

The Predictive Validity Of Selection Criteria Used For Teachers Participating In 'Kiremt' Program At Awassa College Of Teacher Education

**A Thesis Submitted To The School of Graduate Studies of Addis
Ababa University In Partial Fulfillment of The Requirements For
The Degree of Masters of Arts In Educational Psychology**

By Mohammed Alewi

June, 2004

SCHOOL OF GRADUATE STUDIES

The Predictive Validity Of Selection Criteria Used
For Teachers Participating In 'Kiremt' Program At
Awassa College Of Teacher Education

By Mohammed Alewi

APPROVED BY THE EXAMINING BOARD

Beluq Tefers
Chairman Department of Graduate Committee

[Signature]
Signature

Tamiric Andualem
Advisor

[Signature]
Signature

Menna Olayo
External Examiner

[Signature]
Signature

BROYADHAR SA
Internal Examiner

[Signature]
Signature



Acknowledgements

Many of educational activities can successfully be accomplished by the collaborative effort of stakeholders and significant others. Similarly, writing such a thesis as a demanding task needs the support and cooperation of individuals. Hence, there are persons who had valuable contribution for the completion of this study.

First, I express my sincere gratitude to my advisor Ato Tamire Andualem for his continues and generous assistance in guiding, commenting, advising, and showing the correct line of approach through the course of this study from its beginning to completion.

Second, I express my heart felt gratitude to the staff members of registrar office of Awassa College of Teacher Education for their willingness to provide all the necessary documents needed for the purpose of the study.

Finally, I thank my wife W/o Muna Shafo and our little daughters Semira Mohammed and Zebiba Mohammed for their patience with my departure from them.

Mohammed Alewi

Table of Contents

	Page
Acknowledgement	i
List of Tables	iv
List of appendices.....	V
Abbreviations & acronyms.....	vi
Abstract.....	vi
CHAPTER ONE: INTRODUCTION.....	1
1.1. Background of the problem.....	1
1.2. Statement of the problems	7
1.3. Description of variables.....	10
1.4. Objectives of the study.....	15
1.5. Significance of the study.....	15
1.6. The scope & limitation of the study.....	16
1.7. Operational definitions.....	18
CHAPTER TWO: REVIEW OF RELATED LITERATURE.....	19
2.1. Validity.....	19
2.1.1. Definition of validity.....	19
2.1.2. Kinds of validity.....	20
2.1.3. Methods of expressing criterion related validity.....	23
2.2. Educational selection & prediction	26
2.2.1. Decision making and prediction.....	26
2.2.2. Issues in decision-oriented validation.....	28
2.3. Findings of studies on predictor variables.....	33
2.3.1. ESLCE validity.....	33
2.3.2. Evaluation systems used in TTIs.....	35
2.3.3. Age, experience and academic performance.....	39
2.3.4. Teachers performance evaluation.....	41
2.4. An Overview of Teacher Education in Ethiopia:	
Recruitment & Selection System.....	43
2.4.1. Pre-service teacher education.....	43
2.4.2. In-service teacher education.....	47
CHAPTER THREE: METHODOLOGY.....	49
3.1. Subjects.....	49
3.2. Variables included.....	50
3.3. Procedure of data collection.....	52
3.4. Data Analysis.....	52

	Page
CHAPTER FOUR: RESULTS AND DISCUSSION.....	54
4.1. Results.....	54
4.1.1. Inter relationship of scores including mean & s.d. for components of the selection criteria.....	57
4.1.2. Relation ship between scores in predictors & criterion variable	58
4.1.3. Regression on college GPA.....	62
4.2. Discussion.....	70
4.2.1. Inter relationship of scores of predictors	70
4.2.2. Relationship of College GPA with predictors.....	72
4.2.3. Predictive validity and regression model.....	73
CHAPTER FIVE. SUMMARY, CONCLUSION AND RECOMMENDATIONS.....	77
5.1. Summary & Conclusion	77
5.2. Recommendations.....	80
Bibliography.....	82
Appendices	
Appendix A	
Appendix B	
Appendix C	
Appendix D	
Appendix E	
Appendix F	
Appendix G	
Appendix H	
Appendix I	

List of Tables

	Page
Table 3.1. Number of subject for the study	50
Table 4.1. The Mean & standard deviation of each variable & correlations of Predictors and criterion for each field of study and subjects considered altogether.....	55
Table 4.2. The mean and standard deviation of each variable & correlations of predictors & criterion for each of male and female group.....	56
Table 4.3. Summary of multiple regression analysis predicting the college GPA of Language Trainees (N=103).....	60
Table 4.4. Summary of multiple regression analysis predicting the college GPA of Natural science trainees (N=153).....	61
Table 4.5. Summary of multiple regression analysis predicting the college GPA of Social science trainees (N=88).....	63
Table 4.6. Summary of multiple regression analysis predicting the college GPA of Health & Physical Education Trainees (N=41).....	64
Table 4.7. Summary of multiple regression analysis predicting the college GPA of Male trainees (N=308).....	65
Table 4.8. Summary of multiple regression analysis predicting the college GPA of Female trainees (N=77).....	66
Table 4.9. Summary of multiple regression analysis predicting the college GPA of the entire subjects (N=385).....	68

List of Appendices

Appendices: Data collection formats

Appendix A: Kirmeit program participants who are admitted to ACTE for diploma program in the year 1999 (General Information)

Appendix B: Kiremt program participants who are admitted to ACTE for diploma program in 1999 (Scores in the selection criteria)

Appendix C: Kiremt program participants who are admitted to ACTE for Diploma program in 1999 (College performance)

Appendix D: Assignment of values for applicants ESLCE/TTI GPA during selection

Appendix E. Assignment of values for applicants service years during selection

Appendix F. Assignment of values for applicant's teaching performance during selection

Appendix G. Plots of Points for X and Y, where
 $X = \text{TTI/ESLCE GPA} \ \& \ Y = \text{College GPA}$

Appendix H. Plots of Points for X & Y, where
 $X = \text{Teaching Experience} \ \& \ Y = \text{College GPA}$

Appendix I. Plots of Points for X & Y, where
 $X = \text{Teaching Performance} \ \& \ Y = \text{College GPA}$

Abbreviations and Acronyms.

MOE - Ministry of Education

SNNPREB - Southern Nation Nationalities and People Region Education Bureau.

ACTE- Awasa College of Teacher Education

NETP - New Education and Training Policy.

ISTE - In Service Teacher Education.

TTI - Teacher Training Institute.

ESLCE - Ethiopian School Leaving Certificate Examination

GPA - General Point Average.

EGSECE - Ethiopian General Secondary Education Certificate Examination.

TEIs - Teacher Education Institutes.

MEFA - Ministry of Education and Fine Arts.

TGE- Transitional Government of Ethiopia.

Abstract

Designing and implementing effective and appropriate admission or selection criteria for teacher candidates is an indispensable avenue to the quality of teacher education. If the criteria do not promote the attainment of program objectives in general and participants success in particular, there may be great lose of human and material resources. Accordingly, this study was carried out to identify to what extent the selection criteria used in SNNPREB kiremt program at ACTE predict their success in the training program.

More specifically, the objective of this study was to analyze the predictive validity of the selection criteria (separately & collectively) in each sub group & the entire subjects group.

The subjects of the study were 385(Male =308, Female=77) trainees who have been admitted to ACTE in 1999 and able to graduate in 2003 after attending five series of kiremt program. For the purpose of this study, the subjects were classified in to four sub groups (Language, Natural science, Social science, and HPE) with respect to their fields of study and another grouping by sex (Male & Female) irrespective of fields of study was formed. The entire subjects were also taken altogether as a group.

The selection criteria used by SNNPREB, ESLCE/TTI GPA, teaching experience and teaching performance are taken as predictors. The criterion measure was graduation GPA. Sex was used as a predictor in subgroups with respect to fields of study and in the entire subjects group. Data on both criterion and predictor measures for each subject were collected by checking documents kept at the college. Analyses of data were carried out using multiple correlation and regression (stepwise) techniques.

Results of the study indicated that the selection criteria have different predictive power in each subgroup. ESLCE/TTI GPA was found being the best predictor of college GPA in the case of each subgroup & entire subjects group.

Teaching experience has negative but significant correlation with college GPA in all cases. Teaching performance is weak predictor of college GPA in the entire subjects group, but didn't have contribution for prediction of college GPA in subgroups. ESLCE/TTI GPA predicts better in Natural science case than Social science or Language subgroups. The selection criteria (separately/collectively) work better for the prediction of males' college GPAs than females'.

The proportions of variance explained by the selection criteria (collectively) are 39%, 35%, 27.1% & 47.6% in Language, Natural science, Social science and HPE subgroups respectively. The selection criteria (collectively) in male and female subgroups explained 25.8% and 11.6% respectively. For the entire subjects group, 27.1% of variance was accounted for by the selection criteria (collectively).

It would be better to provide the opportunity of kiremt program for teachers during their early service years by maximizing the quota & allocation of resources. Moreover, participant teachers should be enrolled in the field of study that they had some experience either in learning during high school education or in teaching. Future research can be initiated to conduct comprehensive study by including the selection criteria used in other regional colleges.

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Problem

The status of education is highly dependent on the quality of teacher education. That is, educational policies are likely to be more successful when much effort is done to improve teachers preparation. According to Schott (1989), Friedman et al (1980) and Adane et al (2001), a more complete preparation of teachers involves a carefully planned training program for both pre-service and in service teacher education. Moreover, since student teachers no longer use theoretical and practical knowledge of teaching immediately after their graduation, there should be the continuum of teacher education (Stinnett, 1968; Edelfelt, 1974).

The distinction between pre-service and in-service teacher education is that, the former refers to training before practicing the teaching profession; while the later indicates to the training and education opportunities for teachers (Tilahun,1990; Howey, 1976). According to Friedman et. al (1980) & Tilahun (1990) professional development, teacher development, staff development, in service program are similar concepts used to indicate the training and education opportunity for upgrading the quality of practicing teacher both in professional skills and in subject matter areas.

In-service teacher education can be delivered in different modes, such as workshop, committee work, independent study, correspondence, educational trips, summer (Ethiopian 'kiremt') program, required course work for certificate renewal,

professional reading, etc. which may or may not lead to some form of credential (Friedman, et. al, 1980; Tilahun, 1990; Howey, 1976). According to Tilahun (1990), In-service Teacher Education (ISTE) broadly defined as “---a whole of planned activities by which education personnel in active service have opportunities to further their education, develop their professional competence and improve their understanding of educational principles and techniques.” (PP.87-88)

The issues of further education, quality of trainees, and quality of teacher education have been the major sources of debates among educators and researchers. For instance, according to Adane, et. al (2001), even though quality of trainees is assumed as one of the decisive factors for quality teacher education, research indicates that candidates for teacher education institutions in many countries are not academically gifted, particularly in primary teacher education. Thus, Freeman cited in Adane, et. al (2001) suggested that raising the admission standard of teacher education institutions as a means of increasing quality of teacher education. Because of the widely accepted issue that teacher education institutions are unable to attract academically able candidates, one may insist to argue that, since further education and the profile of trainees favors the able ones, it is not hoped that there will be such teaching corps that qualify for further education in a school (Adane, et. al 2001).

Friedman, et.al (1980) noted that the selection criteria for a teacher education program should be directly linked to success in the program and casually associated with desired student outcomes in the classroom. Supporting this view, Astin cited in Adane et al (2001) suggested that, institutions producing high retention and high achievement by

incorporating selected students is a “zero sum”. This means that if an institution holds great number of trainees beyond the intended training time, it may not provide trained human resources to other sectors. In this case, retaining may cause high attrition rate if it is due to academic failure. Hence, the predictive validity of selection criteria may be established not only with respect to success in teaching but also success in the training program.

The commonly used measures for pre-service selection criteria are high school achievement, intellectual ability in entrance test or scholastic aptitude ability (Friedman et al, 1980; Howey et.al, 1978). However, Accreditation for American College of Teacher Education (AACTE) proposed the following criteria as indicated in Applegate (1987). These are academic GPA, desire or commitment to teaching, satisfactory physical and mental health, voice quality and appearance, satisfactory completion of a course in oral communication or speech, and satisfactory personality character.

Developing selection criteria for participants of in –service program is generally less complicated than that of setting criteria for pre-service programs (Friedman, et.al, 1980). In the case of in-service program, one must examine the quality of standards for initial selection, the degree of sophistication and specialization of initial preparation, the actual placement, the needed stability in the changing role and the basic working conditions which hinder or promote self-renewal (Friedman et al 1980). For continuing education, admission may require a minimum standard of performance during pre-service training, written recommendation and entrance test score (Stinnett;1968).

In general, for any case, it is suitable to have valid selection criteria in order to identify those candidates who can succeed in both the training program and in the job performance.

Teacher education in Ethiopia has a long history. Teacher training program was started in 1944 in a single room at Menillik II school in Addis Ababa (MOE, 1999). The admission criterion was attending a minimum of grade 6 (MOE, 1999). Tilahum (1990) has indicated that, although pre-service teacher training goes back to 1944, there were no established criteria for teaching up to 1952/53 when the then Ministry of Education and Fine Arts (MEFA) adopted a new policy not to employ any new teachers who didn't complete eighth grade education. Three years later, the committee recommended that the prospective primary school teachers to have a minimum of eight years of academic education & one year of teacher training. In 1964 a major move was taken when training institutes were established with a minimum entrance standard of grade 10 and regular training period of two years (MOE, 1999)

As the pre-service training program was up-graded each time since 1944, teachers were given the opportunity to up-grade them selves to the higher level through a series of 'Kiremt' training programs since 1958 (Yalew, 1998). The selection criteria for 'Kiremt' training program at the beginning were mainly based on the teachers' active service (Tilahun, 1990). The first institution responsible for secondary level pre-service & in-service teacher education was the faculty of education of Addis Ababa University (Yalew, 1998). The Kiremt training program for diploma level was started in 1971 at AAU. The admission requirement for diploma program was completion of grade 12 and a certificate

of teaching (Tilahun, 1990). Because of this selective admission requirement for diploma programme, the annual in-take was small & thus unable to keep pace with growing number of elementary school teachers (Tilahun 1990). After attending three or four kiremt programs participants were awarded university diploma in different subject area to teach at secondary schools (Yalew, 1998)

Initially, the Kiremt diploma earned after accumulating 26-36 credit hours was not recognized as fulltime diploma program requiring 65 or more credits (Tilahun, 1990). Such school personnel were not allowed to continue under graduate program through advanced standing form (Tilahun, 1990). After its interruption in 1974, the new Kiremt program was established with changes in curriculum and administration in 1978 and the duration was extended to 4 or 5 years of regular diploma program (MOE, 1999)

This diploma program was implemented in five different colleges and didn't fall under one professional college as before (Yalew, 1998, Tilahu, 1990). The MOE was not satisfied with both the quantity and quality of the then existing pre-service teacher training as well as the kiremt program for secondary school teachers (Bilillign Cited in Tilahu, 1990). The major reasons for the ineffectiveness of the kiremt program in particular were high attrition rate, the duplication of the pre-service training curricula, shortage of finance, absence of standards of entry requirements etc (Tilahu, 1990: Yalew 1998).

Ethiopian education system in general has been under great attack that it didn't promote the socio-economic status of the country (MOE, 1994). This condition insisted the emergence of the new education and training policy (MOE, 1994). The new education

and training policy has general objectives dealing about quality, relevance, equity, access and efficiency of education (TGE, 1994).

