School Effectiveness: A Comparison of Urban-Rural Public Primary Schools in Tigrai

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Abstract: The objective of the study was to identify the differences in the process of effective and ineffective schools considering urban -rural setting in some selected primary schools of Tigai regional state of Ethiopia. This study utilized quantitative research and data collection and analysis techniques. Both probability and purposive sampling strategies were employed in the study. From 12 public primary schools, a total of 12 principals, 120 teachers, 480 students and 72 parents were filled identical questionnaires with community type as independent variables and the 11 school climate dimensions as dependent variables were conducted to answer the research question. All tests of statistical significance were considered at alpha = 0.05. The study revealed that there was a significant difference between urban and rural schools in most of the traditional school effectiveness process variables. Moreover, there was a consensus between students and parents that the school process variable, appropriate teaching methodology can successfully differentiate between urban and rural schools in Tigrai.

Keywords: Effective school characteristics; School Effectiveness; Urban-Rural

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Introduction

School effectiveness research had its origins in the mid 1960s and early 1970s in the United States, although it was not until the 1980s that a similar interest emerged in UK (Lezotte, 1992). In the United States the Coleman and Jenks proposition that 'schools did not make a difference' in predicting student achievement when the effects of the family and other background factors were taken into account (Coleman et al., 1966) during these periods.

This ignited a series of investigations that lent some credence to the perspective that schools did make a difference to student achievement. Thepublication of school effectiveness studies by Brookover et al. (1979) in the USA and Rutter et al., (1979) in the United Kingdom undertaken independently, were concerned with examining evidence and making an argument about the potential power of schooling to make a difference to students' life chances. Both studies showed that schools differ from each other in what they achieve with comparable groups of student. These studies were the basis of the Effective Schools Movement.

The definition of an effective school has changed over time. Early definitions on school effectiveness evolved from the concept of equity. Rutter et al., (1979) argued that if two schools with similar intakes serving similar areas achieved different academic outcomes, then the differences were due to characteristics prevalent in the more successive school that they argued were also found in other academically successful schools. Such schools were termed as effective schools and the characteristics in the school that caused this were termed as characteristics of school effectiveness. Over a period of time, other cognitive outcomes were added on to have a broader definition linking educational processes with outcomes (Creemers & Reezigt, 1997).

In Ethiopia, school effectiveness research is a recent phenomenon which emerged in the late 2000s and is based on the criteria of an effective school as its academic excellence. Schools that indicated academic excellence were evaluated on the factors at the school that enhanced this, like support from school and leadership, curriculum, community participation and teacher support (NAE, 2008) and opportunity to learn and early grade reading fluency (DeStefano & Elaheebocus, 2009). While recently, there is a new policy direction focused on quality improvements in the education system. It has launched a General Education Quality Improvement Program (GEQIP) as a vehicle to improve learning outcomes of the general education (Grades 1-12) throughout the country in collaboration with the World Bank and other donor partners. Though this indicated the commitment of the government to education, a lot of quality challenges exist in the education system, especially in primary education. The addition of almost 2 million persons per year puts tremendous strain on Ethiopia's resource base, the economy, and the ability to deliver necessary inputs for quality improvement of primary education. Moreover the weak institutional capacity, poverty and low number of private education can be mentioned as hindrances to enhance school effectiveness.

Historically, disparities between urban and rural academic achievement have been well documented in the literature (Graham & Provost, 2012). Inequality between the two areas will be investigated further through the study of influencing factors between the two locales. Therefore, this study tried to evaluate the factors that make a difference in school effectiveness in urban and rural areas of Tigrai regional state and indicate some policy directions for improvement.

Statement of the Problem

Primary school Enrolment in Tigrai has increased dramatically for both boys and girls since the early 1990s. The regional Gross Enrollment Rate (GER) for 2011/12 stands at 100.1%, with average annual growth rate of 0.4 percent for the last five years.

However, the NER has decreased over the past five years. That is, the NER which was 94.07% (93.03% for boys and 95.14% for girls) in 2007/08 was decreased to 92.1% (90.3 % for boys and 93.9% for girls) in 2011/12, resulting in a decrease of 1.87 percentage points for an unexplained reason (MoE, 2012).

There were 1,006,973 students in primary schools in 2011/12, which accounts for 20.9% of the population and 122,385 secondary school students accounting for 2.5% of the total population. In 2011/12, there were 1995 (1809 rural and 186 urban) primary schools owned by government and non-government in Tigrai with annual average growth rate of 0.4 since 2007/08. Out of which, the government schools constitute 96.2 % (MoE, 2012).

However, similar to the national level discussed above, achievements in access have not been accompanied by school attainments. For instance, the study conducted by the National Organization for Examination (NAE) to assess the student achievement at grades 4 and 8, the results showed that a declining trend at both grades.

