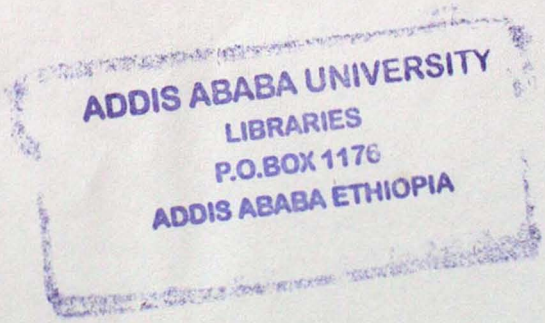
ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

FACTORS AFFECTING THE INTERNAL EFFICIENCY OF PRIMARY SCHOOLS IN ADAMA CITY ADMINISTRATION

BY
GIRMA MEKURIA



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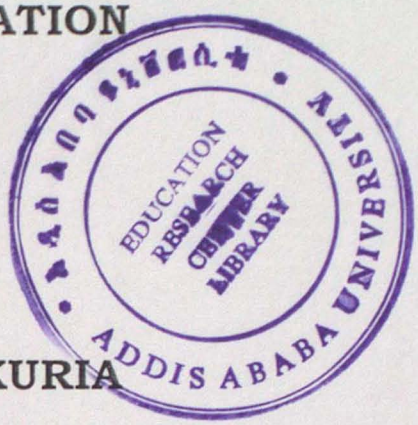

BY
GIRMA MEKURIA

A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN EDUCATIONAL PLANNING AND MANAGEMENT

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Abbreviations and Acronyms

ACA	Adama City Administration
ACAEO	Adama City Administration Education Office
CSA	Central Statistics Authority
EFA	Education for All
GPI	Gender Parity Index
GS	Government School
IE	Internal Efficiency
IEPS	Internal Efficiency of Primary Schools
IFPRI	International Food Policy Research Institute
IIEP	International Institute for Educational Planning
MIS	Management Information System
MOE	Ministry of Education
NGS	Non Government School
OECBB	Oromia Education and Capacity Building Bureau
OERI	Office of Educational Research and Improvement
REB	Regional Education Bureau
UNESCO	United Nations Education1 Science and Culture Organization
UNICEF	United Nations Children's Fund
UPE	Universal Primary Education
WEO	Worada Education Office.
ZED	Zone Education Department.

Abstract

In the context of on going primary education in Ethiopia, there is a need for internal efficiency improvement in order to reduce wastage and to attain UPE by 2015 which is one of the MDG. Previously, there were studies that are conducted on the factors. However, there were still inefficiencies in primary schools of Ethiopia. The major purpose of this study, therefore, was to identify the major factors that affect the internal efficiency of primary schools in ACA. These major factors were revealed using the opinions of three respondent groups drawn from both government and non-government schools. The research method employed was descriptive survey. Data gathering instruments were questionnaires. In addition, annual efficiency indicator documents were critically assessed. Both descriptive and inferential statistics were used to reveal the degree of influence of the factors on IEPS in the study area. As a result, school external factors are found common problems for both GS and NGS pupils who were at risk of school dropout and class-repetitions, whereas school internal factors were not commonly related in affecting the IE of both GS and NGS pupils. The problems that were severe for GS pupils were not critically severe for NGS pupils. However, the overall weighted mean response values for school internal and external factors were tested using t-statistic for the means of dependent variables. The statistical test revealed that both school internal and external factors are affecting the IEPS in the study area at almost the same degree of influence. The major school internal factors found in ACA primary schools are shortage of textbooks, irrelevant curriculum, lack of guidance and counseling services, failure to study hard, and demand for repetitions. Whereas major school external factors such as low-income source and poor education of parents, influence of unemployed high school graduate siblings, mobility of families from one school attendance area to another and the desire of pupils to involve in business are found as critical problems that affect the IEPS in this study area. The problems seem complex and multidimensional and it needs complex and multidimensional solutions that satisfy the need and interests of the users and implementers. School community alone can not control all problems that are related to school internal and external factors, because, it needs resources that are beyond their level. The best solutions, therefore, are working with a team approach with combined efforts of the school community, the society, the business groups, the local government and the regional government that are directly or indirectly concerned on primary education.

CHAPTER ONE

THE PROBLEM AND ITS APPROACH

1.1. Background of the Study

Improving IE in an education system has been given a special emphasis all over the country (MOE, 2002). The process of improving IE requires reducing dropout rates, and repetition rates, and increasing completion and survival rates. Reducing high rate of dropout and repetition leads to save the resources being wasted for uses that are more productive. It also frees the places occupied by repeaters and readmitted for the new pupils. This may make way for a substantial increase in enrollments and attain UPE by 2015. Attaining UPE by 2015 is one of the MDG committed in 2000 by the member states of the United Nations (Braun, 2004).

Long-ago, African independent country education ministers were also committed to attain UPE by 1980 (Cisse (1982), Forojalla (1993)). This commitment was made by African independent country education ministers' conference held in Addis Ababa, in the year 1961. However, Ethiopia, one of African pioneer independent country and a place where the commitment to attain UPE by 1980 were held; still has not yet attained UPE just at the start of new millennium. According to African education ministers, report on Harare conference (1982), Ethiopian primary education gross enrollment rate was expanded only from 7.3% (1960) to 38.9% (1980) at the target set. Although, primary education expansion has increased in some urban area where private educational investments are widely used; still the number of school dropouts and class repeaters are potential problems throughout the country. This study aimed to identify the major factors that affect the internal efficiency of primary education in Adama city administration. The city withholds Variety of school types, diversified socio-economic background, blue collar and white-collar workers. The combination of respondents coming from this social community can generate valuable opinions and ideas to identify problems of internal efficiency. The study addresses the problem that generally impedes the internal efficiency of education and particularly emphasis to the major factors that affect the internal efficiency of primary education in Adama city administration.

Adama city administration is located in Oromia region at about 100 km East of Addis Ababa and bounded by East Showa Zone. The city separated from East Showa and becomes independent administrative area just as it was elected to be the capital city of the region. Later, the capital city of Oromia was returned to Addis Ababa and the Adama city remains for its trade center as well as the capital city of East Showa zone. The city holds a total population (in its other name Nazareth) of 218 110 (CSA, 2004).

In Adama there are 33 government and non-government primary schools. According to the city education office record the total number of primary school students (Grade 1-8) in 2006/07 were 38503 (17846 male and 20657 female) and teachers were 973 (501 TTI and 472 Dip.). Although a significant growth and expansions have been registered in the city, the number of dropouts and class repetitions need to be reduced through changes. Any change or reform in the education system of a country has to give due attention to the efficiency and effectiveness of primary education. Because it has a direct and positive effect on earnings, farm productivity, and human fertility as well as integration effects on child health, nutrition, and education (Lockheed, 1990).

Habtamu (2002) defines internal efficiency as the ability of the system to graduate the greatest number of students with the minimum possible time. In almost the same way Forojalla (1993) states that greater internal efficiency enables the system to produce more education for the same amount of money or the same amount of education for less money. To elaborate the definition; internal efficiency is measured in terms of the reduction in the unit costs per students enrolled or per graduate. Coombs and Hallack (1987) also defined the education system's internal efficiency in terms of outputs and the corresponding inputs, and judgment can be given in terms of cost-effectiveness of the system's efficiency. Dropouts and repetition rates are frequently used to measure inefficiency by equating with wastage. However, wastage contributes to inefficiency of education; it ignores that with no repeaters or dropouts the system can be inefficient from pedagogical points of view and reduces the system's cost-effectiveness. To realize the intended objectives of the education system problems, repetition and dropouts need to be reduced. Making the curriculum relevant to the need and interest of the children, determining a sound policy of language that allowed home language as a medium of instruction and decentralized administration are some of the customary suggestions to reduce dropout rate (Ayalew, 1997). It

also reduced by increasing the community literacy rate because the literate communities were more likely to recognize the immediate and long-term benefits of education (Darge, 1997). For Brimer and Pauli (1971) introducing compulsory education restricted dropout rates and automatic promotions was abolished repetition rates.

Finally, the study is supposed to investigate the factors that currently affect the internal efficiency of primary education in Adama city administration. It also mainly focuses to obtain the opinions of school leaders, teachers and students who were at risk of dropout and repetition. The data are organized, analyzed and interpreted carefully. The conclusions and recommendations are also made based on the findings of the study.

1.2. Statement of the Problem

Education is a cornerstone of economic growth and social development and a principal means of improving the welfare of individuals (Lockheed, 1990). Primary education is the foundation of every level of education. It produces a literate and numerate citizens and it lays a base for further education. However, in developing countries like Ethiopia, the number of dropout and repetition impedes the provision and expansion of primary education critically. The high rate in the number of dropout and repetition indicate the inefficiency of the education system of that country.

Improving internal efficiency of education is a concern of developing countries all over the world. Ethiopia, as one of the developing countries is intended to improve the internal efficiency of primary education by taking a practical measure to reduce educational wastage and increase internal efficiency along with encouraging efforts towards educational expansion (MOE, 2002). However, realization of the internal efficiency of primary education is still affected by the presence of class repetition and school dropouts. Repetitions and dropouts are severe problems to the efficiency of education, because it increase the cost of running the system and reduce the size of enrollment. Moreover, the problems delay attaining universal primary education that Ethiopia intended to reach by 2015. Although educational enrollment in Ethiopia has consistently increased and reached to 79.8% (MOE, 2004/05); still there are numbers of students who are repeating classes and dropping out from schools. According to the current MOE statistics the dropout and repetition rate at 2003/04 were 14.4% and 3.7% respectively. In the same way, the

2003/04 OECBB statistics revealed that the dropout and repetition rate respectively were 17.6% and 6.7%. In comparison, the problem is more serious in Oromia than national level. Moreover, dropout is more severe problem than repetition in both national and regional level. Reviewing and calculating the 2005/06 Adama city administration educational office statistical record, repetition and dropout rates at primary school level were 9.12% and 6.59% respectively. The problem is severe at second cycle (Grade5-8) in which the dropout and repetitions proportions were 7.14%and 13.65% respectively than the first cycle (Grade1-4) withholder 6.04%dropout and 4.59% repetition proportions. The repetition rate in Adama city primary education (9.12%) in 2005/06 is greater than the national level (3.7%) as well as its regional level (6.7%) in 2003/04 even after two academic years. The problem of repetition is serious in Adama city unlike national or regional level where dropout rates exceed repetition rate.

Table1.21: Dropout and repetition rates of ACA primary schools

Level	Dropout (%)	Repetition (%)
Grade1-4	6.04	4.59
Grade5-8	7.14	13.65
Grade1-8	6.59	9.12

Source: Adama city administration education office record in 2005/06.

Assessing the 2003 OECBB educational statistics and the comparing with the repetition records among the school types, the problem is serious in government schools than the other types.

Table 1.22: Some GS and NGS with High Repetition Rate in ACA

Some Schools	School type	Enrollment	Repeaters	Proportions of repeaters (%)	Readmitted
Adama No 2	Government	5766	568	9.9	153
Adama No 3	Government	3808	458	12.2	78
Adama No 4	Government	6203	945	15.2	137
Dejene Sime	Government	3313	190	5.7	50
Haylye chefik	Public	1304	66	5.1	7
Hohitete-Tibab	*Public*	*1309*	*193*	*14.7*	-
Nafiad	*Private*	*1745*	*19*	*1.1*	-
Awash	*Private*	*405*	*7*	*1.7*	-
Kidus Yoseph	*Missionary*	*777*	*29*	*3.7*	-
Kesate-Birhan	*missionary*	*711*	*84*	*11.8*	-

Source: OECBB, 2003, Educational Statistics Annual Abstract.

These class repeaters and re-admitters in the city administration; can have a strong force that resist giving opportunity of access without increasing additional cost of education. To keep up the education system at every level within certain time interval; the internal efficiency of education should be examined and the factors that affect the system should be investigated. Moreover, studies regarding internal efficiency of education in Ethiopia were fundamentally focused on rural areas of the country and urban poor were forgotten. This study hence is aimed to fill these gaps and both government and non government schools were included.

The main purpose of this study, therefore, is focused on investigating the level and the major factors affecting the internal efficiency of primary schools in Adama city administration.

1.3. Objectives and Hypotheses of the Study

1.3.1. General Objectives of the Study

To investigate the factors that affects the internal efficiency of primary education in Adama City Administration and to suggest feasible and flexible recommendations.

1.3.1.1. Specific Objectives of the Study

1. To examine the level of internal efficiency in Adama city administration.
2. To examine the factors that affects the internal efficiency of primary education in the administrative area.
3. To forward recommendations that could help to reduce wastage and increase internal efficiency of primary education.

1.3.2. Hypotheses of the Study

Based on the objectives of the study, the following hypotheses are made to test the assumptions in the study.

1. There are no significance associations between the ranks assigned by government and non government primary school pupils, teachers, and leaders for school internal factors and external factors as the degree of its weight in affecting the internal efficiency of primary education.

2. There is no association between the ranks assigned by male and female respondents for school internal and external factors as the degree of influences of the factors on internal efficiency of primary education.
3. There is no a significance weighted mean response value difference between school internal factor and external factors in affecting the internal efficiency of primary schools.

1.4. Significance of the Study

Primary education is a milestone of every education level and education is a cornerstone of economic growth and social development. Currently, there are potential problems that affect the internal efficiency in primary schools. These problems may have strength to affect expansion to attain UPE by 2015. In addition, the problems have effect on retarding the economic growth and social development of the country. The previous studies in this area were not identified the problems of IEPS with respect to GS and NGS. The major focuses were also in rural areas. This study is expected to fill these gaps in identifying the major problems that affect the internal efficiency of primary education in ACA and in suggesting the best solutions to reduce the problems.

The need for undertaking this study, therefore, is because of that the result helps:

- To aware the potential problems that currently affects the IEPS in the study area.
- To add quantum of idea to the previous study to fill the gaps that were not fulfilled.
- To reveal area and direction of potential problems that retards achieving the education MDG in which the member states of the UN committed in 2000 to attain UPE by 2015.
- To contribute its share to enhance the primary education system, moreover, to initiate and encourage the education researchers to give their time to study problems of schools internal efficiency in depth.

Further, the result of the study may attract the attention of primary school experts, planners, and policy makers to consider the school internal and external factors that aggravate the school dropout and class repetitions and impede the attainment and achievement of primary schools.

1.5. Delimitation of the Study

The boundary of this study is delineated in Adama city administration of the Oromia region, because the city gives opportunity to study and compare the governmental and the non-governmental school potential problems that affect the internal efficiency of primary education. Moreover, the Adama city withholds both the blue collar and white-collar personnel with diversified socio-economic and socio-cultural background social communities. The city is known for its trade center that has strong force to pull pupils from schools to small business making area and the consequence affects the efficiency of education system.

The target population was delimited only to ten primary schools. These are, because these schools were excelled in holding proportions of pupils who were at risk of school dropouts (readmitted) and class repetitions. Unlike primary education system, wastage proportions of males are greater than females and wastage proportions in cause of repetitions were greater than school dropouts. These are the reasons, in which researcher believes that the internal efficiency problems are more severe at these area than any other. In addition, for a country such as Ethiopia that has not still attained UPE, this study will be more important at primary than at any other educational level. In this research work, the time frame was delimited to complete in two semesters of the academic year 2006/07.

1.6. Limitations of the Study

The research instrument adopted in this study are questionnaire and structure interview with close-ended items and two open-ended items for school leaders and teachers. Besides questionnaires and structure interview, other instruments such as interview, focus group discussions, and observation might have enriched the data and makes the findings of the study more comprehensive and objective. Nevertheless, lack of time and resources; the mentioned instruments were not employed. Further, the documents obtained in ACAEO include only two academic years (2004/05 and 2005/06) in which the previous one was not completed. These problem blocks computations to observe the back historical background of IE in the study are.

1.7. Definitions of Terms

Non-government schools- in this study, any institution that provides education without direct involvement of government in sharing the capital or recurrent budgets.

Government schools-in this study, any institution that provides education with partial or total involvement of the government in the form of capital or recurrent budget.

School leaders- in this study, it is the common name given to principals, vice principals, unit leaders, and department heads in primary schools of ACA.

Annual efficiency- the ability to achieve desired results with economy of time and effort in relation to the amount of work accomplished in one academic year.

Dropout- most often designates elementary school pupils who have been in membership during the regular school term and who withdraw or is dropped from membership for any reason except death or transfer to another school before graduating primary school.

Efficiency- the ability to achieve desired results with economy of time and effort in relation to the amount of work accomplished (Good, 1973).

Internal Efficiency: It refers to the measurement of performance within the education system, which pupils successfully completing a school cycle without wastage on dropping out and/or repeating classes.

Primary Education: Education system from grade 1-8, offering basic (1-4) and general (5-8) primary education to prepare students for further general education and training (MOE, 1994).

Repetition: A year spent by a pupil doing the same work in the same grade as in his previous year in school (UNESCO, 1972).

1.8. Organization of the Study

This paper is organized in five chapters .The first chapter is the problems and its approach that includes background of the study, statement of the problem, and objectives of the study, significance, limitations and delimitation of the study, definition of operational terms. Chapter two deal with review of related literatures. In chapter three the method used in this research such as research methodology, sources of data, sampling technique data gathering tools, analysis and interpretation techniques are discussed. Chapter four is includes presentation and analysis of data. The summary, conclusions and recommendations are presented in the fifth chapter.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

In this chapter, the main concepts of efficiency in general and internal efficiency in particular were reviewed from books and published materials. Unpublished MA theses were also used to review the Ethiopian trends around the problems. In general, this chapter includes efficiency in education (internal efficiency, external efficiency), input output relation in education, impedance of internal efficiency (dropouts, repetitions), and causal factors related to internal efficiency (school internal and external factors). Ethiopian resources, particularly the work done on school dropouts, class repeaters, educational wastage, and internal efficiency of primary educations are included.

2.1. Educational Efficiency

Efficiency is the ability to achieve desired results with economy of time and effort in relation to the amount of works accomplished (Good, 1973). Traditionally, there are two concept of efficiency. These are the economic efficiency and technical efficiency (Hannshek (1987), King et al. (2003), Pscharopoulos and Woodhall (1985)). Technical efficiency is concerned with the maximum output that can be achieved from a particular input of resources with a given level of technology (Pscharopoulos and Woodhall, 1985). According to Hanushek (1987), technical efficiency refers to operating on the production frontier that is maximizing output for a given set of inputs. For King et al, (2003) it is considered only the process of combining inputs to produce outcomes and does not take into account the cost of inputs. Whereas 'economic efficiency' concerned as the correct share of input mix given the prices of inputs and the production function (Hanushek, 1987). For Pscharopoulos and Woodhall economic efficiency is concerned with achieving a desired level of output at a minimum cost. King et al. (2003) suggested that both technical and economic efficiency have a concept of important consideration in designing education system. Pscharopoulos and Woodhall (1985) favored cost-effectiveness and economic efficiency in a field of education rather than technical efficiency. However, they didn't deny that studies on the effects of new technologies such as television or computer-assisted learning are primarily concerned with technical efficiency. There are two arguments that have been used to support the assertion that schools are technically inefficient.

These are:

1. Educational decision makers are apparently not guided by incentives to maximize profits or to be on the production frontier.
2. Educational decision makers might not understand the production process and therefore cannot be expected to be on the production frontier.

The skill differences among inputs to schools introduce different aspects into their efficiency discussion. If two-production processes are using the same inputs, any systematic difference in outputs reflects inefficiency (Hanushek, 1987). King et al. (2003), Pscharopoulos and Woodhall (1985), and Baum and Tolbert (1985) categorized economic efficiency into two aspects. These are external efficiency and internal efficiency. The 'external efficiency' of an educational system depends on relationships between general and vocational education, and between school and work opportunities. In the other way, internal efficiency is concerned with the extent to which particular educational goals are achieved with a given input of resources and a minimum of wastage (Baum and Tolbert (1985), Pscharopoulos (1985), King et al. (2003)).

2.1.1. External Efficiency

External efficiency refers to the attainment of social goals or objectives of the systems or subsystems. It considers the contributions to national economic growth that are made by the scarce resources allocated by society to various sectors of production. With respect to education, external efficiency can be judged by how well schools prepare pupils and students for their roles in society, as indicated by the employment prospects and earnings of students (Pscharopoulos and Woodhall (1985), King et al. (2003), Baum and Tolbert (19850)).

External efficiency is studied through rate of return analyses (King et al., 2003). The rate of return on investments in education has been studied at two levels, the private and social. The private rate of return includes only costs incurred by individual whereas the social rate of return consider all costs, including those that supplement the private costs paid directly or indirectly (King et al., 2003). For Pscharopoulos (1987) private rate of return is estimated when the benefits and cots refer to the individual undertaking the investment. Whereas the social costs and benefits of an educational activity, thus arriving at the social rate of return. However, the major concern of

this study is examining the problems and identifying the major factors that affect the internal efficiency of education in primary sub sector; it will be treated in detail hereafter.

2.1.2. Internal Efficiency

Internal efficiency of an education system is concerned with the relationship between the inputs and outputs of education system or within individual institutions (Coombs and Hallack (1987), Pscharopoulos and Woodhall (1987), King et al. (2003)). Since IE is one aspects of economic efficiency it used economic techniques to analysis school input-output relations. Among a number of different economic techniques that have been used to analysis the relationship between inputs and outputs; Woodhall (1985) suggested cost-effectiveness analysis and productivity measurement in her article "economics of education". She elaborated that "cost effective analysis" issued to compare the efficiency of achieving the same objectives or alternatively to compare two or more schools or other institutions with similar levels of cost in order to identify with the highest level of output from a given quantity of inputs. Productivity measurement is also economic technique and more usually applied to industrial processes, nevertheless equally relevant to education outputs per unit of inputs.

Internal efficiency is concerned with the extent to which particular educational goals are achieved with a given input of resources; the goal is for students to flow through the system with a minimum of wastage (Baum and Tolbert, 1985). For King et al. (2003) internal efficiency concerned as the allocation of resources within educational enterprises in order to maximize output (academic achievement, skill development, and the behavior and attitudes of students) from the resources committed. It involves the means by which educational services are produced a maximum benefit from the resources committed to an institution or operation such as school. He also discuss that internal efficiency is studied through education production function, cost-benefit and cost-effectiveness techniques of analysis.

According to Coombs and Hallack (1987), internal efficiency refers to the relationship between a system's (or subsystem's) outputs (learning achievement) and the corresponding inputs that went into creating them. For them, educational system's internal efficiency may be judged in terms of cost-effectiveness with the success measured in this context by the system's immediate outputs as distinct from its ultimate benefits. Greater internal efficiency enables the system to produce more

education (more students enrolled or graduates produced) for the same amount of money or the same amount of education for less money (Forojalla, 1993). Internal efficiency according to him is one of the categories of educational benefits and measured in terms of the reduction in the unit costs per student enrolled or per graduate. Most authorities argue that economic efficiency of education can be studied through education production function, cost benefits, and cost-effectiveness analysis of the system. However cost effectiveness and production function are more appropriate to analysis schools IE.

2.1.2.1. Education Production Functions

Education production functions refer as input-output analyses or cost quality studies. It examines the relationship among different inputs through educational process into the educational outputs. According to Hanushek (1987), the production function approach has not been universally accepted to analysis the education system, because schools were not economically efficient in utilizing resources. The different school situations, grade level, differed in family backgrounds and schools, and qualities of teachers have a dramatic effect on student's achievement. Moreover, many common education policy suggestions, such as reducing class sizes, are not supported to implement.

2.1.2.2. Cost Effectiveness

Cost effectiveness analysis is used to compare the efficiency of alternative ways of achieving the same objective (Woodhall, 1987). In education, the comparisons between different schools, different institutions, and different teaching methods can be concerned to show which of the alternatives achieve optimal output at the least cost. Alternatively, cost-effectiveness analysis can compare two or more schools or other institutions with similar levels of cost in order to identify which achieves the highest level of output from a given quantity of inputs. However, measuring the quality and quantity of both inputs and outputs in education system, is a great problem. Cost-effectiveness analysis means comparing alternative investment project in terms of their relative costs per unit of out-put (Coombs & Hallack, 1987). Cost effectiveness is a relative rather than an absolute measure. It is especially useful in the education sector, where outputs (achievement, attainment) do not have radically observable and valid market prices. Cost-effectiveness judgment in education requires both an economic assessment to measure the cost of inputs, and pedagogical assessment to measure learning achievement (Coombs and Hallack, 1987).

2.1.2.3. Cost Benefits Analysis

In education, cost-benefit analysis is concerned with the return to expenditure on education investment. Cost and benefits are analyzed in financial terms and more related to external efficiency; because the cost-benefit analysis usually used to calculate the private and social rate of return (Forojalla (1993), Pscharopoulos (1987)). Rate of return is a term related to external efficiency of the education system (King et al., 2003). However, King et al.(2003) themselves stated that cost-benefit analysis studied in internal efficiency and the goal of studying internal efficiency is to go the maximum benefit from the resources committed to an institution or operation.

2.1.2.4. Indicators of Internal Efficiency in Primary Education

Internal efficiency is measured in terms of the ability of an education system to educate the greater number of students who have interred the system in specific year, in the shortest possible time and with least use of financial and human resources (Getachew, 1999). The flow of students through out the system is the concern of internal efficiency and used also to measure wastage in education. According to MOE (1996), the common internal efficiency indicators are coefficient of efficiency, proportion of total wastage spent on repetition and dropouts, and proportion of total wastage used by graduate and dropouts. Moreover, the flow rates, survival rates, retention rates and completion rates are the means of indicating internal efficiency of education in school system.

2.1.2.4.1. Coefficient of Efficiency in Education

Coefficient of efficiency is commonly known as an indicator of the level of 'efficiency'. The term efficiency is divided into internal and external efficiency (Pscharopoulos and Woodhall (1985), Baum and Tolbert (1985), King et al (2003)). The external efficiency is studied through rate of return analysis and it is the means to which the degree of education system meets the social, cultural, and economic objectives whereas internal efficiency deals to the measurement of performance within the education system. The coefficient of efficiency is calculated by dividing the optimal (ideal) number of pupil-years (with out repetition and dropout) by the number of the pupil-years actually spent by a cohort of pupils.

$$\text{Coefficient of efficiency (CE)} = \frac{Ideal\ number of\ pupils' years}{Actual\ number of\ pupils' years}$$

In a perfectly efficient system, the coefficient of efficiency is 100%, and it is lesser than 100% when inefficiency or wastage arises in the system. Coefficient of efficiency can also be calculated in terms of input-output relation (Brimer and Pauli, 1971: 47). In this cause, the prefect state would be 1 or 100%, and inefficiency or wastage arises when the input/output ratio gives above 1 or exceeds 100% proportions. The coefficient of efficiency, in terms of input-output relations can be calculated as the reciprocals of wastage or output/input of the system. Since it is difficult and expensive to generalize the school related system based on reliable individualized pupil information, internal efficiency of education system is assessed using the reconstruction cohort method (UNESCO (1972), Brimer and Pauli (1971), Pscharopoulos and Woodhall (1985), King et al. (2003).