Accordingly, the Teacher Education Institutes (TEIs) are significant for effective implementation of the new education and training policy, because they are in a central position to make changes and to spread new ideas or to change some harmful or out-dated ones with in communities. Moreover, MOE (1994) has stated that “Teachers starting from KG to higher education will be required to have the necessary teaching qualification and competency through pre service and in service training”. (p12)

In working towards implementing the policy, unlike the earlier education systems, Regional Education Bureaus are responsible for guiding, organizing and managing primary teacher education programs (MOE, 2003). Thus, the Southern Nations Nationalities and People Regional Education Bureau (SNNPREB) is responsible to decide on the subject quotas, admission and selection requirements, the necessary fund and resource for teacher training institutes of the region. Awassa College of Teacher Education being one of the education institutions of the region is responsible to train competent teachers for primary education 2nd cycle (Grade 5-8) in its regular and Kiremt programs (MOE, 2003). Particularly the ‘Kiremt’ program has the aim to up grade primary education 1st cycle level (Grade 1-4) teachers from certificate (12+TTI or 10+1) to diploma (12+2 or 10+3) level by training for 5 series of ‘Kiremt’ programs to enable them to be competent teacher of primary education 2nd cycle (Grade 5-8) in the fields of Languages (Amharic, English), Mathematics, Physics, Chemistry, Biology, Geography, History, and Health and Physical Education. Awassa college of Teacher Education

(ACTE) was established in 1974 as a TTI, and up graded to college level in 1996. It has started admitting 'Kiremt' program trainees in 1996 for the first time. The trainees were teachers who were selected from six regions of the country (Gambella, Ethiopian-Somali, Harari, SNNPR, Diredawa, "Hitsanat Amba). Beginning from 1997, the college is admitting 'Kiremt' program participants who are selected among primary education 1st cycle (G-1-4) teachers working in SNNPR. The selection requirements used in the region are teachers professional and academic backgrounds. These are teaching experience, teaching performance, and TTI /ESLCE GPA. Each zonal/special woreda education officials select and send trainees to the college according to the quota given to them for the year. Special quota is given for female teachers to be selected in each woreda in order to avoid gender gap.

1.2 Statement of The Problem

In spite of the common difficulties inherent in prediction studies, several researchers have conducted studies on the predictive validities of admission criteria with respect to academic success in colleges. Most of such studies focused on regular program participants. That is, students admitted to colleges for pre-service training program.

Similarly, many of the local validity studies on admission criteria are conducted on colleges' and universities' regular students. Particularly, few studies are available on 'Kiremt' program participants in teacher education institutes. Prior to the emergence of NETP, due to the absence of clearly defined selection criteria for 'Kiremt' program participants (Tilahun, 1990), it might not be convenient to conduct prediction studies about the performance of participants in the program.

Currently, the selection criteria used in SNNPR for Kiremt program participants at ACTE for diploma level include TTI /ESLCE GPA (70%), teaching experience (15%), and teaching performance (15%). A single composite score is given for each applicant and applicants are rank ordered on the basis of their scores. The 'cut-off' point for admission depends on the subjects and trainees quota given to the zone or special Woreda education office.

Several studies were carried out on validity of ESLCE in predicting success at TTIs (Belay, 1990; Negussie, 1996; Abraham 1993) and colleges (Asmerom et al 1989; Langmair, 1971; Melaku, 1975; Tracy, 1965, Mekonnen et al 1991; King and King 1972). Many of them found ESLCE being weak in predicting students success in colleges and universities. Others found that ESLCE GPA correlate positively and significantly with trainees achievement at TTI (Belay, 1990; Negussie, 1996). Abraham (1993) identified that TTI GPA has positive correlation with teaching effectiveness (performance).

Some studies are conducted on validity of teaching experience and teaching performance. Berhane Meskel (1999) in his study about teachers perceptions of their performance evaluation made by high school students & their parents in Gurage Zone reported that, though teachers have favourable attitude toward the evaluation, they claim that there is irrelevance of the criteria of the evaluation to evaluate the actual teaching learning process. Moreover, Stinnett (1968) has recognized that, it is difficult to measure teaching effectiveness. Schott (1989) suggested that less mature teachers process experience differently and may not do well in some in-service contexts. There is conditional relation ship between age and cognitive performance. Drenth et al (1983)

found that there is negative correlation between age and performance in college. Negussie (1999) found a negative relationship between teachers' experience and their performance in Kiremt training program. Cognitive capacity develops from birth to adolescence, it remains constant during adulthood ages, and then decreases in the old age (Skinner, 1989; McCormick, et.al, 1997). Hence, the correlation between age and academic achievement may be positive from birth to adolescence, it may more likely be zero during young adulthood, and negative towards the old age (Skinner, 1989).

Further more, quality of the admission criteria for pre-service training program may affect performance on Kiremt training program. Adane et al (2001) suggested that since TTIs recruit trainees from the group failed in national measure to continue their education in colleges and universities, it is difficult to get able teachers for further education. Fransua (2001) in his study of the problems of first cycle primary school teachers training in SNNPR indicated that the recruitment procedure applied in the region doesn't focus on selecting applicants with good academic background & positive attitude towards the profession.

Moreover, instructors in teachers college who teach the kiremt program trainees have expressed their dissatisfaction on the validity of the selection criteria (Negussie, 1999). The reason for their argument is that they found the trainees academic performance below the standard required by the college. High attrition rate is also another problem in kiremt program.

Therefore, contradictions on the validity of ESLCE,TTI Grading system, subjectivity in teachers performance evaluation and issues on age, experience and

academic performance interested the researcher to conduct this study by raising the following leading questions.

- What is the inter relationship of scores in components of the selection criteria?
- What is the relationship between scores in the selection criteria and performance in Kiremt program?
- What is the predictive validity of each component of the selection criteria?
- Do the selection criteria predict differently in various fields of study?
- Do the selection criteria have different predictive power for males and females?

1.3 Description of Variables

Variables considered as a selection criteria are ESLCE/TTI GPA, teaching experience and teaching performance. A short explanation of each criterion is presented as follows:-

ESLCE GPA

According to Yusuf (1981), the ESLCE was introduced experimentally in 1948. That is, initially it was started to be given with combination of other foreign tests. It was held annually in the spring and was given to students who completed the Ethiopian secondary school education. Mekonnen cited in Yusuf (1981) has indicated that it had only one official purpose; that is to certify students for the completion of Ethiopian high school education. Another non official purpose was that admission office of the AAU and later other universities of the country used the ESLCE GPA as an entrance requirement. The exam was given in the subject matter areas: Amharic, English, Math, Physics, Chemistry, Biology, Geography, History, General Science, Economics, Book keeping, &

Geez. Actually, Amharic, English and Mathematics were given to all candidates, while candidates took other subjects based on their stream during high school education. The streams were science, social science and commerce. Geez was optional irrespective of stream.

Since letter grades representing a 4.00 scale were used in evaluating students performance, a passing mark in ESLCE was scoring a GPA of not less than 2.00 in five subject areas, where earlier three of them (Amharic, English & Math & later two of them (English & Math) were compulsory and the rest are the best grades of the remaining subjects that the student took. However, due to different reasons the cut off point to be admitted to colleges and universities fluctuated from year to year irrespective of the passing GPA (Yusuf ;1981; Shenkute, 1991). Students who were unable to continue colleges and universities were recruited to TTIs to be a teacher in primary schools

Due to the implementation of the NETP, on this matter, the ESLCE ceased to be given since 2003. According to the NETP, an equivalent form (not psychometrically) of achievement test called the Ethiopian General Education Leaving Certificate Examination (EGSECE) is being given at the completion of grade 10. Currently TTIs and Teachers Colleges candidates are recruited based on EGELCE GPA & others. However, since a minimum of three years of service is mandatory to apply for Kiremt program, ESLCE GPA is still used in the selection criteria if the applicant's TTI GPA is less than that of ESLCE GPA. Actually those candidates who submit their ESLCE GPA are very few in number in each year.

TTI GPA

TTI GPA is an accumulated grade point average of trainees in their 10 months of pre-service training program. Most TTIs offer thirteen courses with a total credit hours of 35 in each semester. A total credit hours of 70 is accounted in both semesters. Letter grades, A, B, C, D, F are used for trainees performance in each course representing 4, 3, 2, 1 & 0 respectively in changing into GPA form. In semester I, if a student scores a G.P.A below 1.00 or five or more F's irrespective of the GPA, then he/she is forced to be suspended. A trainee scoring four F's with a G.P.A with in the range of 1.00 and 1.40 is subject to an official warning that he/she should improve his/her performance. A trainee with a minimum G.P.A of 1.25 can graduate provided that there is no F's in both semesters. But, a minimum G.P.A of 1.50, 1.75 and 2.00 are needed if there is one F, two F's and 3F's respectively for graduation approval (MOE 1980-1989).

Teaching Experience

Teaching experience represents the total number of academic years the teacher has provided services in teaching or in education offices. To apply for the Kiremt training program, a teacher should serve at least three years (SNNPR Education Bureau, 1997). Actually, ten months of academic year represent a one year service.

Teaching Performance

Teaching performance is a composite score obtained from students, parents and school administrators ratings made about the teacher's efficiency in teaching. The three ratings account different proportions in the evaluation of the teacher's performance.

Evaluation made by students account 25% in which the major focus areas are activities in the class room teaching-learning process. Evaluation made by parents represents 15% of the total account, which focuses on teacher's cooperativeness and social attitudes in the community. Evaluation made by the school administrators accounts 60% focusing mainly on teacher's all-round activities with in the school system. Teachers performance evaluation is carried out once in every semester.

The composite score of the ratings made by students, parents and school administrators is indicated by a 5 point scale, where 1 is the minimum and 5 is the maximum score. To apply for Kiremt training program the average score of the recent three semesters (18 months) performance should be at least 3.45 (SNNPREB, 1997).

Validating Criterion

The issue of criterion score in predictive validation studies has been given great emphasis by many authors. Cronbach (1971) has suggested that the whole weight of predictive validation is based on the criterion score. With respect to personnel selection, Chisselli cited in Shenkute (1991) has suggested that accumulating evidence to show a relationship between decision based on assessments made by personnel selection procedure and criterion such as job performance, training performance, advancement or other relevant job behaviours is an essential principle in predictive validation studies.

In educational selection, the analogy to job performance is school or university achievement such as GPA (Cronbach, Hills, 1971). As stated by Hills (1971); ... "Though grades are criticized vigourously, they are usually attractive as a criterion because they are easily attainable, readily quantifiable, and of great importance in making

other decision such as whether students graduate or not, whether they are allowed to remain in college or not, whether they are given honors, whether they are allowed to take advanced or special courses, and soon.” (p. 685)

In relation to this, the validating criterion considered for this study is trainees cumulative GPA in five series of Kiremt training program (graduation GPA). As far as criterion measure for this study is considered, some of the related issues are presented as follows:

The training duration in each series of kiremt program at ACTE is approximately for two months (July and August). Each participant took 11-17 credit hours courses in each kiremt program and a total credit hrs in a department ranging from 65-71. At the completion of each kiremet program a participants performance in each course is graded as A, B, C, D or F & term GPA and cumulative GPA are computed. A mininum cumulative GPA of 2.00 with out F in any course is mandatory for graduateion approval. All trainees in kiremt program are residential and offered free board, including food. They also do not pay for their eduation since the program is fully financed by the SNNPREB.

The professional levels of most instructors meet the required standard. There are 2 Ph.D (3.4%) , 35 M.A. /M.Sc (57.63%), 15 B.Sc/BA (24.42%) and 7 Diploma (13.56%) in the total teaching staff of 59. Trainees do not take teaching practice (practicum) course. Their grades are based on assignments, mid tests, and final exams. The academic Dean’s & Registration Offices design coordinated regular testing program for mid and

final tests. According to these offices, there is no complaints filed in the management about grading at the ACTE.

1.4. Objectives of the Study

The general objective of the study is to assess the effectiveness of the selection criteria as a function of predicting success in Kiremt training program. The following are taken as specific objectives of the study.

- To identify the inter relationship of scores in the components of the selection criteria.
- To find out the relationship of scores in the selection criteria with performance in Kiremt training program.
- To isolate the predictive power of the selection criteria (separately /collectively) in relation to fields of study
- To investigate the predictive power of the criteria for males & females

1.5 Significance of the Study

As far as education quality is viewed in terms of teachers' competence in academic skills, participants success in the Kiremt training program may have its own share on the issue of education quality. Moreover, since education is a life-long process, participants' success in the Kiremt training program may help them to be admitted to a university for

further education. Hence, attention should be given to the development of appropriate admission and selection criteria in order to identify the able candidates for both pre & in-service training programs.

On the other hand, unlike the earlier education systems in Ethiopia, the NETP has provided the opportunity for students completing grade 10 to be admitted to various technical schools & preparatory programs (TGE, 1994). Thus, due to the low status of teaching profession in Ethiopia (MOE, 1999), it is hardly possible to attract new candidates to the teaching profession both in quality & quantity, particularly teachers of primary education. Therefore, it is necessary to upgrade the professional and academic levels of the existing teachers through kiremet training program. To ensure such a great task, there should be appropriate criteria which assist for the selection of candidates who are able to graduate successfully with in the intended period of time.

In short, the rationale for undertaking this study lies on the fact that the findings of such a study are expected to have practical application for education authority to design and implement appropriate selection criteria which can promote the effective implementation of the new education and training policy.

1.6.The Scope & Limitation of the Study

Even though there are other regional colleges having kiremt training program, the study is limited to Awassa College of Teacher Education. In fact, due to decentralization (which is indicated as one of the implementing strategies of the NETP), each regional bureau has its own selection criteria used for participants of kiremt training program

(TGE, 1994). For instance, the Gondar College of Teacher Education admits Kiremt program trainees by using the selection criteria similar to that of SNNPR with different proportions for each criterion; efficiency (40%), TTI/ESLCE GPA (50%) & teaching experience (10%) (Negussie 1999). Thus, it might be more comprehensive if the study has included all the teacher education colleges found in all regions of the country. This is left for further research.

* Inherent problems usually observed in prediction studies are also common to this study as limiting factors. Specifically, problem of range restriction & time gap between predictor & criterion measures. Moreover, the ESLCE and TTI, GPAs were not considered separately as predictors because of few number of subjects who submitted ESLCE GPA while they were applying for the program. Thus, the results obtained about ESLCE/TTI GPA may not explain well the ESLCE GPA separately.

Another limiting factor in this study is that, due to the absence of complete data on predictor variables for trainees admitted to the college prior to 1999, cross-validating data were not available.

1.8. Operational Definitions

College GPA or graduation GPA – The cumulative GPA of a successful trainee who is able to complete diploma level courses through a series of five kiremt program at ACTE.

Kiremt program – A mode of delivery of in-service teacher education for primary education 1st cycle (Grades 1-4) teachers approximately for two months of Ethiopian summer (July & August) in each year.

Predictive validity – The degree to which a procedure is more likely to forecast future trends.

Selection criteria – Requirements used by the SNNPREB to provide the opportunity of kiremt program for primary education first cycle (G 1-4) teachers at ACTE to upgrade their academic & professional status to diploma level.

Teachers education – Academic and professional studies offered for teachers in both pre and in-service training programs.

Teachers Training Institute (TTI) – An institution in which primary education 1st cycle (Grade 1-4) teachers are trained for 10 months and awarded 12 +TTI or 10+1 certificate.

Teaching experience – The service provided by an education personnel either as a teacher or as an education official.

Teaching performance – school administrators, students, and parents ratings made for teachers teaching competence.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Validity

2.1.1. Definition of validity

The concept validity has been defined in many different ways by many authors for the last many decades. For instance, Mehrens et al (1969) defined validity as the degree to which a test or a procedure measures what it purports to measure. It can also be defined in particular as truthfulness of the test to refer to the content and construct types of validity (Mehrens et al, 1969). Some authors defined validity with respect to some other criterion measures. Ebel (1979) stated that “To demonstrate validity, one must have criterion measures, real, authentic, or hypothetical.” (p.299). In this case, validity can best be defined as the degree to which a test is capable of achieving certain aims (Ebel, 1979;Mehrens et al, 1969).

More broadly, validity refers to the soundness of all interpretations of a test and situation- bound predictions (Cronbach, 1971). That is, validation involves checking the test score against some other observation that serves as a criterion and examining the appropriateness of the test or the measuring what it is intended to measure (Cronbach, 1971). Cronbach (1971) regarded the phrase validation of a test as a source of much misunderstanding. The reason for his argument is that one validates not a test but an interpretation of data arising from a specified procedure, and another may validate the test. In relation to this idea, Ebel (1979) stated that “Validity is not so much a property of a test as it is of the inferences and decisions made with the help of the test. That is, it is

not the test but the use made of the test scores that has more or less validity” (p.299). Since a test that is used in making one decision may not have value at all for another purpose, it is wrong to ask general questions: such as: Is this a valid test? Instead how valid this test for the decision I wish to make for? Or how valid is the interpretation I propose for the test? (Cronbach, 1971). Supporting this idea Ebel (1979) stated that “If a test is used for different purposes, it is likely to have a different validity for each different purpose.” (p299)

This implies that, the test developer and the test user have different responsibility to verify validity. According to Ebel (1979), the responsibility of the test developer is to be as clear as possible about what is being measured and to produce a test that measures as accurately as possible. The responsibility of the test user is to make valid decisions using the test scores and all other relevant and available information.

