondents ranked 1 to 4, lack of training in management principles, lack of interest and motivation, lack of cooperation, and poor relation between the management and individuals in that order. Both groups of respondents have similar views on poor communication abilities, fear to face the challenges and not striving for excellence, i.e. they ranked them 8 to 10 in that order. Some remarkable ranking differences were observed between the two groups of respondents in the area of poor morale of subordinates, lack of commitment to accept responsibilities, lack of cooperation, and poor relations between management and subordinates. The spearman's rank order correlation coefficient employed justified that there is significant difference between the rankings of school leaders and teachers ( $\rho = 0.76$ ,  $P < .05$ ). Thus, the views of teachers didn't match with the views of school leaders, that is, both groups didn't share the same idea concerning subordinate related factors affecting effectiveness of school leaders. These differences might be emanated as a result of school leaders' poor ability of coordination, motivation and leadership.

## 4 Conclusions

As proved by the laboratory test questionnaire of North Western Regional Education Laboratory (NREL), the most frequently used leadership styles in the primary schools of

Kambata are supporter styles, i.e they fall in the 1<sup>st</sup> quadrant in behavioral matrix, and that their supervisors or bosses mostly apply controller types of leadership styles, i.e their leadership styles fall under the 3<sup>rd</sup> quadrant on the behavioral matrix.

In group activities, as revealed by both groups (school leaders and teachers), through leadership survey questionnaire, the school leadership style fall under balance and compromise or the 5,5 style which was identified by Blake and Mc Canes (1991) out of seven leadership styles. Advocates of this style located it in the middle of the grid figure with a medium level concern for both result and people.

The organizational factors most affecting effectiveness of leaders were: presence of threats and punishments, presence of strong personal resistance to goals achievement in the organization, subordinates unwillingness to accept additional tasks and be involved in decisions related to their work, not knowing and being involved in the problems of subordinates, presence of informal organizations resisting the formal one, and lack of motivation in the organization.

The subordinate related factors most affecting effectiveness in the schools according to their level of seriousness were: lack of training on management skills, lack of motivation, teacher and student migrations to other countries, and poor relations between school leaders and individual teachers and workers.

Some school leaders' related factors affecting their effectiveness depicted by most respondents were: lack of training (knowledge and skills) in educational management; lack of experience in the management of schools; lack of motivators or incentives for school leaders; lack of the necessary support from within and outside the school; personal characteristics of leaders like unfairness, not involving teachers in decision-making, fear for criticism, lack of commitment, lack of trust and respect; shortage of budget to run the planned school activities effectively, poor communication ability and skills, and lack of time due to school leaders' engagement in other duties.

Effective school leaders are expected to: communicate about instructional matters, pay attention to student results, discuss curriculum and instruction issues, focus on how well learning objectives were mastered in communication with students, teachers, and parents, and to be a visible presence in and around the school.

However as revealed by this study, most school leaders lack such skills to apply these basic things.

From all the findings, it can be concluded that effective school leadership is a function of presence of democratic or participate leaders, presence of matured subordinates and presence of good organizational climate, social values, economic and political conditions.

## 5 Recommendations

Practically, it is impossible to become effective school leader and achieve positive results though unfair and negative influence on teachers and other school personnel. Therefore, in order to be effective, school leaders and other education officials ought to:

foster democratic, cooperative and collegian climate within the school system, provide motivators such as recognition, praise, encouragement, active support, trust and respect, and etc by acknowledging particular endeavor, and make a great effort to get cooperation and support of parents and the surrounding community.

One of the organizational factors which affect leadership effectiveness adversely was absence of rewards and incentive systems in the schools. Research in the field shows that when an organization voluntarily acts to benefit members, it signals a value placed on workers and concern for their well-being, which pays off through greater productivity and loyalty. Therefore, educational leaders at various levels of the education sector should provide incentives to attract competent teachers and workers, to develop and reward them, and to foster a relationship that retains them in the system.

In the study it was revealed that there is lack of support for teachers for performing various activities in the school, since the school leaders are not available in and around the school frequently. Therefore, school principals should be stationed at schools and create a supportive environment where people can thrive, grow and live in peace with others.