2.1.2.4.2. Wastage in Education

Educational wastage is an economic term defined as the total number of pupil-years spent by repeaters and dropouts (Pscharopoulos and Woodhall (1985), Loxley (1987), Brimer and Pauli (1971), King et al. (2003)). Wastage in education is calculated by dividing inputs by outputs (Brimer and Pauli, 1971)). According to the authorities, the reciprocal of wastage (input/output) is some times called coefficient of efficiency. The relation shows that high proportion of wastage indicates that the system is inefficient (Low internal efficiency).

2.1.2.4.3. Flow Rates in Schools

Flow rates (promotion, repetition, and dropout) are considered as the basic indicator of internal efficiency in schools. To determine the flows (promotion, repetition, and dropout) one needs to have the school statistics of at least two most recent consecutive years or at best, the past 10 years. The dropout and repetition rates indicate the proportions of wastage or inefficiency, whereas the proportion of promotion rate indicates the level of internal efficiency.

2.1.2.4.4. Options to Improve Internal Efficiency

To improve the educational system's internal efficiency, that is, to reduce its costs without a corresponding reduction in the learning results, or to optimize the learning results without an equivalent increase in its cost; Coombs and Hallack (1987) mentioned three main categories according to the degree of change required during their time. These are:

1. Educational managers may improve internal efficiency by changing the amounts, quality, and proportions of inputs.
2. Educational managers may increase efficiency by modifying the system's basic design by introducing distinctly new components and technologies.
3. Designing a new teaching-learning system that differs radically from the conventional one.

Some of the ways do not require significant investments of capita but are achievable through managerial action. According to Baum and Tolbert (1985), internal efficiency can be improved in a number of ways that relate to the flow of students, class size, and the use of space and facilities quantitatively, and curriculum development, teacher training, and teaching materials qualitatively. MOE (2002) aimed to improve internal efficiency by taking a practical measure to reduce educational wastage (dropouts, repetitions) and increase internal efficiency along with encouraging efforts towards educational expansion. If IE is to be improved thorough the reallocation of resources, the cost and effectiveness of alternative combinations of inputs should be assessed (Pscharopoulos and Woodhall, 1985).

2.2. Input-Output Relation in Education

Input-output analysis is a tool of economic science in production functions. From economic points of view, education production process input-output relation can be used to determine the education system efficiency. Internal efficiency as an integral component of the system efficiency; can be determine from the relationship of educational inputs and outputs within the system. However, educational efficiency or productivity can be measured from the systems input - output relation, there are difficulties in measuring the output of the education system (Tinbergen (1987), Sheehan (1973)). According to Sheehan (1973), there are two points that make the out put quantitative measurement difficult. These are:

1. The unit of output is difficult to specify in precise quantitative terms as industries.
2. Unlike most industries, education does not usually sell its "out put", however specified.

Whereas measuring educational input is easier comparing with the output, because most inputs have prices, which may be taken as a reasonable guide for measurement. However, even here there are difficulties to estimate the opportunity cost or forgone earnings of the pupils. The input-output relation of education some times considered as production function. It is highly complex because, besides school variables there are factors that affect educational outputs. These are individual ability, home background, and socio-economic factors (Pscharopoulos, 1985). The term production function refers to the process by which inputs are converted to output (Hanushek, 1987). This production function in education can be equated as follows below:

Education output (0) = function of educational inputs

Output (0) = f (S, I, P), where: S - Students characteristics

I - Schooling inputs

P - Instructional process

2.2.1. Educational Inputs

The purchased and non-purchased resources invested in the education process can be defined as educational inputs (Kemmerer, 1994). According to silver (1983), inputs are defined as all elements that enter the system across its boundary and cause or enable the components to interact or affect the ways in which the components interact in fulfilling the system's purposes. She further classified it into energy inputs and information inputs. Physical materials or forces imported to the system that enable the components to move and interact physically are considered as energy inputs. Whereas information inputs are signals that enter the system and indicate to the components how or when they are to interact.

Long-ago Burkhead (1967) structured the educational inputs that would convey economic significance was student time, personnel time such as administrative, teaching, and clerical, maintenance, supplementary (guidance, health, library), and materials, supplies, buildings and equipments. His categories of inputs are almost similar with Kemmerer's (1994) classification. She organized educational inputs into student characteristics, teacher's characteristics, administrative characteristics, curriculum/ educational materials, and Facilities/ equipments in

school system. Some of the preceding inputs are easily measurable and some are difficult. Inputs such as student time are the most significant of all school inputs, and it is also the most difficult to measure in a satisfactory manner (Burkhead, 1967). Not only student time but also input related to administrative and teaching personnel's time is difficult to measure satisfactory. The rest of the personnel input time could be measured in almost reasonable way on the assumptions that simple man-year measurements are adequate and the qualitative characteristics are ignored as non important.

2.2.2. Educational Process

To convert educational inputs (resources) to educational outputs (products, services) there should be organized teaching learning process. A particular combination of student's time, teacher's time, material resources, and spacing to produce learning are considered as educational process (Kemmerer, 1994). This educational process also named throughputs (Silver, 1985). Throughput is a process of converting human and material resources of educational inputs to educational outputs such as student's attainment and achievement. According to Kemmerer (1994), educational process that converts inputs to outputs could be analyzed in the following form:

1 Student use of time and material resource
2 Teacher use of time and material resource
3 Administrative use of time and other resource
4 Curriculum implementation, coverage and utilization of textbooks and other materials
5 School facilities to utilize available space and equipment.

2.2.3. Educational Outputs

Educational output refers to the achievement of pupils or student's knowledge, skills, behavior, and attitudes as measured by tests, examination results, and the like (Pscharopoulos, 1985). For Kemmerer (1994) educational output classified into student attainment and achievement, she further specified student's attainment into progression rates, attrition rates and repetition rates, and educational achievement classified into examination results, school grades, and changes in attitudes and behaviors. For Silver (1985) outputs are defined in terms of energy and information that a system expels to its environment. According to UNESCO (1972), educational output is defined as the number of pupils in the flow of Cohort who complete a given educational cycle. A

form of outputs can be divided into intended output and unintended outputs. In education, unintended outputs are related to educational wastage (repetitions, dropouts) whereas the intended outputs are referred to the internal efficiency (promotion, completion rate) of the school system.

2.3. Impedance of Internal Efficiency

Internal efficiency of the education system examines the success or failure of a school system enabling individuals to complete a certain level of education. Internal efficiency and educational wastage may examine by similar ways, but they differ. Internal efficiency refers to the completion rate of a given age cohort that was admitted in a given year and it measures the success of a given number of students in completing a specified educational level target to the goal (Pscharopoulos and Woodall, 1985). Whereas, educational wastage is the total number of pupil years spent by repeaters and dropouts (Loxley, 1987). Then, wastage would be failure in school. Brimer and Pauli (1971) arranged and discussed the existence of educational wastage in the following forms:

1 In the failure of a system to provide universal education.
2 In failure to recruit children into the system
3 In failure to hold children with in the system
4 In inefficiency in the achievement of objectives.

The mentioned ideas address both children who are already admitted in schools and to those who are out of the school in social community. This shows that wastage has a wider and complex activity than internal efficiency, because, internal efficiency is concerned withholding children within the school system and achievement of objectives of the system. Furthermore, internal efficiency refers to the relationship between a system's outputs and the corresponding inputs that went into creating them (Coombs and Hallack (1987), Pscharopoulos (ed) (1987)). In the inputs – process - outputs relation of primary education system, the success (promotion) and failure (usually dropout and repeaters) are statistically recorded. The number of dropout and repeaters impede the increasing level of internal efficiency, and causes wastage in education system. Several studies corroborate that educational wastage, which involves dropout and repetition, is the major impediment to maintain the internal efficiency of education system (Darge (1997), Tilaye (1999)).

2.3.1. Repetition

Repetition is a year spent by a pupil doing the same work in the same grade as his/her previous year in school (UNESCO (1972), Brimer and Pauli (1971)). It is one of the cases that impede the IEPS and it is considered as component of educational wastage. Brimer and Pauli (1971) presented assumptions that concern the nature of school learning which underline the idea of repetition of grades and the pedagogical practices are mentioned below in the following statements:

1. The study program is deemed appropriate for a particular cycle.
2. The majority of children in a given grade will be intellectually capable of learning the required material at the minimal rate as the teachers carry on systematically through the syllabus of instruction.
3. A teacher or examiner can determine accurately the level of knowledge (current performance) that the pupils must attain at the end of a given period to be capable of proceeding together to the work of the higher grade.
4. Repeating the unsatisfactory year's work in its entirety could best rehabilitate those pupils, who did not reach this required level?

Based on these stated assumptions, the teaching-learning plan of teachers and the content of the syllabus, the pupils are examined at the end of the academic year, and are divided into promoted and detained groups. The promotion policy and practices vary from country to country. Some countries systematically operate repetition in all grades at the end of academic year in which usually decided by teacher or teachers' council. In this cause, the number of years a pupil is permitted to stay in the grade is limited. There were also countries resemble the mentioned idea except that they don't specify who was responsible for deciding on promotion and do not control the number of years that a pupil was permitted to spend in a single grade. The other groups of countries were promoting their pupils with out regard to examination performance and do not permit, except in rare circumstances, repetition of grades (Brimer and Pauli, 1971). Authorities have different views on the merits and demerits of repetition. Some viewed from the pedagogical points of view and others interpreted from the economic side. Nevertheless both did not denied that repetition increase the costs of education that impedes the internal efficiency of education system (Brimer and Pauli (1971), UNESCO (1972)). The IIEP forum on repetition held in Paris

from 21 June to 9 July 1999 for former IIEP course participants whom Andre Magnen, the former staff member of UNESCO was involved as Moderator of the forum revealed that the magnitude of repetition was high in East Africa, especially at primary level, even in countries used automatic promotion. Even though some participant in the forum favored automatic promotion to reduce repetition rate; Ethiopian, Canada, Kazakhstan, and Suriname reported that automatic promotion has detrimental effects on the motivation of students and teachers in which the result lead to poor quality of education. Later, the forum concluded that in East Africa, automatic promotion was either not enforced, or if nominally enforced, not respected, mainly because students, parents and teachers believe that repetition as it was beneficial to slow learners (http// www.unesco.org// iiep/eng/training/ virtual/repforum.htm).

2.3.1.1. Cost and Benefits of Repetition

Students are repeating a grade when the benefits of staying in the same grade are more important than the costs. This may increase the demand for repetition. Currently there is a persistent belief among teachers, parents, and students that repetition has a remedial effect for slow learners, and especially that it helps them to pass the national examination and enter secondary schools (IIEP, 1999).

2.3.1.2. Strategies for Reducing Repetition

Factors affecting the magnitude of repetitions are mostly related to home conditions and school characteristics. Therefore, there could not be one remedy, but rather sets of various complementary solutions have to be arranged. Some times repetition may cause because of lack of access to the next higher level of education; thus, increasing school facilities and access to secondary education would reduce a primary repetition rate. IIEP forum 1999, proposed the following strategies to reduce repetition rate. These strategies are undertake research that stressed particularly concerning the achievement of repeaters and the effectiveness of repetition reducing strategies, establishing standard procedures for student evaluation, developing remedial programs for repeaters, establishing realistic achievement standards, re-training the supervise teachers, hastening exposure to the final language of instruction, and increasing access to secondary education. Selecting the best strategies and applying in once country where this problem affects the education system is worth able.

2.3.2. Dropout

Dropping out (school desertion) is a condition of leaving a school before the completion of a given stage of education or leaving at some intermediate or non-terminal point in a cycle of schooling (UNESCO (1972), Brimer and Pauli (1971)). Taneja (1989) defined the term dropout as terminating education before completing high school. The definitions of dropouts vary in periods, in data collection methods, and in data calculating methods. According to Woods (1995), dropout rates can be calculated in four ways. These are event rate, status rate, cohort rate, and high school completion rate. Event rate indicates the number of students who leave high school each year and is compared with previous years. Whereas status rate, is a cumulative rate which is much higher than the even rate. It denotes the proportion of all individuals in the population who have not completed high school and were not enrolled at a given point in time.

Cohort rate describes the number of dropouts from a single age group or specific grade (or cohort) of students over a period. The high schools completion rate also indicates the percentage of all pupils' age (age specific) that has completed high school by receiving a high school diploma or equivalent certificate. Problems that cause dropout may have different aspects even within the same country depending on the nature of the discrete age of the pupils, labor market conditions, and socio-economic milieu...UNESCO (1972). Dropouts consume scarce resources with low return to the individual or society (Baum and Tolbert, 1985). It impedes the internal efficiency and causes inefficiency of the school system. Dropping out school is a serious social and economic health of a country and have negative consequences for the individual. Nevertheless, dropout is not always wastage. Because, in educational terms it would not be correct to consider all pupils school career as wastage (UNESCO, 1972). Loxley (1987) warranted UNESCO (1980) to reveal "...dropout is closely related to the factors governing the demand for the supply of education while the level of repetition depends more on internal factors at the education system". Moreover, researchers in Ethiopia described that the dropout problems are deep-rooted (Ayalew, 1997), serious treat to the provision of primary education and indeed more pernicious than repetition (Darge, 1997), and major obstacle to the efforts towards UPE and adults' literacy (Habtamu, 2002). These obstacles are reduced only by intending strategies and work for practical solutions.

2.3.2.1. Strategies to Reduce Dropouts

Several studies show the need for dropout prevention program in Ethiopia. Research findings and recommendation regarding characteristics of dropout reduction techniques and ways have the ability to design strategies to reduce dropouts. To reduce dropout rates there should be relevant curriculum, sound instructional language policy, and decentralized administration (Ayalew, 1997). To reduce this problem, he further, suggested the need of policy makers in structuring primary education, reducing direct and indirect cost to schooling, strengthen school community relationship, and implement effective school management. These suggestions indicate that there is a need of top education manager's involvement and focus to reduce obstacles that aggravates school dropouts and cases inefficiency of primary schools.

Darge (1997) strongly suggested that making the parents literate helps to reduce dropouts. In addition, to reduce these problems, pupils should be followed up, counseled, supported, and changed in attitude towards education (Habtamu, 2002). He also recommended that the parents and community involvement, legislation to stop under age (below 18) marriage and implementation effort, building more first cycle (Grade 1-4) and more second cycle (Grade 5-8) schools per 2 or 3 peasants associations, Para-professional counseling services, and possibility of providing chances for failures to repeat grades reduce school dropping out.

2.4. Causal Factors Related to Internal Efficiency

The major problems of internal efficiency in education are related to the cases of school dropouts and class repetition (Sheehan, 1973), Pscharopoulos and Woodhall (1985), Forojalla (1993), King et al. (2003). These researchers commonly argue that the major problems of school dropouts and class repetitions are related to school factors, personal (student) factors, family factors, and community factors. However, the causes that create the existence of dropout or repetition in primary schools varied according to the demographic, macro-economic and budgetary context, socio-cultural, and political characteristics of the country.

In general, the causal factors related to internal efficiency are commonly understood as factors of school dropouts and repetition. These factors can be categorized into two, namely internal factors and external factors. All major factors that have the ability of impeding the internal efficiency of

primary education within the school systems refer as internal factors. The quality and quantity of inputs can affect the systems efficiency. The inputs organized by Kemmerer's (1994) as a comprehensive set of indicators of educational system efficiency such as students in-school characteristics, teacher's characteristics, administrative characteristics, curriculum, method educational materials, and school facilities and equipments and problems exerting related to these inputs are considered as internal factors affecting the internal efficiency of the school system. In the other way, the causal factors generating out of the school system that are related to students out of school characteristics, family characteristics, and community characteristics are external factors.

2.4.1. School Internal Factors

Causal factors related to school internal teaching-learning process are categorized under internal factors. Problems generating from input resources such as pupils in-school characteristics, teacher's characteristics, administrative characteristics, curriculum implementation process, teaching method, teaching materials, school facilities, spacing, and equipments are considered as internal factors. These factors generating from in puts affect the teaching learning process as it pass through the process (throughputs) to the out-puts of the school system. The factors generating from in school internal relationships and damp down the internal efficiency of the schools are internal factors.

2.4.1.1. Pupils' In-School characteristics

Pupils in school characteristics or in teaching-learning process influence on the achievement of their current performance. The problems that create along the school such as truancy, frequent absenteeism and tardiness, suspensions from school, and disciplinary infraction are problems that cause pupils dropout (Woods, 1995). These problems are directly related to pupil's characteristics and reflected in school compound. The problems seriously affect the internal efficiency of the school and the personal achievement of the individual. In addition, the failure of the pupil to study hard, lack of self confidence, late admission, and lack of effective utilization of school time and resource causes damping down the internal efficiency of school system (Brimer and Pauli, 1971).

2.4.1.2 Teachers Characteristics and Methods of teaching

The key resource in the teaching learning process is teacher characteristic. This sort has a strong force to promote or to damp down the schools efficiency. Teacher's qualification, experience, adequate training, and knowledge have significant consequences for student's achievement (Baum and Tolbert). There are also researchers who suggested that teacher's age, experience, and qualification have impact on the performance of pupils (Adane (1993), Lisanu (2004), Tamiru (2006)). According to them adequate training, qualification and experience of teachers reduce educational wastage and increase school outputs. Further, Adane (1993) reported that the increase in teachers age increase the rate of educational wastage. Nevertheless, upper limit of teacher's productive age was not stated in his study. However, there are teachers even after annuity works (teach) attractively while some young teachers complained by school pupils. Moreover, teachers' effective use of time and resource in schools, merit examination process, adequate support and encouragement, and implementing participative teaching methods reduce wastage in education system (Kemmererer (1994), Brimer and Pauli (1971)).

One of the teachers' greatest rewards is to see his or her students succeed at their studies and develop into productive and responsible citizens. In Ethiopia, the primary education teaching method applied is student centered (problem solving approach), the classroom management system is self contained, and the examination system is continuous assessment (MOE, 1994, 2002). However, continuous assessment is used to basic education in most area of the country.

2.4.1.3. Administration characteristics

School principals and all administrative work forces strongly support the teaching-learning process in the schools. Moreover, principals should allocate resources, manage the process, and evaluate the outputs whether it utilized optimally or not. Some times without additional capital investment administrative action can increase achievement by improving students flow rate, class size, and the use of space and facilities (Baum and Tolbert, 1985). Furthermore, lack of skills, ability and knowledge to allocate limited resources, failure to manage the system properly, failure to evaluate the system, and failure to reallocate resources to achieve optimally leads to inefficiency of the school system (Pscharopoulos and Woodhall, 1985). Therefore; principal's qualification, experience, attitude and behavior affect the internal efficiency of primary education.

2.4.1.4. Curriculum and Method

When school pupil fail to master the curriculum at an adequate level of proficiency there are signals emotionally reflected by the social communities, pupils, teachers, and professionals. According to Alexander et al. (1994), school pupils have three course of action when the curriculum is irrelevant to them or fail to master it. These are altering the policies, going summer school to make up ground or self-adjustments, and repeating the school years forcedly or willingly. Such courses of action of pupils can damp down the internal efficiency of primary schools by consuming more pupils' year and other resources that can be utilized for the attainment of UPE. Moreover, in many developing countries, the education system inherited from abroad, and mostly inappropriate to the social, cultural and economic situation of the country (Alexander (1994), Pscharopoulos and Woodhall (1985)).

The principal efforts at curriculum change may design even neglecting the need and interest of the pupils, teacher's participation, and the socio-economic status of the society (Lockheed, 1990). Further more, the teaching method by it self may directly adopted from abroad with the pressure of the donor without internalization of the implementer and user. This consequence has significant factors to damp down the schools efficiency. Currently student centered teaching method is emphasis by developed and developing countries. The system of learner-centered education started in the United States of America, after the Soviet Union Launched the world's first artificial satellite in 1957. During this time, many American citizens became fearful that the soviets had surpassed the United States in the field of science and technology. In the response to these concerns, the United States education expertise designed student-center teaching methods and many schools adopted a more rigorous curriculum that placed particular emphasis on mathematics and physical sciences (World Book Encyclopedia, 1994). But at the time just the Soviet Union Launched the world's first artificial satellite their curriculum and teaching method were teacher centered. Therefore, all aspects of the teaching methods in school and the curriculum should be examine and evaluated every time at all places in once country according the need and interest of the implementer and the user at large.

The Ethiopian current curriculum was introduced with the new education and training policy since 1994. According to MOE (2002), primary education curriculum is the responsibilities of the regions.The regions have a power and responsibilities to design the primary education curriculum

that reflects the regions' specific needs and culture. The MOE's power concerning curriculum for primary level is to provide professional support for the curriculum prepared by the regions themselves. Oromia, as one of the region in Ethiopia, takes the power and responsibility of primary education in the administrative area. A primary education in Oromia is provided through local language (Afan Oromo and Amharic language). This makes differ from other regions except Tigray that apply English language for second cycle primary schools partially or fully.

2.4.1.5. Educational Materials

Textbooks and other support materials should be disseminated to all level of primary schools for each pupil. The availability of textbooks and teachers quality has given the highest priority to increase efficiency and quality of primary education (Getachew, 1999). Among the most important factors on the determinant of academic achievement, teachers and textbooks variation affect educational outputs (Pscharopoulos and Woodhall, 1985). In addition, research indicates that one of the more cost effective determinants of learning achievement, particularly in the lower grades, is the availability of textbooks (Baum and Tolbert, 1985). Improving the quantity and quality of educational material such as disseminating textbooks to all primary students, and capacitating the school buildings, library, laboratory, science kit, pedagogical center, etc, have effect on the performance of students in school.

2.4.1.6. School Facilities/Equipments

School facilities and appropriate equipments can have the ability to strengthen the teaching-learning process. It is acceptable that schools with better facilities, equipment and materials achieve efficiently. Kemmerer (1994) stated that school facilities and equipments are used as one of the indicator of educational system efficiency. According to her, school facilities/equipments include school size, school location relative to population, classroom size, students per school, students per class, classrooms per school, classes per classroom, availability of social use of facilities, conditions of facilities, dissemination of equipment, and condition of equipment.

Generally, the space and equipment of school can affect the performance of learners in which the consequence affects the schools internal efficiency. Researchers argue that school facilities such as school space and equipment affect the quality and efficiency of education (Adane (1993), Habtamu (2002)).

2.4.1.7. Time Schedule and School Colander

The principal, teachers, and student's use of properly scheduled time and allocate material resources increase the output of the system (Kemmerer (1994), Burkhead (1967)). The principal time schedule has influence overall teaching learning/process. This time schedule should satisfy and match with the teachers, learners, and the social communities' living and work characteristics. If the time schedule affects the learners, they may dropout of school or achieving lower than expected. The effect may lead to repetition. In the other way, if the time schedule affects the teachers, they may quit the school in which the consequence leads to shortage of experienced teachers that affects the schools' internal efficiency. Lack of properly scheduling and utilizing time and material resources by teachers affect the output of the education system, because wastage in time and material resource causes wastage in educational outputs. Not only the principals and teachers but also the pupils should use their time and material resources to achieve optimally. This contributes to increase the internal efficiency of education system.

2.4.2. School External Factors

Those factors arising out of the school-teaching-learning system referred as external factors. These factors are mostly related to pupils out of school characteristics, family characters, and community characteristics and have a strong impact on student's educational performance. Mainly, attitude of students towards learning or school, their age, sex, preschool education, early marriage, and teenage pregnancy are out of school problems that cause school dropout or class repetition. The out of school problems related to family and community such as poverty, demographic characteristics, family disunity, language of instruction, parents education and low income source are some of the problems that cause school dropout and class repetition (Brimer and Pauli (1971), UNESCO (1972)).

2.4.2.1. Out of School Pupils' Characteristics

Out of school pupil related factors that cause school dropping out or repetition include preschool education, attitude towards learning, teenage pregnancy, early marriage, use drug or alcohol, health problem, fear of abduction or rape, self desire to make business, drug or alcohol use, fear of abduction or rape (Brimer and pauli, 1971). The attitude of pupil towards school/learning can affect the current performance of learners in which the consequence causes inefficiency of the

education system. Preschool educations in urban areas are currently come up expanding. Those children who do not get the chance of preschool education may lack achievement motivation to be competence in the system. The consequence may cause frustration that leads to school dropping out and class repetition. Therefore, out of school pupil related factors have capacity to damp down the internal efficiency of primary schools.

2.4.2.2. Family Related Factors

The problem of school dropouts in Ethiopia is not only getting children into schools, but also keeping them there in schools (Habtamu, 2002). Parents play crucial role in keeping young pupils in school (Woods, 1995). He further, suggested that the degree and nature of family support are also determined by parents' Scio-economic status, single parents' household, poor educations of parents, and family language, etc. They play a crucial role in keeping the pupil in school. They may also affect their pupils' learning achievement. The degree and nature of family support are determined by such factors such as unstable home life, socio-economic status, minority membership, disunity, language, and the need to take care of younger Siblings (Brimer and Pauli, 1971). Moreover, for poor families children are considered as a potential asset for their parents. For such parents difficult to understand the importance of continuity in attendance and the future benefit of their children from education.

In general, families' income level, educational standard, disunity, and primary language (home language) cause school dropping out and repetitions. These consequences may cases factors that contribute to inefficiency of primary schools.

2.4.2.3. Community Related Factors

School dropout and class repetition in education system can be facilitated by the characteristics of the community. The main characteristics of the community in education sector analysis are demographic (general and school related), macro-economic and budgetary context, socio-cultural analysis, and political and institutional situations. These characteristics are expected to have impact in education system. Among the community related factors, poverty is the strongest predictor of school dropping out and repetition in which the differences across racial, ethnic, geographic, and demographic factor cause school dropout and repetition (Brimer and Pauli (1971), Alexander et al. (1994)). In general,

the socio-economic, socio-cultural, and the political aspects of the institution are likely to have an impact on the education production or services of a country. Therefore, community related factors are stronger to damp down the internal efficiency of primary schools.