There fore, the major focus of validity is not only on the test itself but also on the use that is made of it. The concept of validity of a test can best be made clear by considering classification of validity in the next section.

2.1.2. Kinds of Validity

Earlier studies suggested that, there were two broad categories of validity. According to American Psychological Associations (APA) recommendation (cited in Ebel, 1979), these two categories are primary or direct validity and secondary or derived validity. Thorndike and Hagan (1980) identified a similar dichotomy of kinds of validity. The distinction between the two categories is that those which depend primarily on rational analysis and professional judgment are identified as direct validity, while those

which depend on empirical and statistical evidence are designated as derived validity (Ebel, 1979). According to Ebel (1979) each category includes some validity types as indicated below.

Direct

Validity by definition

Content validity

Curricular validity

Intrinsic validity

Face validity

Derived

Empirical validity

Concurrent validity

Predictive validity

Factorial validity

Construct validity

With respect to the distinction between the two categories, Ebel (1979) stated that

“----- a distinction seems warranted between primary validity, which must be built into a test and which can be evaluated only by examining critically the decisions of the test constructor and derived validity, which always involves correlation with some real or hypothetical criteria.” (p 438)

Furthermore, Ebel (1979) suggested that the distinction between the two categories is not rigid in all cases. For example, it can be shown that factorial validity and construct validity, despite their involvement of multiple measurements and coefficients of correlation, can be grouped as a basic or primary kind of validity. Face validity refers to what the test appears to measure (Mehreas et al, 1969). Factorial validity refers to the correlation between a test and a factor arrived at through factor analysis (Ebel, 1979).

The latest classification proposed by APA (1966) cited in Chronback includes three kinds of validity: content, construct and criterion- related validity. This classification is similar to that of the earlier dichotomy in concept with little difference in form.

Content validity is related to how adequately the content of the test samples the domain of subject matter about which inferences are to be made (Mehrens et al, 1969;Cronbach 1971). According to Ebel (1979), content validity is the only basic foundation for any kind of validity. Stressing this idea he stated that “When test behaviors represent a population of criterion behaviors, or when they constitute the only kind of criterion behaviors that are available for observation, the question of validity need never arise. The accuracy of our measurement of what was intended to be measured is indicated as well as it can be indicated by a coefficient of reliability.” (p 303). This implies that, if great effort is done to satisfy content validity, other types of validity are more likely to be attained.

Construct validity is evaluated by investigating what psychological qualities a test or an instrument measures; i.e by identifying the degree to which the test scores can be accounted for by certain explanatory constructs (Cronbach, 1971; Mehrens et, al 1969). As explained by Mehrens et al, (1969), “constructs are unobservable phenomena (such as intelligence, motivation, interest, etc) that help to explain an individual’s behavior” (p.43). Many writers believed that construct validity is difficult to explain with a single study, because it needs the integration of many studies (Ebel, 1979; Cronboch, 1971, Mehrens et al, 1969)

Criterion- related validity is connected to the technique of studying the relationship between the test scores and independent external measures (Mehrens et al, 1969; Cronbach, 1971). Some authors classify the criterion related validity, as predictive validity and concurrent validity, where the distinction between the two lies on the time the criterion data are collected (Mehrens et al, 1969). When the criterion data are gathered at approximately the same time as the test data, we refer to concurrent validity, while when the data are collected at a later time, we have a measure of predictive validity (Cronbach, 1971; Ebel, 1979)

In general, according to Cronbach (1971) the three kinds of validity are inter related and they are inseparable aspects of validity rather than discrete types. Supporting this idea Cronbach (1971) suggested that, the person validating a test (any procedure used for collecting data including observations, questionnaires, ratings of artistic products etc) should give thought to all questions which may be raised with respect to all three kinds of validity even though the relative importance of the questions varies from test to test.

Accordingly, as the title indicates, in this study, the greatest concern is with the criterion- related one, particularly the predictive validity.

2.1.3. Methods of Expressing Criterion – Related Validity

As indicated earlier, there is no numerical expression for content validity. Moreover, technique used to express construct validity requires the integration of many studies. Hence, the methods to be discussed below are used in expressing the criterion – related validity.

It is already mentioned that criterion – related validity can be classified as concurrent and predictive validity depending on the time of data collection. In both cases, we can use the same technique to express validity. However, according to Mehrens et al, (1969), concurrent validity is greater than predictive validity when the out come is unstable. This means that, when the present outcome doesn't help to succeed in the future measure, the predictive validity becomes lower. On the other hand, validity in concurrent & predictive cases may differ due to external factors such as forgetting, learning, experience, or irrelevance of the present & future tasks as a result of the gap between data collection time (Ebel, 1979).

Evidence for criterion – related validity mainly consists of a demonstration of a statistically significant relation-ship between the predictor and the out-come measure (Cronbach, 1971). Predictor refers to any instrument used for decision making such as selection, admission, counseling, placement and promotion. Predictor may be standardized or non – standardized tests of achievement, aptitude, personality, etc. However, since most of the extraneous variables are better controlled in standardized procedures, it is suitable to have a predictor which is standardized. As proposed by many measurement specialists, predictive study involves the following steps.

First:- obtaining appropriate sample. That is, the sample subject should represent the population under investigation.

Second:- collecting data on the predictor instrument for the sample subjects. In this case, all the procedures should be the same for all subjects and care should be taken not to have recording error.

Third:- assignment of subjects to treatment and waiting for the necessary weeks, months or years to pass.

Fourth:- collecting criterion data for the same sample subjects. In this case, the criterion measure should be relevant, reasonably reliable.

Fifth:- computing the correlation between predictor scores and criterion scores. The Pearson moment correlation coefficient is the most often used method for reporting validity coefficient.

Sixth:- the validity coefficient may lack statistical power to be significant. Thus, the last step should be checking for significance. There are factors determining statistical power, such as sample size, range restriction, criterion reliability and size of predictor- criterion relationship and combinations of these variables.

In most modern prediction studies, regression analysis is used to gather further evidences other than correlation coefficients. Traditionally the correlation coefficient is considered as predictive value of a predictor variable. However, this may hold true in the case of bivariate analysis. That is, when one dependent and one independent variables are used. In the case of multivariate analysis, the multiple correlation coefficient may not directly indicate the predictive power of each predictor variable because of overlapping effect (Hinkle, et al, 1994). For instance, predictors that are actually the same measures under different names may cause overlapping effect. This is because, almost all the variance in one predictor variable can be accounted for by a set of other predictor variables. Therefore, multiple regression helps to identify the true variable which contributes significantly for the variability of the criterion variable. It also helps to know

the incremental validity of each predictor variable & then to establish the best regression model. Hence, the above factors determining the statistical power of correlation coefficients also affecting the regression analysis technique are treated in the next topic with particular reference to prediction studies in educational selection.

2.2. Educational Selection And Prediction

Under this heading, a short review of decision making in education and prediction, and some of the inherent problems associated with in prediction studies will be presented.

2.2.1. Decision Making and Prediction

Arguments have been raised on the importance of educational selection by some authors in early times. For instance, some argue that, if there is access of facilities, all applicants should be admitted to colleges. Hills (1971), on the other hand, suggested that since colleges do not have strict and explicit admission requirements, most of them select candidates inconsistently. To explain the idea Hills (1971) stated that “Most institutions behave as though they wanted to select those candidates who would survive their programs of instruction, i.e graduation, some would admit that they select part of their programs assuming that it is better to admit people who will have a chance of failure than to reject them.” (p.682)

In this case, there may be high attrition rate which affects the predictive power of the selection criteria. If there is high attrition rate, the sample subjects may not be representative of the population. This is apparent when those who withdrew or suspended are the higher proportion of the total population. Thus, the predictive validity found

based on non-representative sample may not be consistent. Even though, it is hardly possible to have exact prediction, the most valid selection criteria should be developed.

According to Drenth et al (1983) two questions have been posed to bring perspective to the issue of educational selection and placement in developing countries. Firstly, how can individual's chances of future school success be determined in a reliable, valid and efficient way? Secondly, how can unacceptable practices such as discrimination against underprivileged groups be avoided? Here, the importance of appropriate selection procedure should be stressed to answer the two questions satisfactorily.

Selection in education is used for decision making, i.e decision making in education is best demonstrated in the selection of applicants for advanced training and in the allocation of students to different streams or fields of study (Cronbach, 1971). Thus, validity for such decision making is shown by prediction study (Ebel, 1979). According to Drenth et al (1983), the prediction study helps to identify whether or not the following two errors are committed. These two interrelated errors are positive misers and negative misers, where the former refers to candidates who would perform satisfactorily but have not been accepted, while the later refers to those who have been accepted but erroneously, i.e. the selection criteria are unsatisfactory to predict candidates' success accurately. Drenth et al (1983) finally suggested that there should be balance among the number of positive misers and negative misers to have fair selection system.

In general, the true value of a decision in educational selection lies in the predictive validity of the instruments used for decision making. Moreover, the following issues should be considered in conducting decision oriented validation studies.

2.2.2. Issues In Decision-Oriented Validation

There are at least five factors to be considered in any decision-oriented validation study (Hills, 1971). These are

- A. Criterion Development
- B. Choice of predictor
- C. Sampling of subjects.
- D. Sample size, and
- E. Data Analysis.

A short summary of each of these factors is presented as follows:

A. Criterion Development

Validity researchers have stressed the issue of criterion variable in prediction study. For instance, Linn (1984) stated that “The degree to which a predictor variable predicts a criterion measure is of concern only to the degree that the criterion measure is itself a valid indicator of those idealized qualification.” (p.38). Idealized qualification according to Linn (1984) refers to the kind of benefit that is wished to be maximized. In this case, the criterion should be truly representative of the out come that we want to maximize. Moreover, Cronbach (1971) indicated that the criterion measure may be invalid if it is not relevant and not educationally important out come. He also added that the time dimension is important in the development of a criterion, because a short- run criterion can’t tell the whole story.

In educational selection, GPA has been used widely as criterion measure (Cronbach 1971). In spite of its wide use, the GPA has been criticized by many authors.

In relation to this issue, Hills (1971) has stated “Grades have been chosen as the criterion of success in schools and colleges regardless of what the catalog of the institution said it was trying to accomplish with the students it admitted and regardless of whether grades represent level of competence or represent personality, discipline, effort or represent a combination of these and other characteristics.” (p.685)

Hence, the dissatisfaction with GPA as a criterion in educational selection has led to the occasional use of others such as ratings by faculty members, licensing tests or other standard evaluations, and persistence at the institution until graduation as out-puts or criterion measures (Craonbach, 1971)

To sum up, the criterion should be related to the purposes under investigation. It should represent important work behavior and desirable to be highly reliable. At least, the inconveniences should be recognized instead of ignoring them.

B. Choice of Predictor

In educational selection, intellectual and non intellectual variables are commonly used as predictors (Petry et al, 1976). Intellectual variables refer to tests of aptitude or achievement. Non-intellectual variables refer to professional or biographical data obtaining procedures. Intellectual variable includes such as previous academic performance, aptitudes, scores in entrance examination. Non intellectual variable includes biographical data and ratings. According to Hills (1971), in academic selection system, the first kind of a predictor to look for is some readily available work sample from previous performance. The best work samples usually will be the ones closest to the

criterion in time and form (Cronbach, 1971; Drenth et al, 1983). Vernon cited in Cronbach (1971) noted that, ratings might predict other ratings better than test scores would be expected to predict those ratings; tests should be the best predictors of test scores; and grades should be the best predictors of grades as they are. One of the most important principles in the choice of predictor is that, any attempt to improve on the level of prediction available from the conveniently accessible work sample must be evaluated in terms of the increment to validity that is provided (Cronbach, 1971).

With respect to non intellectual predictors, there is no empirical basis for expecting them to provide appreciable incremental validity in academic selections (Dreath et al, 1983). Moreover, Petry et al (1976) stated that “There was no non-intellective variable that was cited as a best predictor often enough to rank it first in a list of that type of variable.” (p.21). This shows that all non intellectual variables have more or less the same predictive validity implying no incremental validity when we select some among them.

However, additional data obtained from admission or entrance tests have been found to be potential contributors to prediction (Cronbach, 1971; Drenth et al, 1983). In general, other things being equal, predictors which are more objective, valid and relevant to the criterion in time and form are preferable.

C. Sampling of Subjects

There is always rejection of some applicants who do not fit the minimum requirement in educational selection (Cronbach, 1971). This is the major source of great discrepancy among validity researchers concerning the sample they treated in their studies.

According to Cronbach (1971), the persons or subjects in the study may be sample of

- 1) The entire population of applicants,
- 2) The population of screened applicants, or
- 3) The population of persons who presently enter and remain in the treatment.

He further recognized that, though there is no hard and fast rules as to which population be studied, the findings may differ greatly from one to another. That is, in the case of 1, the correlation would be higher due to increased variability. Since population (3) is severely decreased by the elimination of poor performers in the course of treatment, the correlation would be the least of the others two cases. This happens due to lower variability. Some authors proposed correction for range restriction as resolution of the dispute (Weitzman, 1982; Linn, 1983) However, correction for range restriction minimizes the problem if the selection is based on a single test scores (Rothstein 2002). Others suggested that it is possible to use the range restriction correction for multivariate selection if all the relevant variables are included in the selection criteria (Linn, 1983). But, it is too difficult to consider all the relevant factors determining the selection (Linn 1983; Rothstein, 2002). A better procedure proposed by Cronbach (1971) is that “To administer the test, set the scores aside during selection, and collect criterion data on all the cases that survive selection on other bases. In this case, some criterion information if no more than the fact of with drawal should be recorded for every one selected. Such a study directly refers to population (2) in the above cases.” (p.492)

Finally any screening affecting the sample must be taken in to account in interpreting the findings of prediction studies.

D. Sample Size

Sample size affects the meaningfulness of a study. Because, as sample size decreases, correlation tends to be lower. Thus, it may not be significant or may not be stable from place to place and time to time. Of course, correlation may also be smaller from homogenous samples even if we have large number of subjects (Hinkle, et al, 1994). Therefore, validation studies should be based on adequate and representative samples. Cronback (1971) suggested that validation study requires a sample of 100 or more cases even if this requires combining of several years' data where the treatment can be assumed to remain much the same. Generally, representativeness and adequate size should be focused on deciding on the number of subjects in a study.

E. Data Analysis and Interpretation

Data analysis in most prediction studies is performed by using multiple correlations and regression, particularly in the prediction of student success in schools and colleges. The correlation of variable X with Y is traditionally used as the validity coefficient for test X (Mehrens et al, 1969). The squared correlation indicates what proportion of the variation in the criterion is forecast by the prediction equation under the usual linear assumption (Cronbach, 1971). According to Schrader (1969), two considerations which complicate the interpretation of validity coefficient, but which are nevertheless essential are sampling error and the effect of selection. When validity coefficients of two highly correlated predictors are compared using the same criterion measure and the same group, the sampling error is appreciably smaller (Schrader, 1969)

A more interesting influence on the validity coefficient is selection; i.e the exclusion of the low-scoring students by reducing the range of ability represented in the group would be expected to reduce the validity coefficient (Rothstein, 2002)

Actually, the most valuable contribution of a conventional validity study lies not in the correlation coefficients which are produced, even though, they may be of some interest for comparing results from one group to another, but the regression equation which permits the translation of relatively unfamiliar predictor data in to the more readily understood form of predicted grades (Schrader, 1969). According to Groner (1969), if it is assumed that the regression line is not affected by selection on the predictors and further assumed that the standard error of estimate is not affected by selection on the predictors, it can be argued that regression rather than correlation should be the main tools in validity studies. Supporting this idea, Cronbach (1971) suggested that, since the standard error and the regression coefficient are much less sensitive to restriction of range, regression analysis provides a more general description of the predictor-criterion relation ship.

To sum up, it is appropriate to use both correlation and regression models in order to have detailed evidences for the problems raised in the study.

