

**Proceedings of the Sixth National  
Conference on Private Higher  
Education Institutions (PHEIs)  
In Ethiopia**

**Major Theme: Nurturing the Teaching  
Research Nexus in Private Higher  
Education Institutions (HEIs)**

**Organized & Sponsored**

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## **PREFACE**

This proceeding is a compilation of papers presented at the 6<sup>th</sup> national education conference which was organized by St. Mary's University College under the major theme, "Nurturing the Teaching-Research Nexus in Ethiopian Private Higher Education Institutions."

Within the framework of its major thematic area, the conference entertained various works, both by local and foreign scholars. And, members of the academia both from public and private institutions, as well as other invited guests attended the forum. The key issues addressed in the conference were: higher education policy, quality education and research, student assessment, educational management, productivity and recognition, HIV/AIDS, and gender.

In his welcoming speech, Ato Wondwosen Tamrat, President of St. Mary's University College, recalled the contributions this national conference has made to the private sector. Over the last six years, more than 120 research papers have been presented which have allowed stakeholders to understand the sector much better.

In his opening speech, His Excellency Dr. Sintayehu Woldemichael, Minister of Education, stated the importance of providing education and training in an integrated manner of research, production and service, and cultivating intellectuals who are the source of new knowledge with efficiency in conducting research and problem-solving capacity, as well as disseminating scientific knowledge.

Mr. Alexandros Makarlaku (UNESCO's representative), in his Keynote Address, noted that universities and higher education institutions educate highly qualified graduates and responsible citizens able to meet the needs of all sectors of human activity; they provide opportunities for higher learning and for learning throughout life; they advance, create and disseminate knowledge through research, and provide, as part of their service to the community, relevant expertise to assist societies in cultural, social and economic development; they help understand, interpret, preserve, enhance, promote and disseminate national and regional, international and historic cultures in a context of

cultural pluralism and diversity; they also help protect and enhance societal values by training young people in the values which form the basis of democratic citizenship; finally, they contribute to the development and improvement of education at all levels, including through the training of teachers.

In retrospect, the conference has given all participants the chance to reflect on the achievement and challenges of higher education in general and private higher institutions in particular. The conference has enabled participants to define the tasks and the social responsibilities waiting ahead at the turn of the Ethiopian Millennium.

SMUC's Center for Educational Improvement, Research and Quality Assurance (CEIRQA) acknowledges the contribution of all paper presenters and participants whose joint efforts have made the conference a success.

**Welcoming Speech - by Ato Wondwosen Tamrat (Asst. Professor) and President, SMUC**

Your Excellency Dr. Sintayehu W/Michael, Minister of Education,

Invited Guests,

Conference Participants,

Ladies and Gentlemen,

On behalf of the St. Mary's Community, I would like to welcome you all to the 6<sup>th</sup> National Conference on Private Higher Education in Ethiopia.

Needless to say, the flourishing of higher education in Ethiopia is indispensable to the growth of the national economy, social progress and to the betterment of the peoples' well being. As you well-know, the private sector is contributing its share in the national efforts of poverty reduction and economic development. The sheer number of the institutions, whose presence was unthinkable ten years back, may be a witness to this.

Today, there are more than 250 private institutions that provide diploma level training and 55 institutions offering training at undergraduate degree level. From the earlier concentration of PHEIs in the capital, we have come to see a significant number of institutions operating across the country. This is, by any standard, an achievement we should all be proud of.

But still, as is the case with public institutions, we need to strive for attaining the quality standards set at a national level. Unwarranted generalizations aside, institutions should respond to the constructive criticism coming from stakeholders. Equally significant is the support required from the government and from those who have a stake in the sector.

In the last six years, this national conference has served as a forum for identifying critical issues related to the private sector. Over the last six years, more than 120 research papers have been presented which have allowed us to understand the sector much better. As a sequel to our previous efforts, this year's theme is "Nurturing the Teaching - Research

Nexus in Ethiopian Private Higher Education Institutions.” This year’s Conference essentially focuses on issues related to the link between research and development. There will be 11 papers focusing on this theme and on such additional issues as access, educational assessment, instructional methods and practices, and cross-cutting issues. Our participants are drawn from public and private institutions, NGOs, education bureaus, ministries, agencies and from diverse professions.

I hope this mix of stakeholders will have a lot to share, deliberate and act upon. I sincerely hope that through your fruitful discussions, all of us will learn more, share the fruit, and make use of the wisdom obtained for the future conduct of PHEIs. As we have been doing before, we plan to publish the results of the conference so that policy makers and all stakeholders benefit from the day-long discussion we are going to have.

Finally, allow me to avail myself of this opportunity.

**Opening Speech – by His Excellency, Dr. Sintayehu W/Michael, Minister of Education**

**Distinguished Invited Guests**

**Participants of this Conference**

**Ladies and Gentlemen:**

First of all, I would like to express my deep pleasure on behalf of the Ministry of Education and myself for I am able to be here with you this morning and make an opening speech at this national conference that discusses on crucial issues of higher education entitled, “Nurturing the Teaching-Research Nexus in Ethiopian Higher Education Institutions,” organized by St. Mary’s University College.

May I take this opportunity to express my sincere gratitude and appreciation to the University College Management and the organizing committee of this conference?

**Ladies and Gentlemen,**

Unquestionably, higher education training is of paramount importance and has substantial role for the socio-economic development of the country. Unless policies and strategies that potentially consider science, technology and basic social needs come in to practice, development will be an ideal anticipation.

Obviously, higher education in our country is too young. Besides, considerable attention was not given for higher education prior to 1991. In those decades, the country was restrained from the necessary benefits of higher education. The education provided at that time mainly aimed at producing professionals that could serve the bureaucracy by being elite in theoretical knowledge. When it comes to education participation, only a handful of students from a few secondary schools available in big towns were drawn in to higher education institutions and the sector could not contribute a substantial share as it was expected for the comprehensive development of the country. There were merely two

universities predominantly bounded up with few social science streams that only fulfill the need of the bureaucracy of the government.

Nevertheless, the measures undertaken by the government of the FDRE after 1991 were a turning point for our development.

The government of the Federal Democratic Republic of Ethiopia has given due attention towards education and training. It has allocated a huge amount of capital out-lay and invested heavily. As a result, tremendous result is secured within a short period of time. A strategy has been planned so as to ensure quality, and relevance of the education. Remarkable achievement accompanied with international admiration has been attained.

Currently, gross enrollment in primary school has reached to over 97%. And the enrollment in secondary school education rose to 40%. More than 173,000 students are enrolled in Vocational and Technical Training Institutions.

**Ladies and Gentlemen,**

As I have mentioned earlier, a profound effort has been made to expand Higher Education throughout the country. The number of universities has grown to eight in the year 2000 and additional 13 universities have been established in the last three years. To day, there are 21 public universities and one University College. Many activities have been carried out to ensure quality and relevance of the education in accordance with socio-economic development need of the country.

Our Education and Training Policy clearly states with regard to higher education, the higher education programs are designed towards providing education and training in an integrated manner of research, production and service and cultivating intellectual who are the source of new knowledge with efficiency in conducting research and problem solving capacity, as well as disseminating scientific knowledge.

Cognizant of the prominence of research, innovation and systems in higher education institutions, we will continue to provide maximum support. Higher Education Institutions



are expected to carry out varieties of research works, consultancy services and technology transformation. In this regard, the government has been facilitating and recently a promising shift is shown to conduct problem solving researches. The government keeps providing reliable and sustainable support to research, the core objective of higher education institutions.

**Dear Participants of this conference,**

Building the capacity of utilizing technology is a vital instrument so as to secure fast and sustainable socio-economic development. Expanding varieties of research works in turn, has significant value to keep such technological development. As innovations and new systems are the result of research findings conducting basic researches is quite irreplaceable.

We have to build our capacity of utilizing science and technology in order to achieve our country's accelerated and sustainable development strategy goals. In this regard, it is mandatory to conduct basic research. Particularly, it is much prominent to make integrated research between the existing technology as well as creating new ones with the existing and realistic national situation of the country. For this is the main objective of research we have to give considerable attention.

Problem solving researches that are done with any institution should be conducted harmoniously and inseparably. Rather, they have to come together starting from problem identification to dissemination of research results. Research works should be integrated. Such a research enables to identify the country's core problems, to understand and properly manipulate the capacity of human resource and to alleviate duplication of efforts.

The government highly supports the expansion of research works especially those which focus in national issues and problem-solving activities.

To bring about professionally enriched human resource that is capable of alleviating socio-economic problems, it is a must and mandatory to pay special attention for science and technology.

Accordingly, trainings at public higher education institutions will be given 70% in science and technology and 30% in social science. To make this direction practical, the necessary inputs like curriculum designing, teacher preparations, libraries, laboratories and workshops upgrading are being carried on.

On the other hand, in the effort to enhance the living standard of our people and for ensuring justice, democracy and good governance, higher education institutions play a prominent role. They have a significant part in speeding up the efforts of our people in terms of widespread economic and social development.

### **Ladies and Gentlemen,**

As the government of Ethiopia created conducive environment and let a wider opportunity for private sectors, the expansion of private higher education institutions also has increased at a high rate in the last decade. Nowadays, there are more than 56 private higher education institutions that provide under graduate degree programs which are accredited and pre-accredited.

If such institutions are well prepared and genuinely assume social responsibility and accountability to provide quality education instead of rushing only to profit maximization, they will be able to produce good citizens. And hence, they can secure social acceptance, sustainability and competence.

Private higher education institutions have to take their own share to insure cumulative national development. The programs and fields of trainings they offer must focus on the demand of labor market.

They have to produce trained manpower capable to compete and even create jobs. The training fields they choose must be the required ones and alleviate unemployment.

St. Mary's University College is one of the growing higher education institutions in the country. Quiet obviously, the institution has organized varieties of conferences on higher education issues. This remains exemplary beyond the accomplishment of responsibility.

While private higher education institutions conduct research works, they should contribute solutions for the problems related to education and training. Apart from their national value, such research works enable to improve one's institutional performance.

Accordingly, making genuine discussion on research results, conclusions and implementations, are highly expected from all private and public institutions.

In addition to forwarding genuine ideas that promote quality education, understanding and utilizing educational policies and strategies is quiet crucial for the socio-economic development endeavors of the country.

Finally, I would like to make confirmation that the Ministry of Education of the FDRE provides all the necessary support for private higher institutions on their way to undertake expansion of quality and relevant education.

Once, again, I would like to congratulate St. Mary University College for organizing this invaluable conference.

I hope you will come up with fruitful conclusions.

I declare the conference is officially open.

Thank you.

**Keynote Address – by Mr. Alexandros Makarlgaku, UNESCO**

**Master of Ceremonies,**

**Your Excellency, Minister of Education, Dr. Sintayehu W/Michael,**

**President of St. Mary’s University College, Ato Wondwosen Tamerat,**

**Distinguished Guests and Members of the Press,**

UNESCO expresses satisfaction that this initiative is taking place in Addis Ababa today. UNESCO is the only UN body with a mandate in higher education. Its mission is to promote higher education in the increasingly knowledge-based present-day society as a key factor for cultural, economic and political development, as an endogenous capacity builder, as a promoter of human rights, sustainable development, democracy, peace and justice.

UNESCO supports the establishment of sustainable higher education systems by:

1. Building and strengthening capacities at the national level;
2. Providing global leadership concerning teacher training and related policy issues;
3. Developing policy options for an educational response to the challenges of globalization through research and knowledge-sharing;
4. Assisting member states in planning for and developing sustainable policies in the use of ICTs in education in a lifelong learning perspective.

Higher education has given ample proof of its viability over the centuries and of its ability to change and to induce change and progress in a society.

Owing to the scope and pace of change, society has become increasingly knowledge-based so that higher learning and research now act as essential components of cultural, socio-economic and environmentally sustainable development of individuals, communities and nations.

Higher education itself is confronted, therefore, with formidable challenges and must proceed to the most radical change and renewal it has ever been required to undertake, so

that our society, which is currently undergoing a profound crisis of values, can transcend mere economic considerations and incorporate deeper dimensions of morality and spirituality.

Universities and higher education institutions educate highly qualified graduates and responsible citizens able to meet the needs of all sectors of human activity; they provide opportunities for higher learning and for learning throughout life; they advance, create and disseminate knowledge through research and provide, as part of their service to the community, relevant expertise to assist societies in cultural, social and economic development; they help understand, interpret, preserve, enhance, promote and disseminate national and regional, international and historic cultures in a context of cultural pluralism and diversity; they help protect and enhance societal values by training young people in the values which form the basis of democratic citizenship; they contribute to the development and improvement of education at all levels, including through the training of teachers.

In considering the roles and functions of higher education institutions in promoting sustainable development, issues to be particularly addressed include;

1. Increasing the relevance of teaching and research for the societal processes leading to more sustainable and discouraging unsustainable patterns of life;
2. Improving the quality and efficiency of teaching and research;
3. Bridging the gap between science and education, and traditional knowledge and education;
4. Strengthening interactions with actors outside the university, in particular with local communities and businesses;
5. Introducing decentralized and flexible management concepts;
6. Offering access to scientific knowledge of good quality;
7. Enabling students to obtain the competences needed to work together in multi-disciplinary and multi-cultural teams in participatory processes; bringing the global dimension into individual learning environments.

The advancement of knowledge through research is an essential function of all systems of higher education, which should promote postgraduate studies.

Innovation, interdisciplinary and transdisciplinarity should be promoted and reinforced in programmes with long-term orientations on social and cultural aims and needs. Appropriate balance should be established between basic and target-oriented research.

Institutions should ensure that all members of the academic community engaged in research are provided with appropriate training, resources and support. The intellectual and cultural rights on the results of research should be used to the benefit of humanity and should be protected so that they cannot be abused.

Research must be enhanced in all disciplines, including the social and human sciences, education (including higher education), engineering, natural science, mathematics, informatics and the arts within the framework of national, regional and international research and development policies. Of special importance is the enhancement of research capacities in higher education research institutions, as mutual enhancement of quality takes place when higher education and research are conducted at a highest level within the same institution. These institutions should find the material and financial support required, from both the public and private sources.

UNESCO has launched a high-priority Initiative on Teacher training in sub-Saharan Africa (TISSA) for 2006-2015. This initiative will assist the continent's 46 sub-Saharan countries in restructuring national teacher policies and teacher education. It aims to increase the number of teachers and improve the quality of teaching.

Furthermore, the UNITWIN/UNESCO Chairs Programme was conceived as a way to advance research, training and programme development in higher education by building university networks and encouraging inter-university cooperation through transfer of knowledge across borders. Since it was set up in 1992 the programme has aroused great interest among Member-States. Today 650 UNESCO Chairs and 62 UNITWIN Networks are established within the Programme, involving over 770 institutions in 128 countries.

Ethiopia has a UNESCO Chair in Human Rights and Democracy at the University of Addis Ababa.

The UNESCO Forum on Higher Education, Research and knowledge is an initiative focusing on research in and on Higher Education and Knowledge, with the objective to widen our understanding of systems, structures, policies, trends and developments in higher education, research and knowledge with a special focus on low and middle income countries. Related areas of interests are research on agriculture and health systems, since they are important elements of the national research systems in low and middle-income countries.