In summary, internal efficiency of education system is concerned with relationship between the inputs and outputs of the school system. In this area, authorities are focused on different economic techniques such as cost-quality studies, cost-effectiveness, and cost-benefit that have been used to analysis input-output relations (King et al., 2003). The first two techniques are used to analysis IE in any school systems. The third, cost-benefit analysis is mostly used to analysis external efficiency; because it used monitory terms for both inputs and outputs which is difficult to measure all school inputs in satisfactory manner.

For the analysis of IEPS, indicators should be also observed. The commonly used indicators of IE are CE, proportions of wastage, and flow rates (promotion, repetitions, and dropouts) in school system. If IE is observed at lower level, educational managers can improve by changing inputs mix, modifying the system's design, and by designing a radical change that leads to optimal outputs. In the process of transformation from school inputs to outputs, there are varieties of obstacles that impede the IEPS. Among the obstacles, school dropouts and class repetitions are aggravated by school internal factors and external factors. School internal factors are generated from inputs such as pupils' in school characteristics, teachers' characteristics, administrative characteristics, curriculum and teaching methods, educational materials, school facilities and equipments(Kemmerer, 1994). Whereas school external factors focus on this study are addressed to pupils out of school characteristics, family characteristics, and social community characteristics to reveal the socio-cultural and socio economic nature of the study area (Brimer and pauli, 1971). In general, if IE is to be improved through the reallocation of resources, the cost and effectiveness of alternative combinations of inputs should be assessed and controlled (Pscharopoulos and Woodhall, 1985).

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

The attempt of this study was aimed to determine the level of internal efficiency and to investigate the major factors that affect the primary education system. The study, therefore, is intended to achieve the objectives of this study using descriptive survey method. The sources of data were primary school dropouts (readmitted) and class repeater pupils, teachers, leaders, and documents that were related to flow rates. The instruments used to collect data were questionnaires for three groups of respondents. However, for grade four pupils' respondents structured interview was employed without changing the contents of pupils' questionnaires. The data analysis techniques used to this study were both descriptive and inferential statistics. The analysis parts of the study have two parts, the preliminary analysis and hypothesis testing. Conclusions and recommendations were made based on the combined results of the preliminary analysis and the hypotheses tested.

3.1. Research Methodology

In undertaking this study, descriptive survey method was employed to identify the problems that affect the internal efficiency of primary education in Adama city administration. Because, this method is the only means through which opinions, attitudes, suggestions for improvement of practice and instruction are studied in educational research (Koul (1984), Khan (2004)).Therefore, descriptive method is appropriate to investigate the factors in this study area.

3.2. Sources of Data

The sources of data in this study were two. The first one was primary source in which the researcher himself collected using questionnaires from three groups of respondents. The secondary source was statistical record documents in ACAEO. Before data collected, the researcher was reported to ACAEO for permission to collect data from the sample schools and their offices. The ACAEO managers were gave permission to the researcher to collect data from their office and the sample schools.

3.2.1. Primary Sources

The primary sources of data were school leaders, teachers, and students who were readmitted in schools (for school dropped out) and repeated classes once or more. The priority was given for those pupils who had both school dropped out and class repetitions' experience in ACA sample schools, because these pupils are expected to have more experience than the others.

3.2.2. Secondary Sources

Documents regarding pupil's enrollment, dropout, repetition, and promotion rates were gathered and critically assessed from the city administration education office and school documents. In addition, literature related to factors that affect the internal efficiency of primary education was reviewed.

3.3. Sampling

All school leaders, teachers, and pupils of primary schools in ACA were the population interest of the study. According to ACAEO statistical records in 2006/07 academic calendar, there were 11 governmental, 3 public, 6 religious and 13 Local Private Schools. The total primary schools in the ACA were 33 and hold 38503 pupils (17846 males (46.35%) and 20657 females (53.65%), and 973 (501certeficates (51.5%) and 472 diploma (48.55 %)) teachers in both GS and NGS.

For this study, all ACA primary schools were grouped into GS and NGS. The 11 governmental and the 3 public schools were grouped together and named as GS. This was because public schools in the area were supported by government bodies in providing teachers (including salary) and educational materials. The rest 6 religious and 13 local private schools were grouped together and named as NGS, because the schools were working with their own capital and recurrent budgets.

Among 33 listed primary schools 5 GS and 5 NGS a total of 10(30.3%) schools that contained a proportions of 25599 (66.5%) enrollments, 635 (65.3%) teachers, 2118 (78.9%) class repeaters, and 1594 (73%) school dropouts among the entire ACA statistical record were drawn using purposive sampling technique. This sampling technique was applied, because the study aimed to identify the problems from the schools who were more at risk of school dropouts and class

repetitions by school types. However, these pupils were not properly listed and organized in documents of sample schools. In the other hand, the time pressure and the criteria set to draw primary school teachers' respondents were not also corresponding with the list found at sample schools based on the criteria set. Therefore, quota sampling was applied to draw teachers' and pupils' respondents. In this situation, the technique applied was appropriate, because, it reduce expenditure, time and energy. However, simple random sampling technique was applied to draw sample units of both teachers' and pupils' respondents from the sample schools.

Regarding school leaders' respondents, availability sampling technique was applied to select principals, vice principals and unit leaders. In addition, simple random sampling technique was applied to drawn three department heads from each sample schools which were added to the members of school leaders group in both GS and NGS.

The criteria set to draw primary school teachers' respondents were holding at least three years teaching experience in the school type where he/she was selected as representative of the school. Teachers who comprise less than three years teaching experience and par timers were excluded. Because, the researcher thought of that these teachers' could have less experience in working with school dropout and class repeaters pupils and they miss to reveal the right problems. In the other hand, the criteria set to draw pupils' respondents were having school dropouts (readmitted) and class repetition experience in school types where he/she was selected as representative of the school in this study area.

Based on the mentioned sampling technique and criteria set by the researcher, 170(4.6% of dropouts and repetitions of sample schools) pupils, 130(20.5% sample schools) teachers, and 65 (10 principals, 10 vice principals, 20 unit leaders, 25 department heads) school leaders were drawn as respondents of this study. As table 3.31 shows, the proportion of GS and NGS respondents were not equal. This was because; the proportion of at risk pupils and their teachers in NGS of ACA were too small compared with GS. To make the study convenient, the maximum possible quota was given to draw NGS respondents. In general, this sampling process was done more seriously with the purpose to collect the right data that affect the IEPS and to investigate better results that help to reduce inefficiency of primary schools in the study area.

Table: 3.31. Sample Units of Respondents

No	Sample school	School type	Repeater	Quota for Repeaters	Dropout	Quota for Readmitted	Total sample units of Pupils	Total Teachers	Quota for	
									Teachers Sample Units	Leaders Sample Units
1	Adama No 2	GS	356	11	315	11	22	119	14	7
2	Adama No 3	GS	300	11	234	11	22	87	14	7
3	Adama No 4	GS	574	11	543	11	22	119	14	7
4	Dajen Sime	GS	457	11	232	11	22	70	14	7
5	Hohit-tibab	GS	147	11	80	11	22	15	14	7
6	Vera No 1	NGS	04	6	15	6	12	44	12	3
7	Nafiad No 1	NGS	69	6	65	6	12	62	12	7
8	Holi Engeles	NGS	26	6	25	6	12	82	12	6
9	Kidus Yoseph	NGS	60	6	15	6	12	22	12	7
10	Najashi No 1	NGS	125	6	70	6	12	21	12	7
	TOTAL		*2118*	*85*	*1594*	*85*	*170*	*641*	*130*	*65*

Source: Calculated from Adama city education office record for 2006 (1998) academic year.

The dependent variable in the study is internal efficiency of primary schools, where as the independent variables are the factors that affect the internal efficiency of primary education such as students characteristics, teachers characteristics, administrative characteristics, curriculum, teaching methods, materials, equipments, school facilities, family related , and community related problems.

3.4. Data Gathering Instruments and Procedures

The instruments to collect data were questionnaires for three groups of respondents, structure interview for grade 4 pupils, and documents from ACAEO records. Pupils' questionnaires contained 59 items. The first 15 items were related to pupils' and their parents' background that were expected as a source of potential problems. The rest of the questionnaires were addressed to primary schoolteachers and leaders. These questionnaires included 56 items. The first 10 items focused on the background and attitude of the workforce towards their profession. For these two

groups of respondents two open-ended questions were also added to collect more information that was not included in the instrument. The rest 44 items were categorized into school internal factor (22) items and school external factor (22) items. These items were rated by all respondents according to their opinions and influence of the problems on IEPS in their schools.

Using five point rating scale, each respondents was asked to rate each item where:

1= Strongly disagree 3= Partially agree 5= Strongly agree

2= Disagree 4= Agree

This rating scale used to compute weighted mean response value, which were employed to rank the items. Later, spearman's rank order correlation was employed to measure the rank associations that were assigned by respondents in different category. The significances of rank association were tested using t-statistic. In addition, t-statistic for the means was employed to test degree of influence between school internal factors and external factors on IEPS in the study area.

3.4.1. Data Gathering Instruments

In order to collect evidence or data for this study, close ended questionnaire and very limited number of open ended questions were employed as a means of gathering information from principals, vice principals, teachers and students who were at risk of dropout (readmitted) and repetition as they were relatively large in number. Assuming the age and writing skills of the pupils' respondents, they were assisted by homeroom teachers in reading the questionnaires. The research questionnaire was designed with the purpose that respondents were able to reply in writing. The questions were prepared in closed form to make the task of filling the questionnaires simple for the respondents. The questionnaires that address principals and teachers include two open-ended questions to gather information other than listed in the questionnaire and that expected a serious problem in affecting the internal efficiency of primary schools in this study area.

The questionnaires that were distributed to students were close ended and prepared in Amharic and Afan Oromo Language assuming that it would provide opportunities to establish adequate understanding between the researcher and the respondents. The questionnaires that were distributed to the principals and teachers were also prepared in Amharic and Afan Oromo

because these respondents have relatively a better command of these languages alternatively. In addition, the educational expertise in the area suggested that using local language to collect data from primary schools' respondents (pupils, teachers, and school leaders) were appropriate to worth from the data.

3.4.2. Pilot Test

The three groups of data gathering tools that are questionnaires for school leaders, for teachers, and for students need to be tested before it implemented. To test whether the questionnaires were able to meet the objectives of the study, a preliminary trial of the questionnaires were carried out in one of Adama primary Schools. For the pilot study, 20 students, 10 teachers, and 5 school leaders were given the questionnaires to collect feedback that can be used to make required modification before finally distributed to the sample population. As a result,

- School teachers and leaders respondents were filled and returned the questionnaire between 15 and 20 min. whereas pupils were taken from 20min-35min.
- Some of the workforce and all of the pupils need additional clarification to fill the questionnaires.

Later, teachers and school leaders were honestly suggested to add some factors such as demand of parents/pupils for repetitions' and the desire of pupils to involve in business. These two factors were involved in the questionnaires, but the factors that were given less consideration during the pilot study were not reduced from the questionnaires assuming that the problems would be serious in the other schools of the study area.

The questionnaires were also given to ACAEO academic managers and expertise to comment the factors, whether it would address the problems in the area or not. The responses were positive, and the valuable suggestions from these experts were only to translate all questionnaires to Amharic and Afan Oromo language in order to collect full information. The suggestion forced the researcher to translate school leaders and teachers' questionnaire from English to local suggested languages, while the pupils' questionnaire were prepared in local language before the suggestions.

3.5. Data *Analysis* and Interpretation Techniques

Since the data collection tools and careful tabulation of responses were insured, the analysis and interpretation of data should be followed. The data were organized and analyzed using respondent's response proportion (frequency, percentages), ranking, rank order correlation coefficients, and t-test. In order to estimate the internal efficiency of primary schools coefficient of efficiency, flow rates or reconstruction cohort were also employed.

Table 3.51: Statistical Instruments and Its Application

No	Statistical instruments	Applications
1	Percentage/frequency	To measure the proportion of the respondents selecting each response option that appears in each item of the questionnaire.
2	Rating scale	To express or rate the data related to opinions or judgmental regarding the factors that affect internal efficiency.
3	t-test for the means	To determine whether there is significance means difference between school internal and external factors at significance level of 0.05.
4	Spearman's rank order correlation coefficient and t-statistic for rank correlation.	To show the degree of rank associations between the ranks assigned by GS and NGS students, teachers, and principals for internal efficiency problems at significance level of 0.05.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This part of the thesis deals with the presentation and analysis of data obtained from the statistical documents of ACAEO and from the respondents of three groups drawn from the sample primary schools. These respondents' groups were pupils (school readmitted and class repetition), teachers and school leaders. The first parts of the chapter focus on document analysis. Here the level of internal efficiency and wastage were thoroughly analyzed. The other part of the chapter focus on primary data gathered through questionnaires from the three groups of respondents. Conclusions of the study were made based on the responses value obtained from the groups of respondents.

4.1. Level of Internal Efficiency in Primary Schools of ACA

In this part of the chapter, the current pupils' annual passing rate, failure rate, and withdrawal rate (dropouts before final examinations were administrated) were used to analyses cohorts. Mainly, there are three kinds of cohort analysis methods. These are true cohort, apparent cohort, and reconstruction cohort (UNESCO, 1972). Among the three, reconstruction method was used to analysis the data obtained from Adama city administrations education office. Because the data gathered was not appropriate for true cohort, and the presence of failure rate was not invited to use apparent cohort. The cohort analysis revealed the current efficiency level of schools by type and gender classification. The commonly used indicators of IE, such as educational wastage (input-out put relation) and coefficient of efficiency (the reciprocal of wastage) were determined. Before cohort analysis, the schools major inputs (enrollment, No of teachers, and No of classrooms) were presented for comparison of GS and NGS.

Table 4.11: Some Inputs in Schools

Inputs	Total schools			GS-schools			NGS-schools		
	Grade			Grade	Grade	Grade	Grade	Grade	Grade
Enrollment 2006/07	1-4	5-8	1-8	1-4	5-8	1-8	1-4	5-8	1-8
	18582	19921	38503	12583	15426	28009	5999	4495	10494
No of primary school teachers	501	472	973	321	302	623	180	170	350
No of classrooms	374	366	740	232	263	495	142	103	245
Pupils/teachers	37.1	42.2	39.6	39.2	51.1	45	33.3	26.4	30
Pupils/sections	49.7	45.4	52.03	54.2	58.7	56.6	42.3	43.6	42.8
Teachers/classrooms	1.34	1.29	1.3	1.4	1.2	1.3	1.3	1.7	1.4

Source: ACAEO Statistical office

Among the total enrollment 38503 in 2006/07, 28009 (72.7%) were involved in GS, whereas the rest 10494 (27.3%) were admitted in NGS. The ratio of pupil/teacher and pupils/section were better in NGS than GS.

4.1.1. Coefficient of Efficiency in ACA Primary School

The most common indicator used to assess the educational efficiency is coefficient of efficiency. Brimer and Pauli (1971) referred it as the reciprocal of input - output ratio. To determine the coefficient of efficiency in this study area, reconstruction cohort analysis was applied. This was appropriate, because, the ACAEO contained only two years statistical records, among the two years statistical record (200 4/05 and 2005 /06), the former one was not completed. However, the later contained full information regarding promotes, repeaters and dropouts.

Over viewing the inefficiency of primary education in this city administration, repetition (58%) rate was more serious problem than school dropouts (42%). This problem was severe for second cycle that contained 65.7% class repetitions and 34.3% school dropouts. Whereas, in the first cycle, school dropouts (56.8%) were greater than class repetitions (43.2%). This might be that in the first cycle, continuous assessment helped the pupils' school achievements. However, the presence of class repetitions at the level of basic education of this study area showed that automatic promotion was not fully applied as IIEP (1999) reported on the forum of repetition in Paris, in which Andre Magnen was the moderator of the forum.

The IEPS in this study area was determined by relating school inputs (total pupil years) to outputs (graduated multiplied by eight years). This relation was analysis using reconstruction cohort based on the annual efficiency indicators (passing rate, failure rate, and withdrawal rate). This analysis has limitation, because, the proportion of promotes and failures might be continued or abandoned from the schools. Furtherer more, this reconstruction cohort model was applied in which the cohort actual progress through a cycle of education depends on the validity of the assumptions on which these model is based on the reliability of the statistical data recorded in ACA for estimating the flow rates and pupils have only a chance of two years to repeat in one class.

The methodology used to apply this model was based on the fundamental concept that for pupils enrolled in a given grade at certain years, there could be only three eventualities as Brimer and Paluli (1971) suggested long ago in their work 'Wastage in Educations". These were some of the pupils would be promoted to the next higher grade in the next school year, others would be dropout of schools in the course of the year, and the remaining would be repeated in the same grade next school year. Based on the calculated annual flow rates, a cohort of 1000 pupils through the educational cycle may be simulated, with the following assumptions:

- no additional new entrants in any of the subsequent years during the life time of the cohort;
- at any given grade , constant rates of pass, failure, and withdrawal were applied;
- Flow rates for all grades remain unchanged as long as members of the cohort are still moving through the cycle.

Based on this assumptions the reconstruction cohort was analyzed to determine the level of IEPS in the study area. The IEPS in ACA was determined by relating school inputs (total pupils years) to outputs (graduated multiplied by eight years). This relation was analyzed using reconstruction cohort for overall primary school pupils, GS pupils, NGS pupils, male pupils and female pupils. The cohorts realized that educating females were more cost effective than educating males. This was because; in the same school the coefficient of efficiency of females (66.1%) was by far better than males (57.3%). In the other hand, the CE of NGS (74.1%) was by far better than GS (57%. Moreover, the overall pupils CE (61.5%) in ACA were less than the national level CE (65.6%) in the same academic year in 2005 /06. For further description, the reconstruction cohort analyses charts were placed in Annex A.

4.1.2. Summarized value of hypothetical Cohort Analysis

In the cohort, there were five categories. These were male, female, GS, NGS, and GS+NGS pupils' year. The categories revealed that females were better than males, and NGS pupils were better than GS pupils in current achievements of the school output were. Regarding overall pupils, class repetitions was highest at grade 7(22.9%), whereas, the highest school dropouts were found at grade 1(9.7%) level.

Table 4.12: Pupil Years per Grade Level

Grade	Pupil Years				
	Male	Female	GS-pupils	NGS-pupils	GS+NGS
1	1051	1048	1064	1024	1051
2	947	931	920	985	938
3	890	885	890	940	882
4	867	836	807	932	846
5	864	841	810	932	850
6	736	756	694	844	748
7	801	877	797	865	842
8	587	647	561	756	619
Total	6743	6721	6543	7278	6776
Top	483	555	466	674	521
ADSG	13.96	12.11	14.04	10.8	13.01
Input/output	1.75	1.51	1.76	1.35	1.63
CE	57.3%	61.5%	57%	74.1%	61.5%

Source: Calculated From ACAEO Statistical record for 2005/06(See Annex A)

TOP= Total output
ADSG- average duration of study for graduation
W- Wastage in primary education (input/output)
CE- Coefficient of efficiency

The hypothetical cohort analyses summary in table 4.12 shows that educational inefficiency was existed in both GS and NGS, but the problem was serious in GS than NGS. This problem could be continued unless a remedy has been taken place. In this study, educational wastage was grater in male pupils than females. Average durations of study for graduation of females (12 years) were less than males (13.5%). This was differing than the studies in the work of Tamiru (2006) in Jima zone and Setu (2004) in the Amhara region. Moreover, in ACA, wastage rate was greater in case of males than females and class repetition rate was more serious than school dropout rates. These result were differ from the studies in the work of Darge (1997), in which dropout rate was greater than repetition rates and males achievement were greater than female achievements.

4.1.3. Indicator of IE in ACA as Compared With the National

In the same base year (2005/06) primary schools flow rate, proportion of CE was greater at national level (65.6%) than at ACA (61.5%).

Table 4.13: Key Efficiency Indicators for the Year 2005/06

Indicators	ACA	National
Coefficient of efficiency	61.5%	65.6%
Input/output (wattage)	1.6	1.5
Pupil/teacher	39.2	62
Pupil/section	52.03	61
Teacher/classroom	1.3	1.6
GPI (Female/male)	1.16	0.84

Source: ACAEO (2006/07) Record & MOE (2006/07)

According to MOE (2006/07), the CE which was 49.2% in 2003/04 increased to 65.6% in the year 2004/05. But, in all aspects educational inputs proportions were by far better in ACA than national level. In cause of gender parity, in ACA (1.16) the ratio was greater than the perfect (1) ratio; whereas at national level (0.84), the ratio was less than the prefect (1) ratio; However, the two ratios were equal distance from the perfect index, but in opposite direction. In Adama, female (53.6%) enrollment was greater than males (46.5%) (MOE (2007), ACAEO (2007)).

4.2. Background of the Respondents

A total of 355 questionnaires (among which 30 were for interviewees) were distributed to pupils, teachers and leaders in five government and five non-governments sample primary schools. Among 355 distributed questionnaires 341 (96.1%) were filled, returned and used to analysis data. More specifically, questionnaires distribution and return proportions were presented in table 4.21, by school type and gender classification.

Table 4.21: Proportion of Filled and Returned Questionnaires

	GS- Respondents						NGS-Respondents						Both (GS+NGS)		
	Distributed		Returned		Return proportion		Distributed		Returned		Return proportion		Return proportion		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	T
	No	No	No	No	%	%	No	No	No	No	%	%	%	%	%
Pupils	55	55	55	50	100	90.9	20	30	19	28	95	93.3	98.7	91.8	95
Teachers	35	35	34	32	97.1	91.4	30	30	30	28	100	93.3	98.5	92.3	95.4
Leaders	20	15	20	15	100	100	26	4	26	4	100	100	100	100	100
Total	**110**	**105**	**109**	**97**	**99.1**	**92.4**	**76**	**64**	**75**	**60**	**98.7**	**93.6**	**98.9**	**92.9**	**96.1**

School leaders were filled and returned all the questionnaires (100%) received. The teachers and pupils take the second and third position in filling and returning the questionnaires. As shown in the table 4.21, Male respondents were returned the questionnaire better than females.

4.2.1. Pupils Background

In this study, the background of pupils' respondents were focused on sex, age, marital status, home language, instructional language, opportunity to preschool education, experience of school dropped out and class repetitions once or more in their past primary school life.

Table 4.22: Pupils background

No	Characteristics	GS-Response value				NGS-Response value				Total Response value			
		M	F	T	%	M	F	T	%	M	F	T	%
1	Sex: 1. Male	55		-	52.4	19	-	-	40.4	74	-	-	48.7
	2. Female	-	50		47.6	-	28	-	59.6	-	78	-	51.3
	Total			**105**	**100**	-	-	**47**	**100**	-	-	**152**	**100**
2	Age 1. < 7	-	-	-	-	-	-	-	-	-	-	-	-
	2. 7-10	15	8	23	22	-	2	2	4.3	15	10	25	16.5
	3. 11-14	18	25	43	40.9	10	18	28	59.6	28	43	71	46.7
	4. 15-18	21	17	38	36.2	9	8	17	36.2	30	25	55	36.2
	5. > 18	1	-	1	0.9	-	-	-	-	1	-	1	0.6
	Missed	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**
3	Marital Status 1. Single	55	50	105	100	19	28	47	100	74	78	152	100
	2. Engage	-	-	-	-	-	-	-	-	-	-	-	-
	3. Married	-	-	-	-	-	-	-	-	-	-	-	-
	4. Divorced	-	-	-	-	-	-	-	-	-	-	-	-
	5. Widowed/ widower	-	-	-	-	-	-	-	-	-	-	-	-
	Missed	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**
4	Home Language												
	1. Amharic	35	33	68	64.8	13	22	35	74.5	48	55	103	67.8
	2. Afan Oromo	14	13	27	25.7	4	4	8	17	18	17	35	23
	3. Others	6	4	10	9.5	2	2	4	8.5	8	6	14	9.2
	Missed	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**
5	Instructional language												
	1. Amharic	41	38	79	75.2	15	24	39	83	56	62	118	77.6
	2. Afan Oromo	14	12	26	24.8	4	4	8	17	18	16	34	22.4
	Missed	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**
6	Opportunity to Preschool education												
	1. Yes	45	39	84	80	18	23	41	87.2	63	62	125	82.2
	2. No	10	10	20	19.1		5	5	10.6	10	15	25	16.5
	Missed	-	1	1	0.9	1	-	1	2.2	1	1	2	1.3
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**

As shown in table 4.22, the proportion of male and female pupils' respondents were 48.7% and 51.3% respectively. The proportions of female pupils' respondents were slightly greater than males, whilst questionnaires were distributed in equal proportions. Regarding age categories, the highest proportion (46.7%) was obtained in the interval of 11-14 years. This age interval is the age of primary schools in second cycle. In the other category, 36.2% of pupils' respondents was covered the age interval of 15-18 years. This age group was mostly obtained at secondary school level. The availability of this age group might be because of late school admission, readmitted, and class repetitions once or more. The least age category proportion (16.5%) was found from 7-10 years. It was least, because in first cycle primary schools only grade 4 school readmitted and class repetitions students were taken as interviewees. Generally, about 99.3% of the pupils' respondents were in the age interval of 7-18 years. This might be the reason that all pupils' respondents were single regarding to marital status. Unlike other studies in primary education sub sectors; no one of the primary school students were identified with marriage experience in Adama city Administration.

In primary school, pupils should have used their mother tongue in the instructional media. But, for about 9.2% of the respondents were not had a chance of primary education in their mother tongue. The rest of the respondents were used home language in the medium of instruction. The mediums of instructions used in Adama City Administration were Amharic and Afan Oromo. The largest proportions of respondents were from Amharic instructional media (77.6%) and the rest were from Afan Oromo (22.4%) instructional media. The large variations in proportion were due to that the proportions of school dropped out and repetitions were by large greater in Amharic instructional media (79.6%) than Afan Oromo (20.4%). Pupils' background regarding preschool education was slightly better in NGS than GS respondents were. NGS respondents of about 87.2% had an opportunity to preschool education, whereas GS respondents who had preschool education were about 80%. In the other way, 19.1% of GS and 10.6% NGS respondents were not involved in preschool education. In general, 82.2% of the total pupils' respondents had opportunity to preschool education, whereas 16.5% proportion was not got the chance.