All other things being equal, individuals with more complex and varied information and knowledge are likely to be better performing than others. Trained school principals appear to have better professional attitude and relationships, less authoritarian and prepare better plans than untrained, and they seem to have more possible efforts on teacher performance and students achievements than untrained ones at all levels. Therefore, attention needs to be paid on the training of school leaders in current concepts and principles of educational management and leadership in continuous manner. At the same time the concerned government bodies are advised to make the salary of school leaders attractive for attracting experienced teachers to join the position.

As revealed by the study, lack of commitment and resistance to accept responsibility on the part of teachers is a serious problem for school leadership effectiveness. Nobody and nothing will motivate and raise the level of commitment of teachers except it comes from within. If teachers are intrinsically motivated, they will be committed and eager to work harder and accept any additional responsibility. Thus, teachers by themselves need to identify their pit falls, treat themselves and be intrinsically motivated to perform their duties effectively in their schools to promote student's achievements.

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## **Data Availability**

Data can be made available on the behavior of the request

## **Declaration of interests' statement**

The author declare no competing interests.

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## Original Article

# The challenges of inclusive education in Ethiopia: The reality on the ground

Getahun Solomon Sosango<sup>1\*</sup>

<sup>1</sup> Department of Special Needs and Inclusive Education, College of Education, Hawassa University

### Abstract

*Ensuring access to quality education for all acknowledges the intrinsic value of diversity and respect for human dignity. The purpose of this research was to identify the challenges of inclusive education. The differences come to be seen in a positive light as the stimulus for fostering learning among all children. The principles of inclusion and equity in education are, then, not only about ensuring access to education, but also about having quality learning spaces and pedagogies that enable students to thrive, to understand their realities, and to work for a more just society. However, researches indicate that there are several challenges to implement Inclusive Education. The main purpose this article review was to investigate the major challenges that hinder the implementation of inclusive education in Ethiopia. Methodological wise, it employed a narrative review since the reviewer summarized the findings of empirical research which were conducted in different parts of Ethiopia at different time regarding challenges of Inclusive education. The findings from the reviewed studies revealed that attitudinal barriers, skill/knowledge barrier, inflexibility of curriculum, policies barriers, economic barrier, and physical/infrastructural barriers are the major hindrances to implement inclusive education in Ethiopia. Hence, it is recommended that ministry of education, non-government organizations working on education, families, schools and communities need to change and accept children with disabilities to be part of the system and refrain from expecting the children to adjust and conform to what the system provides.*

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### CORRESPONDING EMAIL

\* Corresponding author email:  
getahun121@gmail.com

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### KEYWORDS:

attitudinal barrier;  
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## 1 Introduction

Currently, promoting access to quality education for all is an international agenda through the underpinning principle is that all children have the right to be educated regardless of their special needs; disabilities and abilities with appropriate support provided. In order to realize this schema, every child should be able to go to school to be educated and to be granted the same opportunities as other children. However, it is known that about nine out of ten children with disabilities are not schooled in Ethiopia (UNESCO, 2016). It is important to react to this situation in order to create equal possibilities for everyone through equity in education. This was supported by United Nations Convention on the Rights of the child as education is human right for everyone children (UN Convention on the Rights of the Child, 1989). Hence, inclusive education is the most acknowledged by Save the Children (2014) as inclusive education is a rights-based quality education which emphasizes equity in access and participation, and responds positively to the individual learning needs and competencies of all children. Inclusive education is a child-centered approach and places the responsibility of adaptation on the education system rather than the individual child.

Despite the fact that the right to education for all is enshrined in Ethiopia national and international treaties, there are still many challenges for children with disabilities with regard to accessing to quality and equitable education. Even though, [UNESCO \(2019\)](#) identifies the disability prevalence rate in Ethiopia populations is to be more than 18 per cent, approach to address the educational needs of all children ([Ainscow et al., 2006](#)).

According to [UNESCO \(1994\)](#), inclusion means that students with special needs attend natural school program and are enrolled in age-appropriate classes for all of their schooling day. It is a widely accepted phenomenon for two reasons. Firstly, education is a right that is part and parcel of modern society. Inclusion can foster democratic values in the pursuit of social justice. Secondly, it is a feasible option, and an integral part of the principles of equality of opportunity in education ([Mitchell, 2010](#); [Thomas, 2013](#); [UNESCO, 2009](#) & [UNESCO, 2016](#)). Recent studies show that inclusive education provides the best opportunities to support the development for people with disabilities ([Thomas, 2013](#); [Mitchell, 2008](#); & [Yoshiko, 2019](#)). This was supported yet the reported number of children with disabilities in schools is much lower. [UNESCO \(2019\)](#) further pointed this as either a large number of children with disabilities are not attending in school in Ethiopia, or if they are, they are unidentified within current school populations.