The ETNLA conducted in 2012 for grade 8 indicated that the overall achievements of Tigrai in the mean composite score (38.67%), though it is still lower than the ETNLA (39.2%) was found better from the national mean (35.32%). Grade 8 students test performance in the ETNLA was slightly lower than that of the third national learning assessment in terms of the composite mean score. The observed achievement gap was a score point of 0.28%, which is a narrower gap as compared to previous declines in achievement.

The national composite mean score for grade 4 was only 40.06%, which is not only below the minimum expected but also less than the scores obtained in the previous two studies. The achievement in the FNLA was slightly lower than that of the TNLA in terms of the composite mean score. The observed achievement gap is a score point of 0.84%. The overall achievements of Tigrai in the mean composite score (38.2%) was found lower from the national mean (40.06%).

Moreover, the EGRA report (2010) indicated that, 29.7% of children are unable to read at all at the end of Grade 2 and nearly 50% of children were unable to correctly answer on comprehension question, the percentage of children reading 60 wpm was less than 1% and 68.7% of children scoring less than 30 wpm in Tigrai. 58.0% of grade 3 children read less than 30 wpm. The findings show that students are not learning at the level expected at either Grade 2 or Grade 3.

Among others, urban-rural comparisons in students' attainments in Ethiopia are important in education since the vast majority of students are in rural areas. When compared by location at the national level for grade 4, in the ESNLA, the overall test achievement was in favor of the urban pupils by a mean score point of 1.19%. On the other hand, in the ETNLA, pupils from rural areas have outperformed pupils from urban areas in the composite mean score, with a mean difference of 1.59%. In contrast to the ETNLA where rural pupils outperformed the urban for the composite and the key subjects, results in the EFNLA reversed in favor of the urban.

Similarly at grade 8, the national composite achievement results by location showed that pupils in urban schools achieved higher than those in rural schools in the EFNLA. Overall, those in rural schools scored a composite average score of 34.95% while those in urban schools had a composite average of 35.85%. This result was found to be the opposite from the ETNLA result.

As schools have been mentioned as units of change (Hopkins, 1994), the stakeholders in school should be principally responsible for the change. The study, thus, intends to evaluate the difference in the factors of school effectiveness with regard to the urban –rural setting through document analysis and perception of various stakeholders such as the teachers, students, parents and school principals in some selected primary schools of Tigai regional state. This perspective could assist researchers in carrying out further studies and provide useful feedback for policy-makers in the various echelons of the education system in planning any future educational change or reform to minimize the gap in the urban-rural setting of school effectiveness.

Literature Review

Overview of School Effectiveness Research in Ethiopia

In Ethiopia, School Effectiveness Research (SER) is a new phenomenon and at its infancy stage. Only limited studies have been conducted surrounding school effectiveness in Ethiopia. But currently the General Education Quality Improvement Program (GEQIP), which was developed in 2007 and is now on implementation, takes a holistic approach to improve the quality of general education by adapting the concept of the school effectiveness model (World Bank 2008). It used eight key elements of the school effectiveness model. The eight key elements of school effectiveness that contribute to high quality teaching and learning are: (i) curriculum; (ii) teacher quality and professional development; (iii) school leadership and management: (iv) general well-being of students; (v) linkage between schools and communities and stakeholders: (vi) school governance and accountability; (vii) quality assurance; and (viii) physical infrastructure (World Bank, 2008).

The document of the World Bank(2008) further explains that ,the framework is particularly suitable for GEQIP given the decentralized structure of the Ethiopian education system, paired with the Government's recent efforts to carry out a broad reform of the curriculum in all subjects at all levels, improve the quality of teaching,

reform the examination and assessment systems to align with the reformed curricula, enhance school leadership and management and increase stakeholder voice and community participation, as an interpreted model.

Based on GEQIP a subsequent school effectiveness evaluation framework is developed by the Ethiopian Ministry of Education and is effective as of September 2008.The framework includes four essential characteristics/domains which are derived from the above model focusing on student outcomes. The domains are: teaching learning process, conducive school condition and school climate, school leadership, and community participation (MoE, 2007, p. 2-14). Furthermore, each of the essential domains is subdivided into various elements and indicators as indicated in Table 1 below.

Table 1: Key Variables to Evaluate Primary Schools in Ethiopia, 2007

Dimensions	Key elements	Number of indicators
Teaching learning process	teaching learning activities	22
	teaching and evaluation	19
	curriculum	3
Conducive teaching condition and school climate	comprise such elements as student center methodology	8
	student support	26
	student empowerment	12
school leadership	includes strategic vision	8
	leadership behavior	23
	school management	4
community participation	partnership with parents & career	10
	community participation	9
	promoting education	5

Source: Ministry of Education (2007).

These four key dimensions to evaluate the school effectiveness in Ethiopia are in one way or the other similar to many of those found in the recent literatures (e.g. Harris, 2001a, Reynolds & Teddlie, 2000, Sammons *et al*. 1997) considering the classroom factor as a measure of school effectiveness.