Pupils' respondents were drawn from school readmitted and class repetition, once or more in their primary school life. They were asked to locate all the grades where they were dropped out the school and repeated classes. Pupils had a chance to locate once or more. The first priority to be respondents were given to those who had experience of both school dropped out and class repetitions. As the problems of the study focus on school drooped out and class repetition; respondents experience round the problem might be increased the reliability of their response value. In both GS and NGS respondents, males (52.3%) had more experience in school dropped out and class repetitions than females (47.7%). Although automatic promotion was implemented in the first cycle primary schools, the number of pupils who had this experience in both type of schools were not small. The depicted proportions of school dropout and repetition experience of pupils' respondents were relevant to reveal the problems of internal efficiency and the cause of educational wastage at primary level in the study area.

Table 4.23: Pupils' Experience in School Dropout and Repetition

Pupils' Respondents	Pupils' School Drop out experience								Pupils' Class repetition experience								Total	%
	Grade (1-4)				Grade (5-8)				Grade (1-4)				Grade (5-8)					
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
GS																		
Male	5	2	4	12	6		7	12	5	1	4	15	3	1	12	1	90	54.5
Female	5	4	3	10	1	2	8	1	4	2	2	14	2	1	16	-	75	45.5
GS Total	**10**	**6**	**7**	**22**	**7**	**2**	**15**	**13**	**9**	**3**	**6**	**29**	**5**	**2**	**28**	**1**	**165**	**100**
GS Total (%)	6.1	3.6	4.2	13.3	4.2	1.2	9.1	7.9	5.5	1.8	3.6	17.6	3	1.2	17	0.6	100	-
NGS																		
Male	5	1		5	1		5	1	6	1		4	1		6	-	36	53.7
Female	3	-	-	2	-	-		-	6	-	1	5	3	2	9	-	31	46.3
NGS Total	**8**	**1**		**7**	**1**	**-**	**5**	**1**	**12**	**1**	**1**	**9**	**4**	**2**	**15**	**-**	**67**	**100**
NGS Total (%)	11.9	1.5		10.5	1.5	-	7.5	1.5	18	1.5	1.5	13.4	6	3	22	-	100	
(GS+NGS)																		
Male	10	3	4	17	7	-	12	13	11	2	4	19	4	1	18	1	116	52.3
Female	8	4	3	12	1	2	8	1	10	2	3	19	5	3	25	-	106	47.7
GS +NGS Total	18	7	7	29	8	2	20	4	21	4	7	38	9	4	43	1	222	100
Total GS +NGS (%)	**8.1**	**3.2**	**3.2**	**13.1**	**3.6**	**0.9**	**9**	**1.8**	**9.5**	**2**	**3.2**	**17.1**	**4**	**1.8**	**19**	**1**	**100**	

As table 4.23 shows, the total numbers of dropout and repetition experiences (222) were greater than the total number of pupils' respondents (152) because, pupils might have more than one school dropout and class repetition experiences. This table also concealed high levels and large dispersions within and between school types for school dropouts' class repetitions.

Table 4.24: Proportions of School Dropout and Class Repetitions Experience

	Dropouts experience			Repetition experience			Total
	Grade (1-4)	Grade (5-8)	Total (1-8)	Grade (1-4)	Grade (5-8)	Total (1-8)	
GS-Pupils respondent	27.2%	22.4%	49.6%	28.5%	21.8%	50.4%	100%
NGS-Pupils Respondent	23.9%	10.5%	33.4%	34.3	31.3%	65.6%	100%

Generally, in NGS, repetition was severe problem compared with school dropout, whereas in GS, the proportions difference between school dropout and class repetitions were not large as NGS respondents' proportions. As Loxley (1987) thought that repetitions were more wasteful than dropout, there were needs to reconsider the problem and work for practical solutions.

4.2.1.1. Family Background

Family background has effect on students' achievement in schools (Brimer and Pauli, 1972). Researchers attested that family background has effect on pupils' school achievement (Ibid). In this study, background of the pupils' family were focused on educational status, income level, occupation, unity/disunity of parents, living contact with child, and their involvement in school affairs and follow up in school activity. Family backgrounds of pupils were obtained from the response value of pupils themselves about their parents. In this part of the questionnaires, the data were obtained regarding parents education status, income level, occupation, the condition of family unity, living contact with pupils, and school participation to follow up the current performance of their children. Parents' education may have a significant impact on students' current performance during teaching-learning process.

According to Darge (1997), making parents literate helps to reduce dropouts. In the same way, educated parents may have a higher level of participation in school affairs and best aware about the performance of their children. Further, they may have a better capacity to assist and shape their children in academic conditions at home. In this study, 36.2% pupils' fathers and 28.9% of pupils' mothers were educated above primary level. The illiterates were about 18.4% fathers and 22.4% mothers. The number of illiterate mothers was slightly greater than illiterate fathers. Parents who had primary education were mothers (35.5%) and fathers (30.3%). NGS respondents had less illiterate parents (19.6%) than GS respondents (23.8%). These show that the problems were severe in GS than NGS respondents. Although the proportions of (28.3%) of the respondents were not aware of their families' income level, 30.9% of the respondents were found

where their parents' total monthly incomes were below 500 birr. Almost all of the pupils' respondents in this income category were found in GS.

Table 4.25: Family Background-Pupils Response Value

No	Item	GS-Response Value				NGS Response Value				Total			
		M	F	T	%	M	F	T	%	M	F	T	%
	(M-Mother, F-Father)	6	15	21	20	6	1	7	14.9	12	16	28	18.4
	Family Education												
	1. Illiterate: Father	11	14	25	23.8	5	4	9	19.6	16	18	34	22.4
	Mother	10	9	19	18.1	2	2	4	8.5	12	11	23	15.1
	2. Religious Education: Father	7	7	14	13.3	3	3	6	13	10	10	20	13.2
1	Mother	20	17	37	35.2	1	8	9	19.2	21	25	46	30.3
	3. Primary Education: Father	25	20	45	42.9	3	6	9	19.6	28	26	54	35.5
	Mother	19	9	28	26.7	10	17	27	57.4	29	26	55	36.2
	4. Above primary education: Father	12	9	21	20	8	15	22	47.8	20	24	44	28.9
	Mother	55	50	105	100	19	28	47	100	74	78	152	100
	Father	55	50	105	100	19	28	47	100	74	78	152	100
	Mother												
	Total												
	Family income level												
	1. < 100 Birr	8	13	21	20	1	-	1	2.1	9	13	22	14.5
	2. 100-500 Birr	13	10	23	21.9	2	-	2	4.3	15	10	25	16.4
2	3. 500-1000 Birr	11	8	18	18.1	2	2	4	8.5	13	10	23	15.1
	4. 1000-1500 Birr	5	3	8	7.6	2	5	7	14.9	7	8	15	9.9
	5. > 1500 Birr	5	2	7	6.7	6	11	17	36.2	11	13	24	15.8
	6. Did not know	13	11	27	25.7	6	10	16	34	19	24	43	28.3
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**
	Occupation												
	1. Public employee	3	2	5	4.8	-	-	-	-	3	2	5	3.3
	2. Government employee	13	8	21	20	2	10	12	25.5	15	18	33	21.7
3	3. Private employee	8	4	12	11.4	4	3	7	14.9	12	7	19	12.5
	4. Private business	22	22	44	41.9	13	15	28	59.6	35	37	72	47.4
	5. Daily laborer	9	14	23	21.9	-	-	-	-	9	14	23	15.1
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**
	Family unity												
4	1. Yes	38	30	68	64.8	14	21	35	74.5	52	51	103	67.8
	2. No	17	20	37	35.2	5	7	12	25.5	22	27	49	32.2
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**
	Pupils living contact with												
	1. Mother	7	4	11	10.5	2	2	4	8.5	9	6	15	9.9
	2. Father	3	2	5	4.8	2	1	3	6.4	5	3	8	5.3
5	3. Both	31	25	56	53.3	11	20	31	66	42	45	87	57.2
	4.Gradians	11	15	26	24.8	3	5	8	17	14	20	34	22.4
	5. Independently	3	4	7	6.7	1	-	1	2.1	4	4	8	5.2
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**
	Parents' school participation:												
	1. Always	7	10	17	16.2	2	3	5	10.6	9	13	22	14.5
6	2. Sometimes	30	25	55	52.4	11	13	24	51.1	41	38	79	52
	3. Not at all	18	15	33	31.4	6	12	18	38.3	24	27	51	33.5
	Total	**55**	**50**	**105**	**100**	**19**	**28**	**47**	**100**	**74**	**78**	**152**	**100**

About 25% of the respondents had a family in the income categories between 500-1500 birr. The rest 15.8% of respondents had parents who have above 1500 birr monthly income sources. The majority of the respondents were lived at absolute poverty level. Not only the income level, but also the family size affects the living situation. The family with large number of consumers might be affected each other from food service at home to educational materials used. This may strongly affects the current performance of primary schools children.

The income sources of families some times depend on area of occupation. Daily laborer parents were not that much expected to follow up the current education performance of their child. This group of parents might be used their Childs as a potential assets. The respondents in this study had 25% public and government employers, 59.9% private business holder and private employer and 15.1% daily labor parents. The respondents' combinations were good to identify the problems of IE at the study area. In addition to area of occupation, family disunity may have a serious problem to affect pupils' current performance. The respondents in this item gave their response value in which 32.2% of their families were broken. The children coming from broken family might be affected by integral components of problems that retard learning performance. These children may lack maternal help or may feel father less. Moreover, the child may lack follow up and material support to go through education system.

In general, the background of pupils who were at risk of school dropout and class repetitions and their parents' financial and cultural status were problematic. The problems reflected in this area were associated with absolute poverty, family disunity, uneducated parents, lack of living contact with parents, and lack of living participations in school affairs. These problems were finding in both GS and NGS respondents. However, the problems related to poverty were severe in GS than NGS pupils. In the other way, the NGS pupils' respondents were not properly followed up by their parents. This might be that parents of these pupils involved in rest less work or work at along distance from home. The problems those were serious particularly in rural area such as shortage of females' school participation and early marriage were not found in both GS and NGS pupils respondents' background. The efficiency and effectiveness of primary education in ACA were also assessed using the quality and quantity of academic school leaders and teachers. Next, the background and experience of academic personnel were critically assessed and depicted by table.

4.2.2. Background of School Academic Personnel

In this study, school academic personals include primary school teachers and leaders. School leaders withhold principals, vice principals, unit leaders and department heads. These groups of workforce were the respondents of the study in the sample schools. The response values of the respondents were depicted in table 4.26. As shown in table 4.26, there were 101(53.4%) government and 88(46.6%) non-government primly school academic workforce respondents. Among them 124(65.6%) were schoolteachers and 65 (34.4%) were school leaders in both types of sample schools. Gender categories of workforce respondents were held about 110(58.2%) males and 79(41.8%) females. The proportions of male respondents were greater than female respondents. This number variations were obtained; because, the proportions of female school leaders were small in both government and non-government sample schools. The variations were large in NGS than GS leaders.

Regarding age category of the respondents, the highest proportion was identified at age above 36 years (45%) and least in the interval of 31-35 years (14-8%). The academic workforce age interval from 21-25 years and from 26-30 years had covered appropriations of 21.2% and 19% respectively. The age proportions of respondents were denser at age greater than 36 years (45%) and at age less than 31 years (40.2%). These age categories were important to unfold opinions of diversified age group workforce to identify major factors that affects the internal efficiency of primary schools in this study area. The sample school academic workforce was also asked to indicate their marital status. According to the respondents' response value there were 53 (28%) single, 118 (62.4%) married, 13(6.9%) divorced, and 5 (2.7%) widowed/widower respondents. The proportions of single teachers were grater in NGS respondents (41.8%) than GS respondents (16.7%). This might be that the proportions of NGS teachers' respondents at the age interval from 21-25 years were greater (34.5%) than GS teachers' respondents (9.1%). Workforce respondents who lost their spouse (2.7%) were identified in government school respondents. Regarding academic workforce respondents' educational status, there were 68(36%) certificate and 113(59.8%) diploma graduates. Degree graduates were 4(2.1%) and identified only in NGS leader respondents. The rest 4(2.1%) had a qualification of 12+1. In the sample schools, the academic workforce had the appropriate qualification that MOE (1994) intended in the education and training policy, but the leaders.

Table 4.26: Background of primary school Leaders and Teachers Respondents

No	Item	GS- response value								NGS-response value								Over-all total response value			
		Teachers				School leaders				Teachers				School Leaders							
1	Sex	M	F	T	%	M	F	T	%	M	F	T	%	M	F	T	%	GS	NGS	Total	%
	M= Male	34			51.5	20			48.5	30			51.7	26			86.7	54	56	110	58.2
	F= Female		32		48.5		15		51.5		28		48.3		4		13.3	47	32	79	41.8
	Both			66	100			35	100			58	100			30	100	101	88	189	100
2	Age 1 < 21																				
	2. 21-25	3	3	6	9.1	2	1	3	8.6	14	6	20	34.5	8	3	11	36.7	9	31	40	21.2
	3. 26-30	2	2	4	6.1	3	2	5	14.3	10	8	18	31	8	1	9	30	9	27	36	19
	4. 31-35	4	7	11	16.7	3	3	6	17.1	2	6	8	13.8	3	-	3	10	17	11	28	14.8
	5. 36<	25	20	45	68.2	12	9	21	60	4	8	12	20.7	7	-	7	23.34	66	19	85	45
	Total	**34**	**32**	**66**	**100**	**20**	**15**	**35**	**100**	**30**	**28**	**58**	**100**	**26**	**4**	**30**	**100**	**101**	**88**	**189**	**100**
3	Marital status																				
	1. Single	6	5	11	16.7	3	3	6	17.1	14	10	24	41.4	10	2	12	40	17	36	53	28
	2. Married	25	21	46	69.7	15	11	26	74.3	14	16	30	51.7	14	2	16	53.3	72	46	118	62.4
	3. Divorced	3	2	5	7.6	1	-	2	5.7	2	2	4	6.9	2	-	2	6.7	7	6	13	6.9
	4. Widowed/widower	-	4	4	6.1	1	-	1	2.9	-	-	-	-	-	-	-	-	5	-	5	2.7
	Total	**34**	**32**	**66**	**100**	**20**	**15**	**35**	**100**	**30**	**28**	**58**	**100**	**26**	**4**	**30**	**100**	**101**	**88**	**189**	**100**
4	Educational status																				
	1. Certificate	14	13	27	40.9	5	3	8	22.9	10	16	26	44.8	6	1	7	23.3	35	33	68	36
	2. Diploma	18	19	37	56.1	15	12	27	77.1	18	12	30	51.7	16	3	19	63.3	64	49	113	59.8
	3. Degree	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4	13.3	-	4	4	2.1
	4. Others	2	-	2	3	-	-	-	-	2	-	2	3.5	-	-	-	-	2	2	4	2.1
	Total	**34**	**32**	**66**	**100**	**20**	**35**	**35**	**100**	**30**	**28**	**58**	**100**	**26**	**4**	**30**	**100**	**101**	**88**	**189**	**100**
5	Field of study																				
	1. Teaching	28	32	60	90.9	15	15	30	85.7	26	28	54	93. 0	23	4	27	90	90	81	171	90.5
	2. School/ administration	4	-	4	6.1	4	-	4	11.4	2	-	2	3.5	1	-	1	3.3	8	3	11	5.8
	3. Others	2	-	2	3	1	-	1	2.9	2	-	2	3.5	2	-	2	6.7	3	4	7	3.7
	Total	**34**	**32**	**66**	**100**	**20**	**15**	**35**	**100**	**30**	**28**	**58**	**100**	**26**	**4**	**30**	**100**	**101**	**88**	**189**	**100**

Teachers' qualification has a strong impact on efficiency and effectiveness of schools (Baum and Tolbert, 1985). To compare the workforce qualification in GS and NGS respondents, the identified response value proportions were depicted below in table 4.27.

Table 4.27: Workforce Proportion by Qualification

	GS		NGS		Overall Total
	Teachers	Leaders	Teachers	Leaders	
Certificate	27 (40.9%)	8 (22.9%)	26 (44.8%)	7 (23.3%)	68 (36%)
Diploma	37 (56.1%)	27 (77.16%)	30 (51.7%)	19 (63.3%)	113 (59.8%)
Degree	-	-	-	4 (13.3%)	4 (2.1%)
Others (12+1)	2 (3.6)	-	2(3.5%)	-	4 (2.1%)
Total	**66 (100%)**	**35(100%)**	**58(100%)**	**30 (100%)**	**189 (100%)**

The proportions of certificate graduates were greater in NGS (44.8%) than GS teachers' respondents (40.9%). Whereas the proportion of GS diploma holder teachers(56.1%) were greater than the proportions of NGS teachers (51.7%) respondents. In the other way school leaders who had diploma were greater in GS respondents (77.1%), than NGS respondents (63.3%) but, GS respondents had no degree holders whereas NGS respondents had 13.3% of its leader proportions.

The academic workforce respondents' backgrounds in area of study were depicted in table 4.26 in item 5. For about 171 (90.5%) were trained for teaching purpose, 11 (5.8%) were trained for school administration, and the rest 7 (3.7%) were not had training to teach in schools or to administer schools.

Table 4.28: Academic Workforce Proportion in area of Study

Field of area	GS- Response value		NGS- Response value		Overall Total
	Teachers	Leaders	Teachers	Leaders	
Teaching	60(90.9%)	30 (85.7%)	54 (93.0%)	27 (90%)	171(90.5%)
School administration	4 (6.1%)	4 (11.4%)	2 (3.5%)	1(3.3%)	11 (5.8%)
Others	2 (3%)	1 (2.9%)	2 (3.5%)	2 (6.7%)	7 (3.7%)
Missed	-	-	-	-	-
Total	**66 (100%)**	**35(100%)**	**58(100%)**	**30 (100%)**	**189 (100%)**

As clearly shown in table 4.28, there were schoolteachers in both GS and NGS respondents who had trained for school administrations whereas some of GS and most of NGS principals were not trained for school administrator. Schoolteachers' respondents in both GS and NGS who were trained for teaching purpose covered the proportions of 90.9% and 93.0% respectively. About 7 (3.7%) of the overall academic workforce respondents were neither trained for teaching purpose nor for school administration. This problem was found in both GS (5.5%) and NGS (6.7%) workforce respondents.

The academic workforce respondents were also leveled in school cycle. The respondents were asked where they taught just when the questionnaires were filled. Most of the respondents (47.6%) were taught at second cycle primary level. At about 27.5% were involved in primary first cycle. The proportions of 18.5% were taught in both cycles. The rest 6.4% of the respondents were not taught at all. This group was obtained in school leaders' category. Almost all principals and some of vice principals in both types of sample schools were not taught at all. The combinations of these academic school leaders and teachers were appropriate to unfold the problems that affect IEPS in ACA. Moreover, these respondents were expected to rate the problems in the questionnaire feelingly. Experience in teaching profession helps to increase learning outputs. These groups of respondents were also assessed in terms of teaching and leading experiences. The proportions of teaching experience of leaders and teachers were depicted below in table 4.210.

Table 4.29: Background of Primary school Leaders and Teachers Respondents

No	Item	GS- response value								NGS-response value								Over-all total response value			
		GS- response value				NGS-response value				GS- response value				NGS-response value							
		M	F	T	%	M	F	T	%	M	F	T	%	M	F	T	%	GS	NGS	Total	%
6	Teaching experience of primary school in																				
	1. Fist cycle	9	13	22	33.3	-	-	-	-	12	15	27	46.5	3	-	3	10	22	30	52	27.5
	2. Second cycle	20	13	33	50	10	11	21	60	12	7	19	32.8	16	1	17	56.7	54	36	90	47.6
	3. In both cycle	5	6	11	16.7	5	3	8	22.9	6	6	12	20.7	1	3	4	13.3	19	16	35	18.5
	4. Not at all	-	-	-		5	1	6	17.1	-	-	-	-	6	-	6	20	6	6	12	6.4
	Total	**34**	**32**	**66**	**100**	**20**	**15**	**35**	**100**	**30**	**28**	**58**	**100**	**26**	**4**	**30**	**100**	**101**	**88**	**189**	**100**
7	Teaching experience in year interval																				
	1. < 5	5	4	9	13.6	5	2	7	20	12	14	26	44.8	12	3	15	50	16	41	57	30.2
	2. 6-10	2	-	2	3	2	2	4	11.4	16	6	22	37.9	3	0	3	10	6	25	31	16.4
	3. 11-15	2	5	7	10.6	2	4	6	17.1	-	4	4	6.9	2	1	3	10	13	7	20	10.6
	4. 16-20	3	5	8	12.1	1	1	2	5.7	2	-	2	3.5	2	-	2	6.7	10	4	14	7.4
	5. 20<	22	17	39	59.1	10	6	16	45.7	-	4	4	6.9	7	-	7	23.3	55	11	66	34.9
	6. Missed	-	1	1	1.5	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	0.5
	Total	**34**	**32**	**66**	**100**	**20**	**15**	**35**	**100**	**30**	**28**	**58**	**100**	**26**	**4**	**30**	**100**	**101**	**88**	**189**	**100**
8	Year of experience in Current leaders position																				
	1. <5	-	-	-	-	11	'15	26	74.3	-	-	-	-	18	3	21	70	26	21	47	72.3
	2. 6-10				-	4	-	4	11.4	-	-	-	-	8	1	9	30	4	9	13	20
	3. 11-15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4. 16-20	-	-	-	-	5	-	5	14.3	-	-	-	--	-	-	-	-	5	-	5	7.7
	5. 21<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	**20**	**15**	**35**	**100**	-	-	-	-	**26**	**4**	**30**	**100**	**35**	**30**	**65**	**100**

Table 4.210: Academic Workforce Teaching Experience in Primary Schools

Teaching experience in years	GS		NGS		Overall Total
	Teachers	Leaders	Teachers	Leaders	
1. < 5	9 (13.6%)	7 (20%)	26 (44.8%)	15 (50%)	57 (30.2%)
2. 6-10	2 (3%)	4 (11.4%)	22 (37.9%)	3 (10%)	31 (16.4%)
3. 11-15	7 (10.6%)	6 (17.1%)	4 (6.9%)	3 (10%)	20(10.6%)
4. 16-20	8 (12.1%)	2 (5.7%)	2 (3.5%)	2 (6.7%)	14(7.4%)
5. 20<	39 (59.1%)	16(45.7%)	4 (6.9%)	7 (23.3%)	66 (34.9%)
Missed	1 (1.5%)	-	-	-	1 (0.5%)
Total	**66 (100%)**	**35(100%)**	**58(100%)**	**30 (100%)**	**189 (100%)**

As shown in table 4.210, the highest proportion of GS teachers' respondents (59.1%) were categorized in teaching experience of above 20 years, whereas the highest proportions of NGS teachers' respondents (44.8%) were depicted below 5 years teaching experiences. Leaders teaching experience were also greater in GS respondents than NGS respondents were. The highest proportions of leaders' respondents (45.7%) in GS were obtained at the category of teaching experience above 20 years, whereas in NGS, almost 50% of leaders' respondent had a teaching experience below 5 years. The overall teaching experience was highest at the category of above 20 years (34.9%). The next was below 5 years experience that had a proportion of 30.2%. The least teaching experience was covered 7.4% proportion in the interval 16-20 years.

School leaders' leading experience proportion was highest (72.3%) at the category below 5 years experience and least (7.7%) in the experience of from 16-20 years. The highest proportion of leaders' leading experience was not exceeding five years. This might be that unit leaders and department heads were elected or assigned for one or two years. Generally, these school leaders and teachers' characteristics and experiences were appropriate to unfold the problems that affect the IEPS in the study area.

Table 4.211: Attitude and Interest of Primary School Leaders and Teachers

No	Item	GS- response value								NGS-response value							
	The attitude of respondents towards teaching/education profession	Teachers				Leaders				Teachers				Leaders			
		M	F	T	%	M	F	T	%	M	F	T	%	M	F	T	%
9	1. Very high	14	12	26	39.4	5	7	12	34.3	2	10	12	20.7	10	-	10	33.3
	2. High	11	7	18	27.3	5	3	8	22.9	12	4	16	27.6	5	1	6	20
	3. Medium	5	8	13	19.7	5	3	8	22.9	10	10	20	34.5	5	2	7	23.3
	4. Low	1	3	4	6.1	3	2	5	14.3	4	4	8	13.8	4	-	4	13.3
	5. Very low	3	2	5	7.5	-	-	-	5.6	2	-	2	3.4	2	1	3	10
	Missed	-	-	-	-	2	-	2	-	-	-	-	-	-	-	-	-
	Total	**34**	**32**	**66**	**100**	**20**	**15**	**35**	**100**	**30**	**28**	**58**	**100**	**26**	**4**	**30**	**100**
	The interest to long in teaching/education profession																
10	1. Very high	12	8	20	30.3	3	5	8	22.9	-	4	4	6.9	6	1	7	23.3
	2. High	9	10	19	28.8	5	3	8	22.9	4	4	8	13.8	5	-	5	16.7
	3. Medium	1	6	7	10.6	6	3	9	25.7	12	4	16	27.6	5	1	6	20
	4. Low	5	5	10	15.2	4	2	6	17.1	8	16	24	41.4	5	-	5	16.7
	5. Very low	5	3	8	12	2	1	3	8.6	6	-	6	10.3	5	2	7	23.3
	Missed	2	-	-	3	-	1	1	2.9	-	-	-	-	-	-	-	-
	Total	**34**	**32**	**66**	**100**	**20**	**15**	**35**	**100**	**30**	**28**	**58**	**100**	**20**	**4**	**30**	**100**

The attitude of academic school leaders and teachers towards their professions were gathered and assessed in the study. As shown in table 4.211, the proportions of the workforce that had positive and negative attitude as well as those workforce respondents' proportions that had no interest to long in teaching profession were identified. As a result, 13.5% and 17.3% of GS and NGS teachers respectively had a negative attitude towards teaching/education professions. In the other category, GS and NGS leaders with negative attitude towards their profession were taken the proportions of 19.6% and 23.3% respectively. In both cases, the proportions were greater in NGS workforce respondents than GS respondents were. Regarding interest of the workforce to long in teaching/education profession, the proportions were depicted in table 4.211. Again, NGS led the GS in withholding disinterested school leaders and teachers to long in the profession. Amazingly, 51.7% of teachers and 40% of leaders in NGS respondents were identified with no interest to long in teaching/education profession. Whereas, teachers and leaders in GS who had negative interest to long in the profession were covered proportions of 15.3% and 25.7% respectively.

Unlike NGS respondents, the proportions of GS workforce that have negative interest to long in the profession were greater for leaders than teachers. Those respondents whose professional attitude and interest range from moderate to very low were unfolded their feeling verbally in the open-ended questionnaires. The observed open-ended data were revealed what the workforce lacks and what they needs.