2.3. Findings of Studies on Predictor Variables

2.3.1. ESLCE Validity

It is not time to say more about ESLCE since it has been ceased to be administered beginning from 2003. However, applicants of Kiremt training program can submit their ESLCE GPA optionally to that TTI GPA. This is, because most teachers have attended their high school education prior to the implementation of the currently used EGELCE

G.P.A as one of selection criteria for pre-service training. Therefore, a short review of ESLCE validity seems appropriate for the complete understanding of the predictor variables in this study.

One of the great challenging problems in quality of teacher preparation is the failure of institutions in attracting the most academically able students for pre-service training which remains as potential source of dissatisfaction in in – service training programs (Adane et al, 2001; Tilahum, 1990). On the other hand, improving the quality of input of teachers candidates through higher test scores and GPA do not guarantee effective teaching (Schott, 1989)

More specifically, in Ethiopia, students admitted to teacher education of primary education first cycle are those who are unable to join other higher institutions due to failure to meet the minimum requirement in ESLCE (previously) or EGELCE (currently) (Adane et al 2001). Many studies have been conducted to examine whether the ESLCE GPA predicts students' performance in colleges, universities and other institutions. However, many of the results are not consistent. Tracy (1965) examined the validity of ESLCE in several faculties. He found a significant relation between the over all ESLCE GPA and first year cumulative GPA. But the correlation was lower for each subject grades of ESLCE and concluded that ESLCE GPA predicted moderately with differential prediction among colleges and faculties. King & King (1972) conducted study on 528 college students and reported that the over all ESLCE GPA, Amharic, English and Math's grades had accounted 22%, 0%, 15% and 12% for the variance of first year college GPA respectively. Melaku (1975) conducted a study on the relationship between

ESLCE results and university performance of 308 dismissed students. He found that neither the ESLCE GPA nor the grades in Amharic, English or Math affected university performance of dismissed students.

In relation to teacher education trainees, Merhatibeb (1993) attempted to find out the relationships among seven variables, ESLCE GPA, freshman first semester GPA, graduation GPA, Math I, math II, English I, and English II grades with regard to regular diploma students at Bahir Dar Teachers College. He found that college GPAs are consistent and ESLCE sub scores have weak relation either among themselves or with the scores earned in the college. Moreover, Belay (1990) and Negussie (1996) revealed that ESLCE GPA as a moderate predictor for academic success in the TTI program.

Mekonnen, et al (1991), identified some of the factors which may greatly have affected the validity of the then ESLCE. These are appearance of ambiguous questions, incompatibility of the number of questions with item allotted, repetitiveness of many items from year to year, usage of textbook language and difficult nature of the items.

2.3.2 Evaluation System used at TTIs

As indicated in the introduction part of this paper, ESLCE GPA or TTI GPA accounted 70% of the total score of applicant in the selection criteria. Thus, it is necessary to present the review of evaluation system used in TTIs in order to gauge the validity of TTI GPA. In relation to this, Drenth et al (1983) stated that “All education or training in higher level institutions presupposes various skills and knowledge acquired in previous lower institutions and that lack of these may lead to higher failure rates and wastage among these selected” (p.154). From the statement of Drenth et al (1983) indicated

above, one can assume that success in previous performance implies success in later performance. This may hold true if previous evaluation technique is valid. Supporting this idea, Vernon cited in Drenth et al (1983) stated that “one could argue that the use of past school performance as a predictor for future school performance, even if substantial validities have been found, is only justifiable if sufficient equality and comparability of teaching can be assumed.” (p.155).

In Ethiopia, there are around thirteen TTIs in which most of them are founded after 1975. Graduates of TTIs were assigned to teach in primary school in any part of the country up to 1991 due to centralized structure of education (MOE, 1999). Prior to 1991 the curriculum of TTIs was composed of four major content areas: Ideological education, academic courses, professional courses and teaching practice. Teaching practice took place at the 10th month of the training program and trainees were given a pass/fail approval at the end of the one month teaching practice (MOE, 1999). Other courses were letter graded as A, B,C,D or F representing numerals 4,3,2,1and 0 respectively in assigning G.P.A.

Five methods of evaluation were indicated with their respective weights as follows.

1. Class activity (5%)
2. Assignment (10%)
3. Test I (15%)
4. Test II (20%)
5. Final Test (50%)

These methods of evaluation are in use even after 1991 with some change in the curriculum due to decentralized structure of education and change in the political economy. In practice, however there could be variation of evaluation systems used among TTIs. Alebachew (2001) found that there are differences from instructor to instructor, course to course, and institution to institution in the use of a uniform evaluation system as indicated above. Moreover, he has indicated that in Dessie, Robie and Nekemte TTIs, the same instructor teaching the same course is found to show differences not only from year to year but also in the two semesters of the same year.

However, some studies on TTI GPA indicated as it was valid predictor of teaching performance. Abraham (1993) in his study of a comparative analysis of teaching effectiveness of male & female teachers in elementary schools reported that teachers achievement at TTI was found to be a strong predictor of teaching effectiveness, where teaching effectiveness is based on directors judgment and students ratings. On the other hand, TTI cumulative GPA has been found to have significant positive correlation with teachers performance in Kiremt training program (Negussie, 1999).

Currently, a reform in TTI curriculum & evaluation system is formulated (MOE, 2003). The curriculum has three program areas. These are:-

i. professional studies (PS)

PSI – Teaching in the Ethiopian context

PSII – General methods of teaching

PSIII – child development and support

PSIV – special educational needs

PSV – professional and topical issues

ii. Integrated subject teaching

- Teaching languages
- Teaching maths
- Teaching Environmental science
- Teaching Aesthetisc & physical education.

iii. Practicum

Practicum I : fortnightly observation, research & reflection.

Practicum II: two week block observation & assistance

Practicum III : fortnightly skills, practice, research & reflection

Practicum IV: Four week blockfull integration.

Unlike the earlier curriculum, practicum (the modified form of the former teaching practice) is a four credit hours course. The total credit hours offered to trainees in the 10 months training program is 35 as that of the former program.

According to MOE (2003), assessment system for each program area is as follows:-

-Assessment of subject area and professional studies

- (1) continuous assessment – knowledge, understanding & higher abilities (25%)
- (2) continuous assessment – practical (25%)
- (3) Project (25%)
- (4) Final examination – (25%)

-Assessment of the Practicum:-

(1) continuous assessment – in relation to the competencies (25%)

could include –micro teaching, presentations, written assignments, preparation of materials

(2) Period of block teaching – in relation to the competences (50%)

- classroom teaching skills in school situation.

(3) profolio (file of all activities & experiences) – (25%)

Must include one major piece of research, plus any other work eg. Teaching materials, lesson plans, evaluations, reflection of own teaching, observation.

In general, since TTIs of the country differ in many aspect including, year of establishment, materials and human resources, admission of candidates, etc, it may not be logical to expect reliable and valid grading system working well for required purpose.

2.3.3. Age, Experience and Academic Performance

Psychologists in early times have noted that there is a slight decrease in the ability to learn as individuals become older. With respect to teacher education, educators strongly argue that since development is a life long process, teachers should learn continuously through out their service years. Supporting this idea Howey et al (1981) stated that “As an individual moves through life from infancy to old age, changes are constantly taking place within the person as well as with in the range of settings in which he/she lives and works. This is particularly true of teachers, because they are responsible for assisting others to succeed in a rapidly changing world.” (p.28)

Experience on the other hand can contribute to academic success if the new learning tasks are similar to that of the earlier experience (Skinner, 1989). If there is

similarity, the effect of age may be reduced to some degree (Skinner 1989). With particular reference to teaching experience and the need to succeed in further education, some writers indicated that the need for professional growth decreases as experience increases (Ainstworth, 1976). Ainstworth (1976) stated the following as evidence for the issue. "The researcher met with a junior high science teacher late one afternoon. He looked tired as he slumped in a faculty room chair, so his response may have merely been in the mood of moment, but when asked about professional growth through in service programs, he looked up and said "Lady, I just don't want to grow any more. I have had 15 years of experience and summer workshops and that is plenty." (P.109)

On the other hand Lyson and Falk cited in Ethigton et al (1986) reported that those who entered and persisted in a teaching career over a 7 year period tended to have lower academic ability and were predominantly females. Fuller cited in Schott (1989) identified three stages of concerns for the personal & professional development of a teacher. The first stage is survival concerns in which a teacher concerns about adequacy as a teacher, class control, about being liked by the pupils, being observed, evaluated, praised or rebuked. This is a period of great stress. The second stage involves concerns surrounding the teaching performance and the conditions which impinge upon it; the lack of resources, time and class size. The inability to act on their concerns results in feelings of inadequacy. The 3rd stage features professional concerns in which a teacher concerns extend beyond his/her own classroom and now seeks to deal with problems of the profession: such as salaries, working conditions, ethics, in service training opportunities, workshops, mini-courses, professional membership and activities.

In general, since success in teacher education may not only be expressed in terms of academic performance during pre or in- service training, professional growth should be extended well beginning from the early years of services.

2.3.4. Teachers Performance Evaluation

Evaluation is defined in terms of two aspects, as qualitative and quantitative. Glasman cited in Berhanemeskel (1999) defined evaluation as the natural mental process by which people contemplate an object and eventually judge its worth for some purpose. Evaluation could be a collective term for those appraisal methods that do not depend on measurement (MOE, 1999). For example, reading fluency, writing-neatly, belong to qualitative description of individuals behavior. On the other hand, evaluation is quantitative, a form of measurement since it attempts to find out the work of an experience, a process or system (Dembo, 1994; Gronlund, 1981). In general, evaluation is the assignment of “worth” to existing information and it involves either qualitative or quantitative measurement or both and value judgment (Ebel, 1979; Dembo, 1994)

Among the various educational activities subject to evaluation, teachers performance evaluation is an important part of the push to improve the quality of teaching (Friedman et al, 1980). Performance according to Rue and Lioyed (1990) cited in Berhanemeskel refers to how well an employee is fulfilling the requirements of the job and also ideally involves establishing a plan for improvement. Teachers performance can be evaluated in two ways, as a test before entering in to the job and on the job.

Performance on the job evaluation is mainly based on ratings of school principals, students and parents about teachers teaching effectiveness (Stinnett 1968; Edelfelt,

1974). Some argue that students achievement in standardized tests of achievement or aptitude should be considered as a criterion for teachers teaching effectiveness. Both techniques have their own advantages and limitation (Friedman et al,1980). Since Ethiopia has been implementing administrators', students' and parents' ratings to evaluate teachers performance, a review of ratings is presented as follows.

According to Coker et al (1987), there is low accuracy of principals judgments of performance of the teachers he/she inspects. The reasons are that principals are not better observers of classroom behaviours & their conceptions or models of effective teacher behaviour are erroneous.

Students ratings of teachers are the most important source of information about teaching effectiveness, because, the ratings provide data based on direct and extensive observations (Stinnett, 1968; Friedman et al, 1980). Moreover, Andrews (1995) and Hammond (1990), cited in Berhanemeskel, noted that since students are consumers of instruction and the target social figure to show behavioural changes, their ratings of teachers are more reliable and valid information regarding their teachers classroom performance. However, there are some authors who argue that students evaluation of teachers performance are invalid due to bias in students ratings, lack of sufficient knowledge about teaching and the subject matter (Cashim in Amanuel, 1998)

Parents evaluation of teachers performance has been encountered with great criticisms. Berhane Meskel (1999) found that teachers have negative attitude toward parents ratings of their teaching performance. Parents ratings of teacher performance created a feeling that it is unfair in the minds of teachers because of inability of the

selected parents to make accurate judgment about efficiency of the teacher, and absence of close up between parents and staff (Stinnett, 1968).

To sum up, teacher evaluation if properly implemented can help to determine whether new teachers can teach, to improve the quality of their instruction and can indicate whether a teacher can no longer teach effectively (Schott, 1989). But, the validity of teacher evaluation practices varies according to the type and amount of training given evaluators, frequency of evaluation, and the type of evaluative instrument used (Anderson cited in Schott, 1989).

2.4. An Overview of Teacher Education in Ethiopia: Recruitment & Selection Systems

In this section, the historical perspective of teacher education in relation to recruitment and selection of candidates used for both pre-and in-service training programs in Ethiopia were compiled by referring to related documents of the MOE. Since it is too broad to present detailed background of each level of teacher education, the summary of primary teacher education is presented as follows.

2.4.1. Pre-service Teacher Education

Even though the establishment of modern school dates back to 1908, training teachers has been started after 36 years, in 1944 at the first modern school called Menilik II school in Addis Ababa. The curriculum was composed of Language, Educational psychology, History of Education, Moral & Ethics in Teaching, and Teaching Methods (MOE, 1999). Trainees were admitted to the program at academic level of grade 6 or

more (MOE, 1999). For that matter, during the periods of Emperors Menilik II and Haile Selassie I, Ethiopian education was strongly influenced by foreigners and most of the teachers were foreigners (Seyoum, 1996). In 1952 the training school was transferred to Harar Teachers Training School (TTS) with students admitted from grade 8 for a four year training. Then after it admitted candidates from grade 9 for 3-year program (MOE, 1999). To withstand the negative influence of foreigners, the process of Ethiopianization began in 1956, in which an attempt was made to find quick and inexpensive way to train teachers in large numbers by keeping entry standards in most programs low and shortening the duration of the training program (Seyoum, 1996). In 1964, the MOE introduced a new teacher training policy in order to produce quality teachers with sufficient number. The policy included the phasing out of the three & four year programs, changing the name 'school' to institute (TTI) and standardization of the training duration to two years admitting students completed grade 10 (MOE, 1999).

From 1974-1979 there was no regular training program due to the 'Socialist Revolution' movement. The training program was started in 1979 by admitting students who completed grade 12 and offering a one semester training (MOE, 1999). In 1980, the training duration was extended to one academic year. Most of the TTIs were established in 1980s with major aims of producing teacher

- who is able and willing to teach all subjects in all grades of the Ethiopian primary school (Grade 1-6) and there by develop the pupils personality all sidedly.
- Who is in good command of the professional capabilities as teachers
- Who actually participates in the social life of his community (MOE 1982 b).

The admission standards used from 1980-1990 are the following. In 1980 students successfully completing secondary school by obtaining a class rank of 20 or below on the average high school academic performance score arranged in increasing order could apply for admission. This admission requirement was revised after a year in 1981 and ESLCE GPA was the only admission criterion from 1981-1983. During 1984-1986, high school average academic performance of 60% and ESLCE GPA of 0.6 were the minimum criteria to call for interviewing. The applicants were also expected to submit certificate of teaching experience and letter of recommendation about conduct and community participation from mass organizations. Accordingly, 40% of the total score was accounted by high school average score, 30% by ESLCE GPA and the remaining 30% was accounted by interview, teaching experience certificate, and letter of recommendation. Single composite score was used for selection purpose by limiting the cut off point.

From 1987-1990, another system was implemented for admission purpose. During this time, the high school average academic performance was totally omitted perhaps because of its lack of comparability, validity & reliability. In addition to this, the weight given to ESLCE GPA was increased to 85% and that of others were reduced to 5% for each respectively. Applicants who participated in the National Military Service after completing secondary level education were admitted irrespective of the admission requirements (MOE, 1980-1989).

There were also some other unquantified criteria such as applicants fitness (vision, hearing, voice quality, height, age and some other obvious physical, mental and

personality problems which may affect teaching significantly). When applicants show obvious defects in any one or more of these aspects, they were rejected automatically. Moreover, for those who were being admitted, medical checkup took place.