Prior to the introduction of this new initiative in Ethiopia similar related studies have been conducted. For instance, in Yu's review of SER in sub-Saharan Africa, he only mentioned one study conducted by Abraha et al. (1991) on girls' retention rate through primary schools and their performance in Ethiopian national examination; the relative influence of community characteristics versus school qualities or characteristics on girls' educational achievement. The central aim of this research was to understand how school-based interventions could boost females' enrolment and achievement (Yu, 2007).

A recent study was conducted by DeStefano & Elaheebocus (2009) for save the children USA, on School Effectiveness in Woliso, Ethiopia with the aim of measuring opportunity to learn and early grade reading fluency in 24 schools and 1,626 children of grade 3. This research brings into question several issues about school effectiveness in Woliso and its surrounding districts. Though the sample was quite small and is not thought to be representative of Ethiopia or Oromia region. It found that schools vary considerably in the nature and quality of the opportunities to learn they are able to provide, and vary also in the level of reading fluency they are able to help students obtain by grade three.

They further observed that while students reading performance varied across schools, instructional practice was relatively homogeneous. Lessons were hauntingly similar across grades, subjects and schools. A single approach to teaching seems to predominate, with demonstration at the blackboard followed by seatwork and copying. The findings were striking. The study found that 36% of third graders of the sampled children could not read a single word of a simple text, and

another 15% read only 40 words per minute (wpm) or more at the level of a struggling first grade student. In general, “opportunities to learn, and therefore learning, are severally compromised in this part of the country” (DeStefano & Elaheebocus (2009, p. 22).

Furthermore, the more recent similar study conducted by Piper (2010) on the Ethiopian Early Grade Reading Assessment (EGRA) in eight regions for grades 2 and 3 indicated that a significant percentage of children in Grade 2 read zero words correctly. For instance, in Sidama the percentage of non-readers was 69.2%, and in Oromia it was 41.2%. Only Harari (17.9%) and Addis Ababa (10.1%) have percentages of zero scores less than 20%, with the largest regions (SNNP, Oromiya, Tigrai, and Amhara) all having Grade 2 zero scores above 25%. Even in Grade 3, significant percentages of children remained nonreaders. For Somali (21.4%), Amhara (17.0%), Sidama (54.0%), and Oromiya (20.6), it is striking that after 3 years of school, such large proportions of children remained completely illiterate in their mother tongue. Interestingly, it appears that large decreases in the percentage of non-readers occur between Grade 2 and 3 for Oromia, Benishangul-Gumuz, and Tigrai (Piper, 2010).

However, for those children who were just beginning to learn to read at the end of Grade 3, it was likely too little and too late. These children are likely candidates for dropout or repetition, and they certainly run the risk of not being prepared for the end-of-primary examinations. In each of the 8 regions, more than 90% of children - and in the case of Sidama, 100% - were not reading at the expected oral reading fluency rate.

The study further indicated that the problem of very low achievement exists for oral reading fluency as well as reading comprehension. A large percentage of children did not comprehend what they were reading. For instance, in Sidama (72.8%), Tigrai (56.9%) and Benishangul-Gumuz (54.0%), more than half of the region’s children in Grade 2, did not understand a story at all. Even in the urban regions

(Harari and Addis Ababa), one quarter or more of children could not comprehend basic questions. There were some improvements between Grade 2 and 3, with less than one third of Grade 3 children scoring zero in all regions (except Sidama at 61.8%).

These findings show that even though the purpose of mother tongue instruction is to ensure that children understand what they read, the children's inability to decode the words means they are unable to understand the text, although they are likely to have the vocabulary to understand it. So, it can be said that this can have an impact on the quality of the education in the education system of Ethiopia.

To sum up, the findings of the study suggest that while children attend school for two or three years, a significant percentage is illiterate. These findings strengthen the work of the NAE inthe NLA and show that there is strong evidence that reading achievement is low in allregions sampled, with the urban regions Harari and Addis Ababa modestly outperforming the other regions. Most critically, these findings show that reading achievement is very low in Ethiopia. This appears to be too little, too late, and the current status of reading skills suggests that significant interventions in the quality of reading instruction and the provision of reading resources are necessary.

Conceptual framework

This study is based on a conceptual framework that recognizes school as an organization and uses the contingency theory to explain the study of school effectiveness. Scheerens (1997), Scheerens & Bosker, (1997) and Creemers, Scheerens & Reynolds (2000) focused on contingency theory. This theory is based on the premise that the effectiveness of an organization depends on internal and external contingency factors. In other words, there is not a single set of best structures, resources, or practices for organizational functioning, but rather the optimal factors depend on aspects of the organization's environment. In the context of school effectiveness research,

contingency theory suggests that the importance of various school structures, resources, and practices to effectiveness will depend on environmental conditions at the school. Effective schooling should, therefore, be treated as a dynamic, ongoing process and on contextual factors (Creemers & Kyriakides, 2010).