It is with great pleasure to observe that the same concerns stated by UNESCO at a global level are addressed by the title of today's meeting. I would like to thank you all for the opportunity to deliver the keynote address today and to wish you fruitful discussions. We are looking forward to the conclusions and proceedings of the conference.

# **Agricultural Research and Extension in Ethiopian Institutions of Higher Education**

**Belay Kassa (Professor)**

## ***Abstract***

*High-level agricultural manpower training in Ethiopian institutions of higher education specializing in agriculture and related fields was studied. The study reveals that high level agricultural manpower training began in the early 1950s and that, at present, the country has seven institutions of higher learning which train students in agriculture and related fields. The results of the study show that the agricultural institutions of higher education have made contributions to the agricultural sector through training of high level agricultural professionals, enhancement of indigenous research capability through generation and dissemination of technologies. The study also reveals that a host of factors have put a stranglehold on the training process and professional competence of agricultural graduates. Moreover, the results shed new light on the programmes of study which were found to be unable to respond to the labour market requirements and current rural realities due to lack of relevance of the curricula, which are no longer able to produce graduates who could deal with the wider problems of rural development.*



## **I. Introduction**

The Ethiopian economy is predominantly agricultural. Consistently, over 45% of the GDP and over 90% of exportable commodities are accounted for by the agricultural sector. Moreover, this sector provides employment for about 85% of the labour force (Kassa, 2004b). However, Ethiopian agriculture is characterized by very low productivity. The low productivity of the agricultural sector has made it difficult to attain food self-sufficiency at the national level. One of the major obstacles for the rapid development of the agricultural sector in Ethiopia is the scarcity of skilled and experienced labour. In this regard, agricultural institutions of higher education are expected to play a leading role in training skilled labour that can serve as a catalyst in identifying root causes for low agricultural productivity, devising appropriate remedial measures to surmount problems of food self-sufficiency and improving the traditional farming practices. Yet no major effort has been made to assess the importance of these institutions in developing the agricultural sector or to look at factors contributing to their actual performance.

This paper addresses issues of high-level agricultural manpower training, research and extension in agricultural institutions of higher education in Ethiopia. In this study, agricultural higher education is understood to include diploma, first degree (B.Sc. and DVM), second degree (M.Sc. and MVSC) and terminal (Ph.D.) degree programmes offered in institutions of higher education.

The objectives of the paper are to: review the historical development of high-level agricultural manpower training, agricultural research and extension in Ethiopia; evaluate achievements of high-level agricultural manpower training programmes, agricultural research and extension systems; examine the linkages of higher education in agriculture with research and extension; assess weaknesses of higher level agricultural education, research and extension systems; and identify future challenges for higher level agricultural education, research and extension systems. The paper is based on a thorough review of existing empirical literature on the Ethiopian higher education system as well as discussion with officials of agricultural institutions of higher education and regional agricultural research institutions/ centres.

## **II. The Agricultural Education System of Ethiopia**

At present, the agricultural education system in Ethiopia is understood to include the following types of educational institutions which offer training programmes at different levels: Agricultural Institutions of Higher Education; Agricultural Technical and Vocational Education and Training centres; and Farmer Training Centres. In what follows the origin and development of these institutions are discussed.

### ***2.1. Agricultural Institutions of Higher Education***

Agricultural Institutions of Higher Education (AIHE), as defined in this paper, include those institutions of higher education that offer at least one of the following training programmes in agriculture and related fields to students after successful completion of the secondary school curriculum: Diploma Programme destined to produce essentially middle-level technicians in a variety of subjects; Undergraduate Degree Programme leading to a first degree (B.Sc./DVM) after three to five years of study; and Graduate Programmes leading to a Master's Degree (M.Sc./MVSC) and Doctorial Degree (Ph.D.).

University level agricultural education in Ethiopia began in the early 1950s, following the 'Point Four General Agreement for Technical Co-operation between the United States of America and the Ethiopian Empire', which was signed in Addis Ababa on 16<sup>th</sup> of June 1951. On 15 May 1952, the Agreement for a Co-operative Agricultural Education Programme between the Imperial Ethiopian Government and the Government of the United States of America was signed in Addis Ababa. This agreement laid down the foundations for the establishment of Jimma Agricultural and Technical School (JATS) and the Imperial Ethiopian College of Agriculture and Mechanical Arts (IECAMA) popularly called 'Alemaya College of Agriculture', now Haramaya University (HU). On the following day, 16 May 1952, another agreement signed between the Technical Co-operation Administration of the United States Department of State, now United States Agency for International Development (USAID), and Oklahoma Agricultural and Mechanical College, now Oklahoma State University, gave to the latter the mandate: to establish and operate the College; to establish and operate a nationwide system of

agricultural extension; to set up agricultural research and experiment stations; and to furnish technicians and administrative staff to start the College.

Based on the then Emperor's suggestion and the recommendation from Oklahoma State University, it was decided to establish the college at Alemaya, 525km to the East of Addis Ababa. The academic programme of the College was modelled on the Land-grant College system with three fundamental but related responsibilities: training of highly skilled workers; promotion of agricultural research; and dissemination of appropriate technologies.

The first classes of JATS started on October 1952 and the first university-level agricultural training programme, with a four-year curriculum leading to a Bachelor of Science Degree in General Agriculture, started in September 1953 at the JATS. The JATS was to serve as an interim site where students complete their freshman and sophomore course requirements in the course of constructing different facilities at Haramaya.

The IECAMA opened its doors to its first batch of students on 5 November 1956. The IECAMA was originally conceived as an independent institution administered by a president with the advice and counsel of Trustees. With the foundation of the Haile Selassie I University, now Addis Ababa University (AAU), in February 1961, the College became one of the chartered units of the University and was renamed 'Haile Selassie I University College of Agriculture'. The College functioned as a chartered member of the AAU till 27<sup>th</sup> of May 1985 when it was upgraded to a university level as Alemaya University of Agriculture.

Until the middle of the 1970s, university level education in agriculture and related fields was offered at Alemaya College of Agriculture, the Institute of Animal Health Assistants, Ambo and Jimma Institutes of Agriculture. The Institute of Animal Health Assistants was established in 1963 at Debre Zeit (50 km East of Addis Ababa) subsequent to an agreement reached between the Ethiopian Government and the Food and Agricultural Organisation (FAO) of the United Nations. The institute was running a two-year diploma

program in Animal Health until its phase out in 2004. The institute was patronised, first by the Ministry of Agriculture and then by the Commission for Higher Education. In 1989, it was made a constituent part of the Faculty of Veterinary Medicine of the Addis Ababa University.

Ambo and Jimma Institutes of Agriculture were primarily intended for the training of agricultural technicians. The Ambo Agricultural Institute was established in 1931. It is one of the oldest institution and the first agricultural school in the country to teach agriculture at primary level. Until 1966, the Ambo and Jimma Institutes were secondary schools taking in students who had completed grade eight and providing them four years of general education with major emphasis on agriculture. In 1967, these schools became Institutes of Agriculture giving two years of diploma training in general agriculture and were put under the Ministry of Agriculture. In 1978, these institutes were upgraded to the College of Agriculture level. At present, these Colleges are under the Jimma University. The Jimma College of Agriculture was renamed by the University as the Jimma College of Agriculture and Veterinary Medicine in 2005.

Since the second half of the 1970s, the following Junior Colleges of Agriculture and other agriculture related institutions were set up. Debre Zeit Junior College of Agriculture was founded in what was formerly known as the Debre Zeit Agricultural Experiment Station, which was established in 1953 to serve as the first experimental station of the IECAMA. The Debre Zeit station later developed as an autonomous agricultural experiment station under the auspices of the Addis Ababa University. In September, 1977, a two-year diploma granting institution was attached to the station and the whole unit was renamed Debre Zeit Junior College of Agriculture and Agricultural Research Centre. In February 1984, the junior college programme of the Debre Zeit centre was discontinued and transferred temporarily to Alemaya. The programme phased out at the end of the 1987/88 academic year. With the interruption of the junior college programme, Alemaya regained control over the experimental station and the latter was renamed Alemaya University of Agriculture, Debre Zeit Agricultural Research Centre. However, with the reorganisation of the country's agricultural research system, in 1997, the Debre

Zeit Agricultural Research Centre was placed under the Ethiopian Agricultural Research Organisation.

Awassa College of Agriculture was founded in July 1976 in Awassa (275 km South of Addis Ababa). It was formerly under the administration of Addis Ababa University and was reorganized as an independent institution, in 1994, under the administration of the Ministry of Education. The College now runs different programmes in agriculture both at B.Sc. and M.Sc. degree levels. Following the establishment of the Debu University in 2000, the College became one of the constituent parts of the University.

Wondo Genet College of Forestry was opened in early 1978. Till the second half of the 1990s, the College used to offer only a two-year diploma programme in Forestry. At the end of the 1997/98 academic year the four-year B.Sc. training programme in Forestry was transferred from Alemaya University to the Wondo Genet College of Forestry. The College now runs different programmes in forestry both at B.Sc. and M.Sc. Degree levels. The College was initially administered by the Ministry of Agriculture and then by the Higher Education Main Department of the Ministry of Education. Following the establishment of the Debu University in 2000, the College became one of the constituent parts of the University.

Faculty of Veterinary Medicine was established in 1979 at Debre Zeit on the site of what used to be known as the Institute of Animal Health Assistants. Its primary objective is the training of high level manpower in the area of animal health and awards a Doctorial Degree of Veterinary Medicine (DVM). The Faculty is under Addis Ababa University.

In 1993, the Faculty of Dry Land Agriculture and Natural Resources started its training programme as part of a newly opened college, Mekele University College, which is located in Tigray Regional State. This Faculty trains students in Dry Land Agriculture and was under the Higher Education Main Department of the Ministry of Education until 2000, when it became a constituent part of the Mekele University. The College started M.Sc. training programmes in the 2004/05 academic year.

## ***2.2. Agricultural Technical and Vocational Education and Training (ATVET)***

The great majority of the ATVET centres were opened in 2001. The Education and Training Policy of 1994 underlines that technical training would be provided for those who completed grade ten for the development of middle level manpower (TGE, 1994). Consistent with this policy, the first group of students who completed general secondary education joined the Technical and Vocational Education and Training centres in 2001.

Currently, there are 25 ATVET centres, under the Federal Ministry of Agriculture and Rural Development, which train middle level agricultural manpower in the areas of Animal Health, Animal Sciences, Cooperatives, Natural Resources Management and Plant Sciences. The total duration of study in ATVET centres is three years: two years of study on campus and a ten-month apprenticeship with close supervision in the final year (MoE, 2005).

## ***2.3. Farmer Training Centres (FTC)***

Another component of the agricultural education system is Farmer Training Centres (FTCs), which offer modular training programmes for practitioners who are either primary school dropouts or adults with farming experience. The FTCs train farmers for three months on practical skills. In addition, recognizing the gaps in animal health service delivery particularly in the pastoralist and remote areas, the Federal Ministry of Agriculture and Rural Development has introduced community-based animal health care delivery system (MOARD, 2004). The plan of the current government is to establish 15,000 Farmer Training Centres throughout the country.

## **III. Origin and Development of Agricultural Extension and Research Systems**

Agricultural research and extension work started in Ethiopia with the establishment of the Imperial Ethiopian College of Agriculture and Mechanical Arts. In the decade following its establishment, IECAMA was active in building the national agricultural research and extension systems. In 1963, the national agricultural extension work was transferred to the Ministry of Agriculture, with the suggestion that IECAMA concentrates its outreach

efforts in its vicinity. Since this time, the Ministry of Agriculture has been the sole authority responsible for the national agricultural extension system. Following the transfer of the responsibility for national extension administration to the Ministry of Agriculture, extension service became one of the departments in the Ministry. Over the years the Ministry has implemented different extension approaches, such as the Comprehensive Package Programme, the Minimum Package Programme, the Peasant Agriculture Development Extension Programme, and since 1995, the Participatory Demonstration and Training Extension System (PADETES).

A closer scrutiny of the different extension approaches reveals that they have been planned and implemented without the participation of the very people for whom they have been designed. Apart from being biased against the livestock sub-sector, these approaches have captured farmers located only few kilometres from both sides of all-weather roads (Kassa, 2003). The success of extension work depends partly on the quality and number of the front-line workers. However, at present the number of extension personnel in the country is very small when viewed in relation to the number of farmers they have to serve (Kassa, 2004b).

As to the agricultural research, it was first initiated by IECAMA. In fact, for more than a decade, the College and its central experiment station at Debre Zeit had a national mandate to carryout and co-ordinate agricultural research. In 1966, the Imperial Government transferred the responsibility for agricultural research to the newly established Institute of Agricultural Research (IAR). The IAR was established in February, 1966 with a mandate to formulate the national agricultural research policy, to carryout agricultural research on crops, livestock, natural resources, and related disciplines in various agro-ecological zones of the country, and to coordinate national agricultural research (Negarit Gazeta, 1966). With the establishment of the IAR, agricultural higher education, agricultural research and extension split up and were made answerable to three separate and independent administrative structures. This structural change nipped in the bud the burgeoning linkage among agricultural research, extension and education systems. This weakness persisted until now during which there has been no

clear mechanism of linkage among the Ministry of Agriculture, the national agricultural research system and agricultural institutions of higher education.

Since the establishment of IAR, Ethiopia has a national agricultural research system with an autonomous management and with major and minor stations covering the major ecological zones, and the major commodity and discipline groups. Until its replacement by the Ethiopian Agricultural Research Organization in 1997, the IAR had been the only organization in the country with a clear mandate solely for agricultural research. Over the years other organizations, which had been involved in agriculture related research activities, had been established under the Ministry of Agriculture. These included: the Plant Protection Research Centre (PPRC), which was established in 1972 and operated under the Ethiopian Science and Technology Commission and was merged with IAR in 1995; the Plant Genetic Resources Centre of Ethiopia, which was founded in 1974, which later became the Biodiversity Institute (BDI); the Forestry Research Centre (FRC), which was established in 1975; the Wood Utilization Research Centre (WURC), which was founded in 1979; the National Soils Laboratory (NSL), which was established in 1989; and the Institute of Animal Health Research (IAHR), which became operational in 1992 (Getinet and Tadesse, 1999).

In addition to the aforementioned organizations, other organizations, such as some divisions of the Ministry of Agriculture, the Coffee and Tea Development Authority and the former Ministry of State Farms Development had been engaged in experimental work in support of their development activities. Moreover, some institutions of higher learning, such as the Alemaya University, the Awassa College of Agriculture, the Mekele University's Faculty of Dry land Agriculture and Natural Resources, and the different units of Addis Ababa University (Faculty of Veterinary Medicine, Institute of Development Research and the Department of Biology) have been doing some agriculturally related research.