The major reasons of developing negative attitude towards the profession and disinterest to long in the professions were lack of recognition from the stakeholders and the social communities, the cumbersome work or the nature of routine work, lack of opportunity to growth up in work conditions, lack of appropriate salary in compression with other horizontal sectors and future effects of personal life. These and other related factors were indicated as major problems that were developed a negative interest and attitudes towards education professions. Some of the reasons were related to motivator factors (recognition, growth, works it self) and others are categorized under hygiene factors (Salary…). These problems should be reduced to improve primary education as Lockheed (1990) suggested particularly for developing countries.

4.3. Major Factors of Internal Efficiency in the Study Area

This study was intended to identify the major factors (problems) that affect the internal efficiency in primary schools of Adama city Administration. To reveal the problems, attempt was made to school inputs and processes towards school outputs, because the efficiency and effectiveness of school output is mostly depend on quality of inputs and processes (Lockheed, 1990). In addition, pupils' family characteristics, socio-cultural and socio-economic conditions of the community, and pupils out of school characteristics may generate problems that affect the internal efficiency of primary schools. Therefore, for this study, the factors that were expected as internal efficiency problems were categorized into school internal factors and school external factors. School internal factors were factors related to schools teaching learning processes and managed by school communities, whereas school external factors were factors that were related to pupils out of school characteristics, family characteristics, and social community characteristics. Internal factors include school inputs and the processes to allocate and utilize resources. In the other way, external factors mostly focused on the factors that were directly or indirectly impeded the internal efficiency of schools and accelerate wastages in education.

Table 4.31: The Ranks for Internal Factors as Rated by Pupils, Teachers and Leaders

No	Internal factors	Weighted Mean Response Value											
		Pupils				Teachers				School leaders			
		S_1	R_{s1}	S_2	R_{s2}	T_1	R_{T1}	T_2	R_{T2}	L_1	R_{L1}	L_2	R_{L2}
1	Truancy	2.94	10	2.64	13	3.12	11	2.93	11	3.29	6	2.97	13.5
2	Frequent absenteeism/tardiness	2.73	16	2.55	18.5	3.12	11	2.83	13.5	3.06	13	2.90	17.5
3	Hatred of one or more teachers	2.79	14	2.98	6.5	2.88	19.5	2.41	21	2.80	21.5	2.70	21
4	Suspension	2.93	11	3.17	3	3.08	15.5	3.28	3	3.0	16	3.03	11
5	Disciplinary infraction	2.86	13	2.85	9.5	2.99	17	2.55	19	3.31	5	3.07	10
6	Failure to study hard	3.12	6	2.60	16	3.33	2	3.21	5.5	3.60	3	3.67	2
7	Lack of self confidence	2.91	12	2.42	21	3.09	13	3.0	8.5	3.37	4	3.27	7
8	The demand for repetition	3.39	2	3.19	2	3.08	15.5	3.14	7	3.20	7.5	2.93	15.5
9	Inappropriate examination	3.07	7	2.98	6.5	2.70	21	2.79	15.5	2.97	17.5	2.80	19.5
10	Shortage of qualified teachers	2.71	17.5	2.85	9.5	3.09	14	3.28	3	3.11	11.5	2.93	15.5
11	Lack of teacher's encouragement and support	3.16	4	2.62	14	2.68	22	2.79	15.5	3.20	7.5	2.90	17.5
12	Un attractive lesson	3.14	5	2.89	8	2.88	19.5	2.83	13.5	3.03	14.5	3.0	12
13	Lack of guidance and counseling services	3.44	1	2.55	18.5	3.24	6	3.52	1	3.69	2	3.43	4.5
14	Failure to allocate resources	2.71	17.5	2.57	17	3.12	11	2.86	12	3.14	9.5	3.23	8
15	Inappropriate education calendar and time schedule	2.56	21.5	2.34	22	2.96	18	2.97	10	2.83	20	2.97	13.5
16	Inflexible promotion policy	2.60	20	2.45	20	3.15	9	2.69	17.5	2.91	19	2.57	22
17	Lack of school facility	2.56	21.5	2.75	12	3.17	8	2.48	20	2.97	17.5	2.80	19.5
18	Irrelevant curriculum	2.98	9	3.09	4	3.30	4	3.28	3	3.11	11.5	3.70	1
19	Shortage of textbooks and learning materials	3.01	8	3.28	1	3.42	1	3.21	5.5	3.77	1	3.60	3
20	Inappropriate medium of instruction	2.78	15	2.81	11	3.30	4	2.10	22	2.80	21.5	3.10	9
21	Inappropriate teaching method	2.64	19	2.62	14.5	3.30	4	3.0	8.5	3.14	9.5	3.30	6
22	Overcrowded classroom	3.35	3	3.06	5	3.20	7	2.69	17.5	3.03	14.5	3.43	4.5

T_1- GS teachers *S_1- GS students* *L_1- GS Leaders*

R_{T1}- Ranks assigned by T_1 *R_{S1}- Ranks assigned by S_1* *L_2- NGS Leaders*

T_2- NGS teachers *S_2- NGS students* *R_{L1}- Ranks assigned by L_1*

R_{T2}- Ranks assigned by T_2 *R_{S2}- Rank assigned by S_2* *R_{L2}- Ranks assigned by L_2*

The expected factors were rated (ranked) by three respondent groups drawn from GS and NGS samples. These respondents' groups were primary school pupils (Grade 4-8) who had school dropout (readmitted) and repetition experiences, teachers, and leaders. The potential problems were identified using the rank given by respondents above the mean score (x= 3) value and the problems in the highest rank positions were taken as a major problems of internal efficiency in the study area.

4.3.1. Ranking School Internal Factors

The causal factors related to schools internal teaching learning processes and managed by the school community were taken as internal factors. These problems were generated from school inputs and processes towards school outputs.

The quality and quantity of inputs and process had effects to attain optimal outputs. Moreover, items generated from pupils in school characteristics, teachers' characteristics, administrative characteristics, curriculum implementation processes, teaching methods, school facilities, spacing, and equipments were taken as internal factors. In this study, therefore; major school internal factors were identified based on the respondents' rating on each items selected from school inputs and processes. The weighted mean response value of each items were also ranked. The highest rank positions were taken as the potential problems of internal efficiency.

4.3.1.1. Pupils' Respondents

There were 105 GS and 47 NGS pupils' respondents. These respondents, in both GS and NGS were rated each items. The weighted mean response value of each items were ranked. The highest rank position was given to the highest potential problem and the least rank to the weakest problem relative to each other. As result GS pupils respondents were ranked the items and the rank from the first to eight were taken as major problems. This rank interval was chosen, because, in GS pupils' respondents the ninth rank's weighted mean value was below the mean of response value (3). Hence, the potential problems according to GS pupils' respondents were identified and depicted as follows. These were Lack of guidance and counseling services, demand for repetitions, overcrowded classroom, lack of teachers' encouragement and support, unattractive lesson, failure to study hard, inappropriate examination, and shortage of textbooks and learning materials. The problems identified were in line with the literature reviewed. In the other way, the

NGS pupils' respondents were also ranked the schools internal problems. According to them, the following potential problems were identified. These were shortage of textbooks and learning materials, demand for repetitions, suspension, irrelevant curriculum, overcrowded classrooms, inappropriate examinations, hatred of one or more teachers, and unattractive lesson. These were in line with the literature. However, demand for repetitions was reported in Paris at IIEP "forum on repetitions" from June 21 to 9 July 1999. Alexander (1994) related this problem with irrelevancy of curriculum.

4.3.1.2. Teachers' Respondents

There were 66 GS and 58 NGS teachers' respondents in the study area. Both GS and NGS teachers' respondents rated the schools internal expected problems of each item. The ranks were given from the highest potential problems to the lowest relative to each other. The highest weighted mean response values were taken as the highest potential problem. As GS pupils who had hot experience on school dropouts and class repetitions rated eight items as major problems, it was proportional to take the top eight ranked items as potential problems. For this reason it was taken the top eight rank items as major problems. According to GS teachers' respondents, the potential problems that influence on IEPS in decreasing degree of influencing order were shortage of textbooks and learning materials, failure to study hard, irrelevant curriculum, inappropriate medium of instruction, in appropriate teaching method, lack of guidance and counseling services, overcrowded classrooms, and lack of school facilities. Whereas, NGS teacher' respondents were rated and ranked the problems as follows. These problems were lack of guidance and counseling services, irrelevant curriculum, shortage of qualified teachers' suspensions, shortage of textbooks and learning materials, failure to study hard, demand for repetitions and inappropriate teaching methods. The problems identified were found in the literature review discussed in chapter two.

4.3.1.3. School Leaders' Respondents

There were 35 GS and 30 NGS school leaders' respondents. As pupils and teachers' respondents, school leaders were also rated each items. As usual, the ranks were also given according the weighted mean response value of the items. The strong potential problems according to GS leaders were shortage of text books and learning materials lack of guidance and counseling

services, failure to study hard, lack of self confidence, disciplinary infraction, truancy, Inappropriate medium of instruction and demand for repetitions. Whereas NGS leaders were given the highest rank to the following potential problems, these were irrelevant curriculum, failure to study hard, shortages of textbooks and learning materials, overcrowded classrooms, lack of guidance and counseling services, inappropriate teaching methods lack of self-confidence and failure to allocate resources. The problems were in line with the literature review.

4.3.2. Ranking School External Factors

Those factors generated out of schools teaching-learning systems and cannot be controlled by the schools community was taken as schools external factors. For this study, the out of school factors included were pupils' out of school characteristics, family characteristics, and social community characteristics. All selected school external factors' items were related to pupils out of school characteristics, family background and problems related to the social community. Respondents were rated each item. The weighted mean response values were determined for each item based on response value obtained from three respondent groups. Items were ranked based on the weighted mean value and the highest rank was given to the highest potential problems.

Table 4.32: The Ranks for School External Factors as Rated by Pupils, Teachers, l Leaders

No	External factors	Mean Response Value											
		Pupils				Teachers				School leaders			
		S_1	R_{S1}	S_2	R_{S2}	T_1	R_{T1}	T_2	T_{R2}	L_1	R_{L1}	L_2	R_{L2}
1	Lack of preschool education	2.93	14	2.77	12	3.38	6	2.90	13	3.54	8	2.93	19.5
2	Attitude of pupil towards school	3.26	8	2.87	10	3.27	10.5	2.79	15.5	3.14	14.5	3.07	16
3	The desire of pupil to involve in business	3.15	10	2.98	4	3.59	2.5	3.34	7	3.66	4.5	3.67	6.5
4	Health problem/sickness	3.33	6	2.96	5	3.05	16	3.0	11	3.14	14.5	3.4	11
5	Early marriage	2.34	21	2.45	21	3.14	15	2.21	22	2.91	18	2.93	19.5
6	Teenage pregnancy	2.31	22	2.53	18	2.78	20	2.45	19	3.11	16	2.90	22
7	Malnutrition	3.12	11	2.70	13	3.33	8	2.83	14	3.43	9.5	3.07	16
8	Low income sources of families	3.50	1	3.15	2	3.59	2.5	3.41	5	3.83	2	3.97	1
9	Mobility of families from one school attendance area to another	3.40	3.5	3.30	1	3.29	9	3.31	8	3.60	6	3.90	3
10	Take care of siblings	3.20	9	2.94	6.5	3.36	7	2.97	12	3.26	12	3.53	9
11	Parent illness/death	3.40	3.5	2.91	8	3.15	14	3.67	2	3.66	4.5	3.67	6.5
12	Poor education of parents	3.43	2	2.89	9	3.39	5	3.79	1	3.83	2	3.90	2.5
13	Inadequate housing	3.35	5	2.49	19.5	3.47	4	3.28	9	3.83	2	3.23	13.5
14	Denigration of academic value	2.92	15	2.64	16	3.27	10.5	3.38	6	3.43	9.5	3.67	6.5
15	Influence of unemployed high school graduate siblings	3.31	7	2.94	6.5	3.94	1	3.48	4	3.57	7	3.67	6.5
16	Fear of abduction or rape	2.39	20	2.62	17	2.89	18	2.66	17	3.09	17	3.23	13.5
17	Fear of harassment	2.78	17	2.68	14	2.76	21	2.31	21	2.71	20	3.30	12
18	Family disunity	3.08	12	2.83	11	3.24	12	3.24	10	3.37	11	3.70	4
19	Lack of home language in the medium of instruction	2.67	18	2.30	22	3.0	17	2.62	18	2.63	21	2.93	19.5
20	Differentiation of gender	2.85	16	2.66	15	2.80	19	2.79	15.5	2.77	19	3.07	16
21	The demand for high child labor	3.06	13	3.13	3	3.17	13	3.55	3	3.20	13	3.50	10
22	Ethnic difference	2.47	19	2.49	19.5	2.38	22	2.41	20	2.17	22	2.93	19.5

T_1- GS teachers *S_1- GS students* *L_1- GS Leaders*
R_{T1}- Ranks assigned by T_1 *R_{S1}- Ranks assigned by S_1* *L_2- NGS Leaders*
T_2- NGS teachers *S_2- NGS students* *R_{L1}- Ranks assigned by L_1*
R_{T2}- Ranks assigned by T_2 *R_{S2}- Rank assigned by S_2* *R_{L2}- Ranks assigned by L_2*

4.3.2.1. Pupils' Respondents

This group was asked to rate each item to identify the degree of agreement or disagreement on the problems that affect IEPS in ACA. Based on the weighted mean response value of each item, the highest ranks were given to the highest weighted mean response value. Therefore, the top potential problems selected based on its rank order given by pupils' respondents in NGS were mobility's of families from one school attendance area to another, low income sources of families, the demand for high child labor, the desire of pupils to involve in business, health problems/sickness, influence of unemployed high school graduate siblings, take care of siblings, and parents illness/death.

In the other side, GS pupils' respondents were rated the items and obtained the following rank order positions, as the highest potential problems in highest rank order. These were low income sources of families, poor education of parents, mobility's of families from one school attendance area to another, parent's illness/death, inadequate housing, health problems/sickness, influence of unemployed high school siblings, and attitude of pupils towards school. These problems were in line with the literature review. Moreover, the problems that Brimer and Pauli (1971) identified long-ago were still problems in this study area as pupils' respondents rated the items of school external factors.

4.3.2.2. Teachers' Respondents

According to GS teachers' respondents, primary schools' internal efficiency external problems were ranked as follow. These were influence of unemployed high school graduate siblings, the desire of pupils to involve in business, low income source of families, inadequate housing, poor educations of parents, lack of preschool education, take care of siblings, and malnutrition.

In the other hand, NGS teachers' respondents were ranked the external factors and the highest rank items in its rank order were poor educations of parents, parents illness/death, the demand for high child labor, influence of unemployed high school graduate siblings, low income sources of families, denigrations of academic value, the desire of pupils to involve in business, and mobility of families from one school attendance area to another. These problems were in line with the literature review.

4.3.3.3. School Leaders' Respondents

The potential problems of external factors that affect internal efficiency of primary schools as rated by school leaders were depicted below in its rank order from top to bottom. According to the GS leaders, the problems were low income sources of families, poor education of parents, inadequate housing, the desire of pupils to involve in business, parents illness/death, mobility's of families from one school attendance area to another, influence of unemployed high school graduate siblings, and lack of preschool education.

In the other side, NGS leaders' respondents were ranked the school external factors as follows. These were low income source of families, mobility of families from one school attendance area to another, poor education of parents, family disunity, denigration of academic value, parents illness/death, the desire of pupils to involve in business, and influence of unemployed high school graduate siblings. The identified problems were in line with the literature review.

4.4 Overall respondents' Agreements

In this part of the study, the major potential problems were revealed based on the overall respondents' common agreements. Their common agreements on potential problems were determined using the average ranks that were assigned by pupils, teachers, and school leaders.

4.4.1 Overall Respondents Agreement: For School Internal Factors

Three respondent groups rated each items and rank were given for internal factors. The average of the three ranks assigned by Pupils, teachers and school leaders were also ranked to identify the common potential problems. The highest rank indicates the highest potential problems. As a result, the following top ranked potential problems were taken as school internal factors that affect the internal efficiency of primary schools in Adama city administration. These were shortages of textbooks and learning materials, irrelevant curriculum, lack of guidance and counseling services, failure to study hard, the demand for repetitions, overcrowded classrooms, suspensions and inappropriate teaching methods. These major school internal factors identified in this study were in line with the literature review. Most problems identified in this study were

found in the work of (Ayalew (1997), Tilaye (1999), Habtamu (2002), Alexander (1994), and Brimer and Pauli (1971)).

The demand of pupils/parents for repetitions was not observed in the work of former Ethiopian studies. However, Alexander (1994) related this problem with curriculum relevancy. According to him; pupils repeat class voluntarily when the curriculum was irrelevant to them or when they fail to master it. In addition, IIEP (1999) "forum on repetitions" in Paris revealed that pupils voluntarily repeat class when the benefits of staying in the same grade were more important than its costs. The problems related to textbooks and educational materials were found in the works of Brimer and Pauli (1971), Burkhead (1967), Pscharopoulos and Woodhall (1985), Baum and Tolbert (1985) from abroad. The problems that were found in the works of external researchers in their research area, still affect the IEPS in Ethiopia. These were attested by Tilaye (1999), and Adane (1993). However, these researchers found the problems in a more of rural area and the type of schools, in which they studied were governmental.

In this study, the problems were found in totally urban areas and school types were both GS and NGS. Moreover, this problem was found as recurrent occurrence. The problems that were related to guidance and counseling services were found in the work of Habtamu (2002). This researcher was strongly advised to apply the stated service in schools. This study also attested that pupils in primary schools need to be guided and counseled to achieve in a better way. The involvement of this service could help shaping pupils and pushing them to study hard in the system.

The school internal problems that were found serious in the literature such as inflexible promotion policy, in appropriate education calendar, and hatred of teachers, were not found critical in this study area. Moreover, the items such as lack of guidance and counseling services, lack of teachers' encouragement, and failure to study hard were potential problems for GS users. In the other way, the potential problems that were affected the NGS users such as lack of school facilities and services, shortage of qualified teachers, and suspensions were, not severe for GS users.

Table 4.41: Rank Difference for Internal Factors

No	Internal factors	RANK BY RESPONDENTS & ITSRELATION													
		R_{p1}	R_{P2}	R_{T1}	R_{L2}	R_{L1}	R_{L2}	r	R_T	d_1	d_1^2	d_2	d_2^2	d^3	d_3^2
1	Truancy	10	13	11	11	6	13.5	10.75	9	-3	9	0	0	-7.5	56.25
2	Frequent absenteeism/tardiness	16	18.5	11	13.5	13	17.5	14.92	18	-2.5	6.25	-2.5	6.25	-4.5	20.25
3	Hatred of one or more teachers	14	6.5	19.5	21	21.5	21	17.25	20	7.5	56.25	-1.5	2.25	0.5	0.25
4	Suspension	11	3	15.5	3	16	11	9.92	7	8	64	12.5	156.25	5	25
5	Disciplinary infraction	13	9.5	17	19	5	10	12.25	13	3.5	12.25	-2	4	-5	25
6	Failure to study hard	6	16	2	5.5	3	2	5.75	4	-10	100	-3.5	12.25	1	1
7	Lack of self confidence	12	21	13	8.5	4	7	10.92	10	-9	81	4.5	20.25	-3	9
8	The demand for repetition	2	2	15.5	7	7.5	15.5	8.25	5	0	0	8.5	72.25	-8	64
9	Inappropriate examination	7	6.5	21	15.5	17.5	19.5	14.5	17	0.5	0.25	5.5	30.25	-2	4
10	Shortage of qualified teachers	17.5	14.5	14	3	11.5	15.5	11.83	11	8	64	11	121	-4	16
11	Lack of teacher's encouragement and support	4	14.5	22	15.5	7.5	17.5	13.5	15	-10.5	110.25	6.5	42.25	-10	100
12	Un attractive lesson	5	8	19.5	13.5	14.5	12	12.17	12	-3	9	6	36	2.5	6.25
13	Lack of guidance and counseling services	1	18.5	6	1	2	4.5	5.5	3	-17.5	306.25	5	25	-2.5	6.25
14	Failure to allocate resources	17.5	17	11	12	9.5	8	12.5	14	0.5	0.25	-1	1	1.5	2.25
15	Inappropriate education calendar and time schedule	21.5	22	18	10	20	13.5	17.5	21	-0.5	0.25	8	64	6.5	42.25
16	Inflexible promotion policy	20	20	9	17.5	19	22	17.92	22	0	0	-8.5	72.25	-3	9
17	Lack of school facilities and services	21.5	12	8	20	17.5	19.5	16.42	19	9.5	90.25	-12	144	-2	4
18	Irrelevant curriculum	9	4	4	3	11.5	1	5.42	2	5	25	1	1	10.5	110.25
19	Shortage of textbooks and learning materials	8	1	1	5.5	1	3	3.25	1	7	49	-4.5	20.25	-2	4
20	Inappropriate medium of instruction	15	11	4	22	21.5	9	13.75	16	4	16	-18	324	12.5	156.25
21	Inappropriate teaching method	19	14.5	4	8.5	9.5	6	10.25	8	4.5	20.25	-4.5	20.25	3.5	12.25
22	Overcrowded classroom	3	5	7	17.5	14.5	4.5	8.58	6	-2	4	-10.5	110.25	10.5	110.25
Total		n= 22								0	1023.5	0	1285	0	783.5

Subscript: 1- GS
2- NGS

r=average ranks
R_T=overall ranks
D1-= pupils rank difference
d_2= teachers rank difference
d_3= school leaders rank difference

4.4.2 Overall Respondents Agreement on Major Problems: External Factors

The primary schools external factors that affect the internal efficiency in the Adama city administration were identified using respondents' average rank value. The highest rank given by the overall total respondents were indicated the major factors that commonly affect the IEPS in both GS and NGS. The items that commonly accepted as major problems in its rank order from the highest potential problems to relatively lowest were identified as flows. These were low incomes sources of families, poor education of parents, influence of unemployed high school graduate siblings, mobility of families to involve in business, the desire of pupil to involve in business, parents' illness or death, inadequate housing, and the demand for high child labor. The identified school external factors were in line with the work of Habtamu (2002), Darge (1997), Tamiru (2006) Brimer and Pauli (1972), and Adane (1993). However, the potential socio-cultural problems such as early marriages, abductions, fear of harassment, sex differences were not found as major problems.

The problems that rated at the highest positions were low-income source of parents, in which Habtamu (2002) and Adane (1993) attested in their works as severe problems. Moreover, parents' poor education that Darge (1997) strongly underlined as a severe problem, ranked second position among the items presented. In the other way, most of the pupils were coming to school at the aim of future employment in the current labor market, because, unemployed high school graduate siblings were influenced the pupils current performance in both GS and NGS. Besides, mobility of parents from one school attendance area to another and the desire of pupils to involve in business were found a major problem in the study area.

In the other hand, the rank difference between GS and NGS pupils asserted that inadequate housing was the severe problem for GS pupils who were at risk of school dropout and class repetitions. However, NGS pupils affected by the demand of high child labor indifferent to GS pupils. This might be that NGS pupils' family pulled the children to involve in small business.

Table 4.42: Rank Difference for External Factor

No	External factors	RP_1	RP_2	RT_1	RT_2	RL_1	RL_2	r	R_T	d_1	d_1^2	d_2	d_2^2	d^3	d^2_3
1	Lack of preschool education	14	12	6	13	8	19.5	12.08	14	2	4	-7	49	-11.5	132.25
2	Attitude of pupil towards school	8	10	10.5	15.5	14.5	16	12.42	15	-2	4	-5	25	-1.5	2.25
3	The desire of pupil to involve in business	10	4	2.5	7	4.5	6.5	5.75	5	6	36	-4.5	20.25	-2	4
4	Health problem/sickness	6	5	16	11	14.5	11	10.58	11.5	1	1	5	25	3.5	12.25
5	Early marriage	21	21	15	22	18	19.5	19.42	20	0	0	-6	36	-1.5	2.25
6	Teenage pregnancy	22	18	20	19	16	22	19.5	21	4	16	2	4	-6	36
7	Malnutrition	11	13	8	14	9.5	16	11.92	13	-2	4	-6	36	-6.5	42.25
8	Low income sources of families	1	2	2.5	5	2	1	2.25	1	-1	1	-2.5	6.25	1	1
9	Mobility of families from one school attendance area to another	3.5	1	9	8	6	2.5	5.83	4	2.5	6.25	1	1	3.5	12.25
10	Take care of siblings	9	6.5	7	12	12	9	9.25	9	2.5	6.25	-5	25	3	9
11	Parent illness/death	3.5	8	14	2	4.5	6.5	6.42	6	-4.5	20.25	12	144	-2	4
12	Poor education of parents	2	9	5	1	2	2.5	3.58	2	-7	49	4	16	-0.5	0.25
13	Inadequate housing	5	19.5	4	9	2	13.5	8.83	7	-14.5	210.25	-5	25	-11.5	132.25
14	Denigration of academic value	15	16	10.5	6	9.5	6.5	10.58	11.5	-1	1	4.5	20.25	3	9
15	Influence of unemployed high school graduate siblings	7	6.5	1	4	7	6.5	5.33	3	0.5	0.25	-3	9	0.5	0.25
16	Fear of abduction or rape	20	17	18	17	17	13.5	15.42	16	3	9	2	4	3.5	12.25
17	Fear of harassment	17	14	21	21	20	12	17.5	18	3	9	-1	1	8	64
18	Family disunity	12	11	12	10	11	4	10	10	1	1	2	4	7	49
19	Lack of home language in the medium of instruction	18	22	17	18	21	19.5	19.25	19	-4	16	-1	1	1.5	2.25
20	Differentiation of gender	16	15	19	15.5	19	16	16.75	17	1	1	2.5	6.25	3	9
21	The demand for high child labor	13	3	13	3	13	10	9.17	8	10	100	10	100	3	9
22	Ethnic difference	19	19.5	22	20	22	19.5	20.33	22	-0.5	0.25	2	4	2.5	6.25
Total	**n=22**									**0**	**495.5**	**0**	**562**	**0**	551

Subscript: 1- GS
2- NGS

r=average ranks
R_T=over all ranks
D1-= pupils rank difference
d_2= teachers rank difference
d_3= school leaders rank difference

Lack of home language in the medium of instruction was a serious problem to affect IEPS in education system. That was the reason, in which Ayalew (1997) strongly advised to apply home language in the medium of instruction particularly for primary education. However, this problem was not found as critical problem in this study area as observed in the literature.