Therefore, this study is based on the above mentioned conceptual framework that recognizes school effects as part of a multilevel phenomenon including classroom, school and system—associated with student outcomes and are to be explained by key variables for analysis. While the literature is far from unequivocal concerning what variables are essential to measure in effective schools, it does recognize certain variables that have been determined as universally important to effective and improving schools. It is also important to recognize that other variables must be school specific to reflect the contextual nature of schooling and student success.

The expectations of all stakeholders or interest groups vary from country to country and just as much from locality to locality. The instruments to be developed and used in this research will measure those elements considered throughout the literature to be appropriate across contexts as well as those that might be context specific. The context specific nature of the elements is to be determined by the researchers' intimate knowledge of the schools to be worked in the different echelons of the education system.

For the purpose of this research eleven key variables are selected to reflect those elements that are most consistently determined as appropriate across the various studies and as the ISERP have shown to be applicable across contexts. The selection of appropriate elements has also taken into account those elements that the researcher regards as contextually specific for the research sites. A close examination of this list illustrates many of the factors that have been shown to be important through the various studies discussed in the literature review. The themes chosen are all been from the wide range of studies found

throughout the research and often reflected the combined views of many, both in developed countries and in developing countries, form the theoretical base for this study. These ten factors are adopted as the framework for effective schools in this study.

For the purpose of this research eleven key elements were selected to reflect those elements that are most consistently determined as appropriate across the various studies and as the ISERP have shown to be applicable across contexts.

The literature has been used to determine which factors of schooling are most commonly considered to be accurate indicators of effective schools across contexts. The elements chosen are all been from the wide range of studies found throughout the research and often reflected the combined views of many, both in developed countries and in developing countries, form the theoretical base for this study. These factors were used in the development of a school climate instruments (students, teachers, principal and parents). Both cross-contextual factors as well as those considered as being important and specific to the schools environment of the study site were taken into account.

Table 2: Key elements chosen for use in this research

Process	Component of the process
1. Educational leadership	a. being firm and purposeful b. involving others in the process c. exhibiting instructional leadership d. frequent personal monitoring
2. Focus on appropriate teaching methodologies	a. maximizing class time b. exhibiting best teaching practices c. adapting practice to particulars of the classroom
3. Pervasive focus on learning	a. focusing on academics b. emphasizing school learning time
4. Positive school culture	a. creating a shared vision b. creating an orderly environment c. emphasizing positive reinforcement
5. Engagement of students across the school	a. responsibilities b. rights
6. Safe and supportive environment for all	a. for students b. for students
7. High and appropriate expectations for all	a. for students b. for staff
8.RegularMonitoring studentprogressatalllevels	a. at the school level b. at the classroom level c. at the student level
9. Professional Development ofstaff	a. sitebased b. integrated with ongoing professional development
10. Parents and community involvement	a. encouraging productive interactions with parents and community
11. Job Satisfaction	a. Teachers b. principal

These eleven factors are adopted as the framework for effective schools throughout the study and as discussed in details below:

Educational Leadership in this studyis used to describe the role of the school principals and other senior staff in communicating the mission of the school to staff, students and parents (Creemers, 1997). It also

encompasses the effectiveness of the principal and other senior staff to apply the characteristics of instructional effectiveness in the management of the instructional programmes within the school (Gable, Hall & Murphy, 1986). Moreover, it comprises leadership style, discipline, communication to the woreda office and staff participation in various affairs of the school (Teddlie & Stringfield, 1993) and involving school community in decision making.

As to *focus on Appropriate Teaching Methodologies,* it refers to the ability of the teacher to plan and deliver a well-constructed lesson that caters for the learning needs of the students and engages the students in effective learning (Potter & Chapman, 2002) through maximizing learning time, grouping strategies, benchmarking best practices adapting practices to student needs (Teddlie & Reynolds, 2000). Furthermore, *Pervasive Focus on Learning* relates to the underlying culture of the school that encourages students to focus on their own learning (Scheerens, 1992). The concept of culture is of course far deeper and more complex with much debate concerning the exact nature of what constitutes school culture. Furthermore, it focuses and maximizing learning time (Teddlie & Reynolds, 2000).

With regard to *Positive School Culture,* it refer to the underlying sense of contentment and the feeling of satisfaction that life in school is 'right'; that is, it is consistent with a person's positive expectations and/or beliefs of school (Purkey & Smith, 1983; Mortimore, Sammons, Stoll, Lewis & Ecob, 1992; Creemers, 1997; McMahon, 2005). It manifests itself in a willingness by both staff and students to become involved in the general life of the school. It is where staff members feel they work together collegially to improve and support one another and where students feel valued, cared for and have a basic enjoyment of school (Hargreaves,1994).