Change of political economy in Ethiopia in 1991 caused decentralization of the education systems such as implementation of mother tongue, designing of curriculum for grade 1-4 based on local area, recruitment of teachers both for pre and in service training program for primary education (Grade 1-8), etc (MOE, 1999). Thus, each regional education bureau has designed its own training program since 1991 (MOE, 1999)

According to the NETP, five competencies that teachers of all levels must exhibit. These competencies as stated by MOE(2003), are “That teachers should be;

- a. Competent in producing responsible citizens
- b. Competent in subject (s) and the content of teaching
- c. Competent in the class room
- d. Competent in the values, attributes, ethics and abilities essential to professionalism in upholding the profession ethics” (p.3)

Reform in the education system, as one of the phase of the NETP, curriculum change was a prime strategy for the policy implementation (MOE, 1999). Accordingly, the break down of 1st cycle primary education program has three components to be covered in 10 months of training duration in TTIs. These are the practicum, professional studies and Integrated subject Teaching. Diploma program is a three-year program offered to students who have successfully completed grade 10, meeting the minimum requirement. The diploma course has three components, the practicum, academic subject streams and shared professional courses (MOE, 2003)

The entry requirement, according to MOE (2003) is based on more than GPA alone. For instance some TTIs use entrance test scores as an additional entry requirement (Fransua, 2001). Accordingly, the SNNPN Education Bureau has its own recruitment procedure used to select applicants with academic background and positive attitude towards the profession (Fransua, 2001). Probably interview may be assumed as an instrument to assess attitude. During early 1990s, recruitment criteria used in SNNPR for first cycle primary education training program were ESLCE GPA (60%), High school average score (35%) and interview (5%). From late 1990s to date, the selection criteria consist of ESLCE or EGELCE GPA (35%), High school transcript (25%) and entrance test score (40%)

2.4.2. In-service Teacher Education

Several educators & psychologists have noted the importance of in-service teacher education as one of the basic requirement for quality of teacher education. For example, Adane et al (2001) showed that, since training of teachers is not one round and finished business, there should be a culture of professional development through several modes of delivery. To achieve competent teachers both in professional skills & academic subject area, provision of in-service training program for teachers is mandatory (Ambissa, 2001; Schott, 1989). Edelfelt (1976) and Manna et al (2000) identified in-service program as effective means of reducing teachers' dropout. That is, promotional in-service training are effective means of upholding personal & professional development of rural & semi-rural teachers in this changing & demanding world.

In-service training of primary teachers in Ethiopia, commonly in the form of 'kiremt' program with systematic and structured form dates back to 1958 with the objective of upholding substandard teachers employed with different background (MOE, 1999). However, since the selection system was not based on academic background, high attrition rate and poor performance were the major problems associated with early kiremt training program (Tilahun, 1990). Currently, special attention has been given to in-service teacher training program in general and kiremt program in particular in Ethiopian education policy. MOE(2003) states that "Pre-service programs are only the beginning of learning to be a good teacher. With in the currently limited time scale they will develop the basic competencies, which will be extended by a continuous process of professional development"(P.25)

Decentralization as an implementing strategy of the NETP, also works for in-service training program. That is, the organization, planning, selection & monitoring of in-service training program for primary teacher education are the responsibilities of Regional Education Bureas (MOE, 1999)

Accordingly, the SNNPR Education Bureau has its own selection requirements used for trainees of kiremt program for both certificate & Diploma level. The criteria are Teachers professional and academic backgrounds such as teaching experience, teaching performance and academic achievement in previous institutions (SNNPREB, 1997). Particularly, trainees for Diploma level are selected based on their GPA in previous TTI or ESLCE GPA (70%), Teaching performance (15%) teaching experience (15%) as shown in various parts of this paper.

CHAPTER THREE

3. METHODOLOGY

In this part, subjects included in the study, sampling methods, variables considered, and data collection and analyses procedures are presented.

3.1. Subjects

The subjects for this study consist of 385 trainees who are admitted to ACTE for Kiremt program in 1999 and graduated in 2003 after attending five series of kiremt program. Graduation approval is assured when each candidate has completed the total credit hours (varying from 65-71 according to the department s/he enrolled in) allotted and scored a minimum cumulative GPA of 2.00 without F. Since success in the program was defined as graduating just after attending five series of kiremt program, those trainees who withdrew or dismissed are not taken as subjects of the study. This is because of the fact that, graduation GPA as a criterion measure is more reliable than other GPAs obtained through the course of study. However, if there is high attrition rate, taking graduation GPA as a criterion measure may cause sampling bias. Particularly, when number of participants dismissed due to academic failure is high. As referred to some documents of the college most of the candidates who have poor performance were given promotion instead of dismissal. Moreover, withdrawal due to family problem and delaying due to the limited number of courses that a trainee needed to take according to his learning pace are the major causes for attrition rate. For instance, the total number of trainees admitted to ACTE in 1999 is 495. Out of these, 21 of them are dismissed, 89 of

them are retained and 385 of them are able to graduate in 2003. Those 385 graduates are subjects of the study.

ACTE started kiremt program for Diploma level in 1996 by admitting trainees selected from six regions of the country. However, scores in selection criteria for every trainee admitted to the college from 1996-1998 are not available in the college. Therefore, those trainees admitted to ACTE in 1999, are the only candidates whose data on both criterion and predictor variables are available in the registrar office of the college. Even though data (scores on selection criteria) are available for those admitted to the college since 1999, data on the criterion variable (Graduation GPAs) are not available. Because they didn't complete the five year series of kiremt program. Hence, the 1999 batches are the source of data as they are the convenient sample for the study.

Table 3.1. Number of subjects for the study

Field of Study	M	F	T
Language	72	31	103
N. Science	129	24	153
S. Science	70	18	88
HPE	37	4	41
Total	308	77	385

3.2. Variables Included in the Study

The college offers the training program in nine departments; Amharic, English, Mathematics, Physics, Chemistry, Biology, Geography, History, and Health and Physical

Education. In addition to investigating the data with respect to a group including the entire subjects, these departments are classified in to four fields of study for the purpose of detailed analysis of data as follows:

Language including Amharic and English departments. Natural Science including physics, chemistry, Biology and Mathematics. Social science including Geography and History. HPE is taken as a field of study. Another grouping was implemented with respect to sex irrespective of their fields of study. In this case we have two groups (Male & Female)

Hence, the variables included in the study are the following with respect to each category shown above.

3.2.1. Predictor Variables

Predictor variables used for the subjects taken altogether (the entire subjects) and subgroups with respect to fields of study are

- ESLCE/ TTI GPA
- Teaching experience
- Teaching performance
- Sex (dummy variable with 1 = Female, 0= male)

When males and females are considered separately the predictor variables in each case are the first three of the variables listed above.

3.2.2. Validating Criterion

In the cases of subgroups with respect to fields of study or sex and subjects taken altogether , the graduation GPA (college GPA) of each subject is considered as a criterion measure.

3.3. Procedure of Data Collection

Each subject's scores in both the selection criteria and college performance (predictors & criterion measures respectively)_ are collected from personal and other files kept at ACTE. Scores in the selection criteria are collected referring to the document containing letters sent from each zone or special woreda of the SNNPR to the college. Then personal file of each trainee was checked in order to collect data on criterion variable (college or graduation GPA) with special consideration whether there is graduation approval, dismissal or withdrawal cases in each file.

The researcher was assisted by three students of AAU during data collection after they have been given sufficient knowledge on how to use the formats of data collection (shown on appendices) and the procedures to be adhered to.

3.4. Data Analysis

Descriptive values such as mean and standard deviation for all variables were determined in the cases of subjects taken altogether, in subgroups with respect to fields of study or sex in order to show the general picture of the data. Then, the inter predictor and the predictor-criterion variable correlation matrices were computed for all subjects altogether & subgroups separately in order to pave the way for further analyses by indicating the predictability of each predictor variable.

Step wise regression analyses for each treatment by keeping forward the potential predictor variables according to the statistical power of the correlation coefficients obtained in the correlation matrices to see the incremental validity of each predictor variable.

An F test of significance of the correlation coefficients in each model and the incremental validity of predictor variables included in the model is made at the final step using an alpha level of 0.05. If the contribution of the selected predictor variable is not significant, the best prediction model is established based on the significant contributor variables only. Then, prediction equations both in standardized and non-standardized forms are written.

CHAPTER FOUR

4. RESULTS AND DISCUSSION

In this section, results obtained from the analyses of data using SPSS (Statistical Package for Social Sciences) are presented and followed by discussion with respect to each of the leading questions addressed in the introduction part of this paper.

4.1. Results

Results are indicated in tables 4.1-4.9. Tables 4.1 and 4.2 show the interrelationship including means & S. d of scores of components of the selection criteria in the cases of groups with respect to fields of study or sex, and for the entire subjects. Table 4.3-4.8 show the summary of regression analyses in each sub group. Table 4.9 indicates the summary of regression analysis for the entire subjects group irrespective of fields of study and sex.

Table 4.1. The Mean & standard deviation of each variable & correlations of predictors and criterion for each field of study and subjects considered altogether.

Group/variables	Mean	Stand. Dev.	Teaching Experience	Teaching Performance	Sex M=0, F=1	College GPA
Language (N=103)						
ESLCE/TTI GPA	2.9720	.3202	-.198*	-.057	-.586.*	.470*
Teaching experience	12.3398	5.8738	1.000	-.043	-.140	-.461*
Teaching perfor.	4.7084	.1594		1.000	-.055	.161
Sex	.30	.46			1.000	-.271*
College GPA	2.7315	.4728				1.000
NATURAL SCIENCE (N=153)						
ESLCE/TTI GPA	3.1275	.3215	-.389*	.189*	-.480*	.571*
Teaching Exp.	8.14	4.54	1.000	.016	-.046	-.380*
Teaching perfor.	4.7164	.1465		1.000	-.324*	.106
Sex	.16	.36			1.000	-.269*
College GPA	2.6688	.4660				1.000
SOCIAL SCIENCE (N=88)						
ESLCE/TTI GPA	2.8940	.3226	-.234*	.231*	-.555*	.487*
Teachign Exp.	12.4432	5.2760	1.000	-.037	-.172	-.292*
Teaching Perfor.	4.3102	.1577		1.000	-.252*	.129
Sex	.20	.41			1.000	-.276*
College GPA	2.6886	.5215				1.000
HEALTH AND PHYSICAL EDUCATION (N=41)						
ESLCE/TTI/GPA	2.8395	.3046	-.076	.158	-.442*	.601*
Teaching Exper.	10.4634	5.1580	1.000	-.115	-.385*	-.330*
Teaching Perfor.	4.7234	.1368		1.000	-.227*	.302
Sex	0.10	.30			1.000	-.188
College GPA	2.7114	.4980				1.000
SUBJECTS ALTOGETHER (n=385)						
ESLCE/TTI/GPA	3.0019	.3367	-.327*	.122*	-.498*	.486*
Teaching Exp.	10.4961	5.5109	1.000	-.034	-.083	-.334*
Teaching Perfor.	4.7136	.1512		1.000	-.212*	-.145*
Sex	.20	.40			1.000	-.257*
College GPA	2.6950	.4832				1.000

* P < 0.05

Table 4.2. The mean & standard deviation of each variable & correlations of predictors and criterion for each of male & female group.

Group/Variables	Mean	Standard Deviation	Teaching Experience	Teaching Performance	College GPA
Male (N=308)					
ESLCE/TTI GPA	3.0857	.2980	-.461*	-.003	.453*
Teaching Exp.	10.7240	5.4991	1.000	-.109	-.396*
Teaching Perfor.	4.7296	.1429		1.000	.115*
College GPA	2.7557	.4850			1.000
Female (N=77)					
ESLCE/ TTI /GPA	2.6666	.2682	-.270*	.103	.301*
Teaching Exp.	9.5844	5.4996	1.000	.139	-.234*
Teaching Per.	4.6495	.1668		1.000	.026
College GPA	2.4519	.3931			1.000

* P < 0.05

4.1.1. **Interrelationship of scores including mean and s.d in components of the selection criteria.**

Number of subjects in four fields of study varied from 41-153. Number of subjects in male and female groups irrespective of their fields of study are 308 and 77 respectively. The mean ESLCE/TTIGPA in the fields of study varied from 2.8395 to 3.1275, where the least is in HPE and the highest is in Natural Science . The mean teaching experience varied from 8.1400 to 12.4432 where the least is in Natural science and the highest is in Social science. The mean teaching performance varied from 4.7084 to 4.7232, the least is in language and the highest is in H.P.E. The mean college GPA varied from 2.6688 to 2.7315, where the least is in Natural Science and the highest is in Language.

Mean scores of each variable in male & female groups are the following. 3.0857 and 2.6666 are mean ESLCE/TTIGPA for males & females, respectively. 4.7296 and 4.6495 are mean teaching performance for males & females respectively. 10.7240 and 9.5844 are mean teaching experience for males & females, respectively. 2.7557 and 2.4519 are mean college GPA for males & females respectively. In the entire subject case, the mean scores (pooled means) are 3.0019, 10.4961, .4.7136, and 2.6950 for ESLCE/TTIGPA, teaching experience, teaching performance and college GPA, respectively.

The correlation between teaching performance and ESLCE/TTIGPA is -.057, .189, .231, .158 &.122 in Language, Natural science, Social science, HPE, and for the entire subjects case, respectively. From these correlations $r=-.057$ and $r=.158$ obtained in the

cases of Language & HPE respectively are not significant, while others are significant at $\alpha = 0.05$. Teaching performance has correlation of -.043, .016, -.037, .115, & -.034 with teaching experience in the case of Language, Natural Science, Social Science, HPE & entire subjects respectively. All are not significant. The correlations between teaching performance and teaching experience in the cases of males & females ($r = -.109$ & $r = .139$ respectively) are not significant. The correlations between teaching performance and sex in the cases of language, Natural Science, Social Science, H.P.E and for the entire subjects are -.055, -.324, -.252, -.227, & -.212 respectively. From these correlations, $r = -.055$ and $r = -.227$, obtained in Language & HPE cases respectively are not significant. The remaining correlations are significant.

4.1.2. Relationship between scores in the predictor & criterion variables

The correlations between scores in each predictor (including sex) and criterion variables are shown in table 4.1 for all subgroups with respect to fields of study and for the entire subjects. In table 4.2, the correlations between each predictor (with out sex) and criterion variables are indicated for male and female group separately.

College GPA correlates .470, .571, .487 and .601 with ESLCE/TTI/GPA in Language, Natural Science, Social Science, and HPE group respectively. All the correlations are positive and significant at $\alpha = 0.05$. College GPA correlates -.461, -.380, -.292, and -.330 with teaching experience in Language, Natural Science Social Science, & HPE group respectively. All these correlations are negative and significant at $\alpha = .05$. College GPA correlates .161, .106, .129 and .302 with teaching performance in Language, Natural Science, Social Science, and HPE group respectively. All these correlations are

not significant at $\alpha = .05$. Sex as a dummy variable (1=female, 0 = male) correlates -.271, -.269, -.276, and -.188 with college GPA in Language, Natural Science, Social Science, and HPE group respectively. All these correlations are negative and significant at $\alpha = .05$.

In male & female groups, the correlations between scores of each predictor & criterion variables are presented as follows. College GPA correlates .453 & .301 with ESLCE /TTI/GPA, -.396 and -.234 with teaching experience, .115 and .026 with teaching performance in male & female group respectively. From these, significant correlations are obtained with ESLCE/TTIGPA and teaching experience ($r=.453$ & $r=.301$; $r = -.396$ & $r = -.234$) in both male & female groups. But the correlation between college GPA and teaching performance is not significant in the case of females ($r=.025$), while the correlation is significant in the case of males ($r=.115$).

The correlations between scores in each predictor & criterion variables for the entire subjects considered as a group are the following. College GPA correlates .486, -.334, .145, and -.252 with ESLCE/TTI GPA, teaching experience, teaching performance, and sex respectively. All the correlations are significant at $\alpha = 0.05$ level.