Agricultural research underwent significant reform in the 1990s when the new government committed itself to put in place a decentralized political system in the country. More precisely, in 1993, some IAR centres were decentralised to create



independent research centres run by the respective regional governments, and became the Regional Agricultural Research Centres (RARCs) generally under their respective regional bureaus of agriculture. However, over the past five years, the Amhara, the Oromia, the Somali, the Southern and the Tigray regions have established their respective Regional Agricultural Research Institutes (RARIs), which have agricultural research as their central mandate and coordinate research activities of agricultural research centres within their respective regions.

As discussed earlier, agricultural research has been undertaken by different organizations without proper co-ordination. The end result was duplication of efforts and wastage of resources, which proved to be an extravagance the country could ill afford. The problem seems to have been appreciated by the current Government for it reorganized the national agricultural research system in June 1997 (Federal Negarit Gazeta, 1997), under the umbrella of the newly created Ethiopian Agricultural Research Organization (EARO). During its establishment, EARO merged all the existing agricultural research institutions (IAR, BDI, FRC, WURC, IAHR, NSL and the Debre Zeit Agricultural Research Centre) except the Regional Agricultural Research Centres. In view of rationalising agricultural research governance and avoiding redundancy of efforts and wastage of resources, EARO prepared a 10-year strategic plan that would guide agricultural research policy in Ethiopia.

The current National Agricultural Research System (NARS) is made up of three types of institutions:

- The Ethiopian Agricultural Research Organization (consisting of the different research institutions/centres which were merged within EARO during its establishment).
- The Regional Agricultural Research Centres/Institutions (RARCs/ RARIs)
- Agricultural Institutions of Higher Education (AIHE)

These are the second largest of the NARS institutions. The RARCs/ RARIs conduct research that addresses the specific needs of a particular region. They promote multidisciplinary research at the regional level. They also participate in collaborative

national research programmes in any one or more of the crop, livestock, and natural resource commodity programmes (Getinet and Tadesse, 1999). EARO funds the budget requirement of research projects that are approved by a national review forum and have national implications. Regional governments fund the remainder of research projects that focus on the specific agricultural problems of the agro-ecological zones in each region. Currently, there are 39 Regional Agricultural Research Centres. Some of these RARCs were established over the last three years with the financial support from the World Bank supported Agricultural Research and Training Project. Even though the number of RARCs has increased significantly over the last five years and attempts have been made to cover agro-ecological zones that are not covered by the EARO, given the country's ecological diversity, it will still take many years before technologies suitable to the different locations of the country are developed.

Among the AIHE those that are actively engaged in agricultural research both through direct involvement of the staff and graduate students' thesis research work include: Addis Ababa University's Faculty of Veterinary Medicine, Alemaya University's College of Agriculture, Debub University's Awassa College of Agriculture and Wondo Genet College of Forestry, and Mekele University's Faculty of Dry land Agriculture and Natural Resources.

With regard to the performance of the national agricultural research system, in its fifty years of existence, it has developed and released about 390 improved varieties of crops (including those varieties, which are no more in production) over the last three decades (Belay, 2004b). In addition to improved varieties, numerous agronomic practices such as plant population, spacing, fertiliser rates and application methods, physical and chemical crop protection practices, water and soil conservation techniques have been identified, evaluated and recommended.

It should be noted that most of the released varieties were developed and tested in high potential areas of the country where the agricultural research centres are located. Given that the research centres in the country are very limited and do not represent all the agro-ecological zones, it was not uncommon to see some technologies developed and tested in

specific areas being disseminated in other areas without proper adaptability trials. As already noted, agricultural research and extension have been carried out by different bodies and as the linkage and working relationships among these organisations have been non-existent, researchers have been engaged in research activities, which were not on the farmers' priority list. Consequently, farmers have become increasingly sceptical to adopt technologies developed by researchers, a fact that stems from the non-participatory manner by which research problems are identified and prioritised. As part of a move to strengthen the linkage between the agricultural research and extension systems and improve their performance, EARO was made accountable to the Federal Ministry of Agriculture and Rural Development in March 2004. This reorganization brought the national agricultural research and extension systems under one umbrella.

#### **IV. Background Information on Higher Education Reform in Ethiopia**

As Institutions of Higher Education in Ethiopia are in the middle of a reform process, and as part of the higher education system, the AIHE are required to be open, flexible and capable of efficiently adapting to changes in the agricultural sector and the wider external environment, a bit of highlight about the higher education reform process is in order so as to provide a proper perspective for the subsequent discussions.

The need to reform the Ethiopian higher education system was first sensed in 1994 when the Transitional Government of Ethiopia issued the Education and Training Policy (TGE, 1994). The policy has stressed issues of quality and relevance in educational programmes; quality of teaching staff and facilities; improvement of learning process towards a focus on students; improvement of management and leadership; introduction of financial diversification, including income generation and cost-sharing by students; and improvement in the system of evaluation, monitoring, autonomy and accountability. Since the second half of the 1990s, a series of workshops and consultative meetings with the higher education community, focusing on the reform agenda and the role of Institutions of Higher Education (IHE) in the reform process, have been held.

Other policy documents that underscored the need for reform in the higher education system and the importance of making the curricula more relevant and responsive to the country's trained manpower needs both in quality and quantity include: the Rural Development Policies, Strategies and Instruments (2001), the Ethiopian Sustainable Development and Poverty Reduction Programme document (2002), and the Capacity Building Strategy and Programmes (2002). However, detailed strategies to operationalize the reform agenda were developed in the following documents: the Education Sector Development Programme II (MoE, 2002a), the Higher Education Capacity Building Programme (MoE, 2002b), the Higher Education Proclamation issued in 2003 (FDRE, 2003), the report of the Higher Education Strategy Overhaul Committee of Inquiry into Governance, Leadership and Management in Ethiopia's Higher Education System (MoE, 2004) and the World Bank's working paper on Higher Education Development for Ethiopia (World Bank, 2004).

New legal frameworks for reform were created with the issuance of the Higher Education Proclamation (FDRE, 2003). The provisions of the proclamation include: guaranteeing increased administrative and financial autonomy to institutions; introduction of cost sharing in the form of a graduate tax; adoption of more business-like attitudes and practices by institutions; a move towards a new funding arrangement (block grant budgeting system using a funding formula); and the establishment of the Higher Education Relevance and Quality Agency (HERQA) and the Ethiopian Higher Education Strategy Institute (EHESI). HERQA is commissioned to develop standards of quality and relevance, evaluate programmes and institutions, and advise the Ministry of Education on issues of accreditation and recognition. Likewise, EHESI is entrusted with the responsibility of developing visions and strategic directions, analyzing policies and strategies, and advising the government so as to make higher education compatible with the country's manpower needs.

It is too early to evaluate the outcomes of the higher education reform which is being implemented in all IHE. Even though it is difficult to confirm the veracity of the reports, during the regular bi-monthly consultative meetings, the heads of the public IHE have been consistently reporting that their institutions have been making steady progress

toward reform. The regular bi-monthly consultative meetings convened by the Ministry of Education have helped board members, university administrators and staff members understand their roles in shared governance. In what follows, the various reform-related activities that the institutions of higher education and the Ministry of Education have implemented so far are presented.

The reforms introduced so far could be seen at two levels: national and institutional levels. At the national level, three system support agencies, namely the HERQA, the EHESI and the National Pedagogical Resource Centre were set up. A Development Innovation Fund aimed at providing grants on a competitive basis to public institutions was established. Moreover, four sector wide projects, funded by the Royal Netherlands Government, aimed at building the capacity of the IHE and providing material and technical support to the higher education sector have been operational since the first half of 2005. The first of these projects is the Education Quality Improvement Project, which strives to improve the teaching and learning activities in the IHE by providing resources, training and support to key staff members who after training would serve as resource persons for the Academic Development Centres of the IHE. The second project is aimed at strengthening and providing support to the Higher Education Strategy Institute and the Higher Education Relevance and Quality Agency. The third project, the Leadership and Management Development Project is aimed at improving the knowledge, skills and attitudes of the existing top- and middle management of IHE. Whereas the fourth project, the Information Communication Technology Project is designed to assist IHE in developing and maintaining their information systems including computerized student records and financial management.

In addition to the four sector wide projects, another project, the Higher Education Link Project funded by the Royal Netherlands Government provides support to the development of Faculties of Law in Bahirdar and Jimma Universities, Faculties of Veterinary Medicine in Alemaya and Gondar Universities, Faculties of Medicine in Dehub and Mekele Universities, and Departments of Computer Sciences and Information Technology in Arbaminch and Bahirdar Universities. The principal objective of the Higher Education Link Project is to assist the concerned faculties in upgrading their staff,

improving their teaching facilities, establishing international networking relationships with sister institutions outside the country, and improving their curricula so as to make them responsive to the labour market requirements.

At the institutional level, as part of the reform process, institutions have been carrying out measures that include curriculum review (with due emphasis on practical training and ethical values and principles), shortening of the first degree programmes by one year, expansion and diversification of programmes, rapid increases in enrolments, introduction of cost sharing schemes, training staff members at M.Sc. and Ph.D. levels, and contracting non-academic services to private providers. Institutions of higher education are also in the process of redefining their missions and embracing a culture of forward planning through well thought out strategic plans.

More precisely, institutions have been expanding their programmes in terms of student enrolments, new B.Sc. (in all IHE), M.Sc. (only in Addis Ababa, Alemaya, Debu, and Mekele Universities), and Ph.D. (only in Addis Ababa and Alemaya Universities) programmes as well as a sizeable increase in enrolments of existing programmes. Diploma programmes (two years of post-high school studies) were phased out from the university systems and taken over by regional government institutions. To accommodate the expansion of programmes and the rapid increases in enrolments, massive construction of infrastructure (dormitories, laboratories, libraries, classrooms, lecture halls, cafeterias, computer centres, offices and the like) and procurement of different items (equipment, facilities, furniture, textbooks and reference materials ) have been carried out. To meet the surging demand for instructors created by the expansion of the programmes and higher student intakes, employment of expatriate instructors has been pursued as a major strategy. The expatriates are expected to stay in the IHE until those staff members under training return and take up their positions. However, in all institutions the demand for qualified and experienced academic staff far exceeds the supply.

All staff members of the Faculties of Education in all IHE have been trained on student-centred approach to education and on experiential education strategies on the ground that these approaches are more aligned with the skills (life long learning, inter-personal,

higher order thinking, and communication skills as well as specialized and general knowledge) needed in the workforce of the increasingly competitive labour market environment. Moreover, centres for academic development were established in all institutions and the centres are believed to help the process of internal quality assurance.

As already noted, one vital component of the reform process was curriculum review. The IHE were given the responsibility of revising and adapting their curricula to meet national demand for competent and skilled manpower as well as to respond quickly enough to changes in the environment and to the demands expressed by the ever-diversifying clientele of higher education. The process of curricula revision and development was completed (often without the involvement of key stakeholders) in all institutions in 2003. However, it is important to note that revision and development of curricula should be a participatory exercise that involves all key stakeholders, including teachers, community members, employers (government, non-governmental organizations and private sector), former graduates, and students. One clear indication of the problem of developing curricula without the participation of key stakeholders is the fact that the current curricula for two B.Sc. degree programmes (Animal Production and Health and Crop Production and Protection) aimed at meeting the human resource requirements of the Agricultural Technical and Vocational Education and Training Centres are on the process of being revised, only two years after their introduction. According to a recent review, the heads and staff members of the ATVET reported that the current curricula for these two programmes were not tuned to the needs of ATVET in that they were judged less relevant in terms of producing graduates with knowledge and skills required to staff ATVET (Mashilla *et al.*, 2005).

In the course of the curriculum revision process, in view of producing graduates with core competencies, problem solving, good communication and entrepreneurial skills (as underlined in the Education and Training Policy), skills development projects/courses (that go by the names practical attachment programme, internship, field practice, community oriented practical education) that place students in the community for a period of 2 to 6 months, depending on the programmes of study, were incorporated into the curricula. In addition to providing hands-on practical training to the students, the

inclusion of these types of practical training elements within the programmes of study was believed to have the advantage of forging closer ties with communities and making the programmes more responsive to their needs.

## **V. Achievements of Agricultural Institutions of Higher Education**

In recent years agricultural institutions of higher education have been under increasing governmental pressure to make direct, visible, and relevant contribution to national research and development. More precisely, teaching, research, and outreach programmes of agricultural institutions of higher education are expected to be in line with national strategies for meeting the challenges of food security, economic growth, and sustainable environmental management (Amare, 2004; Belay, 2004a; FDRE, 2002; Teshome, 2005a). In this section, the achievements of AIHE in terms of manpower training, research outputs and provision of extension services are discussed.

### ***5.1. Manpower Training***

Agricultural institutions of higher education have made contribution to the agricultural sector principally through providing agricultural education to prepare men and women for work in the agricultural research extension and other support services. As already noted, there are noticeable differences among the training programmes of institutions of higher education in agriculture and related fields. To date, all these institutions were able to produce 35,696 graduates. Out of this group, 741 were awarded with M.Sc. degrees, 76 with Master of Veterinary Science degrees, 541 with Doctor of Veterinary Medicine (DVM) degrees, 9,741 with Bachelor's degrees, and 24,624 with diplomas.

Graduates of the AIHE have been serving the country as extension agents, development workers, subject matter specialists, teachers, researchers, experts, heads of different offices, consultants, etc. Information concerning the occupational distribution of the graduates from AIHE is difficult to obtain. However, available evidence shows that graduates from the AIHE have been playing leading roles in the agricultural research and development endeavours of the country. For instance, over the 1960-2005 period, 7 of the 17 Ministers and 11 of the 17 Vice Ministers of the Ministry of Agriculture, were



graduates from Alemaya University. Similarly, in the 1966-2005 period, 8 of the 10 General Managers/Director Generals and 6 of the 7 Deputy General Managers/Deputy Director Generals of the Ethiopian Agricultural Research Organization (former Institute of Agricultural Research), were graduates from Alemaya University.

It is also gratifying to note that the need to build and strengthen human resource development capacity of AIHE to meet the high demand for skilled agricultural professionals to staff agricultural agencies has been given high priority and support by the current government. In this respect, it is important to note that over the last five years 15 new first degree programmes aimed at training students in various fields of agriculture (8 in Alemaya, 3 in Ambo, 6 in Awassa, 5 in Jimma, 3 in Mekele and 3 in Wondo Genet) were launched. Like wise, during the same period, 33 new postgraduate (27 M.Sc. and 4 Ph.D.) in agriculture were started in four of the seven AIHE (8 M.Sc. and 4 Ph.D. at Alemaya, 7 M.Sc. in Awassa, 8 M.Sc. in Debre Zeit, 4 M.Sc. in Mekele and 2 M.Sc. in Wondo Genet).

## ***5.2. Research Outputs and Provision of Extension Services***

It is evident that manpower training is the primary mission of AIHE. However, in addition to their primary function, AIHE are expected to play a developmental role by establishing linkages with public, private and non-governmental organizations engaged in agricultural and rural development and with farming communities. Available evidence shows that, in Ethiopia, AIHE have been involved in agricultural research and extension activities, although there have been some differences in emphasis from one institution to another. Whereas some AIHE (like the Ambo College of Agriculture, and the Jimma College of Agriculture and Veterinary Medicine) serve only as teaching institutions, others take part in research and/or extension activities. However, only Alemaya University (AU) has been participating actively in the NARS. More precisely, unlike other AIHE, AU has been commissioned to conduct adaptive and applied research to support development in Eastern Ethiopia, and, in this capacity, it shares responsibility for public sector agricultural research in the country.