Another factor that is considered to play an important part in a students' sense of belonging to a school community, is the *Engagement of Students across the School.* This refers to the ability of

a school to motivate students to learn by increasing their sense of belonging and therefore involvement with academic work through encouraging participation with other students across a range of activities outside the classroom (Katyal & Evers, 2005). While student engagement is important, it will never be significant if students do not have a sense of safety and being cared for. The other variable is *Safe and orderly Environment for all.* It describes the surroundings that is created policy, implementation that policy and the relational ability of staff with students that results in students feeling they are in a safe place that protects and cares for them (Gable, Hall & Murphy, 1986; Creemers, 1997).

Having *High Expectations and appropriate expectations for all* in this study focuses on setting standards that challenge both students and staff to achieve their best, not only academically but in terms of their interactions with others and involvement in the broader life of the school (Purkey Smith, 1983; Gable, Hall & Murphy, 1986; Scheerens, 1992; Creemers, 1997). At their most basic schools are places of learning and in order to determine the development of knowledge and skills it is important that student achievement across academic and non-academic indicators is regularly assessed and less staff turnover as a result of job satisfaction.

Moreover, *Regular Monitoring of Student Progress* principally focuses on the need to assess both, formal and informal, student achievement as well as other more general aspects of educational development (Purkey & Smith, 1983; Scheerens, 1992; Creemers, 1997).Well-established mechanisms for monitoring the performance and progress of pupils, classes and the school as a whole are an important feature of effective schools (Sammons, 1999). Harris (2001) notes that effective teachers give feedback on pupil performance. They diagnose learning needs and note the progress being made. They also ask specific questions to monitor students' progress and check their understanding during instructional time.

The *Professional Development of Staff* focuses on the skills acquisition of teachers as they develop professionally through in-service opportunities so that they are able to improve their teaching and the learning of their students (Purkey & Smith, 1983; Creemers, 1997) and increasing their involvement in curriculum improvement.

Parental and community involvement measures the engagement of the school with its local community, particularly its parents (Gable, Hall, & Murphy, 1986; Creemers, 1997; Banks, 1993). It does not assume parental involvement in the classroom, but rather parental involvement in wider school activities and the school's ability to communicate its mission, policies and student progress. It also encompasses, resource and delivery system, community involvement, the extent to which a school buffers to community influence are also the other dimensions of parental involvement in school affaires (Teddlie & Stringfield, 1993).

Lastly, *job Satisfaction,* as Locke (1976) defined job it is a pleasurable or positive emotional state resulting from the appraisal of one's job and job experience. It results from the perception that an employee's job actually provides what he or she values in the work situation.

Research Design and Methodology

Study Design

A cross sectional survey was undertaken between May 18, 20012 and June 24, 2012 to assess the differences in effective schooling in urban areas in Tigrai as opposed to effective schooling in rural areas in Tigrai, which is a type of study that analyses data collected from a population, or a representative subject, at a specific point in time. This basic question was based on findings from studies on SER in developed and developing countries, as well as studies on Ethiopian student learning assessments.

Sampling Procedure of the study sites

Twelve effective and less effective complete primary schools were selected based on the following different sampling procedures with the help of the regional education bureau experts. These effective and less effective schools were Chelekot, Dandera, Damaino, Habes, Enda-Aba-Gerima, Una-Mereid, Soloda, Mai-Tsadik, Kisanet, Hayelom, Wofri-Selam and Almaz Alemu. These study sites were selected in such a way that they represent equal number of more effective and less effective rural and urban schools from six woredas and five zones of Tigrai Regional State. The details of the sampling procedure are discussed in the following section.

Selecting the Regional State

Typical case sampling determined that this study should be conducted in Tigrai out of the 9 administrative regional states and two cities administrative organs in Ethiopia, the schools in this regional state are geographically located in urban as well as rural areas. The reason for the selection of Tigrai regional state is that the researcher is more familiar with the educational contexts of this regional state than the others and was not very difficult to access the chosen respondents with the help of his research assistants.

Selecting the Woredas

Stratified sampling was utilized to select six woredas both from the urban and rural woredas in the regional state. The six woredas consist of three urban woredas from which urban schools were selected, and three rural woredas from which rural schools were selected in order to discover the differences between urban and rural schools in terms of the effective schooling processes.

Selecting the Schools

Stratified purposive and typical case sampling techniques were used to select schools. Two criteria were employed to select the six pairs of more effective and less effective urban schools: (1) the pairs of more effective and less effective schools should be in the same woreda; and (2) all the sample schools are public upper primary schools (Grades 1-8) since this could decrease the effect of students' pre-existing input achievements. A total of 12 schools (6 urban and 6 rural schools) were selected for the study.

As indicated earlier, at present the government is implementing General Education Quality Improvement Program that encourages competition among public schools where model schools are selected and rewarded by the respective regional education bureaus. Various criteria that include efficiency, student academic achievement, and resource mobilization are used to select model schools in addition to the identified key characteristics to evaluate primary schools in Tigrai. This study was adopted selection made by the respective education bureau and was included one public primary school selected as effective and another ranked as less effective from each woreda. Thus, a total of 6 effective schools (3 urban and 3 rural) and six less effective schools (3 urban and 3 rural) were selected. The following steps of school selections were done woreda by woreda, and they involved three steps:

Step 1: Three urban and three rural public schools as best schools of the year in the regional state (preferably for two consecutive years for all schools) were selected as effective schools.