Table 4.3. Summary of multiple regression analysis predicting the college GPA of Language Trainees (N=103)

Model Number	Number of Variables Entered	Multiple correlations & Related Values			Variables entered	Values in the stepwise regression				Simple correlation with college GPA
		Multiple R	Multiple R ²	Change in Multiple R ²		B(Raw Coefficient)	B(standardized coefficient)	F	Constant	
1	1	.470	.221	.221a	ESLCE/TTI/GPA	.694	.470	28.650*	.669	.470
2	2	.601	.362	.141a	ESLCE/TTI/GPA Teaching exp.	.582 -.031	-.383	28.190*	1.382	-.467
3	3	.624	.390	.028a	ESLCE/TTIGPA Teaching Exp. Teaching per.	.599 -.030 .500	.406 -.373 .169	21.083*	-1.032	.161
4	4 (All predictors are being included)	.632	.400	.010	ESLCE/TTI/GPA Teaching exp. Teaching per. Sex	.473 -.033 .459 -.135	.321 -.402 .155 -.132	16.323*	-.392	-.271

a indicates that the increase in explained variance is statistically significant at $\alpha = 0.05$

* F is significant at $\alpha = 0.05$

College GPA (predic. in stand score) = .406 (ESLCE/ TTI GPA in Z) - .373 (Teach. Expinz) + .169 (Teaching per in z)

College GPA (predic. in raw score) = .599 (ESLCE/TTIGPA) - 0.030 (Teach. Exp.) + .5 (teach. per) - 1.032

Table 4.4. Summary of multiple regression analysis predicting the college GPA of Natural Science Trainees (N=153)

Model number	Number of variables entered	Multiple correlations & related values			Variables entered	Values in the stepwise regression				Simple correlation with college GPA
		Multiple R	Multiple R ²	Change in Multiple R ²		B (raw coefficient)	B (standardized)	F	Constant	
1	1	.571	.327	.031a	ESLCE/TTI/GPA	.828	.571	73.237*	0.079	.571
2	2	.597	.356	.013a	ESLCE/TTI/GPA Teaching Exp.	.724 -.019	.499 -.186	41.436*	.561	-.380
3	3	.598	.358	.002	ESLCE/TTI/GPA Teaching exp. Sex	.678 -.021 -.067	.468 -.200 -.053	27.680*	.725	-.269
4	4 (All predictors are being entered)	.598	.358	.000	ESLCE/TTI/GPA Teaching exp. Sex Teaching per.	.678 -.021 -.067 .013	.468 -.200 -.052 .004	20.622*	.666	.106

a indicates that the increase in explained variance is statistically significant at $\alpha = 0.05$

* F is statistically significant at $\alpha = 0.05$

College GPA in Z (pred.) = .499 (ESLCE/TTI GPA in Z) - .186 (Teach. Exp. In Z)

College GPA in raw score (pred.) = .724 (ESLCE /TTI/GPA) - .019 (Teach. Exp.) + .561

4.1.3. Regression on College GPA

As shown in tables 4.3-4.9 summaries of stepwise regression analyses are presented in order to identify the significant predictor variables, & the best regression model in each subgroup and the entire subjects case. In table 4.3 model 1 ESLCE/TTI/GPA alone explained about 21.1% of variance of college GPA in Language case. Model 2 in table 4.3 shows that both ESLCE/TTI/GPA and teaching experience explain about 36.2% of college GPA variance. The change in R^2 , which is the proportion of variance accounted for by teaching experience alone is (14.1%). It is significant at $\alpha = 0.05$ level. In model 3 of the same table, teaching performance raised the proportion of variance from 36.2% to 39.0%. Change in R^2 is 2.8%, which is significant at $\alpha = 0.05$. When the dummy variable sex is included in model 4, change in R^2 is about 1%. This increment in proportion of variance is not significant. As indicated in table 4.3, the best model for prediction of college GPA of language group includes the predictors ESLCE/TTIGPA, teaching experience and teaching performance each contributing 22.1% , 14.1% and 2.8% for the variance of the criterion score respectively.

Table 4.4 deals with regression on college GPA for Natural Science Group. Model 1 shows that ESLCE/TTI.GPA explains about 32.7% of the variance. In model 2, both ESLCE/TTIGPA and Teaching experience are taken as predictors. They explain about 35.6% of the total variance. R^2 obtained due to the inclusion of teaching experience is 3.1% which is significant at $\alpha = 0.05$ level. Sex and teaching performance are included in models 3 and 4 respectively, but the increase in R^2 in both cases are not significant. Particularly, teaching performance doesn't have any contribution to explain the variance, while sex explains 0.2% of the variance, which is not significant.

Table 4.5. Summary of multiple regression analysis predicting the college GPA of Social Science Trainees (N=88)

Model number	Number of variables entered	Multiple correlations & related values			Variables entered	Values in the stepwise regression				Simple correlation with college GPA
		Multiple R	Multiple R ²	Change in Multiple R ²		B (raw coefficient)	B (standardized)	F	Constant	
1	1	.487	.238	.238a	ESLCE/TTI GPA	.788	.487	26.789*	.409	.487
2	2	.521	.271	.033a	ESLCE/TTI GPA Teaching exp.	.716 -.019	.443 -.188	15.806*	.847	-.292
3	3	.527	.278	.007	ESLCE/TTI/GPA Teaching exp. Sex	.609 -.022 -.135	.377 -.222 -.105	10.763*	1.226	-.276
4	4 (All predictors are being entered)	.527	.278	.000	ESLCE/TTI/GPA Teaching exp. Sex Teaching per.	.608 -.022 -.133 -.026	.376 -.222 -.104 -.008	7.978*	1.110	.129

a indicates that the increase in explained variance is statistically significant at $\alpha = .05$

* F is statistically significant at $\alpha = 0.05$

College GPA in Z (pred) = .443 (ESLCE /TTI GPA in Z) - .188 (Teaching exp. In Z)

College GPA in raw score (pred.) = .716 (ESLCE/ TTI GPA) - .019 (Teaching exp.) + .847

Table 4.6. Summary of multiple regression analysis predicting the college GPA of Health and Physical Education Trainees (N=41)

Model number	Number of variables entered	Multiple correlations & related values			Variables entered	Values in the stepwise regression				Simple correlation with college GPA
		Multiple R	Multiple R ²	Change in Multiple R ²		B raw coefficient	B standardized	F	Constant	
1	1	.601	.362	.362a	ESLCE/TTIGPA	.983	.601	22.109*	-0.77	.601
2	2	.666	.443	.081a	ESLCE/TTIGPA Teaching exp.	.948 -.028	.580 -.286	15.129*	.313	-.330
3	3	.690	.476	.033	ESLCE/TTIGPA Teaching exp. Teaching per.	.902 -.026 .670	.552 -.267 .184	11.202*	-2.744	.302
4	4	.690	.476	.000	ESLCE/TTIGPA Teaching exp. Teaching per. Sex	.896 -.026 .663 -.015	.548 -.271 .182 -.009	8.176*	-2.686	-.188

a indicates that the increase in explained variance is statistically significant at $\alpha = .05$

* F is statistically significant at $\alpha = .05$

College GPA in Z (pred.) = .580 (ESLCE/TTI GPA in Z) - .286 (Teaching exp. In Z)

College GPA in raw score (pred.) = .948 (ESLCE/TTIGPA) - .028 (Teaching exp.) + .313

Table 4.7. Summary of multiple regression analysis predicting the college GPA of Male trainees (N = 308)

Model number	Number of variables entered	Multiple correlations & related values			Variables entered	Values in the stepwise regression				Simple correlation with college GPA
		Multiple R	Multiple R ²	Change in Multiple R ²		B raw coefficient	B standardized	F	Constant	
1	1	.453	.206	.2035a	ESLCE/TTI GPA	.690	.453	79.206*	.478	.453
2	2	.500	.250	.047a	ESLCE/TTI GPA Teaching exp.	.560 -.021	.344 -.237	50.803*	1.252	.396
3	3 (All predictors entered)	.508	.258	.007	ESLCE/TTI GPA Teaching exp. Teaching per.	.570 -.020 .309	.350 -.224 .091	35.248*	-.255	.115

a indicates that the increase in explained variance is statistically significant at $\alpha = .05$

* F is statistically significant at $\alpha = .05$

College GPA in Z (pred.) = .344 (ESLCE /TTI/GPA in Z) - .237 (Teaching exp. In Z)

College GPA in raw score (pred.) = .560 (ESLCE/TTI GPA) - .021 (Teaching exp.) + 1.252

Table 4.8. Summary of multiple regression analysis predicting the college GPA of female trainees (N = 77)

Model number	Number of variables entered	Multiple correlations & related values			Variables entered	Values in the stepwise regression				Simple correlation with college GPA
		Multiple R	Multiple R ²	Change in Multiple R ²		B (raw coefficient)	B (standardized)	F	Constant	
1	1	.301	.090	.090a	ESLCE/TTI GPA	.441	.301	7.460*	1.276	.301
2	2	.341	.116	.026a	ESLCE/TTI GPA Teaching Exp.	.375 -.012	.256 -.165	4.840*	1.564	-.234
3	3(All predictors entered)	.341	.116	.000	ESLCE/TTI GPA Teaching Exp. Teaching per.	.370 -.121 .040	.253 -.169 .024	3.200*	1.320	-.026

a indicates that the increase in explained variance is statistically significant at $\alpha = .05$

* F is statistically significant at $\alpha = .05$

College GPA in Z (pred.) = .256 (ESLCE/TTI/ GPA in Z) - .165 (Teaching exp. in Z)

College GPA in raw score (pred.) = .375 (ESLCE /TTI GPA) - .012 (Teaching exp.) + 1.564

Table 4.5 is concerned with regression on college GPA for Social science group . In model 1, ESLCE/TTIGPA alone has explained variance of 23.8%. In model 2, teaching experience raised R^2 to 27.1%. Change in R^2 as a result of teaching experience is 3.3% , which is significant. Sex has explained variance of 0.7%, which fails to be significant. There is no change in R^2 when teaching performance is entered in model 4.

Regression on college GPA for HPE is shown in table 4.6. In model 1, ESLCE/TTIGPA explained a variance of 36.2%. As teaching experience is entered in model 2 variance explained raised to 44.3% . Increase in proportion of variance as a result of inclusion of teaching experience is 8.1%. This change in variance is significant. Teaching performance explained a variance of 3.3% but not significant. Sex doesn't change R^2 at all.

Tables 4.7 and 4.8 summarize the regression on college GPA for male and female groups respectively. ESLCE/TTI/GPA explains 20.6% and 9% of variance of college GPA for male & female groups respectively. Proportions of variance of 4.40% and 2.6% are accounted for by teaching experience for male and female groups respectively. In both cases proportions of variance accounted for by teaching experience are significant. Teaching performance is not significant predictor of college GPA for both male & female groups.

Table 4.9. Summary of multiple regression analysis predicting the college GPA of the entire subjects (N= 385)

Model number	Number of variables entered	Multiple correlations & related values			Variables entered	Values in the stepwise regression				Simple correlation with college GPA
		Multiple R	Multiple R ²	Change in Multiple R ²		B (raw coefficient)	B(standardized)	F	Constant	
1	1	.486	.236	.236a	ESLCE/TTI GPA	.697	.486	118.501*	.601	.486
2	2	.520	.271	.035a	ESLCE/TTI GPA Teaching exp.	.606 -.017	.422 -.196	70.835*	1.057	-.334
3	3	.527	.278	.007a	ESLCE/TTI. GPA Teachign exp. Teaching per.	.590 -.017 .282	.411 -.196 .088	48.950*	-.225	.145
4	4	.530	.281	.003	ESLCE/TTI.GPA Teaching exp. Teaching per. Sex	.535 -.018 .249 -.081	.373 -.215 .078 -.067	37.162*	.127	-.252

a indicates that the increase in explained variance is statistically significant at $\alpha = 0.05$

* F in each model is statistically significant of $\alpha = 0.05$

College GPA in Z (pred.) = .411 (ESLCE/TTI GPA in Z) - .196 (Teaching exp. In Z) + .088 (Teaching per. In Z)

College GPA in raw score (pred.) = .590 (ESLCE/TTI GPA) - .017 (Teaching exp.) + .282 (Teaching Per.) - .225

Table 4.9 shows the regression on college GPA when the entire subjects are taken at a time. Model 1, indicates that 23.6% of the variance is accounted for by ESLCE/TTI/GPA. Teaching experience has changed R^2 from 23.6% to 27.1%. Thus, increment in R^2 (3.5%) is significant at $\alpha = 0.05$. Teaching performance explains 0.7% of the total proportion of variance by itself, which is significant. Sex fails to have significant contribution for the prediction of college GPA.

Moreover, in all subgroups & the entire subjects group, the beta weights (both in standardized & non standardized), constants, number and type of predictor variables entered in the best models are all different. Fs in each model of all groups are significant.

4.2. Discussion

4.2.1 Interrelationships of Scores of Predictors

Predictor variables in subgroups and the entire subjects group are ESLCE/TTI GPA, teaching experience, teaching performance and sex. In subgroups with respect to sex, all predictors listed above except sex are also predictors. When we see the interrelationships among these variables, teaching performance has weak relationship with ESLCE /TTI GPA. That is, the correlation in the entire subjects case is .122. The correlations obtained in male and female groups are $-.003$ and $.103$ respectively. In both cases, the correlations are not significant. This result seems inconsistent with the result of Abraham (1993) in his study about factors which influence teaching effectiveness of male and female teachers in elementary school reporting that teachers achievement at TTI was found to be a strong predictor of teaching effectiveness of both male and female teachers. However, the result of this study supports the finding of Eash et al cited in Schwanke (1981) reporting that students who scored a GPA below 3.5 in their pre-service training were found to be seriously deficient in elementary school teaching performance during student teaching and after graduation. In this study a result is obtained about the relationship between teaching performance and teaching experience. In the entire subjects group $r = -.083$, in male group $r = -.109$ and in female group $r = -.139$. In all cases r is not significant. Such finding contradicts the commonly held belief that experienced teachers are better than less experienced teachers in teaching. In fact, since beginning teachers (below 3 years of service) are not included in this study, the result may not hold true for the entire population of teachers. The result of this study supports the finding of

Cashim cited in Amanuel (1998) that reported teaching experience has insignificant relationship with students ratings of their teachers. When teaching performance is related with sex, a significant negative correlation is obtained in this study ($r = -.212$ in the entire subjects group). A significant proportion of variance in teaching performance is accounted for by sex. The result supports the finding of Abraham (1993) that male teachers were found to be more effective than their female counterparts. In this study the correlation is negative (as 0= male, 1 = female), means that lower performances go with 1 = female, while higher performances with 0 =male) . In Language and HPE subgroups the correlations between teaching performance and sex are not significant but negatives.

There is no significant relation ship between sex and teaching experience in all cases. There is significant correlation between sex and ESLCE /TTI GPA. That is, sex is a significant predictor of ESLCE /TTI GPA. This result supports the finding reported by Negussie (1996) that males have higher GPA than females in TTI courses. Such a result may support local findings of earlier studies. However, there seems to be inconsistency with findings of studies conducted in developed countries. For instance, Mccornack et al (1988) in their study about gender bias in the prediction of college course performance reported that women consistently earn the higher GPA at the college level than men. That is there is ground that females achievement is less than males in Ethiopia, and probably in many other developing countries.

4.2.2 Relationship of College GPA with Predictors

Correlations obtained between college GPA and ESLCE /TTI GPA are all positive and significant in all subgroups and the entire subjects group. College GPA correlates negatively with teaching experience. But all are significant. These results support Negussie's (1999) finding that ESLCE /TTI GPA was found to have significant positive correlation with college GPA but negative correlation with experience. Trainees performance in Kiremt program has significant relation with teaching performance in the entire subjects group and male group. However, the correlation in each of these groups is small positive and significant. This result seems inconsistent with the result reported by Negussie (1999) that teaching performance has no correlation with college GPA.

When sex is considered as a predictor the correlation between sex and college GPA is negative and significant in all cases. However, a significant correlation doesn't necessarily imply significant predictor in multiple correlation studies. This is because of the fact that, if we have two predictor variables that are highly correlated with the criterion variable and are also highly, correlated with each other, they explain the same variation in the criterion variable, and only one will contribute significantly to the prediction when they are used in combination (Hinkle, et al, 1994). Therefore, even though the correlation between sex and college GPA is significant, it failed to be significant contributor for the prediction of college GPA (which will be discussed in detail next).

4.2.3 Predictive Validity and Regression Model

Based on the results obtained using tables 4.3-4.9, the predictive power of each predictor variable and the best regression model can be identified easily. ESLCE /TTI GPA explained 22.1%, 32.7%, 23.8%, 36.2% and 23.6% of variance of college GPA in Language, Natural Science, Social Science, HPE and the entire subjects groups respectively. Each of these proportions is the highest when compared with proportions of variance explained by other predictor variables in each group. Thus ESLCE/TTI GPA is the best predictor of college GPA among variables considered in this study. This result supports the study of Negussie (1999) reporting that ESLCE /TTI GPA was found as the variable contributing the highest proportion of variance of GPA of Kiremt program trainees at Gondar College of Teacher Education. In male and female groups ESLCE /TTI GPA accounts 20.60% and 9% of variance of college GPA,. respectively. When compared to that of the entire subjects case (23.6%), females GPA variance is least explained by ESLCE /TTI GPA. This result supports the study made by Negussie (1996) reporting that, the admission criterion ESLCE GPA predicts better for males than females performance in TTI.