In addition to their direct involvement in agricultural research activities, the AIHE have been contributing to research capacity development of the country mainly through producing qualified manpower for the NARS and upgrading the professional skills of NARS staff through short-term, summer and in-service training programmes. A closer look into the research performance of the AIHE reveals that, thus far, they have developed and released 120 crop varieties (36 wheat, 25 maize, 21 sorghum, 10 potato, 10 *teff*, 7 chickpea, 7 lentil, 2 haricot bean, and 2 groundnut varieties) and 16 different technologies. Analysis of the research outputs of individual institutions reveals that not all AIHE have been developing and releasing improved technologies/varieties. More precisely, of the 120 crop varieties and 16 technologies produced and released by the AIHE, 117 crop varieties and all of the 16 technologies were accounted for by Alemaya University (the College of Agriculture at Alemaya and the Debre Zeit Agricultural Research Station) and the remaining 3 crop varieties (maize) by the Awassa College of Agriculture.

The principal drawback of agricultural research in AIHE is that many research projects have often addressed topics of personal interest and have been found to be less relevant to the basic and urgent needs of poor farmers (Amare, 2004; Belay, 2004a; Teshome, 2004). Of equal importance, but often unnoticed by the researchers, is the fact that in most instances farmers have not been encouraged to take part in the identification of research problems. Moreover, researchers have paid little regard to the farmers' opinions, attitudes, customs, practices and priorities. In general, research efforts should fall in line with the needs and pressing problems of farmers so that research results become more acceptable and meaningful to farmers.

Factors that explain the limited involvement of agricultural institutions of higher education in development-oriented agricultural research programmes include, among others, lack of funding for university research; missing incentives for university staff; absence of linkages with users and potential clients of research; missing functions of planning, coordination, and evaluation of research at the AIHE; absence of an explicit mandate for national agricultural research; and absence of research priorities related to national research needs. It is also important to note that until very recently, all institutions

of higher education measured academic achievement of staff members in terms of publishing research results in internationally recognized scientific journals. However, in 1997 AU took a bold measure to recognize and thus use locally-oriented research results (generation of improved technologies and practices that address local needs) for promotion purpose. Currently, this criterion is incorporated in the promotion guidelines of all institutions of higher education in the country.

With respect to the linkages between AIHE and the different components of the NARS, the author's discussion with the general managers of Research Institutes and centres, where four of the current seven AIHE are located, revealed the existence of limited interactions between AIHE and the different components of the NARS. This view is shared by the heads of the AIHE in question. It was also reported that the collaborations and interactions took the form of conducting joint research, attending periodic meetings of different committees, participation in research review workshops, involvement of the research staff in the academic programmes of the AIHE. The discussion with officials of the research centres and the AIHE further points to the fact that where collaborations and interactions were reported, they tended to be limited between individuals rather than between the institutions in which they work. It is, however, heartening to learn that the Southern Agricultural Research Institute envisages pursuing an innovative approach to forge closer working relationships with the Debub University. The new approach focuses on funding M.Sc. thesis research projects of students enrolled in the School of Graduate Studies of the Debub University on condition that they work on high-priority areas of the Southern Region.

As already noted, the existing linkages between agricultural institutions of higher education and other components of the NARS are weak. A review of experience from other countries shows that it is possible to design different mechanisms to improve these linkages. These mechanisms could take the form of: utilizing research infrastructure jointly; institutionalizing and facilitating staff exchange; maintaining the current good practice of convening regular consultation meetings and reviewing research projects jointly; and encouraging joint research projects.

Available evidence shows that AIHE have traditionally engaged in agricultural research, but less in agricultural extension. However, during the past few years, outreach programmes by AIHE seem to have gained importance as shown in Table 1:

**Table 1: Involvement of Agricultural Institutions of Higher Education in Extension Activities**

| Institution                    | On-farm research/ observation plots | Result/ method demonstration /tours on research plots | Farmers'/ Field days | Training of farmers | Distribution of leaflets/ bulletin/extension manuals | Advisory services to farmers |
|--------------------------------|-------------------------------------|---|----------------------|---------------------|--|------------------------------|
| Faculty of Veterinary Medicine |                                     |   |                      | X <sup>a</sup>      | X <sup>a</sup>                                       | X <sup>a</sup>               |
| Alemaya University             | X                                   | X   | X                    | X <sup>a</sup>      | X <sup>a</sup>                                       | X <sup>a</sup>               |
| Debub/Awassa                   | X <sup>b</sup>                      | X   |                      | X <sup>a</sup>      | X <sup>a</sup>                                       |                              |
| Debub/Wondo Genet              | X <sup>b</sup>                      |   |                      |                     |  |                              |
| Jimma/Ambo College             | X <sup>b</sup>                      | X <sup>a</sup>  |                      |                     |  |                              |
| Jimma/Jimma College            |                                     |   |                      |                     |  | X <sup>a</sup>               |
| Mekele University              | X <sup>b</sup>                      | X   |                      | X <sup>a</sup>      | X <sup>a</sup>                                       |                              |

X: activities carried out on regular basis

X<sup>a</sup>: activities carried out occasionally

X<sup>b</sup>: activities started recently as part of externally funded projects

Table 1 shows clearly that extension activities of AIHE include training extension workers and farmers, preparing extension booklets and manuals, conducting on-farm trials/observation plots, organizing farmers' day/field day, undertaking result/method demonstrations, organizing field trips, and providing advisory services. Those AIHE which undertake extension activities use both group and individual extension methods to extend new knowledge and skills to farmers. However, as can be seen in Table 1 most of the AIHE have not been rendering agricultural extension services on regular basis.

As indicated in Table 1, five of the seven AIHE reported to have been involved in undertaking on-farm research activities. Similarly, four of the seven AIHE reported to have had experience in producing and distributing technical leaflets and extension training manuals, meant to be used in agricultural extension. It is, however, important to note that these materials were prepared occasionally and they were not always prepared in languages that farmers could understand. Table 2 shows also that only three of the

seven AIHE have been engaged in providing technical assistance and advisory services. The AIHE staff members' provision of technical assistance and advisory service to farmers seems to be limited to those farmers who live in close proximity to the institutions. A closer look at Table 1 indicates that Alemaya University seems to be better placed than other AIHE in terms of rendering a range of agricultural extension services to farmers. However, there is clear indication that because of logistic and time constraint some of these services were not provided on regular basis.

## **VI. Problems Facing Agricultural Institutions of Higher Education**

### ***6.1. Shortage of Highly Qualified, Competent and Experienced National Staff***

The ability of institutions of higher education in agriculture and related fields to attain their mandates is heavily dependent on the quality and experience of their staff. The present staffing situation of these institutions reveals that highly qualified and experienced teachers and researchers leave the higher education system to work for the private sector, NGOs, international organizations, or foreign universities/research centres. This problem is believed to have diverse causes, which include, among others, low salaries of staff compared to private and non-governmental organizations, non-competitive terms of service, poor social services, and lack of rewards for outstanding research and teaching. Because of the high turn over of experienced teaching and research staff, the transfer of experience and knowledge to junior faculty members has broken down. Moreover, at present, there are different signs that point to the fact that most of those remaining in the higher education system have been involved in informal activities in view of supplementing their inadequate basic income. These activities take the form of doing a second job for another employer, part-time teaching elsewhere or moonlighting that misuse the working time of those involved and their respective institutions' hardware and software. The involvement of teaching and research staff in informal activities is believed to impact on the quality of teaching and research output, the time available for consultations with students and outreach activities.

The current staffing situation in all IHE raises serious concerns related to the quality of research work and teachings. In fact, high turn over of experienced teaching staff coupled

with a sharp rise in the student population forced the institutions to rely heavily on recruiting young Ethiopians (with little or no teaching and research experience) and foreign nationals. The IHE are now dominated by quite young national staff who are not very experienced and foreign nationals who have little or no basic knowledge of Ethiopia. It must be noted that in recent years, IHE have been facing considerable difficulties in recruiting young academics that in most cases prefer to work for non-governmental organizations and the private sector which offer higher pay and better working conditions.

**Table 2: Full time Ethiopian & Expatriate Teaching Staff by Institution and by Academic Rank (2003/04 A.Y, 1<sup>st</sup> Semester)**

| Institution | Professor |    | Associate professor |     | Assistant professor |     | Lecturer |     | Assistant lecturer |    | Graduate assistant |    | Total |     |
|-------------|-----------|----|---------------------|-----|---------------------|-----|----------|-----|--------------------|----|--------------------|----|-------|-----|
|             | ET        | EX | ET                  | EXP | ET                  | EX  | ET       | EX  | ET                 | EX | ET                 | EX | ET    | EX  |
| Addis Ababa | 29        | 45 | 149                 | 31  | 257                 | 38  | 464      | 11  | 86                 | -  | 82                 | -  | 1067  | 125 |
| Alemaya     | 1         | 17 | 6                   | 14  | 40                  | 11  | 67       | 18  | 8                  | -  | 45                 | -  | 167   | 60  |
| Arbaminch   | -         | 5  | -                   | 3   | 3                   | 21  | 30       | 18  | -                  | -  | 33                 | -  | 66    | 47  |
| Bahirdar    | -         | -  | 1                   | 2   | 19                  | 10  | 86       | 23  | 34                 | -  | 61                 | -  | 201   | 35  |
| Debub       | 1         | 8  | 3                   | 4   | 35                  | 37  | 148      | 36  | 49                 | -  | 75                 | -  | 311   | 85  |
| Gondar      | -         | 4  | 9                   | 2   | 28                  | 8   | 48       | 9   | 15                 | 2  | 27                 | 1  | 127   | 26  |
| Jimma       | 1         | 6  | 4                   | 5   | 62                  | 17  | 128      | 34  | 46                 | -  | 104                | -  | 345   | 62  |
| Mekele      | -         | 4  | 2                   | 7   | 15                  | 20  | 70       | 15  | 33                 | 2  | 58                 | 2  | 178   | 50  |
| Nazerith    | -         | 4  | -                   | -   | -                   | 4   | 41       | 10  | 30                 | -  | 36                 | -  | 107   | 18  |
| Total       | 32        | 93 | 174                 | 68  | 459                 | 166 | 1082     | 174 | 301                | 4  | 521                | 3  | 2569  | 508 |

ET: Ethiopian

EX: Expatriate

Source: *Ministry of Education (2005)*

A closer look at Table 2 reveals that in the 2003/04 academic year 16.7 % of the instructors working in the IHE of the country were non-Ethiopians. More precisely, expatriate staff members made up 74.4 % of the professors, 28 % of the associate professors, 26.6 % of the assistant professors, 13.8 % of the lecturers, 1.3 % of the assistant lecturers, and 0.6 % of the graduate assistants working in the IHE of the country in the 2003/04 academic year. It is also interesting to note that of the 2,569 Ethiopian staff members teaching in the IHE in the same academic year, 20.3 %, 11.7 %, 42.1 %, 13.8 %, 1.3 %, and 0.6 % were

17.9 %, 6.8 %, and 1.2 % were graduate assistants, assistant lecturers, lecturers, assistant professors, associate professors, and professors, respectively.

It is to be noted that the higher education community appear to believe that in the higher education reform that is currently being implemented, there is an overemphasis on bricks and mortar relative to investing in people, adopting an attractive remuneration system and putting in place an enabling environment.

### ***6.2. Shortage of Supplies/ Equipment and Inadequate Facilities***

The availability of basic materials and teaching aids, like photocopy machines, computers, audio-visual aids, etc. is very important in facilitating the activities of instructors and harmonising the teaching-learning process. At present, in most institutions, there is either a serious shortage or an absolute lack of supplies and facilities required for adequate teaching. In spite of the steady increment in the student population of the institutions of higher education, since the second-half of the 1990s, classrooms, dormitories, cafeterias, health services and laboratory facilities have not grown to commensurate degree. This has led to the utilisation of the existing facilities in excess of their capacity, in turn resulting in class congestion, difficulty in giving adequate attention to students, etc.

### ***6.3. Shortage/ Lack of Library Materials***

Up-to-date and specialised literature and references are essential for the realisation of the different objectives of the institutions of higher learning. At present, most of the books and periodicals available in these institutions are very old, outdated, and of very limited relevance to the courses being taught. It is worth noting, for example, that training in improved agricultural methods and production management skills is among the most important activities of institutions of higher education in agriculture. This, however, requires that the staff keep pace with the recent advances in their respective areas of specialisation and current, topical and specialised reading materials be easily available to them through purchase or borrowing. The current problem of library materials will be

compounded if one takes into account the near non-availability of publications focussing on Ethiopia in all these institutions.

#### ***6.4. Weak Practical Training Component***

A closer look at the agricultural higher education system in Ethiopia reveals that most of the agricultural curricula have not been adjusted to the new requirements and demands for trained manpower in agriculture. Moreover, students of agriculture are given heavy doses of theory, without any exposure to real-life agricultural problems and environments similar to those they face after graduation. This is believed to have resulted in producing graduates who lack technical competence and professional confidence to work in the complex and changing rural environment (Amare, 2004; Belay, 2000; 2004a; Mashilla et al., 2005). However, the demand for greater educational relevance and better-trained graduates has never been greater. In recent years, with the growing number of student population, the AIHE were forced to stretch their existing facilities to the limit. This proved to be particularly detrimental to the practical component of the training programmes. Thus, students would not be taught to appreciate the basic problems facing agriculture in contemporary Ethiopia; thereby not preparing them fully for what will be expected of them after graduation. Moreover, feedback from the AIHE reveals that because of budgetary limitations it was practically impossible to implement the practical attachment/community-oriented practical education programmes as planned. It must be mentioned en passant that there is an underlying feeling among the higher education community that shortening the length of study makes the programmes too tight and the graduates will not gain enough practical training demanded by the job market.

#### ***6.4. Narrowly-focussed Programmes of Study***

Over the past twenty years, AIHE in developing countries have been under increasing pressure from governments and donors to reform the traditional disciplinary system, that focused on agricultural production and productivity, and embrace more market-oriented, demand-driven multidisciplinary systems approach, taking into account the complex requirements of agriculture and rural development as well as the changing needs and realities in the face of globalization (Lindley, 2000; Maguire, 2000; Willett, 1998).



It is increasingly recognized that in addition to courses pertaining to their areas of specialization, students of AIHE must take some important interdisciplinary courses which would help them understand the broad principles of agricultural production and rural development and would eventually prepare them in the best possible manner for the world of work. Some of the frequently suggested cross-cutting themes that all students of the AIHE must be exposed to include basic leadership development skills, interpersonal communication skills, agribusiness and marketing, demographic challenges, environmental protection, the empowerment of women, gender issues, sustainable development, participatory approaches to rural development, the role of indigenous knowledge systems, food security, computer literacy, and the effects of HIV/AIDS on the agricultural sector (Amare, 2004; Lindley, 2000; Maguire, 2000; Willett, 1998). Available evidence shows that at present in the Ethiopian AIHE only very few of the aforementioned issues are addressed through interdisciplinary courses due mainly to the problem of fitting additional courses into an already crowded curriculum (the duration of study for first degree was reduced by one year).