Step 2: The woredas where the schools are located were selected as sample woredas.

Step 3: Primary schools that were ranked as least performing from each woreda were included as less effective primary school. The final sample schools were selected as described in Table 3.

Table 3: Number of Sample Schools for the Study by Region

Regional State	Woreda*	Urban/ Rural		More effective school(n)	Less effective school(n)
Tigrai	1	Urban	The first pair of schools	1	1
	2	Rural	The second pair of schools	1	1
	3	Urban	The first pair of schools	1	1
	4	Rural	The second pair of schools	1	1
	5	Urban	The first pair of schools	1	1
	6	Rural	The second pair of schools	1	1

* The Woredas are selected based on the criterion

Study participants and sampling Technique

Within each school, stratified random sampling was used in selecting teacher, principal, parent and student respondents to "increase confidence in making generalizations to particular subgroups" (Patton, 2002, p. 243). At each school, forty students were randomly selected from grades 5-8, six parents were randomly selected from those who read and write with the help of the school principals, and ten teachers were selected across the subjects and grades that they teach. Therefore, a total of 480 (40x 12=480) students, 12 (12x1=12) principals, 72 (6x 12= 72) parents, and 120 (10x 12=120) teachers were involved in the questionnaires.

Table 4: Sampling Techniques Used in the Study

Level	Sampling Technique	Sample Size
Region (Tigrai)	Case sampling	one
Woreda	Stratified sampling	six (three cities + three rural)
School	Stratified and purposive sampling	12 (six urban and six rural schools)
Individual	Non-proportional stratified random sampling for students', parents', and teachers' questionnaires	480, 120, 12, and 120 for students', parents', principals and teachers' questionnaires, respectively(40 students, 10 parents, 1 principal & 10 teachers at each school)

Instruments

Only questionnaire was used in this study which was developed and used in SER literature, and have been used in both the Louisiana School Effectiveness and Assistance Program (SEAP) (Teddlie, 1999) and in China by Lui (2006). In doing so, the researcher has got permission from the developers (Charles Teddlie & Shujie Lui) to use the instruments. As a result the student, teachers, principal and parent questionnaires were used as described below. These instruments were translated in to the local language Tigrigna and pilot tested in one of the schools of Tigrai.

Questionnaires

The translated questionnaire to Tigringa language that was used in this study consisted of several sections. Part A consisted of the biographical details of the respondents and served only to allow analysis to occur in subgroup. Part B formed the bulk of the questionnaire. Four parallel questionnaires are prepared to obtain data from students, teachers, principals, and parents to quantitatively assess school-level climate factors. The questionnaires consist of 59, 68, 69 and 50 question items for student, teacher, principal and parent respondents. The type of items in the school climate questionnaires include, educational leadership, focus on appropriate teaching methodologies, positive school culture, pervasive focus on learning, engagement of students across the school, safe and supportive environment for all , high and appropriate expectations for all, regular monitoring student progress at all levels, parents and community involvement, professional development of staff and job satisfaction.

Respondents were asked to answer each question using a five point Likert Scale and choosing the appropriate answer for what they feel to measure how well the respondents see their current school effectiveness for the contents of each question.

Data Analysis

All data were entered into a computer using SPPS version 20 software by the researcher. After the data were edited and cleaned, they were analyzed. First, descriptive statistics, such as means and standard deviations, were used to analyze the climate questionnaires.

Second, several MANOVAs for teacher, student, and parent questionnaires, with community type as independent variables and the 11 school climate dimensions (educational leadership, focus onappropriate teaching methodologies, positive school culture, pervasive focus on learning, engagement of students across the school , safe and supportive environment for all, high and appropriate expectations for all, regularmonitoring studentprogressatalllevels, parents and community involvement, professional development of staff and job satisfaction) as dependent variables, were conducted to answer the above research question. The multivariate analysis of variance (MANOVA) is used to determine whether there are any differences between independent groups on more than one continuous dependent variable (Gay et al., 2012). All tests of statistical significance were considered at alpha = 0.05.

Third, aunivariate tests were conducted on each dependent measured separately to determine the locus of the statistically significant multivariate main effects. The F values as well as the corresponding p values are summarized in different tables.