4.4.3. Gender Category in Rating Internal and External Factors

In this part, without differentiating the school types, all respondents (pupils, teachers, school leaders) were categorized into male and female. Formerly, the major factors that affect the internal efficiency of primary schools were revealed by using positions in school. However, gender category was also equally important to reveal the problems that were made a gap between males and females. As result, the ranks given by male and female respondents for school internal factors were not significantly associated. Whereas the ranks assigned by these two groups for school external factors were substantially associated (the tests were presented in the second part of the analysis). Among 22 schools internal factor items, the top eight as rated by male and female respondents' separately were take as a major factors and depicted below in table 4.43

Table 4.43: Major School Internal Problems as Rated by Gender

Ranks(from the first to eight)	School Internal Factors as Rated by Males	School Internal Factors as Rated by Females
1	Lack of guidance and counseling services	Demand for repetitions
2	Shortages of textbooks and learning materials	Shortage of textbooks and learning materials
3	Failure to study hard	Overcrowded classroom
4	Irrelevant curriculum	Irrelevant curriculum
5	Lack of self confidence	Inappropriate teaching methods
6	Overcrowded classroom	Failure to study hard
7	Shortage of qualified teachers	Lack of teachers encouragement and support
8	Unattractive lesson	Inappropriate examinations

In the other way, the severe problems of school external factors as rated by male and female respondents were also depicted in table 4.44 below among the 22 factor items.

Table 4.44: Major School External Problems as Rated by Gender

Ranks (from the first to eighth)	**School External Factors as Rated by Males**	**School External Factors Rated by Females**
1	Poor education of parents	The desire of pupils to involve in business
2	Influence of unemployed high school graduate siblings	Low income sources of families
3	Low income sources of families	Mobility of families from one school attendance area to another
4	Parent illness/death	Poor education of parents
5	Mobility of families from one school attendance area to another	The demand for high child labor
6	Family disunity	Influence of unemployed high school siblings
7	Denigration of academic value	Health problems/sickness
8	Inadequate housing	Family disunity

These two tables (table 4.43 and table 4.44), indicates that some problems were commonly understood as influential factors and some were not found at almost similar degree of influence.

In general, It was very difficult to single out one or two or specific limited number of factors that can be responsible as a dominate impedance of internal efficiency in primary schools, because, it was a result of multiplicity of intertwined factors that can be raised from socio-economic, socio-cultural, and pedagogical factors that affect the IEPS in ACA. Therefore, these top ranked severe problems were not the only impediment of internal efficiency of primary schools. The rest of the least ranked problems might have also impact to aggravate the problems.

4.5. Hypotheses Tests

In this part of the chapter, hypotheses, which had been formulated earlier, were tested. These tests revealed the underlined factors of the research problems, which helped the researcher to formulate conclusions, and recommendations that generate ideas of strategies to optimize primary education outputs and to reduce educational wastage particularly in the study area and generally around the surrounding zones.

4.5.1. Hypotheses Test Concerning Rank Associations

In this case, the ranks assigned by GS and NGS pupils, teachers and leaders for school internal and external factors affecting the internal efficiency of primary schools in the study area were tested, whether there were significance associations or not.

A. Hypothesis

There is no significant association between the ranks assigned by government and nongovernmental school respondents for school internal and external factors that affect the internal efficiency of primary schools.

Since the schools' three groups of respondents (pupils, teachers, and school leaders) rated internal and external factors. The hypothesis was also tested within the group between government and non-government school respondents. To test the hypothesis, ranks assigned by pupils, teachers, and school leaders for school internal and external factors that affect IEPS in ACA (table 4.41 and table 4.42) were organized respectively.

A_1. Hypothesis Test

1. H_0= There is no significance association between the ranks assigned by government and non government school pupils' respondents in ranking school internal factors and external factors that affect the internal efficiency of primary schools.

H_1= There is significance association between government and non government school pupils for school internal factors and external factors that affect the internal efficiency of primary schools.

2. Criteria for rejecting H_0

   $n_1 = n_2 = 22$

   Level of significance $\propto = 0.05$

3. Computations result

Table 4.51: Spearman's ($r_{s)\ and}$ t-statistic Computation Results for Pupils' Ranking

For School internal factors	For School external factors
r= 0.421	r= 0.7202
t= 2.075	t=4.643

4. Interpretation of the results

The rank correlation coefficient between the rankings assigned by government and non-government school pupils for school internal factors (r_s= 0.423) was moderate, whereas for school external factors (r_s= 0.7202) were substantial. Then, the table t value, at significance level ($\propto/2$= 0.025) in two tailed and with 20 degrees of freedom was $\pm$ 2.086. The calculated value of t statistic (2.075) for school internal factors was slightly less than the table t-statistic (2.086). Hence, null hypothesis was accepted. This means that the rank correlation coefficient of school internal factors was not significant. The ranks assigned by GS and NGS pupils' respondents for school internal factors were not significantly associated. In the other way, the calculated value of t statistic (4.643) for school external factors was more than the table t-statistic (2.086). Hence, the null hypothesis was rejected. This means that the rank correlation coefficient of the school external factors was significantly associated.

A_2. Hypothesis test

1. H_0= There is no significance association between the ranks assigned by government and non government school teachers' respondents for school internal factors and school external factors as the degree of their agreement it affect the internal efficiency of primary schools in the study area.

   H_1= There is significance association between the ranks assigned by government and non government school teachers' respondents for school internal factors and school external factors as the degree of their agreement it affect the internal efficiency of primary schools in the study area.

2. Criteria for rejecting H_0

   n_1= n_2= 22

   Level of significance, $\propto$= 0.05

3. Computations result

Table 4.52: Spearman's (r_s) and t-statistic Computation Results for Teachers' Ranking

For internal factors	For external factors
r= 0.244	r = 0.683
t=1.276	t=4.178

4. Interpretation of the results

The rank correlation coefficient between the ranks assigned by government and non-government schoolteachers for school internal factors (r= 0.27442123) was low. Whereas the spearman's rank correlation coefficient between the ranks assigned by government and non-government schoolteachers for school external factors (r= 0.683) was substantial. At significance level ($\propto/2$= 0.025) and 20 degree of freedom, the table t-value is 2.086. The calculated t-statistic (1.276) for school internal factors was less than the cut off t-statistic (2.086). So, the null hypothesis was accepted. This means the rank correlation coefficient of the school internal factors was not significant. In the other side, the calculated value of t-statistic (4.178) for school external factors was more than cut off t-statistic (2.086) value. So, the null hypothesis was rejected. This means, the spearman's rank order correlation coefficient was significant.

A_3. Hypothesis test

1. H_0: There is no significance association between the ranks assigned by government and non government school leaders' respondents for school internal factors and school external factors as the degree of their agreement or disagreement it affects the internal efficiency of primary education in the study area.

   H_1: There is significance association between the ranks assigned by government and non-government school leaders' respondents for school internal factors and school external factors as the degree of agreement or disagreement it affects the internal efficiency of primary education in the study area.

2. Criteria for rejecting H_0

   n_1= n_2= 22
   Level of significance, $\propto$= 0.05

3. Computation result

Table 4.53: Spearman's (r_s) and t- statistic Computations Result for Leaders' Ranking

For school internal factors	For school external factors
r = 0.558	r = 0.689
t = 3.004	t = 4.25

4. Interpretation of the results

Spearman's (r_s) rank order correlation coefficient between the ranks assigned by government and non-government school leaders' respondent for school internal factors (0.558) was moderate, whereas the rank correlation coefficient for school external factors (r= 0.689) was substantial. This spearman's rank correlation coefficient was also tested using t-statistic at significance level ($\propto/2$= 0.025) with 20 degree of freedom. The calculated value of t-statistic (3.004) for school internal factors was greater than the critical value of t-statistic (2.086). So, the null hypothesis was rejected. This means, the rank order correlation coefficient was significant and the ranks of these two respondents sub groups were significantly associated. In the other way, the calculated value of t-statistic (4.250) for school external factors was also greater than the cut off value (2.086) of t-statistic. So, the null hypothesis was rejected. In other words, the spearman's rank order correlation coefficient calculated value was significant or the ranks assigned by the two respondents' group were associated significantly.

4.5.2. Hypothesis Test Concerning Ranks by Gender

In this part, the hypothesis was revealed whether there was a similarity or differences among genders in ranking the school internal factors and external factors according to the degree of influence of the factors on the internal efficiency of primary schools.

B. **Hypothesis test**

H_0: The ranks assigned by male and female respondents for school internal and external factors as the degree of influence on internal efficiency are not associated.

H_1: The ranks assigned by male and female respondents for school internal factors and external factors as the degrees of influence on internal efficiency are associated.

2. Criteria

$n_1 = n_2 = 22$

Level of significance, $\propto = 0.05$

3. Computation results

Table 4.54: Spearman's (r_s) and t- Statistic for Gender's ranking

For school internal factors	For school external factors
r = 0.372	r = 0.784
t =1.791	t =5.654

4. Interpretation

The rank correlation coefficient between the ratings assigned by male and female respondents for school internal problems ($r_s = 0.372$) was low, where as for school external problems the rank correlation coefficient ($r = 0.784$) was substantial. To test the significance of r_s, t-statistic was employed. The critical t value, at half of the significance level ($\propto/2 = 0.025$) with 20 degree of freedom is 2.086. The calculated value of t-statistic (1.791) for school internal factors was not exceeding the critical value. So, H_o was accepted. This means, that the rank correlation coefficient for school internal factors was insignificant. Further, there was a disagreement between male and female respondents in ranking school internal problems.

In the other way, the calculated t (5.654) for school external factors exceeds the critical t (2.086) value at half of the significance level ($\propto/2 = 0.025$) with 20 degree of freedom. So, the null hypothesis was rejected. This means, the ranks assigned by male and female respondents for school external factors that affect the internal efficiency of primary schools in Adama city administration was significantly associated.

Table 4.55: Ranks Given by Gender for School Internal Factors

No	Internal factors	Mean Response Value					
		Male				Female	
		X	Rank	Y	Rank	d_i	d_i^2
1	Truancy	**2.97**	**12**	**3.04**	**11**	**1**	**1**
2	Frequent absenteeism/tardiness	2.94	13	2.81	22	-9	81
3	Hatred of one or more teachers	2.79	20	2.85	18	2	4
4	Suspension	3.08	9	3.05	10	-1	1
5	Disciplinary infraction	3.06	10.5	2.9	16	-5.5	30.25
6	Failure to study hard	3.39	3	3.17	6.5	-3.5	12.25
7	Lack of self confidence	3.21	4.5	2.82	21	-16.5	272.25
8	The demand for repetition	2.90	15	3.47	1	14	196
9	Inappropriate examination	2.9	15	3.12	8	7	49
10	Shortage of qualified teachers	3.17	7	2.98	12.5	-5.5	30.25
11	Lack of teacher's encouragement and support	2.80	19	3.17	6.5	12.5	156.25
12	Un attractive lesson	3.1	8	2.93	14.5	-6.5	42.25
13	Lack of guidance and counseling services	3.52	1	3.09	9	-8	81
14	Failure to allocate resources	2.90	15	2.93	14.5	0.5	0.25
15	Inappropriate education calendar and time schedule	2.83	18	2.84	19	-1	1
16	Inflexible promotion policy	2.73	22	2.98	12.5	9.5	90.25
17	Lack of school facility	2.86	17	2.83	20	-3	9
18	Irrelevant curriculum	3.21	4.5	3.31	4	0.5	0.25
19	Shortage of textbooks and learning materials	3.44	2	3.4	2	0	0
20	Inappropriate medium of instruction	2.76	21	2.89	17	4	16
21	Inappropriate teaching method	3.06	10.5	3.2	5	5.5	30.25
22	Overcrowded classroom	3.19	6	3.32	3	3	9
T	**n=22**					0	1112.5

x- Weighted mean response value as rated by males.
y- Weighted mean response value as rated by females.
di= x-y

Table 4.56: Ranks Given By Gender for School External Factors

No	External factors	Mean Response Value					
		Male		Female			
		X	Rank	Y	Rank	di	di^2
1	Lack of preschool education	**3.14**	**14**	**3.18**	**10.5**	**3.5**	**12.25**
2	Attitude of pupil towards school	3.17	12	2.97	15	-3	**9**
3	The desire of pupil to involve in business	3.25	10	3.52	1	9	81
4	Health problem/sickness	3.19	11	3.24	7	4	16
5	Early marriage	2.65	21	2.78	18	3	9
6	Teenage pregnancy	2.70	20	2.69	20	0	0
7	Malnutrition	3.16	13	3.09	14	-1	1
8	Low income sources of families	3.52	3	3.49	2	1	1
9	Mobility of families from one school attendance area to another	3.44	5	3.48	3	2	4
10	Take care of siblings	3.44	9	3.18	10.5	-1.5	2.25
11	Parent illness/death	3.29	4	3.16	12.5	-8.5	72.25
12	Poor education of parents	3.66	1	3.44	4	-3	9
13	Inadequate housing	3.32	8	3.19	9	-1	1
14	Denigration of academic value	3.39	7	3.16	12.5	-5.5	30.25
15	Influence of unemployed high school graduate siblings	3.55	2	3.41	6	-4	16
16	Fear of abduction or rape	2.86	19	2.81	17	2	4
17	Fear of harassment	3.06	16	2.83	16	0	0
18	Family disunity	3.43	6	3.23	8	-2	4
19	Lack of home language in the medium of instruction	2.90	18	2.64	21	-3	6
20	Differentiation of gender	2.97	17	2.74	19	-2	4
21	The demand for high child labor	3.13	15	3.43	5	10	100
22	Ethnic difference	2.47	22	2.31	22	0	0
Total	**n=22**					0	382

x- Weighted mean response value as rated by males.
y- Weighted mean response value as rated by females.

4.5.3. Hypothesis Test For The Means

In this part, hypothesis, which had been formulated earlier, was tested. This hypothesis test was revealed the underlined facts of the research problems, which helped the researcher in formulating worth-able conclusions and recommendations. Moreover, the scientific idea generated from the test used to design strategies to reduce educational wastage and to optimize primary education outputs.

Table 4.57: Weighted Means of Internal and External Factors

No	For Internal Factors Mean(X)	For External Factors Mean(Y)	Internal factors χ^2	External Factors Y^2	XY
1	3.01	3.16	9.0601	9.9856	9.5116
2	2.88	3.07	8.2944	9.4549	8.8416
3	2.82	3.39	7.9524	11.4921	9.5598
4	3.07	3.22	9.4249	10.3684	9.8854
5	2.98	2.7	8.8804	7.29	8.046
6	3.28	2.7	10.7584	7.29	8.856
7	3.01	3.13	9.0601	9.7969	94213
8	3.17	3.58	10.0489	11.225	11.3486
9	3.2	3.46	10.24	11.9716	11.072
10	3.01	3.24	9.0601	10.4976	9.7524
11	2.97	3.41	8.8209	11.6281	10.1277
12	3.02	3.56	9.1204	12.6736	10.7512
13	3.31	3.26	10.9561	10.62276	10.7906
14	2.92	3.28	8.5264	10.7584	9.5776
15	2.83	3.49	8.0089	12.1801	9.8767
16	2.86	2.84	8.1796	8.0656	8.1224
17	3.07	2.94	9.4249	8.6436	9.0258
18	3.27	3.33	10.6929	11.0889	10.8891
19	3.42	2.78	11.6964	7.7284	9.5076
20	2.82	2.86	7.9524	8.1796	8.0652
21	3.1	3.28	9.61	10.7584	10.168
22	3.18	2.39	10.1124	5.7121	7.6002
Total	**67.2 x=3.06(average)**	**69.07 y=3.14(average)**	**205.881**	**218.9779**	**210.475**

C. **Hypothesis test**

H_0: There is no significance weighted mean response value difference between school internal factors and school external factors in degree of influence on internal efficiency of primary schools in the study area.

H_1: There is significance weighted mean response value difference between school internal factors and school external factors in degree of influence on internal efficiency of primary schools in the study area.

2. Criteria to reject H_0

$n_1 = n_2 = 22$

Level of significance, $\propto = 0.05$

3. Computation result

Table 4.58: Computations result for the Means

x	y	r	S_x	S_y	n	t
3.06	3.14	-0.44	0.487	0.311	22	= -0.55

Since the overall respondents were rated both the internal and external school factors according to the degree of influence on the problems, the t-statistic formula for testing dependent variables was appropriate. Therefore, the t statistic was computed and the result was presented in table 4.58 above.

4. Interpretation

Since the observed value of t (-0.55) was between the critical value of $-t_{\propto}/2$ (-2.080) and $t_{\propto}/2$ (+2.080) with 21 degree of freedom, null hypothesis was accepted. So, it was concluded that, on the basis of these data, the rated weighted mean response value by overall respondents were almost similar for both school internal factors and school external factors. This means, the degree of influence of both school internal and external factors on internal efficiency of primary schools in the study area was not differ significantly. The weighted mean difference observed was because of chance or sampling error.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The main purpose of this study was to identify the major factors that affect the internal efficiency of primary education in Adama city Administration. Attempt was made to revel whether there were relationship between the ranks assigned by GS and NGS pupils; teachers, and leaders' rating for school internal and external factors. Further, the ranks assigned by the overall male and female respondents for school internal and external factors were tested to attest whether the two ranks were associated or not. Moreover, attempt was also made to reveal whether there was a response means values difference or similarity between school internal and external factors in affecting IEPS in ACA. In order to achieve the core purpose of the study, both descriptive and inferential statistics were employed. Later, non-directional hypotheses tests were made to corroborate the assumptions, which have been formulated earlier. Conclusions and recommendations were made based on the directions of the findings and socio-economic and socio-cultural conditions of the study area.

5.1. Summary

This study was carried out in five GS and five NGS that were drawn using purposive sampling techniques. The criteria to select the sample schools were excelled in proportion of class repeaters and school dropouts (readmitted) in both type of schools. The ten sample schools were drawn from Adama city administration among thirty-three primary schools.

Quota and availability sampling techniques were applied to draw sample of respondents. Based on the criteria mentioned in chapter three, pupils and teachers sample units were drawn using simple random sampling technique. In the other hand, to select school leaders sample units, availability sampling technique was applied. However, department heads which were a member of school leaders were drawn using simple random techniques as they were more than the quota set. As result, almost 96.1% of the respondents were filled and returned the questionnaires. These response values were collected, organized, and analyzed to identify the problems of IEPS in ACA. The data analysis was classified into preliminary analysis and hypotheses testing. In preliminary analysis, the collected data were presented in the form of tables that were held the

response values' frequencies, proportions, weighted means, and ranks given by respondents. These were used to insight into the research problem and to identify the potential factors that affect the IEPS in ACA. Whether, the identified potential problems were in the line of assumptions or not, hypotheses test were employed. The combined results of preliminary analysis and hypotheses test were revealed the following findings.

I. Level of IEPS in ACA as Compared with National Level.

In similar base year (2005/06) primary schools flow rate, the input/output relation at National Level (1.5) was slightly less than at primary education system of ACA (1.6). Although, primary school inputs in ACA were by far better than National level; the city identified less in proportion of coefficient of efficiency and high in educational wastage (MOE (2007), ACAEO record (2007)). Regarding GPI in enrollment, females in ACA (1.16) shows superior to male, whereas at national level (0.84) males were superior to females. Moreover, regarding school achievements, males were lagged behind females' pupils in ACA primary schools. This makes the area differ. Because, in achievement score studies in Ethiopia show that males were better than females (Darge (1997), Setu (2004), and Tamiru (2006)). However, long-ago Brimer and Pauli (1971) attested that male school dropouts were greater in urban area, whereas female school dropouts were greater in rural area.

II. Background of Respondents

Dropout and repetition experienced pupils, teachers and school leaders in both GS and NGS in ACA had the following major characteristics that aggravate inefficiency of primary education in line with literature review.

a) Pupils Characteristics

Pupils' respondents were drawn from GS (69.1%) and NGS (30.9%) to unfold major factors that affect IEPS. Both males (48.7%) and females (51.3%) were involved in the study. some of the pupils (36.8%) were identified over primary school age, which were 14 years as pointed by MOE (1994) for primary school completion age. However, no one of the pupils' respondents in this study area, had marriage experience. Most of these pupils (90.8%) used home language in the medium of instructions. However, the rest (9.2%) were affected by the problems. In addition,

some of the pupils (16.5%) were not get the opportunity to preschool education. In line with the ACAEO statistical record, repetition experience (50.3%) was slightly greater than dropout experience (49.6%) in GS whereas, in NGS pupils' respondents, the proportions that had dropout experience (33.4%) were by far less than the pupils who had repetition experience (66.6%).

b). Family Background

In this study, pupils' family whose children were school readmitted and class repeaters were identified with the following characteristics. Almost fathers (18.4%) and mothers (22.4%) were illiterate, fathers (15.1%) and mothers (13.2%) had religious education, fathers (30.3%) and mothers (35.5%) were within primary education, the rest fathers (36.2%) and mothers (28.9%), were categorized above primary education. Those pupils generated from illiterate family were not small and the degrees of influence of these problems on school dropout and class repetitions were severe. This finding was in line with the work of Darge (1997) that he strongly recommended to reduce school dropouts. Pupils' families' proportion whose total monthly incomes below 500 birr were greater in GS (41.9%) than NGS (6.4%) respondents. In the other way, pupils' family proportions whose monthly income source above 1000 birr were greater in NGS (51.1%) than GS (13.3%) respondents. These proportions might be increased; had it been both GS (25.7%) and NGS (34%) did knew their families' income source. Further, no one of the pupils whose that parents' occupation were daily laborer (15.1%) obtained in NGS. Moreover, pupils' proportion whose families were broken increased in GS (35.2%) compared with NGS (25.5%) respondents. Pupils who had no living contact with fathers or mothers covered a total proportion of 27.6%. This problem was severe for GS (31.5%) than NGS (19.1%) pupils. Pupils' families who were not visited and participated in schools to follow up their child were greater in NGS (38.3%) than GS (31.4%), but the problem was serious in both types of schools. This data revealed that proportions of needy pupils were greater in GS than NGS; but NGS pupils were not satisfactorily followed up by parents, in which Habtamu (2002) strongly recommended as alternative solutions to reduce dropout rates.

c). School Leaders and Teachers Characteristics

There were 101 (53.4%) GS and 88 (46.6%) NGS academic school leaders and teachers' respondent. The proportions of males (58.2%) were greater than females (41.8%), because; the

proportion of female leaders (29.2%) were by far less than males' leaders (70.8%). However, school leaders and teachers who were trained for teaching purpose (90.5%) or to administer schools (5.8%) were better than most of the other area in the region. The rest 3.7% were not trained for education profession. The proportions of diploma graduate teachers were greater in GS (56.1%) than NGS (51.7%). But, GS had no degree graduate workforce, whereas NGS leaders (13.3%) had degree holders. Regarding workforce experience, GS workers lead by largest proportion than NGS workers. Almost 81.8% of GS teachers had above 10 years experience, whereas the corresponding NGS covered only 17.3% of proportions. In case of school leaders, not all NGS respondents had above 10 years leading experience, whereas the GS leaders' respondents that had above 10 years leading experiences covered a proportion of 14.3%. Moreover, the proportions of workforce who had no interest to long in education profession were greater in NGS (47.7%) than GS (26.7%). This could be a potential problem that has a capacity to affect the existing situations of primary schools. This problem could be serious particularly for NGS and generally for the education sector.

III) Major factors of IEPS in Adama City Administration: The Overall response value

The weighted mean response value of each items were obtained by overall respondents' rating according to their opinions they feel, the degree of influence of the problems on IEPS. Pupils and teachers of both GS and NGS were differ in ranking school internal factors but, between the ranks assigned by these GS and NGS pupils as well as teachers for external factors were associated. In the other way, the ranks assigned between GS and NGS leaders were associated for both school internal and external factors .The combination of overall pupils, teachers and school leaders rating weighted mean response value for each items of schools internal and external factors were revealed the potential factors that significantly affects the IEPS in ACA..

The major school internal factors found in ACA are shortage of textbooks and learning materials, irrelevant curriculum, lack of guidance and counseling services, failure to study hard, the demand for repetitions, overcrowded classrooms, suspensions, and inappropriate teaching methods. The effects of shortage of text books and learning materials were found in the works of Pscharopoulos and Woodhall (1985), Burkhead (1967), Baum and Tolbert (1985), Lockheed (1994), Adane

(1993), and Tilaye (1999). The problem that was existed long-ago, still affect the IEPS in ACA. This problem was more strongly affect NGS users than GS users. Problems related to text books and learning materials affect not only IEPS, but also the effectiveness of the education system as Coobs and Hallack (1987) mentioned it in their book "Cost Analysis in Education". Moreover, problems that are related to curriculum affect the whole system of education. This problem was more emphasized in the works of Ayalew (1997) and in Alexsander (1994). According to them, curriculum should be relevant to the need and interest of the pupils and the society. If not, it cases inefficiency of the education system. The problems that are related to guidance and counseling services were found in the work of Habtamu (2002). He strongly advised to use guidance and counseling services in schools. This study also identified that guidance and counseling services are the need of pupils who are at risk of school dropout and class repetitions. Further more, the major school internal factors that are related to pupils' efficient use of school time and school spacing were found in the works of Brimer and Pauli (1971), Kemmerer (1994), and Frojalla (1993) and still it affecting in primary schools of ACA. The problem that related to demands of parents/pupils for repetitions was focused in the work of Alexander (1994). He related this problem to the existence of irrelevant curriculum. According to him, the signals that show the irrelevance of the curriculum are altering the policies, going summer school to make up ground, and repeating the school year willingly. In this study area, no one denied the presence of these signals that was reported by Alexander (1994) in his work "On the Success of Failure: A Reassessment of Effects of Retention in Primary Grades". The best way to reduce it was updating the current curriculum to the need and interest of the users and implementers.

The major school external factors identified in this study area in affecting the IEPS were *l*ow-income sources of parents, poor education of parents, influence of unemployed high school siblings, mobility of families from one school attendance area to another, the desire of pupils to involve in business area, parents' illness or death, inadequate housing, and the demand for high child labor. The problems related to income source of parents, parents' illness or death, inadequate housing, and the demand for high child labor were found in the work of Brimer and Pauli (1971), Pscharopoulos and Woodhall (1985), Adane (1993), Tilaye (1999), and Habtamu (2002). These external factors are deep rooted in affecting the IEPS in this study area. The problem that Darge (1997) attested as severe factor (parents' illiteracy) is still affecting the pupils

in ACA primary schools. Moreover, there are problems that induced from unemployed high school graduates and might have been influenced the young primary school pupils. This could be the cause that aggravates the desire of school pupils to involve in small business. The problems that were in the past were still affecting the teaching learning system. These problems were expected in rural area. However, the urban poor pupils were also at risk of school dropout and class repetitions, because of the identified problems.