In addition, the reality on the ground shows that despite the conceived efforts of the government and the initiatives of national and international non-governmental organizations to make education system to be Inclusive in Ethiopia, there is still a great need to work with children with disabilities towards their full inclusion in education ([Belay et al., 2015](#)). In other words, educational equity is a main pillar or creating equal chances for individuals to reach a certain quality of life. It is clear that differences, or inequalities, exist naturally among human beings. However, these inequalities have to be addressed and given special attention when working towards educational equity and equality of opportunities in all aspects.

The researcher believes that it is sensible to conduct a review on different studies which had been conducted in different regions of Ethiopia regarding Inclusive Education implementation, its practices and opportunities. It is expected that this review will help to provide input for ministry of Education, researchers, policy makers, different NGO's, and any other concerned bodies in education and disability inclusion issues.

As a result, the main purpose of this review article was to expose the main factors that impede the successful implementation of Inclusive Education in Ethiopia. Therefore, the current review was guided by the following the research question.

## 1.1 Research question

What are the main challenges of inclusive education in Ethiopia?

## 2 Research Methods

### 2.1 Research design

This study employed a narrative review approach. The reviewer summarized the findings of empirical researches which were conducted in different parts of Ethiopia at different time regarding challenges of Inclusive Education. Since, there are vast and rapid rate of publications, a periodic synthesis of knowledge is required. As [Bolderston \(2008\)](#); and [Green et al. \(2006\)](#), the need for a review of literature may arise from the abundance of

information, divergent views, or a lack of consensus about a topic. As stated by Philip (2009), in current review the researcher selected studies, compared and summarized, and the findings of the reviewed studies were paraphrased, narrated and presented thematically.

In the current work, the reviewer included studies from both published and unpublished research works. The researcher tried to include the published research articles from peer reviewed, full length and open access research articles from the internet by entering the search terms and phrases which are related to Challenges, Practice and Opportunities to inclusive Education, Attitudes of teachers towards students with disabilities in Ethiopia, Disability in Ethiopia, and Challenges of students with disabilities in Ethiopia.

The reviewed studies were conducted in between 2005-2020 in different parts of Ethiopia. The regional distribution of the reviewed studies indicated that three articles were included from Northern Ethiopia, three from Southern Ethiopia, three from western part of Ethiopia; three from Eastern part and three from Addis Ababa which is central to Ethiopia and the Conducted at a national basis in Ethiopia. Again, two master's theses with an academic rating of excellent from Dilla University, Ethiopia and two PhD dissertations were accessed from internet; which was conducted in partial fulfillment for the requirement for doctoral degree at University of South Africa (UNISA). Hence, a total of 22 research works were reviewed in current study.

### 3 Findings

In this section, the findings from different reviewed studies regarding challenges of Inclusive Education in Ethiopia were discussed thematically.

#### 3.1 Attitudinal barriers

Even though the World Health Organization (2011) indicated as the World's attitudes towards people with disabilities have been shifting positively; one of the witnessed barriers to inclusive education in Ethiopia is unfavorable and negative attitude. The research finding shows that the negative attitudes imposed from regular teachers, school administrators, parents, students without disabilities and society are hindering the full participation of students with disabilities in education system (Tirussew, 2005; Mitiku et al., 2014).

Different researches show that regular teachers, non-disabled peers and school administrators are reluctant to interact with students with disabilities. In support of this, the study conducted by Melese (2019) indicated that regular teachers always look at them with different attitude and feel students with disability are not capable to do different activities. Melese (2019) further pointed that students with disabilities are facing high stigma and psychological ignorance from teachers, school administrators and students without disabilities in education system in Ethiopia. This was maintained by the research finding from Jaffer and Aminu (2020) as though principal's positive attitude toward inclusion is a critical prerequisite for successful inclusion, they are possessing negative attitude in western Oromia, Ethiopia.

In addition to above premises, the study conducted by Yoshiko (2019) in Addis Ababa, Ethiopia revealed that teachers and parents/guardians of children with disabilities have contradicting views on inclusive education. The same source pointed that teachers and parents/guardians do not perceive learning in regular school is not necessarily the best path for children with disabilities.