#### ***6.6. Teaching Programmes with Little Reference to the Ethiopian Conditions***

Recent studies on Ethiopian agricultural higher education sub-system found that traditional agricultural higher education failed to respond to the labour market requirements and current rural realities due to lack of relevance of the curriculum, which is no longer able to produce graduates who could deal with the wider problems of rural development (Amare, 2004; Belay, 2000, 2004a; Mashilla *et al.*, 2005). The problem is compounded by the fact that standard textbooks and/or teaching materials relevant to the Ethiopian conditions are lacking for many of the courses taught in the AIHE. The absence of teaching materials which are relevant to Ethiopia, coupled with limited circulation of the results of the different research projects undertaken in the country, have led to the utilisation of western and mostly theoretical textbooks and reference materials. This has resulted in students not being exposed to the objective realities of their country and having little comprehension of the root causes of its backwardness, an awareness of which is required for economic development to take place in Ethiopia.

### ***6.7. Weak Inter-institutional Linkage***

The majority of the institutions of higher learning in Ethiopia today can be qualified as being introvert because of the weak relationships they maintain with sister institutions and other organisations. Consequently, this has seriously affected the inter-institutional ties. In order to correct these drawbacks it is essential that institutions of higher education establish strong and firm linkages among themselves and also work in close collaboration with local or foreign academic and research institutions and development organisation in terms of: exchange of professional (educational and research) information; staff exchange and sharing; collaboration in research work; effective use of financial & material assistance; participation in curriculum development, etc.

### ***6.8. Weak Connection with other parts of the Agricultural Education System***

The current agricultural education system in the country consists of disconnected programmes/training tracks leading towards different diplomas and professional careers (farmer training centres, ATVET, AIHE). The institutions that offer these programmes are under the control of different ministries and there is no or only little co-operation and communication among themselves. It is, therefore, advisable to move towards more integrated agricultural training programmes and institutional framework through which graduates of the lower training tracks would have access to join and pursue their studies at higher training tracks, if they so wish. Such an approach is also believed to enable the various levels of agricultural education and training to play complementary and reinforcing roles in order to meet the objectives of sustainable economic development, poverty alleviation, environmental protection, and food security at national, regional, local and household levels.

### ***6.9. Lack of Communication with Key Stakeholders***

Regular contact with key stakeholders (employers and former graduates) and periodic tracer studies are essential elements that help identify the strengths and weaknesses of training programmes. Strong linkages with key stakeholders also help to recognize

changes in the external environment and improve the quality and relevance of the programmes. At present, the AIHE in the country are not proactive in terms of adapting in response to changing needs and realities in the external environment as well as maintaining strong linkages with key stakeholders.

## **VII. Future Challenges for Agricultural Institutions of Higher Education**

The demand for competent and experienced professionals has always been high in Ethiopia. However, supply has continuously fallen short of demand. The country's capacity to train higher-level personnel is below current requirements, mainly because of the extreme limitation of space in institutions of higher learning. To address the problem of skilled manpower, the Ethiopian Government is engaged in reorganizing higher education institutions, including expansion of higher education activities to more regions and increasing institutional independence. In the expansion process, the public IHE are expected to play a leading role in training high-level professionals. In this respect, in 2009, the annual undergraduate intake of the IHE is planned to reach between 150,000 and 160, 000 (110,000 in the public and 40,000-50,000 in the private institutions) (Teshome, 2005b). The same source reveals that the annual graduate intake of the public IHE is planned to reach 21,000 in 2009. It is quite obvious that the envisaged increment in the number of students and the launching of new programmes of study would be a mammoth challenge to the public IHE.

It is increasingly clear that, in recent years, AIHE, like all IHE in the country, have been under pressure to enrol more students than could be effectively served. The surging number of students in AIHE, in the face of insufficient resources, is believed to have led to a decline in the quality of education (Amare, 2004; Belay, 2000, 2004a; Mashilla *et al.*, 2005). Shortage of highly qualified and experienced instructors, insufficient attention being given to research/knowledge creation and practical training, lack/shortage of teaching materials which are pertinent to the agricultural situation of Ethiopia, as well as teaching methods and curricula that have not been adjusted to the new requirements and demands for trained manpower in agriculture have made the situation worse.

Given this state of affairs, the fundamental challenge facing the agricultural higher education sub-system in Ethiopia is to transform itself in view of adapting to the ever changing external environment. It is therefore incumbent upon the AIHE to implement curricular reform measures, adopt student-centred creative learning strategies, and introduce more practical elements into study programmes so as to be able to produce graduates equipped with the knowledge, skills, values and attitudes required for promoting sustainable agricultural and rural development. This paper made it clear that one of the most important challenging facing AIHE is national staff retention. In this respect, it is high time for public authorities and policy makers to take into consideration the long-term effects of exodus of highly qualified and experienced staff to areas of higher pay and better working conditions. It is, therefore, important that concerted efforts be made to lure young and outstanding professionals into the higher education system and retain experienced teaching and research staff by providing better pay, working facilities, adequate incentives and competitive terms of employment. With respect to research activities of AIHE, it is imperative that they direct their research attentions to problems of local relevance and define their research agenda through interaction with all relevant stakeholders if they want their research efforts to mean anything at all to the society in which they are embedded.

### **VIII. Conclusion**

Studies carried out in many developing countries have concluded that investing in human resources development is essential for poverty reduction, efficient utilisation of available resources, and economic development. In Ethiopia, given the fact that there has been no tracer study, it is very difficult to quantify the real contribution of graduates in agriculture and related fields to economic development. However, one can safely say that institutions of higher education in agriculture and related fields have been, in general, contributing positively to the national development efforts because in their absence there wouldn't have been the progress achieved so far. This paper has identified common problems facing institutions of higher learning in agriculture and related fields, which need to be properly addressed if the institutions are to contribute their fair share to the agricultural development endeavour of the nation. In fact, in light of the many and varied challenges

facing the AIHE, their response must be to go beyond the traditional ways of imparting too much theoretical knowledge and produce competent and confident graduates with entrepreneurial skills and abilities to deal with the wider problems of rural development.

As discussed earlier, the need for high-level agricultural manpower remains pressing and dire. In this respect, even though concerted efforts have been made in view of strengthening AIHE and improving their contribution to the agricultural development of the nation, over the last 5 years, mainly through procuring educational facilities, constructing additional buildings and employing expatriate professionals, severe bottlenecks have still to be eliminated. These include: national staff retention; interconnecting all levels of the agricultural education and training systems; improving the quality and relevance of programmes; developing wider linkages with key stakeholders, other AIHE, other institutions in other sectors, foreign universities and research centres; and forging closer ties with the labour market so as to ensure that AIHE are producing the kinds of experts demanded by the changing labour market environment.

With respect to agricultural research performance of AIHE, their contribution to the national agricultural research agenda is very marginal in that among all AIHE only Alemaya University has been actively engaged in research endeavours addressing national agricultural research priorities. It is therefore imperative to strengthen the research activities of AIHE and improve their contribution to development-oriented national agricultural research programmes. In this respect, some of the measures that need to be taken include the following: defining research priorities oriented to needs of users; creating budget line for university research; providing strong incentives for conducting research; promoting multi-disciplinary research on societal problems; allocating realistic time to research, teaching and other activities (under the current system AIHE staff should devote 25 percent of their time to research and outreach programmes but this is rarely the case); and at the national level agricultural research and extension strategies need to recognize and define the roles of AIHE in research and extension. It is equally important that AIHE formulate their research strategic plans taking into account national agricultural research priorities and relevant local

considerations (preparation of research strategy outlining research priorities and how research is linked to users, other components of the NARS, and the teaching and extension programmes of the AIHE).

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# Nurturing the Research and Teaching Nexus in Rift Valley University College (RVUC)

Haileleul Zeleke Woldemariam

## **Abstract**

*It is generally assumed that research engagement in Private Higher Education Institutions is very less compared to staff participation in fruitful research in public universities in Ethiopia. Is there any special problem which has tragically gripped the involvement of teachers in research in Private Higher Education Institutions in Ethiopia? What shall be done to nurture the symbiosis between research and teaching in Private Higher Education Institutions like RVUC in Ethiopia? Why does a private University College of great name in Ethiopia (which has nearly 16,000 students and contributed immensely to the economic and cultural development in Ethiopia) contribute very less to development through research?*

*This research, therefore, attempts to nurture the symbiosis between research and teaching at Rift Valley University College with the intention of describing the extent of the problems which affected staff involvement in research. The objective of the research is to seek solutions which can bolster the nexus between research and teaching. It is argued that the extent of the problems should be described and articulated first to prioritize solutions and implement research strategy of the university college. With this dual intention, out of the total academic population of 300 at RVUC (as in June 2008 EC), 150 of the teachers were considered using systematic sampling procedure for questionnaire administration and 20 senior instructors using purposive sampling for the focus group discussion. Selection criterion included: involvement in research work, research skill and publication experience, advising student's project, qualification structure, seniority and alienation from research. To increase the validity of the research results, data from document review, interview and focus group discussions were employed and triangulated.*

*The survey result shows that although 92 % of the staffs agree that 25 % of every teacher's time should be allocated to research and publication works, 75 % of the staffs are not directly involved in research. And, teachers have multitude of reasons for this. Critical problems identified include: 1) lack of research infrastructure such as office, Internet, PC, cars, labs, journals and latest books, (2) Chronic shortage of research budget, (3) high teaching load of unlimited number of courses, (4) limited links, (5) absence of experienced researchers, (6) absence of refereed research journals, (7) no promotion (reward system) for researchers, (8) research is not an agenda at all levels, (9) lack of research capacity and (10) absence of research strategy. The survey also shows that 40 % of the staffs have attempted to implement their own research or others research results in their teaching: "They teach what they research and research what they teach!"*

*It is also relevant and wise to investigate the existence of research interest in a Private Higher Education Institution like RVUC to bolster the symbiosis between research and teaching. The survey also assessed staff's interest to engage in research, attend conferences and carryout research training and publication works. As a result, it is strongly recommended that the implementation of a flexible research strategy, reduction of teaching load, allocation of sufficient research budget, establishment of action research culture, improving research infrastructure, publication of refereed journal and creation of entrepreneurial research culture increases staff engagement in research, which are the bases for the symbiosis.*

## **1. Introduction**

### ***1.1. Background of the Study***

Rift Valley University College was established in October 2000 GC by a group of investors and academicians in Adama. It has emerged today as one of the country's leading Private Higher Education Institutions with seven Bachelor's Degree and eleven TVET and teacher education programs. The main campus is based in Adama and the university college is currently providing educational services in ten campuses (9 of which are branch campuses) located mainly in Oromya, Addis Ababa, Dire Dawa and Harare regions. Currently, the University College has above 16,000 students in these programs all over Ethiopia. The Oromya Justice Bureau legally registered RVC as a PLC under registration no. W/D/0001/93 on August 3, 2000. The company's authenticity has also been publicized in the Addis Zemen, August 10, 2000 issue, by the Oromya Bureau of Trade and Tourism, which issued a trade license No. 13/W/D/DH/YE/002/93 and a registration Id no. 13/D/DH/I/093/93 to the organization. The first accreditation by the Ministry of Education in five diploma level programs of study was earned in the year 2003. Currently, the Ministry of Education and the Regional Government Bureaus of Education in collaboration with the Ministry of Health accredit RVUC.

The objectives for which RVUC was initially founded include:

- Bridging the gap between the need for higher learning and the actual performance;
- Producing, importing and distributing educational materials;
- Providing tertiary education, research and consultancy services;
- Setting up printing press and providing printing and related services;
- Constructing buildings that can be used for educational purposes and providing educational services at tertiary levels;
- Providing short and long term training to government as well as private sector employees who want to upgrade their qualification and professional skills while

continuing work at their respective organizations – through distance education and extension programs;

- Providing partial or total scholarships to those who are economically constrained;
- Conducting empirical research in education, social and economic sectors in an attempt to identify existing problems and suggest possible solutions to them;
- Contributing to the development of Afan Oromo culture;
- Conducting short term professional skills trainings;
- Representing the business community and particularly those involved in service provision.

### **Key Successes**

Since its establishment in the year 2000, RVUC has been able to reach a number of its goals. For instance:

1. Curbing the country's shortage of human resource was top on operational goals; hence about 9,195 students graduated with a certificate, diploma and degree until this year and the majority of them have been able to find jobs in government and/or private institutions fueling the work force of the region and the country;
2. The institution was able to expand into 10 campuses at different locations in four regions thereby reaching out to a vast community with a dire need for educational services at tertiary level;
3. The number of people who seek RVUC's services has kept increasing dramatically every year and now the university college is serving about 16,005 students at 10 regular campuses and 20 distance education centers;
4. The Center for Distance Education is now serving a working population of about 3,189 at 20 centers throughout Oromya Region;
5. The University College has also been extending partial or total scholarships or payment at discount rates to environmentally and socio-economically disadvantaged members of the society; company statistics show that not less than

2,000 people have been beneficiaries of such a scheme. In an attempt to promote regional language and culture, the Oromo Language Department was created in 2005 at Adama Main campus and quite a number of Oromo students have been receiving adequate training at both degree and diploma levels; the first group of degree program trainees in Teaching Afan Oromo has just completed all the requirements for graduation;

6. In keeping with constructing buildings that can be used for educational purposes and providing training services at tertiary level, RVUC has now put up its own buildings at seven out of ten campuses;
7. In line with creating job opportunities, the University College has born its fair share; about 611 people are now working with the institution at its ten regular campuses and twenty distance education centers. The institution pays out about Eth. Birr 1,000,000 (one million birr) monthly and about Eth. Birr 12,000,000 annually in the form of salary, allowances and other types of compensation.

Although the University College is successful in areas stated above, its research outputs are negligible. Research has not been an integral tradition of RVUC. Conducting research seminars and publication of the findings either in proceedings or in refereed journals have not been part of the regular practices of many other similar private higher education institutions like the public universities although all institutions have been supported by the research policy of the Ministry of Education (MoE). MOE's research policy states that each academic staff should allocate 25 % of the total time on research (ESDP III, 2004, p.11). However, each academia in a private higher education institution may find it difficult to allocate 25 % of the total time due to high load, lack of research infrastructure and other sturdy problems, which require further research and consultations.

Both the Strategic Plan of RVUC (2008) and the Higher Education Proclamation (2006) also emphasize on the importance of the role of research. Research is presented as one core objective of RVUC's strategic plan as in the proclamation. However, entrepreneurial research has not been attempted to be an integral part of RVUC's teaching assignment and mission. Although attempts have been made to establish research culture in the

University College and implement MoE's research policy stated in ESDP III, the findings have not brought great impacts on teaching, the society or the industry. The contribution of research to quality education initiatives of the University College, societal and industrial development has been negligible. The often raised major causes for its less contribution include: less staff involvement, lack of research strategy, absence of research facilities, shortage of research fund and lack of refereed research journal, loose refunding system, shortage of qualified staff and excess teaching load. Consequently, staff involvement in fruitful research is very low. This low involvement has tyrannically gripped the symbiosis between research and teaching. Nevertheless, have we researched the extent of these problems so that prioritized solutions can be sought? Have we described and communicated these problems objectively?