Results and Discussion

A MANOVA was conducted, with community type as independent variables and the 11 school climate dimensions (educational leadership, focus onappropriate teaching methodologies, positive school culture, pervasive focus on learning, engagement of students across the school , safe and supportive environment for all, high and appropriate expectations for all, regular monitoring student progress at

all levels, parents and community involvement, professional development of staff and job satisfaction) as dependent variables. The results are summarized in the following section. The following Table 6 lists the means and standard deviations for the 11 dimensions for each pair of schools:

Table 6: Overall Means and Standard Deviations for Dimensions on the Teacher Questionnaires for Rural and Urban School

Dimensions	Community Type	Mean	SD	N
Educational leadership	Rural Schools	4.26	.76	60
	Urban Schools	4.04	.81	60
	Total	4.15	.79	120
Focus on Appropriate Teaching Methodologies	Rural Schools	4.51	.54	60
	Urban Schools	4.43	.63	60
	Total	4.47	.59	120
Positiveschoolculture	Rural Schools	4.10	.93	60
	Urban Schools	4.00	.72	60
	Total	4.05	.83	120
Pervasivefocusonlearning	Rural Schools	4.15	.66	60
	Urban Schools	4.05	.52	60
	Total	4.10	.59	120
Engagement of students across the school	Rural Schools	3.91	.91	60
	Urban Schools	3.76	.82	60
	Total	3.83	.86	120
Safe and supportive Environment for all	Rural Schools	4.21	.81	60
	Urban Schools	3.98	.71	60
	Total	4.09	.77	120
High andappropriate expectationsforall	Rural Schools	3.17	.55	60
	Urban Schools	3.32	.47	60
	Total	3.25	.52	120
RegularMonitoring studentprogressatalllevels	Rural Schools	4.44	.70	60
	Urban Schools	4.30	.64	60
	Total	4.37	.67	120
Parents and community involvement	Rural Schools	3.33	.85	60
	Urban Schools	3.04	.69	60
	Total	3.19	.79	120
Professional Development ofstaff	Rural Schools	4.00	.79	60
	Urban Schools	3.71	.75	60
	Total	3.86	.78	120
Job Satisfaction	Rural Schools	3.79	.98	60
	Urban Schools	3.58	.96	60
	Total	3.68	.97	120

To compute the results for the dimensions on the teacher questionnaires, MANOVA was conducted on eleven dependent variables and the independent variable was effectiveness status community type (Urban, Rural). No extreme scores, outliers, or statistical assumption violations were noted in the present data. A statistically significant Box's M test ($p < .000$) indicated unequal variance-covariance matrices of the dependent variables across level of the community type and thus necessitated the use of Pillai's trace in assessing the multivariate effect.

Using Pillai's trace, the MANOVA results from analysis of the teacher questionnaires(see Table 6) showed that there is no significant difference between urban and rural schools across the 11 school effectiveness process variables (Pillai's Trace = .148, $F(11,106) = 1.68$, $p=0.089$).

Table 7: Overall Means and Standard Deviations for Dimensions on the Student Questionnaires for Rural and Urban School

Dimensions	Community Type	Mean	SD	N
Focus on Appropriate Teaching Methodologies	Rural Schools	4.14	.80	240
	Urban Schools	3.97	.78	240
	Total	4.05	.79	480
Positiveschoolculture	Rural Schools	3.81	.74	240
	Urban Schools	3.69	.70	240
	Total	3.75	.72	480
Pervasivefocusonlearning	Rural Schools	3.88	.49	240
	Urban Schools	3.80	.42	240
	Total	3.84	.46	480
Engagement of students across the school	Rural Schools	4.14	.81	240
	Urban Schools	3.97	.78	240
	Total	4.05	.80	480
Safe and supportive Environment for all	Rural Schools	3.95	.62	240
	Urban Schools	3.98	.50	240
	Total	3.96	.56	480
High andappropriate expectationsforall	Rural Schools	4.16	.63	240
	Urban Schools	4.27	.48	240
	Total	4.21	.56	480
RegularMonitoring studentprogressatalllevels	Rural Schools	3.97	.78	240
	Urban Schools	3.80	.73	240
	Total	3.88	.76	480
Parents and community involvement	Rural Schools	4.11	.82	240
	Urban Schools	4.09	.78	240
	Total	4.10	.80	480

Note. N = 40 for each school.
A larger score indicates a more positive response. The range of scores is 1-5 for each dimension.

To compute the results for dimensions on the students' questionnaires MANOVA was conducted, with effectiveness status and community type as independent variables and the six dimensions as dependent variables. The results showed that a significant difference between urban and rural schools across the eight school effectiveness process variables (Pillai's Trace = .044, F (8,469) = 2.68, p <. 05).

Because the multivariate main effect was found to be statically significant, a univariate test was conducted on each dependent measure separately to determine the locus of the statistically significant multivariate main effect. The F values as well as the corresponding p values are summarized in Table 8 below.