Another study conducted by [Ludago \(2020\)](#) in Kambata Tambaro Zone Southern Ethiopia indicated that because of negative attitudes, some teachers believe that inclusion of students with disabilities as a burden. [Alemayehu \(2019\)](#) further specified that because of negative attitudes, teachers possess negative attitudinal, behaviours, perceptions, and assumptions that discriminate against students with disabilities. In addition, researchers [Dessalegn et al. \(2016\)](#) pointed out old attitudes resist the accommodation of students with disabilities and learning issues, as well as those from minority cultures. One of the challenges of inclusive education in Nekemte town is pointed as the attitudes of the non-disabled in the social integration of students with disabilities. [Teketel \(2018\)](#) on his study in Harar Town, Ethiopia indicated that one of the challenges to inclusive education in the study area was the attitudinal barrier that students with disability face emotional and physical bullying which is a serious barrier and leads to isolation and exclusion. In support to the above findings, the study conducted by [Mintesnot \(2020\)](#) in Benchi Maji Zone, South West Ethiopia witnessed that many times students with disabilities are made fun of because of their looks and become a matter of mockery/joke. Hence, this makes them to dropout from their education.

### 3.2 Skill/knowledge barrier

The reviewed studies showed that the skill/knowledge gap is among the main challenges for inclusive education in Ethiopia. This idea was supported by [Belay et al. \(2015\)](#); [Jaffer and Aminu \(2020\)](#) as schools without trained and certified special educators as hindrance for children with disabilities not to attend regular schools in Ethiopia.

However, inclusive education asserts that school leaders and teachers should have knowledge and skill about special needs of all children and school administrators and teachers should have knowledge that goes beyond simple introductory courses ([UNICEF, 2014](#)). It is also agreed that schools should have to find ways for educating all children. However, researchers boldly stated that one of the main challenges to implement inclusive education in Ethiopia is lack of knowledge to develop a pedagogy which is responsive for all children ([Mitiku et al., 2014](#); [Tirussew, 2005](#); and [Zelalem, 2018](#)). Hence, this requires well-trained and skilled teachers and school managers ([Tirussew, 2006](#)). As pointed on [Yoshiko \(2019\)](#), although the selected teachers have opportunities to receive training on inclusive education, the training system for teachers in Ethiopia also mainly focuses on theories and is not practical. In support to this [Ludago \(2020\)](#) indicated that even though children with disabilities are started to attend the schools in his research site, still skill gap of the school community to support them is one of the sounding challenge. The major skill problem mentioned in [Ludago \(2020\)](#) was lack of skills to screen and identify students need for individualized education program. He further mentioned that students with disabilities as the highest repeaters and because of unfriendly learning environment in his study area.

Additionally, [Tirussew \(2005\)](#) and [Yoshiko \(2019\)](#) revealed that traditional curriculum is the most acknowledged within the teachers and teachers feel more confident in traditional school culture in Ethiopia. Owing to these factors, researchers indicated that inclusive practice more relies on knowledge, skills, understanding, resources, and attitudes ([Tirussew, 2006](#); [Mintesnot, 2020](#); and [Melese, 2019](#)). This was again supported by [Dessalegn et al. \(2016\)](#) as one of the challenge to inclusive education in their research area was linked to teachers' lack skills and knowledge to teach students from diversified groups.

### 3.3 Inflexibility of curriculum

Ensuring that all learners have access to quality education also acknowledges the intrinsic value of diversity and respect for human dignity (UNESCO, 2015). In this way, differences come to be seen in a positive light as the stimulus for fostering learning among all children. UNESCO (2009) pointed the principles of inclusion and equity are not only about ensuring access to education, but also about having quality learning spaces and pedagogies that enable students to thrive, to understand their realities, and to work for a more just society. Hence, the same source stressed the curriculum as the central means for enacting the principles of inclusion and equity within an education system. In support to this, UNICEF (2011) suggested that inclusive curricula should be based on the view that learning occurs when students are actively involved, taking the lead in making sense of their experiences. Hence, this was suggested by Dessalegn et al. (2016) as curriculum developers should consider students with special needs during its design and development. Dessalegn et al. (2016) suggested that curriculum can have potential to address multidimensional needs of students.