### ***1.2. Statement of the Problem***

The proper symbiosis between research and teaching can create conducive environment for fruitful and applied research, economic empowerment of the society and effective teaching. Significantly, the marriage between research and teaching leads to academic quality and relevance. When the symbiosis is wrongly tied, however, the impacts of research and the contributions of research to teaching or vice versa become negligible. The symbiosis at RVUC has faced critical problems. What causes this loose symbiosis? Why is staff involvement negligible? Why has the research conducted so far not improved the quality and relevance of teaching? Who is responsible for the problems? What kind of research should have been conducted at RVUC to improve the quality of teaching? What should be done to solve the problems? These are questions which often recur in the researcher's mind. The majority of these problems have not been researched and prioritized. No one has researched them in our case. As result, solutions and recommendations have not yet been sought.

### ***1.3. Objectives of the Study***

The research has the following major objectives:

- Prioritize potential problems for less staff involvement in applied research at RVUC,

- Suggest ways that can nurture the symbiotic relation between research and teaching in the university college,
- Describe the causes of the problem,
- Indicate proper research directions and identify proper research areas,
- Recommend the ways for the implementation of future research findings.

#### ***1.4. Basic Research Questions***

The researcher raises the following basic question to underline the basic stream of the research work:

- Why does a private university college like RVUC conduct research: to improve quality of education or to advance the economy?
- What kind of research strategies should be framed to nurture the symbiotic relation between research and teaching?
- What kind of relation does exist between research and teaching in the university college?
- What kind of research is proper in private higher education institution to bring about quality and relevance in teaching?

#### ***1.5. Significance of the Study and Beneficiaries***

This research will improve the contribution of research to the advancement of the quality of teaching in the University College and increase the contributions of research to the industry. It will also increase the involvement of teachers in research and publications works. When the symbiosis is right, the research works of the University College also will contribute to the local economy. Research policy makers, the management, teachers and students are assumed to benefit from the recommendations.

#### ***1.6. Scope of the Study***

It is limited to the teachers' involvement in research works and the ways of nurturing research and teaching at RVUC.

### ***1.7. Limitation of the Study***

Due to time constraint, not all the problems researched by the staff of RVUC were investigated.

### ***1.8. Research Tools and Sample Size***

Out of 278 academic staff at RVUC (August 2008), 160 respondents were considered using systematic and purposive sampling techniques. Selection criteria included were: involvement in research work, research skill and publication experience, advising student's projects, qualification structure, seniority and alienation from research. A descriptive survey research design was employed to study the symbiosis. To increase the validity of the research results, the data from the tools below were triangulated:

#### ***Focus Group Discussion (FGD)***

During January 2008 – July 2008, using purposive sampling procedure, the management of RVUC, research teams (at department, faculty and University College wide), research vice president, deans, heads, researchers and selected-graduating students were invited for a focus group discussion. Those who did not appear for a FGD sent filled out suggestions. Their suggestions were included.

#### ***Document Analysis***

Draft research strategy of RVUC, ESDP III and strategic plan of MoE were reviewed.

#### ***Data Analysis***

Data were analyzed using Microsoft Excel and findings were presented diagrammatically. Descriptive statistics was employed to describe lucidly the extent of the problem and describe the symbiosis.

## **2. Findings**

### ***2.1. Factors Affecting Staff Involvement in Research***

This section presents the factors which have contributed to less staff involvement in conducting research. These factors, in turn, have gripped the nexus between research and teaching. Attempt has been made to describe the extent of the problems so that prioritized solutions can be timely discovered.

Several strong problems have tyrannically gripped teachers' involvement in applied and fruitful research. These seemingly simple but inherently complex problems, in turn, severed the symbiotic relationship between research and teaching in RVUC. All these interwoven complex problems made the staff believe that all research works cannot be implemented or all the research works are "Literature Reviews". In order to maximize the usefulness of the research and create positive symbiosis, the root causes of these problems should be clearly described and prioritized. Proper description and prioritization of these problems also enable the university college address the problems quite ahead of time.

In order to prioritize the root causes of these problems a questionnaire was distributed to 160 instructors. The questionnaire consisted of eleven problems which staffs often questioned. Out of 160 instructors, 140 teachers responded to the questionnaire. Their responses are summarized as flows:



**Table 1: Root Causes - Factors Affecting Staff Involvement in Research**

| <b>Causes of the problems</b>                             | <b>Always critical problem</b> | <b>Usually critical problem</b> | <b>Seldom critical problem</b> | <b>Not critical problem</b> | <b>Cannot say anything</b> | <b>Total</b> |
|---|--------------------------------|---------------------------------|--------------------------------|-----------------------------|----------------------------|--------------|
| Teaching load   | 39                             | 34                              | 22                             | 23                          | 22                         | 140          |
| Research budget   | 32                             | 30                              | 32                             | 23                          | 22                         | 140          |
| Lack of research journal                                  | 36                             | 29                              | 26                             | 26                          | 21                         | 138          |
| Personal capacity to conduct research                     | 25                             | 25                              | 33                             | 36                          | 00                         | 119          |
| Lack of my own interest                                   | 25                             | 24                              | 27                             | 30                          | 26                         | 132          |
| Infrastructure and Equipment                              | 40                             | 28                              | 31                             | 20                          | 21                         | 140          |
| Limited links with industries/companies                   | 39                             | 28                              | 27                             | 20                          | 24                         | 138          |
| No promotion for researches conducted                     | 35                             | 30                              | 25                             | 22                          | 27                         | 139          |
| Policy makers failure to use research results in Ethiopia | 30                             | 30                              | 22                             | 24                          | 30                         | 136          |
| Research is not an agenda at department level             | 35                             | 26                              | 26                             | 28                          | 25                         | 140          |
| Less PhD and research staffs                              | 38                             | 28                              | 25                             | 23                          | 23                         | 137          |

Those who have been actively involved in the research and publication works of the University College strongly argue that the most critical problems of the University College are infrastructure and equipment as well as critical shortage of research fund. They have been arguing that every problem related to research can be solved if the budget is available. Others were arguing that even if the fund was available they were loaded with so many courses. Nevertheless, the responses of all academic staffs who responded to the questionnaire show that the most critical problem for the low participation and hence low usefulness of research is high teaching load. As per the questionnaire response, the following is the rank of the problems. To prioritize and rank the problems, the mean score of the three rows (Always Critical Problem, Usually Critical Problem and Seldom Critical) from the table above have taken. One can also read “the always critical problem” column of the table above and notice the most critical problem, which is infrastructure and equipment.

**Table 2: Rank of the Problems - Rank of the Factors**

| <b>No</b> | <b>Causes of the Problems</b>    | <b>Total Score</b> | <b>Mean Response</b> | <b>Rank</b> |
|-----------|----------------------------------|--------------------|----------------------|-------------|
| 1         | Infrastructure                   | 99                 | 33                   | 1           |
| 2         | High teaching load               | 95                 | 31.6                 | 2           |
| 3         | Low research budget              | 94                 | 31.3                 | 3           |
| 4         | Limited links                    | 94                 | 31.3                 | 3           |
| 5         | Less PhD                         | 91                 | 30.3                 | 5           |
| 6         | Absence of research journal      | 91                 | 30.3                 | 5           |
| 7         | No promotion for researchers     | 90                 | 30.0                 | 7           |
| 8         | No research agenda at all levels | 87                 | 29.0                 | 8           |
| 9         | Personal capacity                | 83                 | 27.7                 | 9           |
| 10        | Policy makers failure            | 82                 | 27.3                 | 10          |
| 11        | Lack of interest                 | 76                 | 25.3                 | 11          |

The mean score in the table above shows that infrastructure is the most critical problem and the second critical problem is high teaching load and the third most critical one is low research budget. This can also be compared with the total teaching load of the staff which was 19 hours a week in the TVET programs and 15 hours a week in degree programs when this survey was conducted. During the focus group discussions, there were staffs that were teaching five courses in a single semester and reported that they had no time at all though they felt the significance of research in higher education. The table also shows that research skill and research interest are not critical problems for the low staff involvement in research. This implies that there exists interested and skillful staff to carryout research if the necessary conditions are fulfilled.

## ***2.2. Research Budget and Priority Zones***

It can be argued that to nurture the symbiosis between research and teaching, the research budget needs to be prioritized. The views of the staff in the table below show that prioritized allocation of budget will curb shortage of facilities, which in turn maximizes implementation of the findings. The table also shows the priority areas if sufficient research budget is allocated:

**Table 3: Research Priority Zones: - Budget Priority Zones**

| Priority Areas   | Top Priority | High Priority | Medium Priority | Low Priority | Lowest Priority | Cannot Say anything | Total |
|--|--------------|---------------|-----------------|--------------|-----------------|---------------------|-------|
| Establishing research labs                                 | 37           | 31            | 25              | 22           | -               | -                   | 115   |
| Better facilities  | 51           | 32            | 24              | 21           | -               | -                   | 128   |
| Improved access to computers and printers                  | 50           | 34            | 23              | -            | -               | -                   | 107   |
| Improved access to Internet                                | 44           | 34            | 23              | -            | -               | -                   | 101   |
| Develop research skills                                    | 33           | 40            | 25              | -            | -               | -                   | 98    |
| More financial assistance to researchers                   | 44           | 37            | 25              | -            | -               | -                   | 106   |
| Publication of research refereed journals at faculty level | 29           | 38            | 30              | 22           |                 |                     | 119   |
| Publications of teaching materials                         | 32           | 38            | 23              | -            | -               | -                   | 93    |
| Train more staffs at PhD level                             | 40           | 32            | 23              | 22           | 11              | 11                  | 139   |
| Creating research culture                                  | 31           | 41            | 24              | 21           | -               | 21                  | 138   |
| Organizing more research seminars                          | 37           | 38            | 31              | 21           | -               | -                   | 127   |
| Joint research works with companies/other universities     | 40           | 29            | 27              | -            | -               | 22                  | 118   |

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The table above shows that top priority areas and factors, which can advance the symbiosis if sufficient amount of money is allocated. Lists of these factors are the following:

- better facilities;
- improved access to computers and printers;
- more financial assistance to researchers;
- improved access to the Internet;
- joint research works with companies/other universities;
- establishing research labs;
- Developing research skills.

RVUC staffs, however, believe that availability of the budget will advance application of research in teaching and societal development.

### **2.3. Staff Involvement in Research**

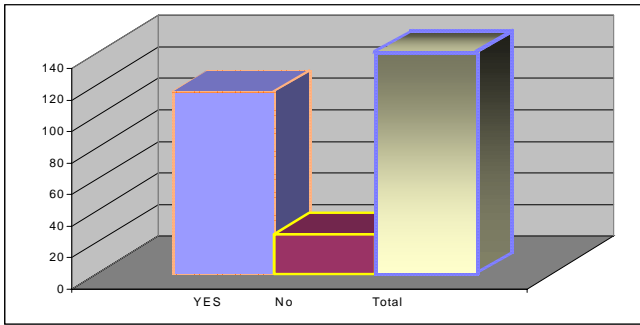
#### **2.3.1. MoE's research policy.**

Attempts such as organizing research seminars and establishing research teams both at department and University College levels have been made to create research culture in the University College. At both levels, awareness was made on MoE's policy framework, which states that each staff should allocate 25 % of the total time on research:

Institutions of higher education are expected to produce new knowledge through research, serve as conduits for the transfer, adaptation, and dissemination of knowledge generated elsewhere in the world, and support government and business with advice and consultancy services. To meet this objective, research forms part of the job description for academic staff, who are supposed to spend 25% of their time in research activities. Higher Education Institutions have been involving in research activities to cater for national as well as local capacity building, research and consultancy. (Education Sector Development Plan III (ESDP III) – (2005/6 – 2010/11), 2004, p.11)

The policy statement boldly underscores the significance of research and the amount of staff time required to bring about quality and relevance in teaching. The expectation is not a uni-dimensional but rather a multidimensional expectation. It comes from the government, the business and the university college itself. This also requires a tripartite relation between the government, the economy and the University College. The expectation is not the generation of new knowledge but transfer, adaptation, and dissemination of knowledge in the Ethiopian context.

While carrying out this survey, staffs were asked to comment on the appropriateness of the policy framework. Is it right to say 25 % of the total time to be allocated to research? What is the implication of allocating 25 % of the total to research? Staffs were asked: “Do you accept the policy?” The answer is summarized in the graph below (Fig. 1):

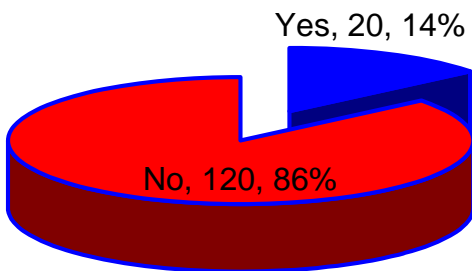


**Figure 1: Policy Acceptance**

The bar graph above shows out of 140 staffs, 115 (89%) academics staffs accept the policy framework. They believe that the policy framework will boost the relevance of research to teaching. Only 15 staffs (around 11%) do not accept the policy. Nevertheless, how many of the staffs are engaged in research? How many are implementing the policy? Does the job description of the staff states allocation of 25% of her/his time on research? How can massification and the research policy be reconciled? These questions require the attentions of MoE and the academic and research managers of RVUC.

### ***2.3.2. Research engagement***

There have been critical comments on the number of teachers who actively participate in research seminars organized by other private and/or government universities. Teachers often question why only few are presenting papers all the time. Only a handful of academics are actively involved in research. The graph below shows that the majority of the academic staff in the University College is not engaged in research and publication works:



**Figure 2: Research Engagement**

The pie chart shows that out of the 140 academic staffs who responded to the questionnaire, following systematic sampling procedure, only 20 academic staffs are actively engaged in research works. The rest (86%) are not engaged in research. Also, only 14 % of the staffs used to carryout research and publish the findings in the proceedings of other universities. This is a critical problem which requires immediate solution. Since this survey shows the existence of staff interest in researching, the motivation for active involvement can be increased by improving the research environment in the University College.

### 2.3.3. *Research implementation.*

The other sharp academic comment, which often comes from the academic staffs who are passive research participants, is the question of implementation of the research findings by the University College conducted so far. Those who are not carrying out research and publications work either in the University College or elsewhere are saying that the research conducted so far is not applied to solve practical problems. Questions like: who is responsible for implementing the research results in the University College? The Management? Research Office? Heads of Departments? Or the academic community? Or the researchers themselves are not clear. With the intention that staffs should use research results in teaching and implement findings wherever applicable, implementation effort of staffs was surveyed and the result is presented below.