Table 8: Univariate Tests for Dimensions from the Student Questionnaires

Independent Variables	Dependent Variables	df	F	p
Community Type	Focus on Appropriate Teaching Methodologies	1	5.78	.017
	Positiveschoolculture	1	3.572	.059
	Pervasivefocusonlearning	1	3.645	.057
	Engagement of students across the school	1	5.80	.016
	Safe and supportive Environment for all	1	.317	.574
	High andappropriate expectationsforall	1	4.945	.027
	RegularMonitoring studentprogressatalllevels	1	6.783	.009
	Parents and community involvement	1	.061	.805

Note. A greater score indicates a more positive response. The range of scores is 1 - 5 for each dimension

From Table 8, the examination of the univariate effects for community type revealed that four dimensions were significant (Focus on Appropriate Teaching Methodologies, Engagement of students across the school, High and appropriate expectations for all, and Regular Monitoring student progress at all levels) at $p < .027$. Except for high and appropriate expiations for all which is in favor for urban the rest three are in favor of rural schools.

Lastly, to analyze the data obtained from the parent questionnaire, a MANOVA was conducted, with effectiveness status and community type as independent variables and the seven dimensions (school reputation, safe and orderly environment, expectations, academic norms, leadership, quality of instruction, parent/school relationship) as dependent variables. The results are summarized in the following section:

Table 9: Overall Means and Standard Deviations for Dimensions on the Parent Questionnaires for Rural and Urban School

Dimensions	Community Type	Mean	SD	N
Educational leadership	Rural Schools	3.80	1.01	36
	Urban Schools	4.29	.62	36
	Total	4.04	.87	72
Focus on Appropriate	Rural Schools	3.74	.92	36
Teaching Methodologies	Urban Schools	4.09	.68	36
	Total	3.91	.82	72
Positiveschoolculture	Rural Schools	3.74	.88	36
	Urban Schools	3.84	.83	36
	Total	3.79	.85	72
Pervasivefocusonlearning	Rural Schools	4.06	.57	36
	Urban Schools	4.17	.42	36
	Total	4.11	.50	72
Safe and supportive	Rural Schools	4.00	.58	36
Environment for all	Urban Schools	4.14	.53	36
	Total	4.07	.55	72
High andappropriate	Rural Schools	3.94	.65	36
expectationsforall	Urban Schools	4.19	.56	36
	Total	4.07	.62	72
Parents and community	Rural Schools	3.77	.88	36
involvement	Urban Schools	4.38	.63	36
	Total	4.08	.82	72

A MANOVA was run, with community type as independent variables and the seven parent dimensions as dependent variables. The results showed that a significant difference between urban and rural schools

across the seven school effectiveness process variables (Pillai's Trace = .241, F(7, 62) = 2.81, p < .013).

Because the multivariate main effects were found to be statistically significant, the univariate effects was conducted on each dependent measure separately to determine which individual dimensions had significant effects. The univariate F values for community type, as well as the corresponding p values, are summarized in Table 10.

Table 10: Univariate Tests for Dimensions from the Parents Questionnaires

Independent Variables	dependent Variables	df	F	p
Community Type	Educational leadership	1	7.384	.008
	Focus on Appropriate Teaching Methodologies	1	4.785	.032
	Positiveschoolculture	1	.408	.525
	Pervasivefocusonlearning	1	1.161	.285
	Safe and supportive Environment for all	1	1.289	.260
	High andappropriate expectationsforall	1	3.743	.057
	Parents and community involvement	1	12.907	.001

The examination of the univariate effects indicated that there was a significant difference for community type at p < .001 level for only three dimensions (leadership, teaching methodology and parent community involvement). In this regard, all are in favor for urban schools.

Conclusion

For the research question "What are the differences in effective schooling in urban areas in Tigrai as opposed to effective schooling in rural areas in Tigrai?" The MANOVA analyses from the student and parent questionnaires reveal a consistent result that there is a significant difference between urban and rural schools across all the traditional school effectiveness process variables. This indicates that the set of these school effectiveness processes can successfully differentiate between urban and rural schools in Tigrai.

The examinations of univariate effects for the independent variable of community type show a significant difference existing (1) in the dimensions of focus on appropriate teaching methodologies, engagement of students across the school, high and appropriate expectations for all, and regular monitoring student progress at all levels for the student MANOVA analysis in favor of rural schools except high and appropriate expectation for all which is in favor of urban schools; and (2) in the dimension leadership, appropriate teaching methodology and parent community involvement for the parent MANOVA analysis in favor of urban schools.

These results indicate that there is a consensus between students and parents that the school process variable, appropriate teaching methodology can successfully differentiate between urban and rural schools in Tigrai. Other variables such as positive school climate, safe and orderly environment, and pervasive focus on learning were not significant for community type across the student and parent MANOVA analyses.While with regard to the teacher MANOVA there was no significant difference between urban and rural schools across the school effectiveness process variables.

Limitation and directions for further research

Though this piece of study indicated that there are variations in the process school effectiveness variables across the eleven characteristics, there is a mixed result of parents and students in favor of urban and rural areas respectively while no difference is observed on the views of teachers of rural and urban schools. Therefore, this quantitative research should incorporate qualitative data so that to have aclear picture of understanding on those variables and to work accordingly in the future studies of such type aimed at improving the effectiveness of urban-rural primary schools of Ethiopia is very crucial.

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