1) Associations of Ranks

The ranks assigned by both GS and NGS pupils, teachers and leaders for school internal and external factors were tested. The hypotheses test revealed that GS and NGS pupils ranking for internal factors were not significantly associated. Whereas, the ranks assigned by these groups, for school external factor items were significantly associated. These means, external factor items were critically affecting the two school type's users. However, some school internal problems for GS pupils were not serious problem for NGS pupils and vice versa. The ranks assigned by GS and NGS pupils', teachers', and gender's respondents were significantly differed for school internal factors, nevertheless, the ranks assigned by these groups were not made a significance difference. The hypothesis test of ranks assigned by GS and NGS teachers were similar with that of pupils groups. The differences were observed in the magnitude of rank order correlation coefficient, which was low for teachers' ranking (0.2744) and moderate in cause of pupils (0.421) ranking for school internal factors. Whereas for school external factors the rank correlation coefficient between GS and NGS teachers (0.683) were substantial and have significant relationships. In the other hand, the rank order correlation coefficients of GS and NGS leaders for school internal and external factors were moderate and substantial respectively. Moreover, the calculated t (3.004) for internal and t (4.250) for external factors revealed that the ranks associations in both category of factors were significant. These means, the ranks assigned by GS and NGS leaders for external as well as internal factor were significantly associated.

2) Gender Category in Rating IE problems

The overall respondents were again categorized into male and female respondents. Area of influential problems that were made differences or similarity in rank association between males' and females' overall respondents for school internal and external factors were attested. The ranks

given by male and female for school internal factors were not significantly associated as that of between GS and NGS pupils and teachers. Whereas for school external factors the rank associations were significance. In this cause all respondents' categories were agreed. The rank correlation coefficient for school internal factors (r_s=0.372) was low. Whereas, the rank correlation coefficient for school external factors (r_s= 0.784) substantial. The corresponding t-statistic for the significance of the two rank correlation coefficient at significance level ($\propto$/2=0.025) with 20 degree of freedom was 2.086. The calculated values (t= 1.791) for internal factors and (t=5.654) for external factors were` revealed that male and female respondents had no relation in ranking internal factors, however they were significantly associated in ranking school external factors.

3) Degree of Influence of School Internal and External Factors on IEPS in ACA

The hypothesis test concerning difference between two means revealed that the school internal factors and external factors were almost equally affected the IEPS in the study area. Since the overall respondents' were rated the internal and external factors according to the degree of influences on the problems, t-statistic for testing dependent variable was applied to test this assumptions. This calculated (t= -0.55) value of t-statistic was attested that the weighted mean response values of school internal and external factors have no significance difference in affecting IEPS in the study area. This means, both school internal and external factors equally affects the IEPS in the study area.

5.2. Conclusions

The major factors that were affected the internal efficiency of primary education in this study area are complex and generated from multidimensional roots of potential problems. These are because school dropouts and class repeater pupils have dissimilar needs and characteristics. Therefore, designing projects, which respond to school dropouts and class repeaters individual circumstances and needs, are appropriate to reduce the major factors.

The sources of major factors of IEPS in this study area are the integral components of school internal and external factors. Both GS and NGS affected by these problems. These two broad categories of school internal and external factors almost similar in affecting the pupils' current performance in this study area. The sub components of the sources of the problems are pupils'

characteristics it self, parents' characteristics, teachers' characteristics, administration characteristics, curriculum and methods, shortage of text books and educational materials, and social communities. Among the measured factors shortage of textbooks and learning materials, irrelevant curriculum, lack of guidance and counseling service in schools are found critical problems of the school internal factors. In the other side, low-income sources and education of parents, the influence of unemployed high school siblings and mobility of families from one school attendance area to another are generated from school external factors and strongly affecting the IEPS in this study area.

However, school internal and external factor similarly affect the IEPS, some items of school internal factors are made a difference in affecting GS and NGS pupils' current achievement. That means, critical school internal problems for NGS pupils were not found as critical problems for GS pupils. These might be that the two types of schools differ in resource allocation, optimal utilization of resources and school time. In addition, the difference in pupils' need and characteristics of GS and NGS call for further rethinking on the problems of IEPS. This makes the IEPS problems complex and multidimensional.

Since the potential problems are complex and multi dimensional, there is no one magical, quick, simple, or a slick down solutions to reduce educational wastage or inefficiency. To reduce complex and multidimensional potential problems there should be complex and participative solution. School community should control some of the potential problems that related to efficient allocation and use of resources and time in the schools. To bring success in GS and NGS; overall problems including individual characteristics and needs of pupils who are at risk of school dropouts and class repetitions should be examined and supported. The key to reducing educational wastage and increasing IEPS are helping the pupils to overcome problems raised from school internal and external factors. School community alone does not control these complex and multidimensional potential problems because; it requires resources that go beyond the school level. The best solutions are working a team approach with combined efforts of pupils, parents, teachers, school leaders, social community based organization, business (private investors in education) groups, local and regional governments.

5.3 Recommendations

Based on the findings of the study and conclusions made, the following recommendations have been offered.

1. Change of curriculum and preparation of educational materials are the area of special attention and action priorities set in the current national education policies. However, the current curriculum and problems that are related to textbooks and educational materials are identified as potential problems in this study area. So, the following suggestions have been offered to reduce these problems.
   1.1 Updating the current curriculum based on the needs and interests of the users and implementers has a capacity to reduce the problems that are related to:
      - Curriculum, teaching methods , and demand for repetitions
      - Ineffective learning achievements that comes from elimination of class repetitions by decree or automatic promotion.
      - Unit costs of primary education that can be wasted for remedial teaching or tutorial program to back up pupils.

   1.2 The REB, ZED, and WEO managerial groups should monitor and evaluate the existing material management system form production to dissemination. Moreover, problems that are related to textbooks are more serious in NGS than GS users. Since expanding primary education is the national prioritized sub-sector, the problems need to be alleviated equally as GS users.

2. In this study, both school internal factors and external factors are affecting the IEPS at almost similar degree of influences. Therefore, education management system should be decentralized up to the school level. In addition, making the system participatory, and involving parents and the social communities in school affairs, and calling business groups for investing in education have a capacity to reduce the major factors that influence on IEPS in the study area.

3. Pupils at primary schools need to be followed up and counseled by parents, teachers, and well trained guidance and counselors. Therefore, select and train teachers who are

interested in working with needy pupils (urban poor) and low achievers particularly for guidance and counseling service in primary schools.

4. Children should be educated to meet the changing demands of modern technological society , not just to get job in current markets

5. Develop culture of record keeping system that will allow to compare primary schools internal efficiency and data need to be reported on a regular based.

6. Call for private comprehensive, multidimensional, and multi project component educational investment in general and particularly, open the door widely for private investments at primary levels with continuous government supervisions of quality.

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Annex A

Pupils Questionnaire

Addis Ababa University
School of Graduate Studies
College of Education
Department of educational Planning and Management

The main purpose of this questionnaire is to collect data on the major factors of that affect the internal efficiency of primary education in Adama City Administration.

You are kindly requested to fill the questionnaire according to your opinion.

Thank You

Instruction: 1. No need of writing your name

2. Put "X" mark in the space provided according to your response.

3. Give short answer for question No

Part I: Personal Details

1. Name of school _____ grade _____
2. Sex: 1.Male ☐ 2.Female ☐
3. Age: 1. Less than 7 years
   2. 7- 10 years ☐
   3. 11-14 years ☐
   4. 15-18 years ☐
   5. > 18 years ☐
4. Marital status 1. Single ☐ 3. Married ☐
   2. Engage ☐ 4. Divorced ☐
5. Home language _____
6. Instructional media other than English.
   1. Amharic ☐ 2.Afan Oromo ☐
   3. Specify if any _____
7. Do you have preschool education? 1. Yes ☐ 2.No ☐

8. Please circle all the grade number that you were dropped out of school.

1 2 3 4 5 6 7 8

9. Please circle all the grade/grades number/numbers that you were repeated from grade 1 up to now?

1 2 3 4 5 6 7 8

Part II

10. Please indicate your parent's education status

	1. Illiterate	2. Religious	3. Primary	4. Secondary and above
Father	☐	☐	☐	☐
Mother	☐	☐	☐	☐

11. Parent's average monthly income

1. Less than 100 Birr ☐
2. From 100-500 Birr ☐
3. From 500-1000 Birr ☐
4. From 1000-1500 Birr ☐
5. Grater than 1500 Birr ☐
6. I don't know ☐

12. Parents occupation

1. Public employee ☐
2. Government employee ☐
3. Private employee ☐
4. Private businesses ☐
5. Daily laborer ☐

13. Do your parents live together? 1. Yes ☐ 2.No ☐

14. With whom do you live now?

1. With mother ☐ 3. With both ☐ 5. Independently ☐
2. With father ☐ 4. With guardians ☐

15. Your parents or guardians visit a school to communicate with teachers and principals concerning your educational status?

1. Always ☐ 2. Sometimes ☐ 3. Not at all ☐

Part III

1. Following is a list of internal school factors that are expected to have an influence on internal efficiency of primary schools. Please put "X" mark according to your opinion in the box below as per the scale of their significance.

		Strongly disagree	Disagree	Partially agree	Agree	Strongly agree
		1	2	3	4	5
1	Truancy					
2	Frequent absenteeism/tardiness					
3	Hatred of one or more teachers					
4	Suspension					
5	Disciplinary infraction					
6	Failure to study hard					
7	Lack of self confidence					
8	The demand for repetition					
9	Inappropriate examination					
10	Shortage of qualified teachers					
11	Lack of teacher's encouragement and support					
12	Unattractive lesson					
13	Lack of guidance and counseling services					
14	Failure to allocate resources					
15	Inappropriate education calendar and time schedule					
16	Inflexible promotion policy					
17	Lack of school facility					
18	Irrelevant curriculum					
19	Shortage of textbooks and learning materials					
20	Inappropriate medium of instruction					
21	Inappropriate teaching method					
22	Overcrowded classroom					

2. Following is a list of school external factors that are expected to have an influence on internal efficiency of primary schools. Please put an "X" mark on your opinion in the box below as per the scale of their significance.

		Strongly disagree	Disagree	Partially agree	Agree	Strongly agree
		1	2	3	4	5
1	Lack of preschool education					
2	Attitude of pupil towards school					
3	The desire of pupil to involve in business					
4	Health problem/sickness					
5	Early marriage					
6	Teenage pregnancy					
7	Malnutrition					
8	Low income sources of families					
9	Mobility of families from one school attendance area to another					
10	Take care of siblings					
11	Parent illness/death					
12	Poor education of parents					
13	Inadequate housing					
14	Denigration of academic value					
15	Influence of unemployed high school graduate siblings					
16	Fear of abduction or rape					
17	Fear of harassment					
18	Family disunity					
19	Lack of home language in the medium of instruction					
20	Differentiation of gender					
21	The demand for high child labor					
22	Ethnic difference					

Annex B
Teachers Questionnaire

Addis Ababa University
School of Graduate Studies
College of Education
Department of Educational Planning and Management

The main purpose of this questionnaire is to collect data on the major factors that affect the internal efficiency of primary education in Adama City Administration.

You are kindly requested to fill the questionnaire according to your opinion.

Thank You

Instruction: 1. No need of writing your name

2. Please put "✓" mark in the box according to your response.
3. Give short and precise answer wherever necessary.

Part I

Name of School: _____ Position _____

1. Medium of instruction: A) Amharic ☐ B. Afan Oromo ☐ C. In both ☐
2. Respondents Sex: A) Male ☐ B) Female ☐
3. Age: _____
4. Marital Status: A) Single ☐ C) Divorced/Separated ☐

   B) Married ☐ D) Widowed/Widower ☐
5. Educational Status:

   A) Certificate graduate ☐

   B) Diploma graduate ☐

   C) Degree graduate ☐

   D) Others specify _____
6. Area (field of study):

   A) Teaching ☐

   B) School administration ☐

   C) If other than the above; please specify it _____

7. Where do you teach?

   A) Primary first cycle ☐

   B) Primary second cycle ☐

   C) In both cycle ☐

8. Your work experienc

Part II

9. How do you rate your attitude towards teaching profession?

   1. Very high ☐ 4. Low ☐

   2. High ☐ 5. Very low ☐

   3. Moderate ☐

10. How do you rate your interest to long in teaching profession?

    1. Very high ☐ 3. Moderate ☐ 5. Very low ☐

    2. High ☐ 4. Low ☐

11. If your response for question No 9 is between moderate and very low, please give your reasons shortly?

    1. _____

    2. _____

    3. _____

    4. _____

    5. _____

12. 11. If your response for question No 10 is between moderate and very low, please give your reasons shortly?

    1. _____

    2. _____

    3. _____

    4. _____

Part III

2. Following is a list of internal school factors that are expected to have an influence on internal efficiency of primary schools. Please put "X" mark according to your opinion in the box below as per the scale of their significance.

		Strongly disagree	Disagree	Partially agree	Agree	Strongly agree
		1	2	3	4	5
1	Truancy					
2	Frequent absenteeism/tardiness					
3	Hatred of one or more teachers					
4	Suspension					
5	Disciplinary infraction					
6	Failure to study hard					
7	Lack of self confidence					
8	The demand for repetition					
9	Inappropriate examination					
10	Shortage of qualified teachers					
11	Lack of teacher's encouragement and support					
12	Unattractive lesson					
13	Lack of guidance and counseling services					
14	Failure to allocate resources					
15	Inappropriate education calendar and time schedule					
16	Inflexible promotion policy					
17	Lack of school facility					
18	Irrelevant curriculum					
19	Shortage of textbooks and learning materials					
20	Inappropriate medium of instruction					
21	Inappropriate teaching method					
22	Overcrowded classroom					

2. Following is a list of school external factors that are expected to have an influence on internal efficiency of primary schools. Please put an "X" mark on your opinion in the box below as per the scale of their significance.

		Strongly disagree	Disagree	Partially agree	Agree	Strongly agree
		1	2	3	4	5
1	Lack of preschool education					
2	Attitude of pupil towards school					
3	The desire of pupil to involve in business					
4	Health problem/sickness					
5	Early marriage					
6	Teenage pregnancy					
7	Malnutrition					
8	Low income sources of families					
9	Mobility of families from one school attendance area to another					
10	Take care of siblings					
11	Parent illness/death					
12	Poor education of parents					
13	Inadequate housing					
14	Denigration of academic value					
15	Influence of unemployed high school graduate siblings					
16	Fear of abduction or rape					
17	Fear of harassment					
18	Family disunity					
19	Lack of home language in the medium of instruction					
20	Differentiation of gender					
21	The demand for high child labor					
22	Ethnic difference					

Annex C

Questionnaires for School Leaders (principals' unit leaders and department heads)

Addis Ababa University
School of Graduate Studies
College of Education
Department of Educational Planning and Management

The main purpose of this questionnaire is to collect data on the major factors that affect the internal efficiency of primary education in Adama City Administration.

You are kindly requested to fill the questionnaire according to your opinion.

Thank You

Instruction: 1. No need of writing your name

2. Please put "✓" mark in the box according to your response.

3. Give short and precise answer wherever necessary.

Part I: Personal Details

Name of School: _____

Position: 1. Principal ☐ Experience in position _____

2. Unit leader ☐ Experience in position _____

3. Department head ☐ Experience in position _____

2. Medium of instruction: 1) Amharic ☐ 2). Afan Oromo ☐

3. Respondents Sex: 1)Male ☐ 2)Female ☐

4. Age: _____

5. Marital Status: 1.Single ☐ 3.Divorced/Separated ☐

2. Married ☐ 4.Widowed/Widower ☐

6. Educational Status:

1. Certificate graduate ☐ 4.others specify_____

2. Diploma graduate ☐

3. Degree graduate ☐

7. Area (field of study):

1. Teaching; ☐ 4. please specify it _____

2. School administration ☐

3. If other than the above;

Annex C

Questionnaires for School Leaders (principals' unit leaders and department heads)

Addis Ababa University
School of Graduate Studies
College of Education
Department of Educational Planning and Management

The main purpose of this questionnaire is to collect data on the major factors that affect the internal efficiency of primary education in Adama City Administration.

You are kindly requested to fill the questionnaire according to your opinion.

Thank You

Instruction: 1. No need of writing your name

2. Please put "✓" mark in the box according to your response.

3. Give short and precise answer wherever necessary.

Part I: Personal Details

Name of School: _____

Position: 1. Principal ☐ Experience in position _____

2. Unit leader ☐ Experience in position _____

3. Department head ☐ Experience in position _____

2. Medium of instruction: 1) Amharic ☐ 2). Afan Oromo ☐

3. Respondents Sex: 1)Male ☐ 2)Female ☐

4. Age: _____

5. Marital Status: 1.Single ☐ 3.Divorced/Separated ☐

2. Married ☐ 4.Widowed/Widower ☐

6. Educational Status:

1. Certificate graduate ☐ 4.others specify_____

2. Diploma graduate ☐

3. Degree graduate ☐

7. Area (field of study):

1. Teaching; ☐ 4. please specify it _____

2. School administration ☐

3. If other than the above;

Part III

3. Following is a list of internal school factors that are expected to have an influence on internal efficiency of primary schools. Please put "X" mark according to your opinion in the box below as per the scale of their significance.

		Strongly disagree	Disagree	Partially agree	Agree	Strongly agree
		1	2	3	4	5
1	Truancy					
2	Frequent absenteeism/tardiness					
3	Hatred of one or more teachers					
4	Suspension					
5	Disciplinary infraction					
6	Failure to study hard					
7	Lack of self confidence					
8	The demand for repetition					
9	Inappropriate examination					
10	Shortage of qualified teachers					
11	Lack of teacher's encouragement and support					
12	Unattractive lesson					
13	Lack of guidance and counseling services					
14	Failure to allocate resources					
15	Inappropriate education calendar and time schedule					
16	Inflexible promotion policy					
17	Lack of school facility					
18	Irrelevant curriculum					
19	Shortage of textbooks and learning materials					
20	Inappropriate medium of instruction					
21	Inappropriate teaching method					
22	Overcrowded classroom					

2. Following is a list of school external factors that are expected to have an influence on internal efficiency of primary schools. Please put an "X" mark on your opinion in the box below as per the scale of their significance.

		Strongly disagree	Disagree	Partially agree	Agree	Strongly agree
		1	2	3	4	5
1	Lack of preschool education					
2	Attitude of pupil towards school					
3	The desire of pupil to involve in business					
4	Health problem/sickness					
5	Early marriage					
6	Teenage pregnancy					
7	Malnutrition					
8	Low income sources of families					
9	Mobility of families from one school attendance area to another					
10	Take care of siblings					
11	Parent illness/death					
12	Poor education of parents					
13	Inadequate housing					
14	Denigration of academic value					
15	Influence of unemployed high school graduate siblings					
16	Fear of abduction or rape					
17	Fear of harassment					
18	Family disunity					
19	Lack of home language in the medium of instruction					
20	Differentiation of gender					
21	The demand for high child labor					
22	Ethnic difference					

Annex D

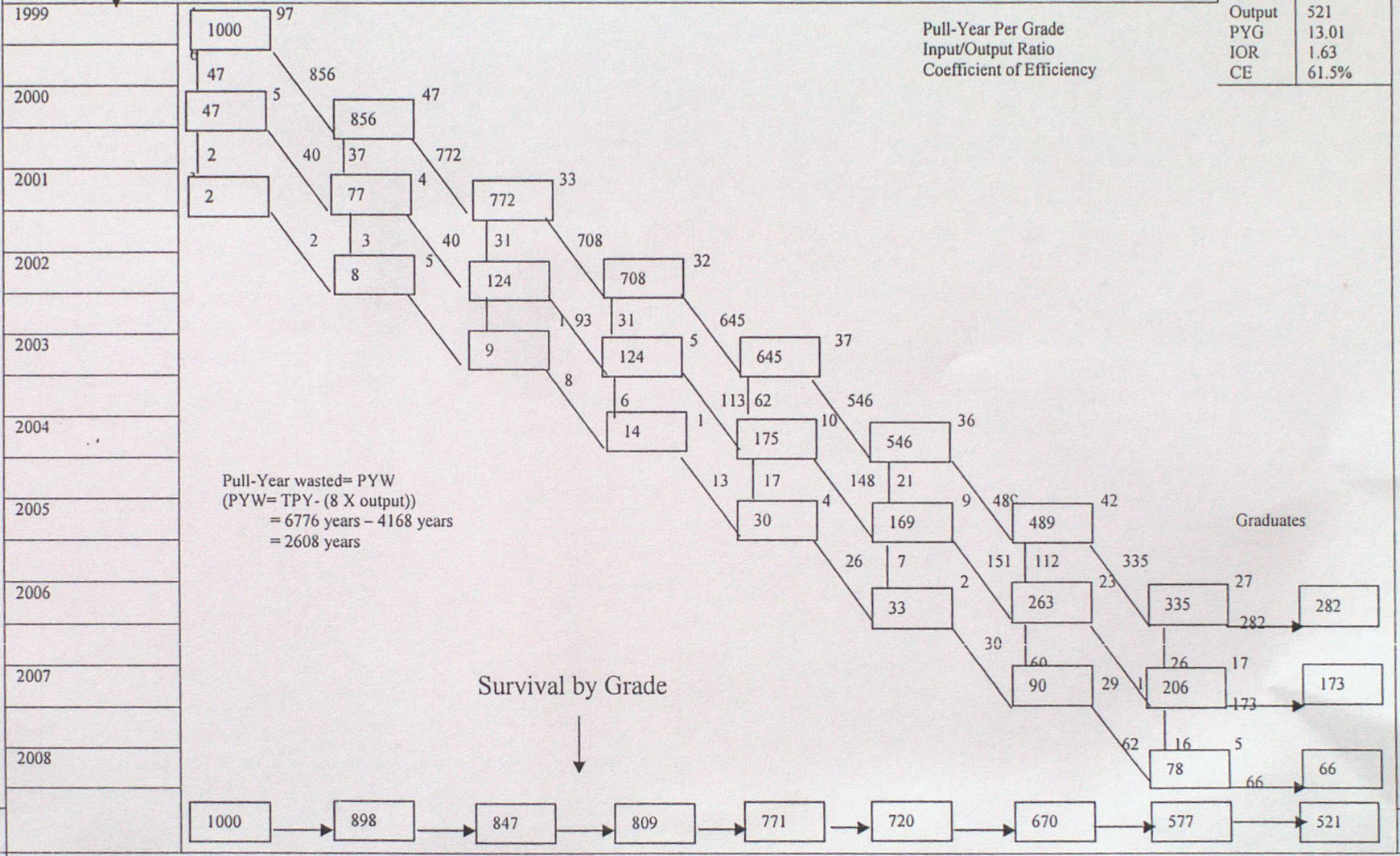
Annual Internal Efficiency Indicators (GS+NGS)

1998 E.C. Male	Grade1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Enrollment	2173	2050	2406	2185	2199	2098	2550	2118
Pass	1861	1825	2201	1939	1799	1845	1722	1743
Failure	106	102	100	133	253	86	552	188
Pass rate	. 856	. 901	. 915	. 887	. 818	. 879	. 675	. 823
Failure rate	. 049	. 05	. 042	. 061	. 115	. 041	. 217	. 089
Withdrawal rate	. 095	. 049	. 043	. 052	. 067	. 08	. 108	. 088
1998E.C. Female								
Enrollment	2588	2277	2424	2485	2564	2534	2891	2247
Pass	2214	2079	2228	2316	2228	2299	2002	1927
Failure	119	82	91	69	205	89	696	152
Withdrawals								
Pass rate	0.856	0.913	0.919	0.932	0.869	0.907	0.693	0.858
Failure Rate	0.046	0.036	0.038	0.258	0.08	0.035	0.241	0.068
Withdrawal Rate	0.098	0.051	0.049	0.04	0.051	0.058	0.066	0.074
1998E.C. NGS								
Enrollment	1528	1406	1575	1220	1048	986	955	821
Pass	1419	1312	1511	1154	908	892	813	73
Failure	36	39	34	37	60	43	115	21
Pass Rate	..9346	.9331	..9594	.9459	.8664	.9047	.8513	.8904
Failure Rate	.0594	.0277	.0216	.0303	.0573	.0436	.1204	.0256
Withdrawal Rate	.0418	.039	.019	.0288	.0763	.0517	.0288	.084
1998 E.C. GS								
Enrollment	3233	2921	3255	3450	3715	3646	4486	3544
Pass	2656	2592	2918	3101	3069	3252	2911	2939
Failure	192	145	166	152	400	132	1133	319
Pass rate	0.8215	0.8874	0.8965	0.8988	0.8261	0.8919	0.6489	0.8293
Failure rate	0.0594	0.0496	0.051	.0441	0.1077	0.0362	0.2526	0.09
Withdrawal rate	0.1191	0.063	0.0525	0.0571	0.0662	0.0719	0.0985	0.0807
1998 E.C. for both GS+ NGS								
Enrollment	4761	4327	4830	4670	4763	4632	5440	4365
Pass	4075	3904	4429	4255	4027	4144	3724	3670
Failure	225	184	191	202	458	175	1248	340
Pass rate	0.8559	0.922	.917	.9111	.8455	.8946	.6846	.8408
Failure rate	0.0473	0.0425	.0395	.0433	.0962	.0378	.2294	.0779
Withdrawal rate	0.0968	.0553	.0435	.0456	.0583	.0676	.086	.0813