Teaching experience contributes 14.1%, 3.1%, 3.3%, 8.1% and 3.5% of variance of college GPA in Language, Natural science, Social science, HPE, and the entire subjects case respectively. Here, the proportions are all significant at alpha level of 0.05 level. In Language subgroup, the explained variance is greater than that of the other groups. Since the correlation between college GPA and teaching experience is negative, experienced teachers tend to have lower performance than less experienced teachers in Kiremt

program courses. In teaching profession as service year increases age also increases since both are expressed in terms years. Thus, age may have an overlapping effect on variance explained by teaching experience. The result supports the findings reported by Drenth et al (1983) and Negussie (1999), that age and experience each correlates negatively with academic performance. Most probably the negative correlation is usually obtained after the age of adulthood (Skinner,1989; McCormick et al, 1997). On the other hand if the new learning task is more similar to the experienced task, the correlation might not be negative (Skinner,1989). However, in this study there is no support for the existence of strong relationship between teaching performance and college GPA. This might be a reason for the existence of significant negative correlation between teaching experience and college GPA. That is, the correlation between teaching experience and college GPA is negative perhaps because of age factor and weak the relationship between the actual teaching performance in the school and performance in college courses. Age factor to mean that since most participants are beyond the adolescence age the correlation between age and college GPA is expected to be either zero or negative. Actually, the average service year ranged from 8-12 years in subgroups considered in this study. Hence, obtaining a negative correlation might be acceptable.

The 3rd selection criterion is teaching performance. It explains 2.8%, 0.2%, 0.7%, 3.3% and 0.7% of variance in Language, Natural Science, Social Science, HPE, and entire subjects group respectively. Teaching performance is significant contributor to the variance of college GPA in the Language, and the entire subjects groups. In the remaining, it fails to be significant. Thus, it is the least valid predictor among the

currently used selection criteria in SNNPREB. Teaching performance can be excluded in the prediction equations for the group in which it was not significant. More over it is not significant in the male and female groups. This result supports the study made by Negussie (1999) reporting that teaching performance has no predictive power for college success.

Sex as a predictor failed to be significant even if it has significant negative correlation with college GPA in all groups. This is because of the fact that, ESLCE /TTI GPA has moderate negative significant correlation with sex in all groups. Therefore, both ESLCE /TTI GPA and sex explain the same variation in college GPA. According to (Hinkle, et al, 1994) the goal in regression analysis is to select predictor variables that are highly correlated with the criterion variable but have low correlation among themselves. This means that, if two predictors correlate highly to each other only one can have a significant contribution to the prediction of the criterion mesusre.

In general, the proportion of variance accounted for by all components of the selection criteria (ESLCE /TTI GPA, teaching experience and teaching performance) are 39%, 35.6%, 27.1%, 47.6%. and 27.8% in Language, Natural Science, Social Science, HPE and the entire subjects groups respectively. In Natural Science, Social Science and HPE, teaching performance has no contribution. If we consider the entire subjects case $R^2 = 27.8\%$. the remaining proportion (72.2%) of variance is accounted for by other unknown motivational, personal, and environmental factors. Similar selection criteria with different proportion of the total score during selection was used in Gondar College of Teacher Education & Negussie (1999) has conducted a study about the predictive validity of these selection criteria used for Kiremt program participants. He found that 33% of the

variance was accounted for by the criteria. This value is little greater than that of the value obtained in this study (27.8%). Better comparison might be made if both colleges used each criterion with the same proportion of the total score. Since there is difference in proportions allotted to each criterion both, colleges might not have admitted equally able candidates. Gondar College of Teacher Education used the selection criteria as follows: ESLCE /TTI GPA (50%), teaching experience (10%) and teaching performance (40%). ACTE used in a different way as ESLCE /TTI GPA (70%), teaching experience (15%) and teaching performance (15%). Moreover, Negussie (1999) took trainees first round Kiremt program GPA, while in this study graduation GPA of a trainee was taken as criterion measure. Number of subjects are also not equal in both studies.

The proportions of variance accounted for by the selection criteria in male and female groups are 25.8% and 11.6% respectively. In the case of female group, the remaining proportion of variance explained for by other unknown variables is the greatest of all other cases. Such a result may be obtained due to the special quota system given for females in each selection site. That is, females with unsatisfactory score in the selection criteria might have been admitted to ACTE to avoid the existing gender gap. However, females' performance in college didn't go along with their scores in the selection criteria. This means that they perform better in college or most of them perform as many males in college courses scoring an average GPA. But high scorers are among males.

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary & Conclusion

In the course of carrying out this study, an effort was made to analyze the interrelationship of scores of the selection criteria, the relationship of scores in the selection criteria with college GPA of subjects with respect to different fields of study, and sex. The best model involving linear combinations of different components of the criteria that can maximize the prediction of college GPA were identified.

For the accomplishment of such activities, the 1999 batches of Kiremt course participants at ACTE who graduated after attending five series of the program were taken as subjects of the study. Their total number is 385 (308 males and 77 females). The subjects were grouped into four fields of study; Language (Amharic & English) Natural Science (physics, Chemistry, biology and Math); Social science (Geography and History), and Health and Physical Education (HPE). Analysis was carried out with respect to fields of study male & female groups, as well as for the entire subjects.

The necessary data both on selection criteria and criterion measure (college GPA) were taken from personal files and academic records kept in the registrar office of the college. First descriptive values (such as mean, standard deviation) were computed for each variable with respect to fields of study and sex independently and as combined case (taking all subjects at a time) irrespective of their field of study & sex. Then the inter-correlation matrices were obtained. Finally the stepwise regression analysis was

implemented in order to determine the best predictor variable, the contribution of each predictor variable and to identify the best linear regression model which can be used for the prediction of college GPA.

Results obtained on the analysis of subjects academic and professional background (ESLCE /TTI GPA, teaching experience and teaching performance) seem to be high. But their graduation GPA is not satisfactory as their scores in the selection criteria. The inter correlation of scores of components of the selection criteria showed that, there is no significant relationship between ESLCE/TTI GPA and teaching performance. The same result is obtained between teaching experience and teaching performance. Sex has significant correlations with ESLCE/TTI GPA and teaching performance in all sub groups.

The correlations between selection criteria scores and college GPA indicated that only ESLCE/TTI GPA correlates positively & significantly with college GPA. Teaching experience has significant and negative correlation with college GPA. There is low relationship between teaching performance and college GPA.

In the multiple regression analyses, it was found that ESLCE/TTI GPA explained the highest proportion of variance than other components of the selection criteria in all sub groups & the entire subjects group. The selection criteria (collectively) explained proportions of variance of 39% , 35.6% , 27.1%, 47.6%, 25.8%, 11.6%, and 27.8% in Language, Natural Science, Social Science, HPE, male, Female and the entries subjects group respectively. The selection criteria work least in female group. They work best in HPE group. Teaching performance has least contribution (insignificant in most groups)

for the prediction of college GPA. Based on these empirical evidences, it is not possible to argue that the present selection criteria help to admit able teachers to the college for kiremt program. This is because of the fact that, the greater proportions of variance (61.1%, 64.4%, 72.9%, 52.4%, 74.2%, 88.4% and 72.2% in Language, Natural Science, social Science, HPE, Male, Female and the enter subjects group respectively, are accounted for by other variables not considered during selection.

Based on the above summary the following conclusions can be drawn.

- It seems that high/low GPA in TTI or ESLCE doesn't guarantee high performance in teaching.
- As service years of teachers increase, the tendency to succeed in Kiremt program courses decreases.
- ESLCE /TTI GPA is the best predictor among the components of the selection criteria used for participants of Kiremt program at ACTE.
- ESLCE /TTI GPA predicts college GPA of Natural science (Physics, Chemistry, Biology, Math) trainees better than that of Language or Social science trainees.
- As experience in teaching increases female teachers tend to perform better than male teachers in teaching.
- The selection criteria work better for the prediction of GPA of male trainees than that of females.
- It seems that there is weak relationship between tasks in the actual classroom teaching in primary school and in Kiremt program courses.
- Sex is the significant predictor of both TTI GPA and teaching performance after graduation but not college GPA.

5.2. Recommendations

The findings reported by this study indicated that the present selection criteria used for Kiremt program participants at ACTE seem ineffective. This is because of the fact that the greater proportion of variance of college GPA (about 72.9% in the entire subjects case) is accounted for by other unknown academic, personal, motivational, and environmental factors. Therefore, there must be a need to revise the selection criteria.

It is reported that teaching experience correlates negatively with performance in Kiremt program courses. That is, more experienced teachers perform less than that of less experienced teachers. If resources permit, it would be better to provide the opportunity of kiremet program for teachers in their early service years.

Logically, teaching performance is more likely to have significant correlation with college GPA. In this and other local studies, however, the correlation was found to be weak or insignificant. Perhaps this might be due to irrelevance of the evaluation items to the actual teaching task. Therefore, modifying the evaluation system may help to validate the teachers performance evaluation procedures.

Special quota system for females used in order to avoid gender gap should be encouraged irrespective of the selection criteria. Because, the selection criteria were found least for females in predicting college success.

It would be better to consider trainees choice of department. That is, the departments they wish to be enrolled in may affect their performance. Some participants enroll in the field of study that they do not have interest to study. Simply for the sake of

not missing the opportunity of attending the program, they enroll in a department (field) which they didn't have experience in teaching the subject or in previous schooling. For example, a teacher who attended Natural science in his high school education may attend History or Geography in Kiremt program. Therefore, the SNNPREB should design a mechanism to assess applicants choice of departments and previous learning experiences.

It might be helpful to consider other potential predictor variables not included in the selection criteria such as facilities in the college, instructional methods used, affirmative actions, etc in order to attain the objective of the program in general & to improve performance of trainees in particular.

Finally, a comprehensive study should be conducted in the future involving various regional colleges of the country which may help to design fair selection criteria having similar or identical prediction power for all participants in all the regional colleges.

Bibliography

- Abraham Belay. (1993). Factors Which Influence Teaching Effectiveness: A Comparative Analysis Of Male And Female Teachers In Elementary Schools. Un Published M.A. Thesis, A.A.U, School Of Graduate Studies.
- Adane Tessera And Dawit Mekonnen (2001). "Quality Indicators In Initial Primary Teacher Education: Global Trends Versus The Case In Ethiopia. In Proceedings, Of National Conference On Quality Education In Ethiopia: Vision For The 21st Century. Awassa. IER. 321-332.
- Ainsworth, B.A. (1976). Teachers Talk About In-Service Education. Journal Of Teachers Education. 27(2). 107-109.
- Alebachew Mekonnen (2001). The Relevance Of The Teacher Education College Physics Curriculum To Second Cycle Primary Physics Education: A Story In Amhara Region. MA Thesis. Unpublished. AAU
- Amanuel Gebru. (1998). Students, Supervisors & Principals As Evaluators: A Western Perspective. FLAMBEAU. Institute Of Educational Research. 6(1) 15-25.
- Ambissa Kenea (2001). Primary School Teachers' View of the Adequacy of their Pre-service Professional Training & the Support they Received During First Year of Training. In P.C.Q.E in Ethiopia. Awassa. 333-343.
- Applegate, J.H. (1987). Teachers Candidates Selection: An Overview. Journal Of Teacher Education. XXVII(2) . 2-6

- Asmerom Kidane (1989). Discontinuation of Students from Institutions of Higher Learning in Ethiopia. Magnitude, causes & Cures. The Ethiopian Journal of Education. 10(2). 1-21.
- Belay Tefera (1990). An Evaluation Of The Predictive Validity Of Admission Criteria For Teache Training In Ethiopia Unpublished. MA Thesiss. A.A.U.
- Berhanemeskel Kebede (1999). Teachers' Perceptions Of Teacher Performance Evaluation Made By School Students And Their Parents In Gurage Zone Unpublished. MA. Thesis . AAU
- Coker, H And Medley, D.M. (1987). The Accuracy Of Principles Judgments Of Teacher Performances.. The Journal Of Educational Research. 80(4) . 242-247.
- Cronbach, L.J. (1971). Test Validation. In Robert, L. Thorndik E(Ed.) Educational Measurement. 2nd Ed. Pp. 443-507.
- Dembo, M.H. (1994). Applying Educational Psychology (5th Edn.) New York. Longman Publishing Group.
- Drenth, P.J, Flier, H.V. And Omari, I.M. (1983). Educational Selection In Tanzania. Evaluation in Education. 7(2), 93-217.
- Ebel, R.L. (1979). Essentials Of Educational Measurement .. USA. Prentice Hall Inc.
- Edelfelt, R.A. (1974) In-Service Education Of Teachers. Priority For The Next Decade. Journal Of Teacher Education. 25(3). 250-252.
- _____ (1976). In Service Education Criteria For And Example Of Local Programs. Bellinghan, Wash. Eastern Washington State College.

- Ethington, C.A, Smart, J.C And Fascarella, E.T. (1986). Entry Into The Teacher Profession: Test Of A Casual Model. Journal Of Educational Research. 80(3). 156-172.
- Fransua Dalachew (2001). A Study Of The Problems Of First Cycle Primary School Teachers Training In SNNPR. Unpublished. M.A. Thesis. A.A.U.
- Friedman, M.I, Brinlee, P.S. And Hayes, P.B (1980). Improving Teacher Education: Resources & Recommendations. USA. Long Man
- Grones, R.(1969). An Empirical Investigation Of The Problem Of Homoscedasticity. In Genkamp, K. (Ed.) Development In Educational Testing. New York Gordon & Breach. 2(2), 459-471.
- Gronlund, N.E. (1981). Measurement And Evaluation. New York.Macmillan Publishing.
- Hills, J.R. (1971). Uses Of Measurement In Selection & Placement. In Robert, L. Thorndike (Ed.) Educational Measurement. 2nd Edn. Pp. 680-772.
- Hinkle, Wiersman, and Jurs. (1994). Applied Statistics For The Behavioral Sciences. 3rd Ed. USA.
- Howey, F.R. (1976). Putting In-Service Teacher Education Into Perspective. Journal Of Teacher Education. 25(2). 101-105.
- Howey, K.R. Yarger, S. And Joyce, B (1978). Reflections On Pre-Service Preparation: Impression From The National Survey. Part III. Institutions & Programs. Journal Of Teacher Education . 29(1). 38-52.
- Howey, K. R and Bents, R.H. (1981). Change in the Individual. In Staff Development. USA. ACSD.

- King, M., King., J. (1972). Some Correlates Of University Performance In A Developing Country: The Case Of Ethiopia. The Ethiopian Journal Of Education. 2(2). 20-30.
- Langmuir, C. (1971). A Problems In University Admission. HSIU: University Testing Center (Memo)
- Linn, R.L. (1983). Pearson Selection Formulas: Implication For Studies Of Predictive Bias And Estimates Of Educational Effects In Selected Sampled. Journal Of Educational Measurement. 20(1). 33-47.
- _____. (1984). Selection Bias: Multiple Meanings. Journal of Educational Measurement. 21(1). 33-47.
- Manna Olango And Tesfaye Semela (2000). Determinants Of Teachers' Decision To Leave Or To Stay. The Teacher Profession. The Ethiopian Journal Of Education. 20(1). 1-24
- Mccornack, R.L. And Mcleod, M.M. (1988). Gender Bias On The Prediction Of College Course Performance. Journal Of Educational Measurement. 25(4). 321-331.
- Mccormick, C.B & Pressley, M. (1997). Educational Psychology. Learning, Instruction, Assessment New York. Longman. . Inc.
- Mehrens, W.A. And Lehmann, IJ. (1969). Standardized Tests In Education . New York. Holt, Rinehart And Wiston, Inc.
- Mekonnen Yimer (1989) & Darge Wole. (1991). The Comparability of the Predicted Power of the ESLCE with other Measures: Preliminary Observation. AAU. IER.