According to Belay et al. (2015), one of the big challenges to inclusiveness in education in Ethiopia is the rigidity of the curriculum and lack of teachers' ability to adapt and modify for the individual needs of learners. This was again supported by Ludago (2020) as one of the challenges to inclusive education on his study area was curricular rigidity and skill gap within regular teachers to adapt the curriculum. Teketel (2018) further pointed that curriculum is not flexible for all learners and there is no practice for individualized education program (IEP).

Even though, it has been suggests by UNESCO (2009) as inclusion involves the responsive learning environment including fair assessment techniques, researches indicated that there is rigid curriculum, especially with regard to the design and management of timetables (Wondwossen et al., 2020). In addition, Ludago (2020); Melese (2019); and Dessalegn et al. (2016) found out that the timetables most often do not take care of students with disabilities in their study sites.

### 3.4 Policies as barriers

Ethiopia has ratified and adopted almost all of the relevant initiatives and international legal texts on the rights of persons with disabilities. On a national level, the issue of persons with disabilities has been included in many legal documents (Ministry of Education, 2012).

Despite the efforts of the government policies and strategies in Ethiopia, research suggest that there is still a great need to work with persons with disabilities towards their full inclusion in all aspects of society in general and inclusion in education specifically (Ministry of Education, 2012; Teketel, 2018; UNESCO, 2015).

In support to the above premise, the investigation made by Belay et al. (2015) revealed that proper realization of inclusion for children with special needs is less likely even in the time to come in Ethiopia. The same source witnessed that the policy approach is focused on the top-down approach passed from international and national call, slogan, and approach which is not culturally sensitive, cost-effective, and community resource-based inclusive model.

The study conducted by Melese (2019) on title Ethiopian inclusive education strategy as to responsive learning environment for inclusive higher education system shows that there is no well-designed model recommended for Ethiopian universities at national level

to practice inclusive education. This study further indicated that there is no strong inclusive education policy except the draft policy that is the inclusive education strategy document that only has its own holistically seen feasible signals which can be in place for serving students with disabilities. Yoshiko (2019) also underlines that children with disabilities do not often have a choice in terms of school selection of either regular school or special school. Furthermore, Ludago (2020) pointed there were no responsible personnel in district, zone and region education offices as a challenge for inclusive education. This was again in line with the finding from Mintesnot (2020) the study conducted at Benchi Maji Zone, South West Ethiopia as no clear guidelines which clarify the concept of inclusive education and its implementation in the zone was mentioned as a main challenge for inclusive education implementation. Zelalem (2018) witnessed that lack of mandatory inclusive policy are barriers for inclusive education implementation.

### 3.5 Economic barrier

People with disabilities in the world are facing poverty and marginalisation in the whole world, UNESCO (2016). UNICEF (2011) indicated that people with disability's participation so restricted in economic, social and cultural activities in community which they live in Ethiopia (UNICEF, 2011). UNICEF (2011) further noted as effective learning is fundamentally influenced by the availability of educational resources to meet the needs of any society. In countries like Ethiopia, there are inadequate numbers of centers of learning and other facilities to meet the educational needs of the population. In most cases, inadequacies in provision are linked to other inequalities in the society such as Urban/rural disparities, as well as inequalities arising from discrimination on grounds such as gender, race and disability .

In support to above premises, the study conducted by Wondwossen et al. (2020) indicated that one of the barriers of inclusive education in Ethiopia is access to educational resources. The study further mentioned technology as an equaliser that levels the playing field for all learners and lack of access to ICT makes learners with visual impairment dependent, decreases their chance of getting up-to-date e-resources, and reduces their performance in their studies. This study boldly witnessed that poverty is the principal barrier for access to ICT.

Again, the study conducted by Ludago (2020) in Kambata Tambaro Zone, Southern Ethiopia revealed that inadequacy of infrastructures and education accommodations, low hygiene, none availability of ramps on the buildings and learning rooms, not treated classrooms and equipment as the major barrier for inclusion in the study area (Ludago, 2020). This was supported by Mintesnot (2020) on the study conducted on south west Ethiopia as school resources are from the major challenges in all schools to implement inclusive education. According to the information obtained from the same source, all targeted schools were under resourced to fulfil the requirements of inclusive education practice and within the limited resources, target schools also varied in the way they generate resources. This is finding is compatible with tirusew2005disability<empty citation> the intake capacity of children with special needs in schools are very few and they cannot reaching high schools rather they leave school early because scarcity of materials, facilities as well as trained professionals were the major challenges. Hence, the reviewed sources indicated that shortage of resources are among the main theme that hinders the successful implementation of inclusive education in Ethiopia (Alemayehu, 2019; Dessalegn et al., 2016; Ludago, 2020; Tirussew, 2005; Wondwossen et al., 2020).