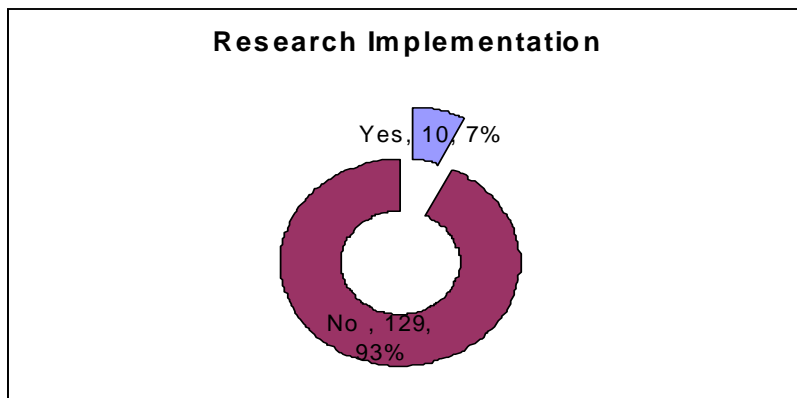
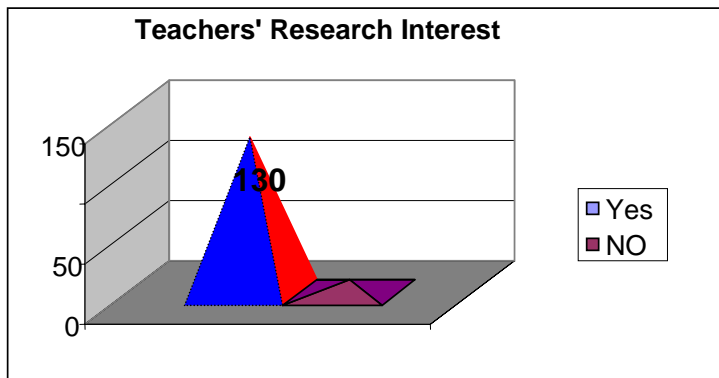


Figure 3: Research Implementation

It is strongly argued that the teacher himself should primarily implement a research result s/he came across as a result of the research undertaking. This in part improves the relevance and quality of the teaching-learning process. However, the chart above shows that only 10 (7%) of the respondents have attempted to implement their research results and the rest, 129 (93%) have not made any attempt to try out at least one research finding to the classroom situations or elsewhere.

**2.3.4. Academic staff research interest.**

Teachers strongly recommend the publication of refereed and reputable journals by RVUC to maximize staff involvement in research and publication activities. The survey result shows that staffs are highly motivated to read proceedings of the research seminars by other universities and would like to attend any research conferences anywhere. Almost all teachers of RVUC have great interest in research work as shown below:



**Figure 4: Interest in Research**

The pyramid above shows that 93 % of the staffs have great interest and would like to participate in research and publication in the future.

**2.4. Relevance of Research**

It is argued in this paper that the primary objective of research in the University College is not only contributing to the body of knowledge but also to societal development. Research in the University College should also change the lives of the poorest of the poor. The table below shows priority areas:

**Table 4: Relevance of Research**

| Significance of Research at RVUC | Top Priority | High Priority | Medium Priority | Low Priority | Lowest Priority | Cannot Say anything | Total |
|----------------------------------|--------------|---------------|-----------------|--------------|-----------------|---------------------|-------|
| Contribution to knowledge        | 36           | 30            | 21              | 23           | -               | 22                  | 132   |
| Promotion of the staff           | 37           | 33            | 25              | 21           | -               | 23                  | 139   |
| Curriculum revision              | 36           | 35            | 24              | 22           | -               | 20                  | 137   |
| Policy development               | 35           | 33            | 24              | 12           | 21              | 13                  | 138   |
| Improving teaching methods       | 38           | 35            | 21              | 21           | -               | 22                  | 137   |
| Adopting new technology          | 40           | 35            | 21              | 21           | -               | 20                  | 137   |
| Industrial/company solutions     | 40           | 35            | 30              | -            | -               | 23                  | 128   |
| Student project advising         | 38           | 39            | 29              | -            | -               | 22                  | 128   |
| Future research database         | 32           | 38            | 27              | -            | 21              | 20                  | 138   |
| Develop teaching material        | 34           | 37            | 24              | 22           | -               | 20                  | 137   |

The table above presents the views of teachers on research priorities of the University College. These priority areas also signify factors that can advance the relevance of the nexus between research and teaching. The majority of the respondents in the University College believe that the top research priority of research in the university college should be adopting new technology and industrial/ company business solutions. The table also implies that to bring about quality and relevant education, the relevance of research can be seen in the following priority areas:

- Creation of future research database for researchers, students, policy makers and industries;
- Bases for curriculum revision;
- Improvement of teaching methods;
- Student project advising;
- Development of teaching material;
- Promotion of the staff;
- Policy development;
- Industrial/company solutions.



### ***2.5. Responses from Focus Group Discussions (FGDs)***

During a focus group discussion held with Deans, Department Heads, Researchers, Senior staffs and founders of the University College the following suggestions were made:

- Avail facilities;
- Allocate sufficient budget to the researchers;
- Invite guest speakers and senior researchers from other universities;
- Provide continuous on-the-job training on research methods;
- Avail reputable journals in the library;
- Publish reputable and refereed journal of the University College;
- Senior researchers should work closely with young staffs;
- Motivate instructors;
- Reduce teaching load from 19 to 15hours a week for all teaching staffs who do not assume academic administration;
- Create awareness on the roles of research;
- Promote good practices;
- Make research work to change the lives of those researchers;
- Follow up implementation. Establish a Watchdog Committee to follow up, choose best results for implementations;
- Establish Post Graduate Program to increase staff and student involvement in research;
- Carryout company-based research to advance the practical skills of students;
- Allow some staffs to attend international seminars;
- Involve students in research works;
- Introduce more practical research works that can promote skills;
- Establish labs and offices for thinking, encoding and experimenting;
- Allow research and sabbatical leaves;
- Travel abroad for links, joint research seminars and generate research funds;
- Increase research entrepreneurship and sale of research results to customers.

The focus group discussion was also used to create awareness on the relevance of research and publication in a private academic institution.

### **3. Conclusion and Recommendations**

#### **3.1. Conclusions**

The data analysis results show that the symbiosis between research and teaching at RVUC has been severed and gripped as a result of the following major problems ranked from 1 to 10.

- Infrastructure (1);
- High teaching load (2);
- Low research budget (3);
- Limited links (3);
- Less PhD (5);
- Absence of research journal (5);
- No promotion for researchers (7);
- No research agenda at all levels (8);
- Personal capacity (9);
- Policy makers' failure (10).

These root problems have reduced the roles of research in bringing about quality and relevance of teaching in the University College. Although 89% of the staffs agree that 25% of every teacher's time should be allocated to relevant research, nearly 86% of them are not directly involved in research. And, they have multitude of reasons. Nevertheless, 93% of the staffs found to have great interest in research and publication activities. They would like to actively participate in research in the future if RVUC avails sufficient facilities and budget for the purpose. Implementing research findings to revitalize teaching requires the involvement of all academics and the management. The senate, the academics commission and departmental council meetings must have agenda regularly on research and publications issues.

### **3.2. Recommendations**

The root causes, which hampered the symbiosis between research and teaching, require immediate solutions to nurture research in private higher education institution. The following recommendations are believed to nurture research undertaking which can add quality and relevance to teaching.

#### **1. Reduce course and teaching load.**

In a given semester, the maximum teaching load of an instructor in RVUC's TVET and Degree programs is 19 and 15 credit hours, respectively. Since the number of courses is not limited, a teacher can be legally forced to teach 5 courses with 3 credits to unlimited number of students in a single semester. Teachers are highly loaded with marking papers and preparing lecture notes for classes. Let alone to carryout research, they find marking assignments of multitude of students difficult. Thus, the total teaching load and the number of courses should be reduced so that instructors can have adequate time for research and publication work.

#### **2. Allocate sufficient budget.**

RVUC should allocate sufficient research budget. Other income generating proposals should be developed and implemented. Creating dependable links and research entrepreneurship and promotion can help also reduce the pain in critical shortage of funding. Hope the future is bright and the road is rightly paved.

#### **3. Establish action research culture**

To nurture the symbiosis between research and teaching, one major way is advancing teacher's engagement with action research. Teacher's engagement in action research will enable them to crystallize problems in their own classroom situations and help them advance their own practices. Action research also creates favorable situations for students' participation in action research initiatives. They could act as co-researchers, respondents, implementers, data collectors, action evaluators and active participants. Joint seminars can also be organized.

#### ***4. Conduct Company (Customer) Based Research***

Conducting applied and collaborative research on company-based problems will enable the researcher to come up with the solutions to current problems in the industry. It can address the existing problems instead of copying from books written by other educational researchers. Customer led research works also will enable the teacher researcher to bring real problems to the classroom scenario so as to advance the skill of the students.

#### ***5. Publish Refereed Journals***

One way of implementing research is dissemination of its outputs through journals and websites. Editors, reviewers, researchers, promotion workers are needed. Proper allocation of budget will help realize the desired result.

#### ***6. Implement Flexible Research Strategy of the University College***

To properly allocate resources and plan research directions, implementation of the Research Strategic Plan of the University College can help nurture the nexus. This will help realize the mission and the vision of the university college.

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# **Research-Teaching Nexus (RTN): The Epistemological Missing Link in Ethiopian Higher Education Institutions (HEIs).**

**Markos Mezmur**

## ***Abstract***

*In view of the central nature of Research and Teaching in higher education, and the almost universal assumption that Research benefits Teaching, and the importance of scholarship, it is perhaps surprising how the issue of Research-Teaching Nexus (RTN) remains a neglected matter in the academic arena of the Ethiopian higher education system.*

*RTN is a matter which has recently attracted a considerable amount of attention, particularly from those who are of the opinion that we need to value the link between Research and Teaching to offer high quality learning experiences to students. This paper is, thus, an attempt made to assess the nature of the relationship between Teaching and Research in the Ethiopian higher education settings. Also, study of existing literature on the issue is made to provide ways of establishing productive links between Research and Teaching and highlight the connection that it has to learning.*

*Evidences on RTN in the Ethiopian HEIs are extremely scarce. Results from the handful of earlier studies, however, ascertained that Research and Teaching has never come to a close touch in Ethiopian higher education institutions. Thus, with the aim of increasing circumstances in which Teaching and Research have occasions to meet, universities need to work towards the improvement of the nexus between Research and Teaching. This would ultimately help institutions and their staff to provide the best possible learning experiences for their students.*

*The paper is organized into four sections. The first section of the paper presents introduction and the justification for the importance of Research -Teaching Nexus (RTN). Following this a general overview of an Ethiopian Higher Education Landscape is presented. The second section reviews literature on the “how” of linking Teaching with Research. Review of evidences from earlier studies and discussions are made in the third section of the paper. Conclusion and recommendations are presented in the final section of the paper.*

## **Introduction**

The tripartite mission of a university is to pursue teaching, research and community service. While these three mandates are inextricably woven, the focus of this study is on Research-Teaching Nexus (RTN). Before starting to talk about the “how” of establishing the nexus, let me take the liberty of considering “the why” we need to do so.

There is basically a tacit assumption that research informs teaching and, perhaps to a lesser extent that teaching informs research in higher education institutions. However, the challenge facing most universities is how to establish a productive nexus between research and teaching to enhance the quality and effectiveness of their teachings.

Despite the universal espoused belief in the benefits of RTN in higher education institutions, the precise characteristics of the relationship between teaching and research are not well understood. In this regard, the narrow conceptions of the possible links of RTN and the complexity of the issues associated with measuring both dimensions are what made the precise characteristics of the RTN far from clear (Hitchcock & Huges, 1995).

However, the close link between Research and Teaching is called upon to make institutions the right educational centers. In this regard, UNESCO (1998) underscored the need to link teaching and research to ensure the effectiveness of higher education institutions to develop indigenous knowledge.

### **The Ethiopian Higher Education Landscape**

Although Ethiopia has a 1,700 year tradition of elite education linked to the Ethiopian Orthodox Church, secular higher education started only in 1950. The University College of Addis Ababa was established in the said year (World Bank, 2003).

Though with a wastage rate approaching 40%, higher education institutions of our country achieved a considerable success of maintaining international standards in the 1960s (Wagaw, 1990 as cited in World Bank, 2003).

The motto to search and research has been there in the early secular higher education institutions of the country. Since their inception, the Faculty Council in those universities has encouraged research. The universities stipulated broader aims of research, such as, generating knowledge to make teaching more relevant, integrating theory with practice, evaluating and upgrading curricula, and addressing societal needs (Habtamu, 2003: 322 as cited in Asgedom, 2005).

Parallel with faculty staff, research institutes in the early universities had their own research staff with a 1:3 ratio of responsibilities: 25% teaching and 75% research. The faculty staffs, on the other hand, are responsible for exactly the reverse ratio. This actually remains a tradition of scholarship in current universities of the country. However, whether or not they have meaningful correspondence to teaching and research remains a matter of exploration (Asgedom, 2005).

According to Habte (1973b: 16 as cited in Asgedom, 2005) the major objectives of these research institutes were to:

- Develop continuously teaching materials, especially in the Social Sciences, Law, History and Geography;
- Apply research in Agriculture, Education, Public Health and Biology;
- Develop innovative teaching methods;
- Develop better testing devices (aptitude tests, objective tests, etc);
- Build up research infrastructure;
- Study one's own culture by collection and preservation of Ethiopian archives, art music and historical artifacts;
- Advance Pan-African research in collaboration with the UN and OAU (now AU).

None-the-less, at the dusk of the 20th century, the country found itself with a higher education system that was regimented in its management, conservative in its intellectual orientation, limited in its autonomy and short of experienced doctorates in its staff profile to mention a few. Concerned about declining educational quality, weak in its research



output, and poor connection with the intellectual currents of the international higher education community, awareness of the need for reform began to grow (WB, 2003).

Thus, the felt need to reform the higher education system called for a concerted effort of those involved in the sector. The country's current ambitious effort to revisit the education system is a response to the said existing challenges. This critical national need by the government of the day is indeed indispensable for the renaissance of the quality and relevance of the education that would direct the future of the country.

In this regard, the oversight agency, HERQA (Higher Education Relevance and Quality Agency), was established to monitor both the relevance and quality of the academic programmes as per the 2003 FDRE (the Federal Democratic Republic of Ethiopia) Higher Education Proclamation; a series of Academic Development and Resource Centers (ADRCs) which are under formation also seem a blessing to shore up quality in Ethiopian higher education classrooms. Also, the incorporation of ICTs (Information and Communication Technologies) into instruction as a vehicle for accessing the global network of information will add greater efficiency and depth to the learning process.

### **Strategies to Link Teaching with Research**

Reviewing the body of literature to evidence the value placed on teaching and research, the link between research and teaching, and the connection it has to knowledge and understanding is not self-evident. Instead, it relies on a synergistic and inter-active environment of scholarships. Boyer's (1990, 1994) investigation of the relationship between teaching and research has been seminal in developing the notion of scholarship as the complementary and interactive learning environment by which learning is able to bridge the gaps that have opened up between teaching and research.