Source: Calculated from ACAEO Statistical Records

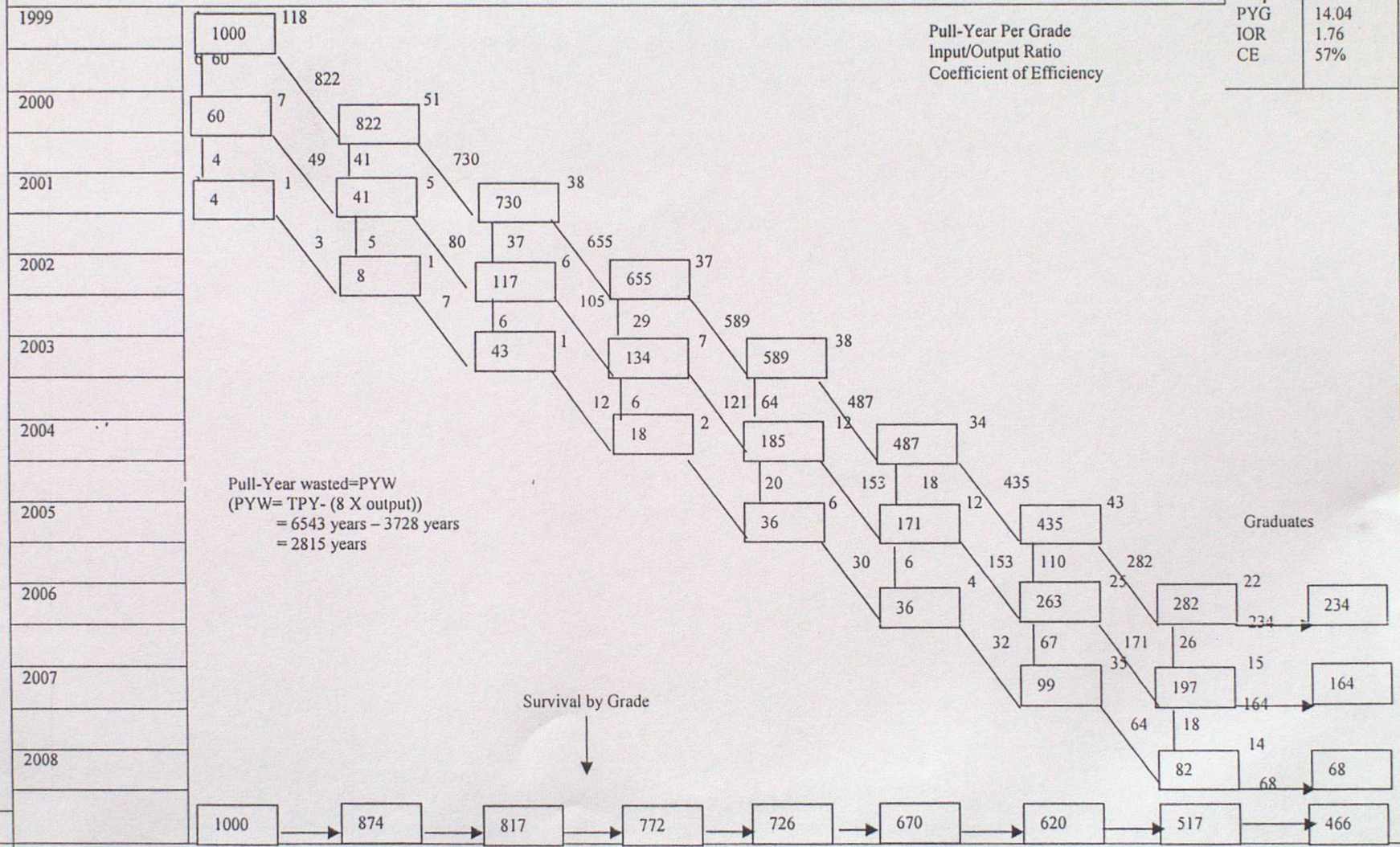
Over all Pupils	A. Government and Non-government Primary School⊗Grades 1-8) Hypothetical Cohort Analysis							
Grade	1	2	3	4	5	6	7	8
Enrolment 1998	4761	4327	4830	4670	4763	4632	5440	4365
Pass 1998	4075	3904	4429	4255	4027	4144	3724	3670
Failure 1998	225	184	191	202	458	175	1248	340
Pass rate (%)	85.59	92.2	91.7	91.11	84.55	89.46	68.46	84.08
Failure rate (%)	4.73	4.25	3.95	4.33	9.62	3.78	22.94	7.79
Withdrawal rate (%)	9.68	5.53	4.35	4.56	5.83	6.76	8.6	8.13

Pupil-Years/Grade	
Grade	Pupil-Year
1	1051
2	938
3	882
4	846
5	850
6	748
7	842
8	619
Total	6776
Output	521
PYG	13.01
IOR	1.63
CE	61.5%



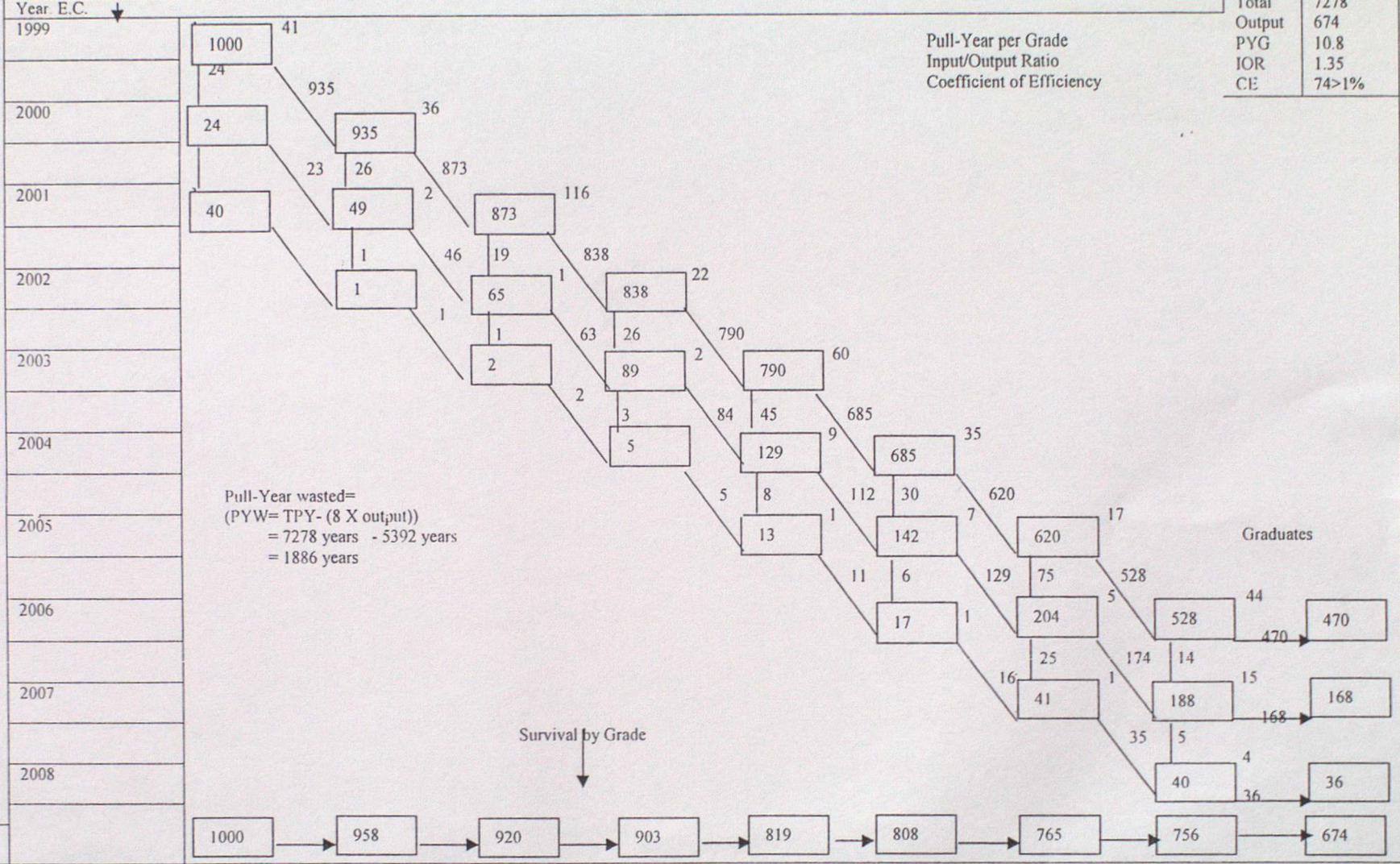
GS Pupils	B. ACA Government Primary School (Grades 1-8) Hypothetical Cohort Analysis															
Grade	1		2		3		4		5		6		7		8	
Enrolment 1998	3233		2921		3255		3450		3715		3646		4486		3544	
Pass 1998	2656		2592		2918		3401		3069		3252		2911		2939	
Failure 1998	192		145		166		152		400		132		1133		319	
Pass rate (%)	82.15		88.74		89.65		89.88		82.61		89.19		64.892		82.93	
Failure rate (%)	5.94		4.96		5.1		4.41		10.77		3.62		5.26		9	
Withdrawal rate (%)	11.91		6.3		5.25		5.71		6.62		7.19		9.85		8.07	
Year. E.C.22 ↓																

Pupil-Years/Grade	
Grade	Pupil-Year
1	1064
2	920
3	890
4	807
5	810
6	694
7	797
8	561
Total	6543
Output	466
PYG	14.04
IOR	1.76
CE	57%



NGS PUPILS	C. ACA Non-government Primary School (Grades 1-8) Hypothetical Cohort															
Grade	1		2		3		4		5		6		7		8	
Enrolment 1998	1528		1406		1575		1220		1048		986		955		821	
Pass 1998	1419		1312		1511		1154		908		892		813		73	
Failure 1998	36		39		34		37		60		43		115		21	
Pass rate (%)	93.46		93.31		95.94		94.59		86.64		90.47		85.13		89.04	
Failure rate (%)	5.94		2.77		2.16		3.03		5.73		4.36		12.04		2.56	
Withdrawal rate (%)	4.18		3.9		1.9		2.88		7.63		5.17		2.88		8.4	

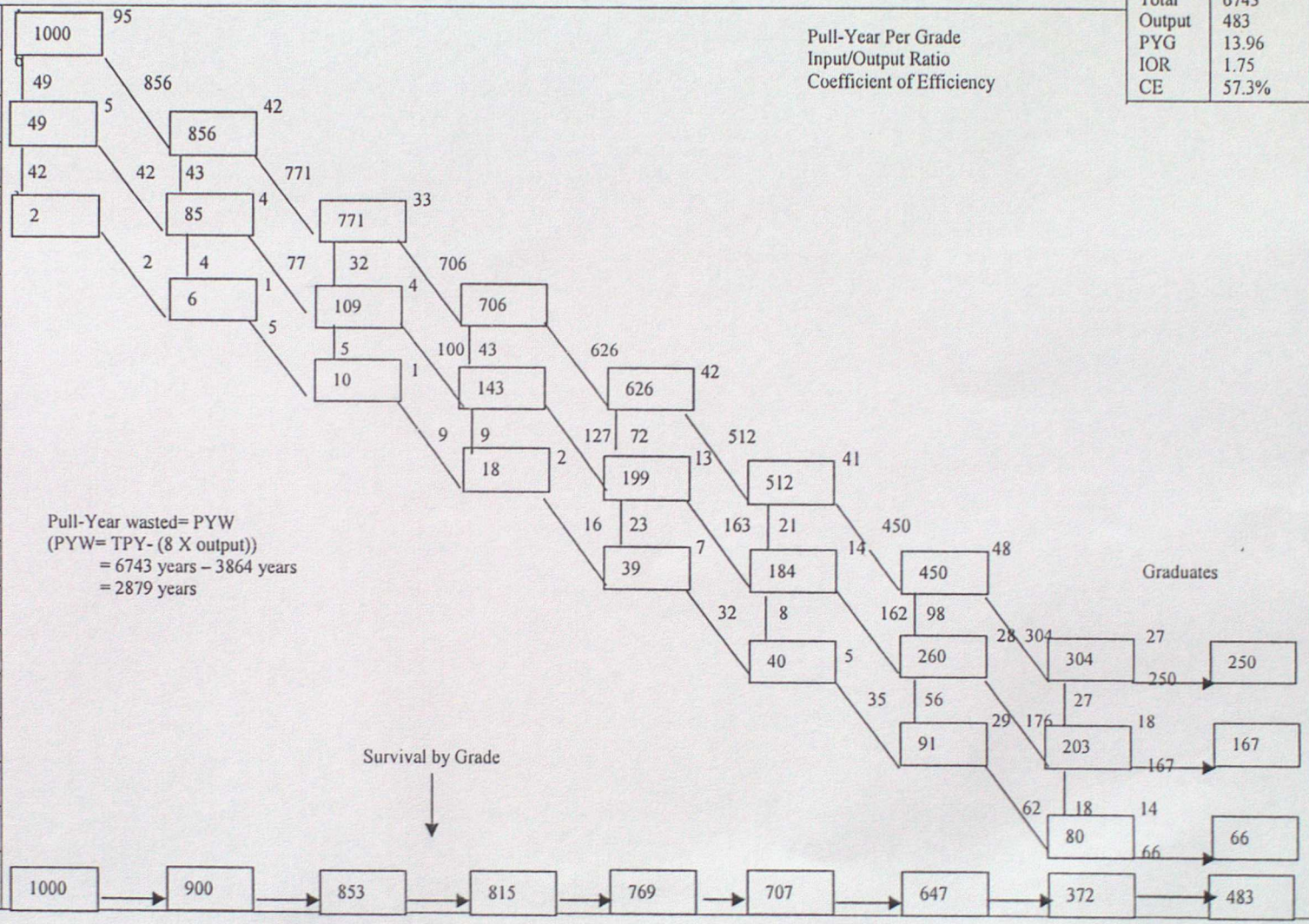
Pupil-Years/Grade	
Grade	Pupil-Year
1	1024
2	985
3	940
4	932
5	932
6	844
7	865
8	756
Total	7278
Output	674
PYG	10.8
IOR	1.35
CE	74>1%



Over all Males	D. Government and Non-government Primary School (Grades 1-8) Cohort For Male Pupils							
Grade	1	2	3	4	5	6	7	8
Enrolment 1998	2173	2050	24062	2185	2199	2098	2550	2118
Pass 1998	1861	1825	2201	1939	1799	1845	1722	1743
Failure 1998	106	102	100	133	253	86	552	188
Pass rate (%)	85.6	90.1	91.5	88.7	81.8	87.9	67.5	82.3
Failure rate (%)	4.9	5	4.2	6.1	11.5	4.1	21.7	8.9
Withdrawal rate (%)	9.5	4.9	4.3	5.2	6.7	8	10.8	8.8

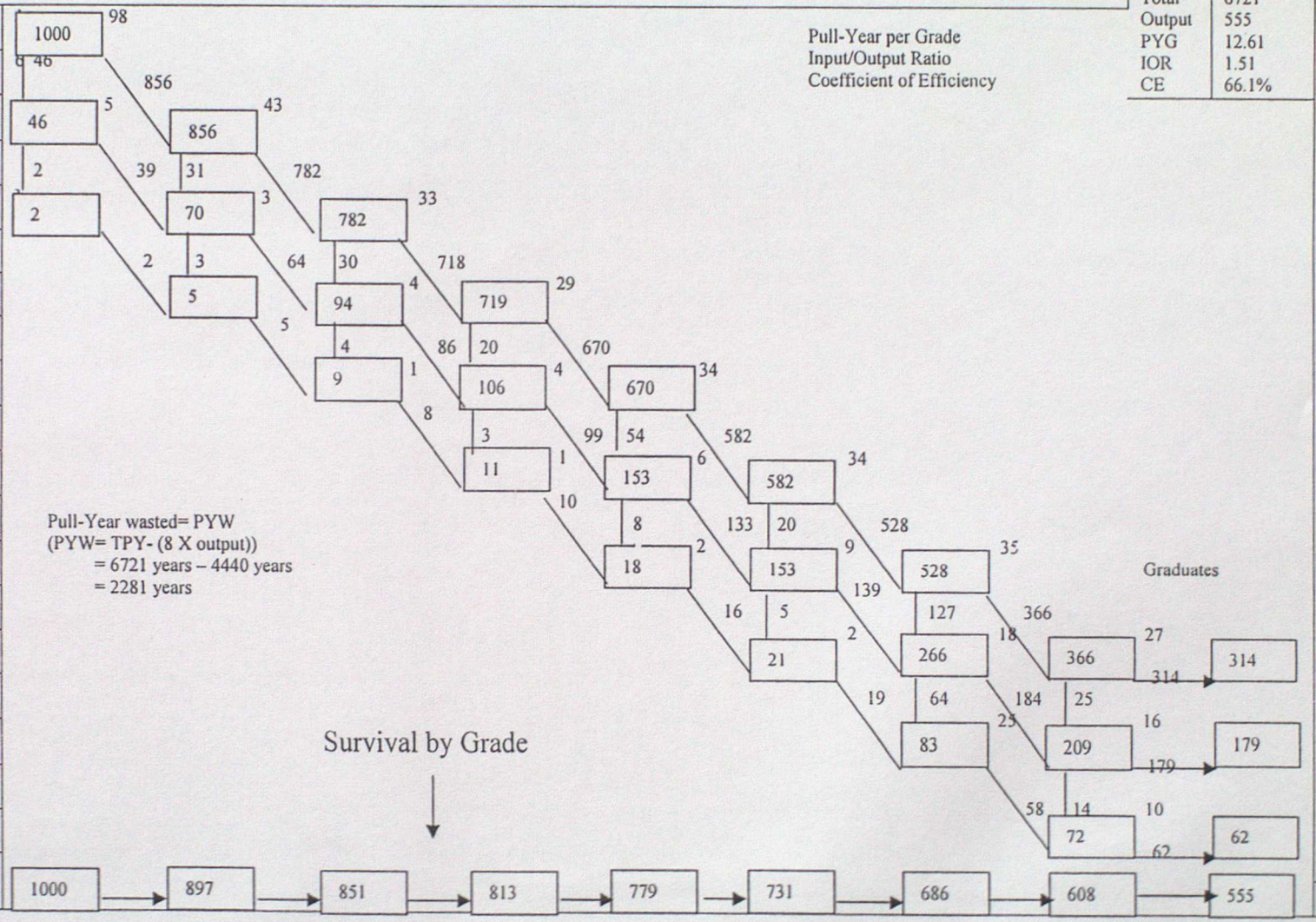
Pupil-Years/Grade	
Grade	Pupil-Year
1	1051
2	947
3	890
4	867
5	864
6	736
7	801
8	587

Total	6743
Output	483
PYG	13.96
IOR	1.75
CE	57.3%



Females Pupils	E. Government and Non-government Primary School (Grades 1-8) Female's Cohort															
Grade	1		2		3		4		5		6		7		8	
Enrolment 1998	2588		2277		2424		2485		2564		2534		2891		2247	
Pass 1998	2214		2079		2228		2316		2228		2299		2002		1927	
Failure 1998	119		82		91		69		205		89		696		152	
Pass rate (%)	85.6		91.3		91.9		93.2		86.9		90.7		69.3		85,8	
Failure rate (%)	4.6		3.6		3.8		25.8		8		3.5		24.1		6.8	
Withdrawal rate (%)	9.8		5.1		4.9		4		5.1		5.8		6.6		7.4	

Pupil-Years/Grade	
Grade	Pupil-Year
1	1048
2	931
3	885
4	836
5	841
6	756
7	877
8	647
Total	6721
Output	555
PYG	12.61
IOR	1.51
CE	66.1%



Annex E

Computations Results

I. Spearman's r_s computation for pupils' ranking

For School internal factors	For School external factors
$n_1 = 22$, $\sum_{i=1}^{n_1} d_i^2 = 1023.5$ $r_s = 1 - 6\frac{\sum_1^{22} d^2}{n_1^3 - n_1}$ $= 1 - \frac{6(1023.5)}{10648-22}$ $= 0.420948616$	$n_2 = 22$ $\sum_{i=1}^{n=22} d_i^2 = 495.5$ $r_s = 6\frac{\sum_1^{22} d^2}{n_2^3 - n_2}$ $= 1 - \frac{6(495.5)}{10648-22}$ $= 0.720214568$

II. t-statistic computation for spearman's r_s

For internal factors	For external factors
$r_s = 0.420948616$ $n_1 = 22$ then; $t = r_s \sqrt{\frac{n_1 - 2}{1 - r_s^2}}$ $= 0.420948616 \sqrt{\frac{22 - 2}{1 - (0.420948616)^2}}$ $= 2.075373873$	$r_s = 0.720214568$ $n_2 = 22$ then; $t = r_s \sqrt{\frac{n_2 - 2}{1 - r_s^2}}$ $= (0.720214568) \sqrt{\frac{22 - 2}{1 - (0.720214568)^2}}$ $= 4.642725855$

III. Spearman's r_s computations for Teachers' Ranking

For internal factors	For external factors
$n_1 = 22$ $\sum_{1}^{22} d_1^2 = 1285$ $r_s = 1 - \frac{6\sum_{1}^{22} d_i^2}{n_1^3 - n_1}$ $= 1 - \frac{6(1285)}{10648-22}$ $= 0.27442123$	$n_2 = 22$ $\sum_{1}^{22} d_1^2 = 562$ $r_s = 1 - 6\frac{\sum_{1}^{22} d_i^2}{n_2^3 - n_2}$ $= 1 - \frac{6(562)}{10648-22}$ $= 0.68266516$

IV. Computations of t-statistic for r_s as obtained from teachers' ranking

For school internal factors	For school external factors
$n_1 = 22$ $r_s = 0.27442123$ $t = r_s\sqrt{\frac{n_1 - 2}{1 - r_s^2}}$ $= 0.27442123\sqrt{\frac{22-2}{1-(0.27442123)^2}}$ $= 1.276244613$	$n_2 = 22$ $r_s = 0.68266516$ $t = r_s\sqrt{\frac{n_2 - 2}{1 - r_s^2}}$ $= 0.68266516\sqrt{\frac{22}{1-(0.68266516)^2}}$ $= 4.177967023$

V. Rank correlation as ranked by school leaders

For school internal factors	For school external factors
$\sum_{1}^{22} d_i^2 = 783.5$ $r_s = 1 - \frac{6\sum_{1}^{22} d_i^2 =}{n_1^3 - n_1}$ $r_s = 1 - 6\ \underline{(783.5)}$ 10648-22 = 0.557594579	$\sum_{1}^{22} d_i^2 = 551$ $r_s = 1 - \frac{6\sum_{1}^{22} d_i^2}{n_2^3 - n_2}$ $= 1 - \frac{6(551)}{10648 - 22}$ = 0.688876341

VI. Computation of t-statistic for rank assigned by school leaders

For school internal factors	For school external factors
$n_1 = 22$ $r_s = 0.557594579$ $t = r_s\sqrt{\frac{n_1 - 2}{1 - r_s^2}}$ $= (0.557594579)\sqrt{\frac{22-2}{1-(0.557594579)^2}}$ = 3.00397357	$n_2 = 22$ $r_s = 0.688876341$ $t = r_s\sqrt{\frac{n_2 - 2}{1 - r_s^2}}$ $= 0.688876341\sqrt{\frac{22-2}{1-(0.688876341)^2}}$ = 4.25001852

VII. Computation of Spearman's r for rank assigned by gender

For school internal factors	For school external factors
$n_1 = 22, \sum_1^{22} d_i^2 = 1112.50$ $r_s = 1 - \frac{6\sum_1^{22} d_i^2}{n_1^3 - n_1}$ $= 1 - \frac{6(1112.50)}{10648 - 22}$ $= 0.371823828$	$n_2 = 22, \sum_1^{22} d_i^2 = 382$ $r_s = 1 - \frac{6\sum_1^{22} d_i^2}{n_2^3 - n_2}$ $= 1 - \frac{6(382)}{10648 - 22}$ $= 0.784302653$

VIII. Computation of t-statistic for rank assigned by gender

For school internal factors	For school external factors
n=22, r= 0.371823828 $t = r_s \sqrt{\frac{n-2}{1-r_s^2}}$ $= 0.3718\,23828 \sqrt{\frac{22-2}{1-(0.371823828)^2}}$ $\sqrt{\frac{20}{0.861747704}}$ = (0.3718 23 828) (4.8617537428) =1.791275208	n= 22, r= 0.78 4302653 $t = r_s \sqrt{\frac{n-2}{1-r_s^2}}$ $=0.784302653 \sqrt{\frac{22-2}{1-(0.784302653)^2}}$ $=0.784302653 \sqrt{\frac{20}{0.384869348}}$ = (0.784302653) (7.208722962) = 5.653820544

VIIII. Computations of Correlation between School Internal and External Factors

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{\left[N\sum_{1}^{22} X^2 - (\sum_{1}^{22} X)^2\right]\left[N\sum_{1}^{22} Y^2 - (\sum_{1}^{22} Y)^2\right]}}$$

$$= \frac{22\,(210.4754) - (67.2)\,(69.7)}{\sqrt{[22\,(205.881) - (67.2)^2]\,(22\,(218.9779) - (69.07)^2)}}$$

$$= -\,0.438513007$$

X. Computations for Standard Deviation

1. For internal factors	2. For external factors
$S_x^2 = \frac{N\sum_{1}^{22} X^2 - \left[\sum_{1}^{22} x\right]^2}{N^2}$	$S_y^2 = N\frac{\sum_{1}^{22} x^2 - \left[\sum_{1}^{22} Y\right]^2}{N^2}$
$= \frac{22\,(210.4754) - (67.2)^2}{22 \times 22}$	$= \frac{22\,(218.9779) - (69.07)^2}{22 \times 22}$
$S_x = 0.486637135$	$S_y = 0.311119346$

XI. Summarized Statistics For computations of t-statistics

x	y	r	S_x	S_y	n
3.06	3.14	-0.44	0.487	0.311	22

Since the overall respondents were rated both the internal and external school factors according to the degree of influence on the problems, the t-statistic formula for testing dependent variables was appropriate. Therefore, the

t- Statistic was computed as follow below.

$$t = \frac{x_x - x_y}{\sqrt{\frac{S^2{}_x}{N_x} + \frac{S^2{}_y}{N_y{}^2} - 2r\left(\frac{S_x}{\sqrt{N_X}}\right)\left(\frac{S_y}{\sqrt{N_Y}}\right)}}$$

$$t = \frac{3.06 - 3.14}{\sqrt{\frac{0.236815702}{22} + \frac{0.096795247}{22} - 2(-0.44)\left(\frac{0.487}{\sqrt{22}}\right)\left(\frac{0.311}{\sqrt{22}}\right)}}$$

$= - 0.55$

DECLARATION

I here by declaration that this thesis is my original work and that all sources of information used for the thesis have been fully acknowledged.

Name: Girma Mekuria

Signature: _____

Date: _____

This Thesis has been submitted for examination with my approval as a university advisor.

Name: Associate Professor Ayalew Shibeshi

Signature: _____

Date: 20-7-07