### 3.6 Physical/infrastructural barriers

Accessibility is a precondition for the full realization of the rights and inclusion of persons with disabilities in society and development. This can be provision of flexible facilities and environments, either virtual or physical, to accommodate each user's needs and preferences. For persons with disabilities this may be any place, space, item or service that is easily approached, reached, entered, exited from, interacted with, understood or otherwise used.

In education setting, it is obvious that students with a disability should have accessible classrooms. It is obvious that one of the principles of inclusive education is about presence. If child cannot enter the room, there is no presence. The research conducted by [Belay et al. \(2015\)](#) indicated that many schools in Ethiopia are inaccessible to students with disabilities. This contradicts a statement on the accessibility should go beyond passageways, stairs, and ramps to recreational areas, paved pathways, and door handles. For instance, [Jaffer and Aminu \(2020\)](#) indicated that classrooms are not conducive to accommodate assistive technology to meet individual needs of students with disabilities ([Jaffer and Aminu, 2020](#)). This contradicts the UNESCO's premise as inclusive education worries for eliminating all obstacles to learning, and with the participation of all learners vulnerable to exclusion and marginalization practices ([UNESCO, 2009](#)).

In contrast, the study conducted by [Ludago \(2020\)](#) revealed that inaccessible environment is the biggest challenges to implement inclusive education. This was supported by [Zelalem \(2018\)](#) as most schools in rural areas of Ethiopia are unhealthy and unsafe for learners with disabilities. [Zelalem \(2018\)](#) further indicated that these problems are very pervasive in schools without local support.

Many literatures indicated that an accessible environment is essential for children with disabilities to enjoy their education right ([Jaffer and Aminu, 2020](#); [Ludago, 2020](#); [Mintesnot, 2020](#); [Mitiku et al., 2014](#), & [Zelalem, 2018](#)). However, lack of accessibility school environment is among the major barriers to implement inclusive education in Ethiopian.

## 4 Conclusions

The findings from the review revealed that attitudinal barriers, skill/knowledge barrier, inflexibility of curriculum, policies barriers, economic barrier, and physical/infrastructural barriers as the major hindrances to implement inclusive education in Ethiopia. And hence, inclusive education is a process that requires everyone to contribute to its full effectiveness and processing. Hence; ministry of education, non-government organizations working on education, families, schools and communities need to change and accept children with disabilities to be part of the system and refrain from expecting the children to adjust and conform to what the System provides.

## Funding

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## Data Availability

Data can be made available on the behavior of the request

## Declaration of interests' statement

The author declare no competing interests.

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# Policies and Reviewer Guidelines

## Reviewers' Guideline

### 1. Criteria for Preliminary Evaluation

In evaluating the manuscript, please note the following points:

1. Write your comments and/or suggestions in detail based on each criterion outlined below; and
2. Use each criterion given below only when it is applicable and relevant. Whenever you think a criterion is not applicable, please, indicate this clearly:

1. Does the manuscript have relevant contents within the scope of Social Sciences and Education?
2. Does the title fully reflect the content of the manuscript?
3. Does the manuscript fit the word limit stated in the EJES guideline?
4. Did the author/s apply the manuscript style and format as stated in EJES guideline?
5. Are the data collection methods and instruments reliable?
6. Do the methods adequately described?
7. Does the data properly and clearly analyzed?
8. Do the findings justify the conclusion and the recommendations (if there is any) drawn by the author (s)?
9. What is your recommendation, as a reviewer, in sending this manuscript for peer-reviewers:
10. It can be sent as it is? \_\_\_\_\_
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12. Not at all? It should be rejected

### B..Reviewers' Guideline

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2. Is the abstract written properly having core elements of an abstract in reflecting aspects of the study?
3. Is the content of the study significant and worthy of investigation to addresses theoretical and/or practical values? How do you assess the originality of the manuscript?

4. Does/do the author/s employed sound and valid research methods? Sampling techniques and methods of data collections used?
5. Is the literature used on the subject is adequate and relevant to the study theme?
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1. Accepted as it is
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1. If the manuscript needs minor or major improvements, state the required points for its improvement.

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