- Melaku Asfaw. (1975). "The Relationship Between The ESLCE GPA's Of Required Subjects And First Semester Freshman Results." Technical Report. A.A.U Testing Center.
- Merhatibeb Bezabih. (1993). The Relationship Between ESLCE Scores And Students Academic Achievement Of Bahirdar Teachers College Ethiopian Journal Of Education. 14(1). 37-62.
- MOE (1982b). Primary School Teacher Training And The Curriculum. Addis Ababa.
- MOE (1980-1989). Department Of Teacher Education. Primary School Teacher Candidates Selection Guide Issued From 1980-1989. A.A.
- MOE (1999). Teacher Education Handbook. A.A.
- MOE (2003). A National Curriculum Guideline For Pre-Service Teacher Education Programmes. Addis Ababa.
- Negussie Tamiru (1996). Gender Differences In Academic And Professional Competence Among The Pre-service Primary School Teachers. Unpublished M.A. Thesis. Addis Ababa.
- Negussie Tamiru (1999). The Predictive Validity Of Admission Criteria Used To Select Participants Of Gonder Junior College Of Teachers Educational Summer Course Program. Research Journal. Amhara Regional Government Education Bureau. Bahir Dar. 1(2), 82-103.
- Petry, J.R (1976). Investigation Of Instruments Of Predict Academic Performance Of High-Risk College Students . Journal Of Educational Research. 70(1). 21-25.

- Rothstein, J.M. (2002). Admission Bias: A New Approach To Validity Estimation In Selected Samples. Research Occasional Paper Series. CSHE 3(1) 1-14.
- Schott, C.J. (1989). Improving The Training And Evaluation Of Teachers At Secondary School Level. USA. Edwin Mellen
- Schrader, W.B. (1969). Validity Studies And Norms As Aids In Score Interpretation. In Genkamp(Ed). Developments In Educational Testing. New York .Gordon & Breach..
- Schwanke, D. (1981). Admission Criteria In Teacher Education. Journal Of Teacher Education. 22(6). 61-63.
- Seyoum Tefera. (1996). Attempts at Educational Reform in Ethiopia: A Top-Down Or Bottom Up Reform?. The Ethiopian Journal Of Education. 16(2).
- Shenkute Mamo. (1991). The Predictive Validity Of The Selection Criteria Of Ethiopian Airlines Aviation Maintenance Technician School Unpublished. M.A. Thesis, AAU.
- Skinner, C.E. (Ed) (1989). Educational Psychology. USA. Prentice Hall International, Inc.
- SNNPREB (1997). Education Sector Development Plan For SNNPR. Awassa.
- Stinnett, T.M. (1968). Professional Problems Of Teachers. (3rd Ed.) New York. Macmillan.
- TGE (1994). Education and Training Policy. A.A. EMPDA.
- Thorndike, R.L. And Hagan, E. (1980). Measurement And Evaluation In Psychology And Education. 4th Ed. New York. Wiley.

- Tilahun Workineh (1990). Thirty Years Of University Based In-Service Teacher Education. The Ethiopian Journal Of Education. 11(2). 85-128.
- Tracy, L. (1965). A Statistical Analysis Of The ESLCE As Predictor Of Academic Success at HSIU. College of Business Administration. AAU. Institute of Educational Research.
- Yalew Engidayehu. (1998). Training Needs of Primary School Teachers and Directors: Trends, Challenges and Prospects. In Proceedign of National Conference on Quality Education in Ethiopia. Nathereth. 387-399.
- Yusuf Omer (1981). Principles of Guidance & Counseling for Ethiopian Counselors. Unpublished. AAU.

Appendix F

Assignment of Scores for teaching performance of applicants during selection.

Performance	Score (15%)	
3.45 _____	3.6	6
3.61 _____	3.76	7
3.77 _____	3.92	8
3.93 _____	4.08	9
4.09 _____	4.24	10
2.25 _____	4.40	11
4.41 _____	4.56	12
3.57 _____	4.72	13
4.73 _____	4.88	14
4.89 or above		15

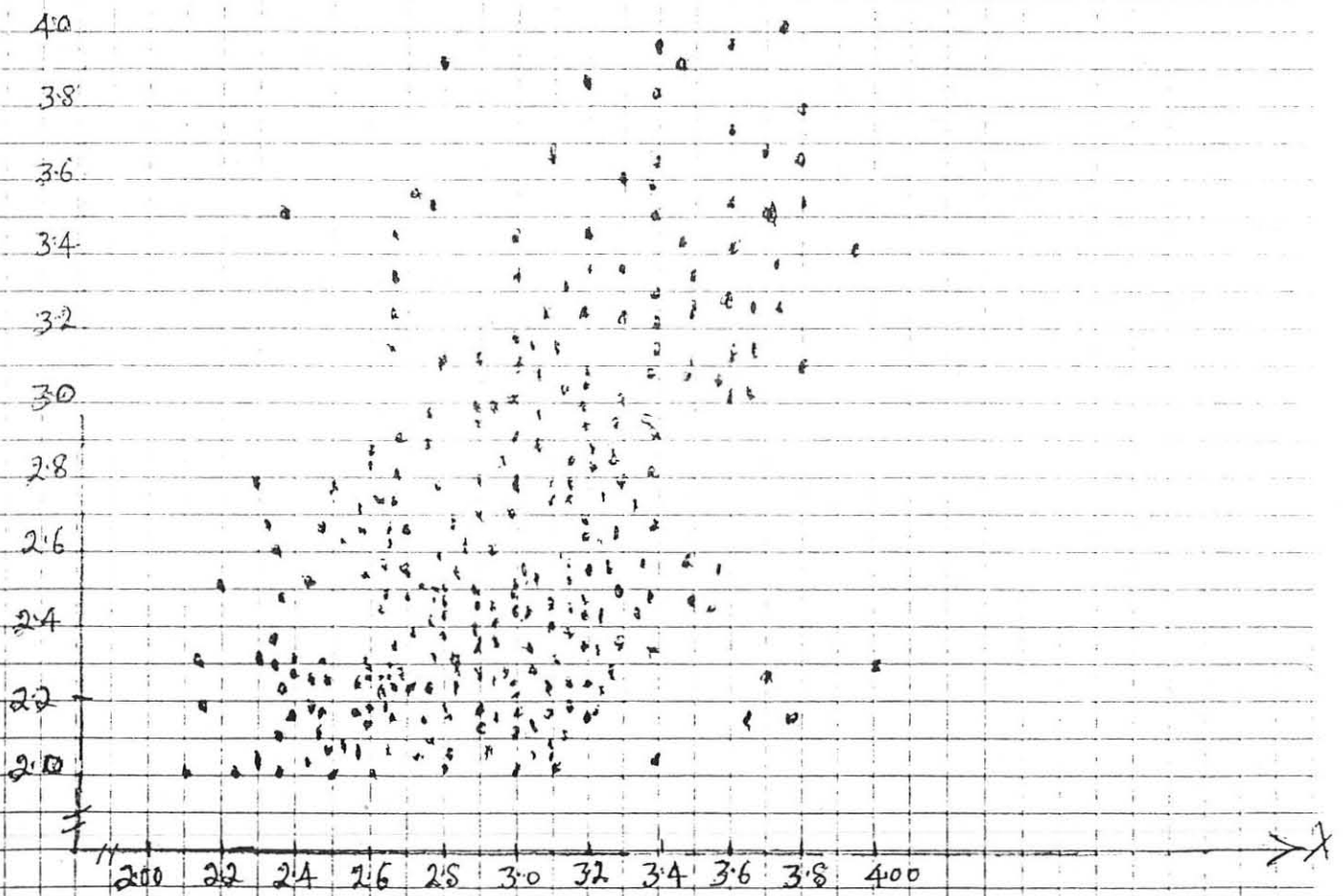


APPENDIX G

PLOTS OF POINTS FOR X & Y, WHERE

X = TTIESLCE GPA

Y = COLLEGE GPA

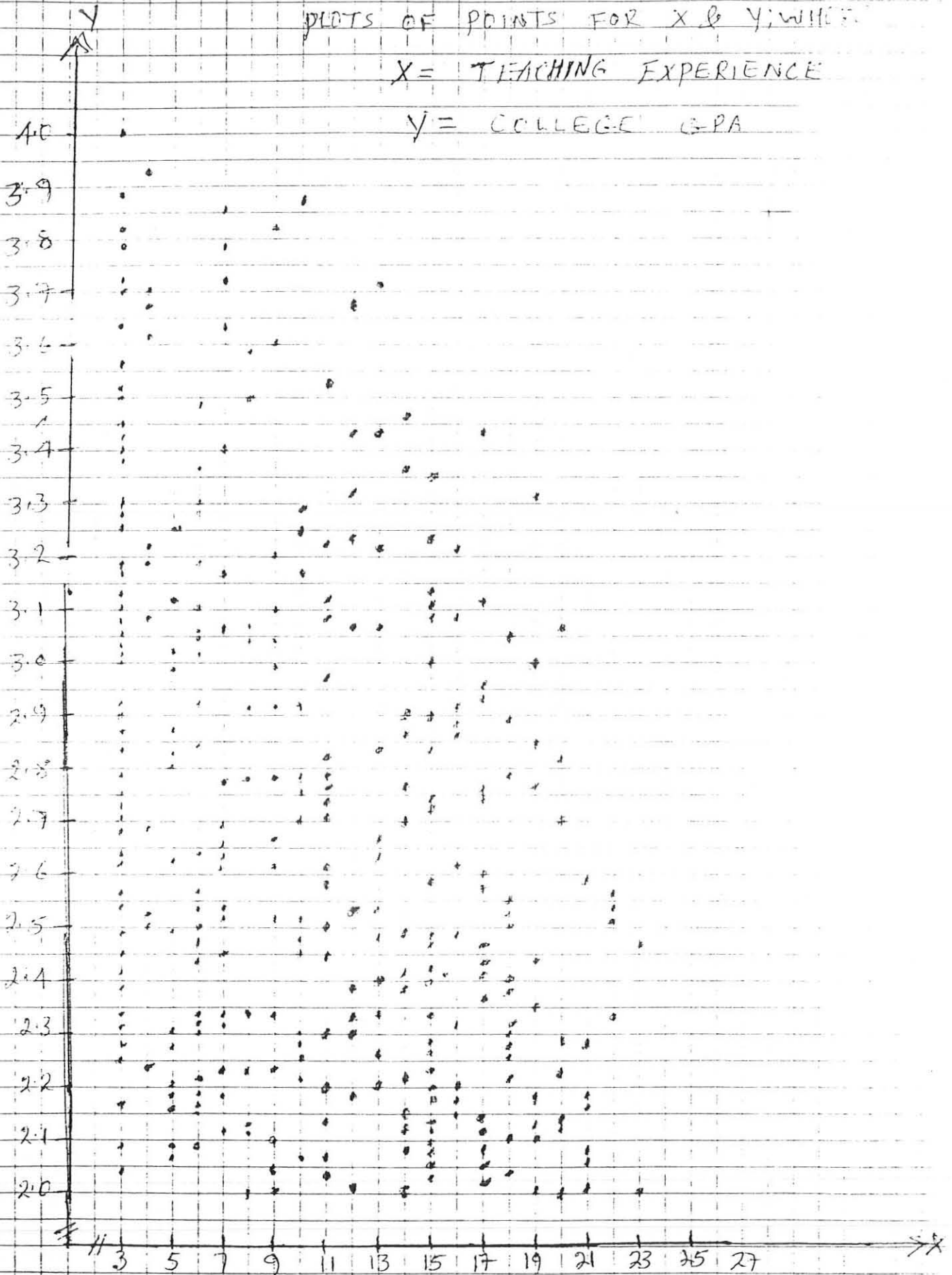


Appendix H

PLOTS OF POINTS FOR X & Y, WITH

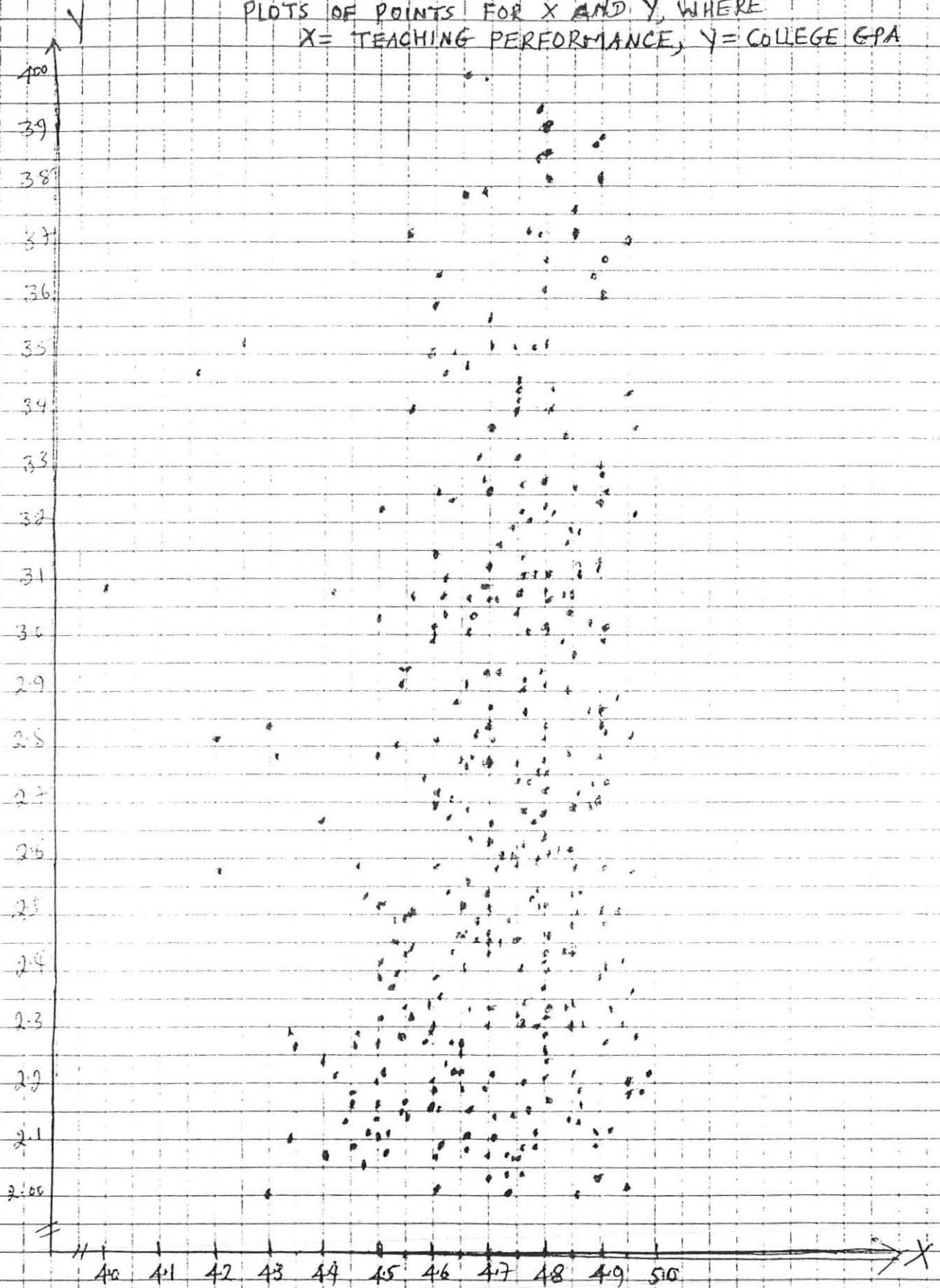
X = TEACHING EXPERIENCE

Y = COLLEGE G.P.A.



Appendix I

PLOTS OF POINTS FOR X AND Y, WHERE
X = TEACHING PERFORMANCE, Y = COLLEGE GPA

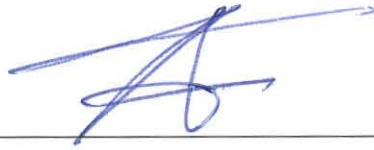


Signed Declaration

The thesis is my original work, has not been presented for a degree in any other university and that all sources of material used for the thesis have been duly acknowledged.

Name Mohammed Alawi
Signature 

This thesis has been submitted for examination with my approval as university advisor



Ato Tamire Andualem (Ass. Prof.)