As institutions differ, they need to develop their own conception and understanding of how they conceive and seek to deliver research-teaching relations. Especially, institutional missions and resources are what greatly matter in determining the extent of their focus. Thus, institutions should set mission for improvement of the nexus between research and teaching (Jenkins, et al, 2003, p.89).

In order to recognize, evaluate and reward Research-Teaching Nexus (RTN), academic staff members and managers need definitions, models and strategies. In this regard, three distinct approaches to linking teaching and research are found in the higher education literature. The potential synergies between teaching and research in these approaches are explained while recognizing the distinctions among them. However, it is proposed that these approaches are interwoven into one model in a creative and scholarly ways.

The first of these is a traditional approach, often known as Research-led Teaching (or research-informed, or research based teaching) in which academics share their own disciplinary research with students, and teach them disciplinary research methods. This approach obviously enhances students' learning, including the development of graduate attributes, and lead to increased student enrolments and completions in graduate research programmes.

A related but perhaps less common approach is Inquiry-based Learning, whereby academics actively involve their undergraduate students in carrying out disciplinary research. This approach is widely practiced in North America, where it is known as 'undergraduate research', and increasingly adopted elsewhere. Like Research led Teaching, this approach can enhance student learning, including the development of graduate attributes, and lead to increased student enrolments and completions in graduate research programmes. Since presentations and publications with undergraduate students as coauthors can result, this approach can also lead to increased learning productivity.

A third approach, Research on Teaching and Learning, is one element of the Scholarship of Teaching and Learning (SoTL) paradigm developed by Boyer and the Carnegie Foundation. In this approach – which is also known as 'pedagogical research' or 'action research' – academics themselves (involving students when possible) engage in applied research on teaching and learning in their disciplines. Research outputs such as articles in discipline-specific teaching journals often ensue. In addition to bringing about all the outcomes mentioned in relation to the previous two approaches, this approach also contributes directly to enhanced teaching effectiveness.

## **Strategies of Linking Teaching with Research in the Curriculum**

Effective curriculum design and assessment strategies are central to successfully linking teaching and research in higher education. The curriculum provides a blue print for student learning across years and contexts (Stark & Lattuca, 1996). It is the organizing framework that allows academic staff to determine how they will facilitate and assess students' learning in relation to the goals, beliefs, values, traditions, and philosophies of their particular discipline. High quality curriculum design is characterized by alignment of learning objectives, instructional activities and student assessment and feedback.

At an individual level, thinking in terms of RTN, literature in the area indicates three principal suggestions for faculty staff members to be offered:

- Develop a personal pedagogical approach or philosophy that optimizes the relationship between teaching and research;
- Give attention to documenting the ways in which your personal research program and your wider academic scholarship is used in your teaching and in the design of curriculum;
- Take a leadership within your departments in exploring and implementing strategies for bringing undergraduate students closer to the research interests of the department and the university overall.

Other suggestions for consciously embedding the RTN in academic career include:

- Drawing on contemporary research findings and research questions in your planning of student activities;
- Being explicit with your students about the ways in which you see research and their learning to be interwoven, being explicit about what you are trying to achieve and what you want them to achieve;
- Developing inquiry-based or research-based approach to students learning, including ways to involve students in small-scale research projects (these are commonplace in some disciplines of course);
- Looking for opportunities to publish descriptions of the ways in which you utilize RTN for the benefit of other academics;

- Locating teaching and learning in the context of the development of knowledge in the field;
- Developing inquiry-based or research-oriented exercises and projects for students;
- Allowing students to analyze raw data (this may include analysis of own data);
- Develop class exercises that might lead to publication. This may include literature review or new analysis of the existing data.

### **Discussion on Review of Evidences from Earlier Studies**

Evidences of RTN in Ethiopian Higher Education Institutions are extremely scarce. The dearth of researches in the area indicates that it has been a neglected area of scholarship in the academic realm. Results of the handful of studies carried out thus far, however, are reviewed and presented herein below.

The dire evidences, in the area, ascertained that faculty staff members in both the public and private institutions of higher learning shy away from researching: the forefront challenge for institutions in their effort to revitalize indigenous knowledge the country has built in its long years of history in traditional higher education institutions. This, in turn, is attributed to the very unsatisfactory state of research in the academic institutions. In most cases, this holds true, as research is seen as a peripheral aspect of learning (Syoun, 1998; Zulfa, 2000; Tadesse, 2000 as cited in Atnafu, 2005).

Such academic research into the nexus, however, has tended to concentrate on the performance of academics as researchers and their effectiveness as teachers (Feldman, 1987; Brew & Boud, 1995a). This is what is called conventional measures of research productivity (e.g. number of publications) and of teaching effectiveness (e.g. student evaluation). A meta-analysis by Hattie & Marsh (1996) confirmed the findings of the original studies – that there tends to be a near zero correlation between such measures. Overall, the higher education research literature suggests that the teaching-research nexus cannot easily be quantified or demonstrated (Brew & Boud, 1995b; Coal drake & Stedman, 1999; Hattie & Marsh, 1996; Moses, 1990; Smeby, 1998).

In his paper on linking higher education with agricultural research, Belay (2006) shed new light on program of studies which were found to be unable to respond to the labor market requirements and current rural realities due to lack of relevance of the curricula which are no longer able to produce graduates who could deal with the wider problems of rural development.

However, research is a major driver of curriculum development, in terms of new knowledge creation leading to new courses, new units and the redevelopment of existing ones. In this regard, more than the individual teacher's research interests being brought into the curriculum: a course team, department, school and faculty are involved in regenerating the curriculum in light of new knowledge produced from research.

The study covered the following types of agricultural institutions of higher learning which offer training programs at different levels: Alemaya University (now Haromaya University), Debre Zeit Junior College of Agriculture, Awassa College of Agriculture (now under Hawassa University), Wondogenet College of Forestry (now under Hawassa University), Faculty of Veterinary Medicine of Addis Ababa University and Faculty of Dry Land Agriculture and Natural Resources of Mekele University as well as Agricultural Technical and Vocational Education and Training (ATVET) schools.

The findings of the study attested the surging number of students in Agricultural Higher Education Institutions (AHEIs) in the face of insufficient resources, have brought about a decline in the quality of education. In this regard, shortage of qualified and experienced instructors, lack of teaching materials which are pertinent to the agricultural situations of Ethiopia coupled with insufficient attention to research/knowledge creation and practical training have made the situation worse (Ibid).

Given the aforementioned state of affairs, the study pointed out some of the fundamental challenges in curricular, teaching and research regards. It is, therefore, incumbent upon these institutions to implement curricular reform measures, adopt student-centered creative learning strategies, and introduce more practical elements into study programs. This will enable institutions to produce graduates equipped with the knowledge, skills,

values and attitudes required for promoting sustainable development all of which seem to require effective synergy of research with teaching.

Atnafu (2005) studied research culture among private and public higher learning institutions in Addis Ababa. In his study, it was indicated that with few exceptions, lecturers in both private and public higher education institutions do not engage themselves in researching. Similar circumstances in many of our universities warrant the conclusion that research and teaching has never come to a close touch in the Ethiopian higher education setting. However, research is a power house of knowledge and is responsible for broadening and deepening knowledge. Without academic research, change in curriculum development, evaluation, teaching methods, learning process, strategies for assessment and the like are unthinkable (Neary, 2002). Testing the existing policy, theory, pedagogical practice and exploration of difficulties and problematic areas are all possible through research (Hitchcock & Hughes, 1995).

Mathewes (2004), on the other hand, studied the role of research in promoting Quality of the Education in private higher education institutions setting in Addis Ababa. In this descriptive and analytical study, data were collected from four private higher education institutions through interviews and surveys. Also, in the study documents were consulted so as to substantiate the primary data.

In his study, it was indicated that the primary aims or missions of higher education institutions are teaching and research. These aims are often boldly stated in college & university catalogues as well as in strategic documents. However, the mission of conducting research is, all too often, marginalized in practice as faculty become preoccupied with teaching and administrative matters. And such marginalization of research can be regarded as a serious problem that can severely affect the quality of education in institutions of higher learning (Mathewes, 2004). Results of his survey also revealed that research, in private higher education institutions, is in a very unsatisfactory state. Most of the manifestations of thriving research culture that should characterize institutions of higher learning such as talks or public lectures, research grants, research seminars, research groups & publications of journals are not seen in many of the private

HEIs with the exception of St. Mary's and Unity University Colleges. Besides, although the proclamation of higher education issued in 2003 stipulates that faculty staff members should devote 25% of their time to research, the study revealed that in the current state of affairs, academic staffs in PHEIs devote either none of their time or only 10% of their time to research.

## **Conclusion**

The ideas of 'scholarship of teaching' in the Ethiopian higher education institutions of undergraduate programs seem to require considerable elaboration to nurture the culture of research in universities. The discussions surrounding this aspect of scholarship will help formulate and develop a shared language. This language would be an important intermediary in implementing the nexus in ways that suit specific institutional culture. With this intention universities need to work towards the improvement of the nexus between Research and Teaching. This would ultimately help institutions and their staff to provide the best possible learning experiences for their students.

To this end, it is axiomatic that the twin core activities of the university, teaching and research must be the cornerstone of policy development and direction within universities. We are a university only because we are engaged in teaching and research. The nexus between teaching and research is often cited, but rarely well defined. Our research activities will both inform and enrich our curriculum and our teaching approach. This can only be achieved when there is strong linkage between research and teaching in the university. We will define and identify the relationships between research and teaching, particularly as they inform and affect teaching. In this regard, it seems imperative to incorporate aspects of Teaching Research Nexus (TRN) in universities quality enhancement procedures such as instructors' course planning questionnaire, instructors' assessment methods questionnaire and students' evaluation of their teachers.

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# **Alternative Path of Increasing the Intake Capacity of Higher Education in Ethiopia: Challenges and Direction**

**Eylachew Zewdie (PhD)**

## ***Abstract***

*Ethiopia must substantially increase higher education student intake and improve access. To fulfill this national demand there must be a common understanding that the public higher education institutes do not have an exclusive responsibility for higher education performance and private sector must also play a role. This paper examines student intake situation of Ethiopian higher education. The key argument of this paper is that higher education in Ethiopia is being in reality privatized. However, day to day activity of higher education system has remained the same like the old days. Instead of bringing a comprehensive education reform, the public higher education institution initiative remains hostage to the discretionary actions of the state. The state policy should focus on the linkage between higher education and society and use the linkage to create condition for society to have equal access in both private and public HEIs through formulation of policy guideline. The possible policy postures could be: Central-planning or Market-competitiveness. Central-planning, is one where private institutions are treated by the state much like the public with respect to enrollment through creation of the University of Affiliation; whereas in market-competitiveness both private and public HEIs will compete to have better enrollment of students. The state encourages only the competition by gathering and disseminating comparative information about institutions characteristics and performance.*

## **Introduction**

There has been a succession of challenges of access to university education in Ethiopia for many years. The first challenge arose in 1978/79 when it became necessary for the university in Ethiopia to admit two cohorts of students in order to clear up a backlog of students who had not been admitted the previous year due to two years university closure. In order to accommodate this double intake, the Addis Ababa University used facilities at various colleges and faculties within and outside Addis Ababa. The second major challenge to access occurred during the last few years when the current Ethiopian Government introduced a new education system that has produced a large number of high school graduates. The initial plan for accommodating this large inflow of students was to expand existing facilities in the public universities, build new universities in various part of the country and increase as well the private sector involvement in the tertiary education (proclamation 351/2003). The above initiatives to address the challenge of access generated collateral threats of compromised quality. The expansion of university capacities, for example, led to expansion in program duplication, and old universities were compelled to introduce courses that were not part of their mission in order to accommodate the additional students allocated to them. The expansion favored the arts, education and social science programs which did not require excessive infrastructure investment. At the same time most of the private higher education institutions build better capacity to handle arts, education and social sciences. During these periods Ethiopia has tried little to respond to the challenge of intake by adopting innovative financing models, commercialization of the public universities and market force approaches while maintaining quality. The new financing model (cost sharing) with semblance of commercialization of higher education in Ethiopia was triggered by its liberalization which started in 2003 when legal provisions were created to facilitate establishment of private higher education institutes. Since then, over 114 (71 diploma and 43 degree offering) private higher education institutions have been established in Ethiopia. The framework for a new financing model which works only for government sponsored higher education institutions does not encourage students to join private higher education institutions. Even the public universities are not in a position to exploit the other countries experience of self sponsored programs at full spectrum due to

overcrowded class arrangement. Thus, a true competition was not created between the private and public sectors. The current fashion of taking emergency responses to the challenge of intake figuratively could create an educational minefield with potential for explosion, and can lead to serious implications on the quality of higher education. In the past ten years the private sector has contributed to the betterment of higher education through creation of more efficient delivery systems. The challenge of intake in higher education of the country is, therefore, best addressed via a combination therapy, public and private partnership or giving equal footing for private higher education institutions.

The key argument of this paper is that higher education in Ethiopia is in reality being privatized. However, the day to day activity of the higher education system has remained the same as the old days. Instead of bringing a comprehensive education reform, the public higher education institution initiative remains hostage to the discretionary actions of the state. On the one hand, the higher education system remains regulated by the state, on the other hand, discretionary privatization is unable to mobilize private capital in productive ways.

### **The Challenge: Raising Student Intake in HEIs**

Ethiopia did not own respected and reputable public or private universities by international standards. This has been because the higher education sector is generously financed by the state in absence of competition for fund. In the near future, the current HE finance system can not continue due to an increasing evidence of serious gaps in our national capacity; change in students' interest; development of new modes of providing higher education and low performance of higher education system in keeping pace with the global competition. As a result, the old regulatory model must be replaced by new forms of policy guidelines that could equally treat all HEIs and create competition to improve performance.

The government is committed to improve access as it can afford and adopt encouraging education policy that has increased student intake to the extent that has become too difficult for the public universities to bear the burden. As a result research is becoming

weak. Thus, the state needs to make judgment how to leverage the burden of student intake through strategic investment of resource in HEIs. It must be clear at this junction that rather than zigzagging between various solutions, the state must take this time to find market blended solutions in pursuit of the broader public interest. This will demand the tools that provide leverage using a variety of incentives including, but not confined to, partial funding of HEIs.

### **The Need for State Policy Leadership**

Higher education has a critical role to play in Ethiopian economy and social cohesion. The population at large believes that the state-level public policy environment in which the higher education institutions operate must change in ways to meet the challenges of the rapidly emerging knowledge-based economic development and particularly the need for more Ethiopians to achieve education beyond high school, which is becoming the topic. To address these challenges, the state has issued the higher education proclamation No 351/2003, which has allowed the establishment of private higher education institutions. Since 2003 the number of accredited private higher education institutions has increased significantly and with unease problems they have contributed their share in producing skilled manpower and generating knowledge. However, the huge capacity of the private sector is not well utilized to reduce the pressure of the public universities and capital budget allocation of the public fund for the expansion. Currently, the contribution of private HEIs in enhancing national student intake in higher education is not well articulated.

The government must choose to focus on the capacity to formulate and implement better state policy to increase student intake to HEIs at national level through the involvement of the private sector rather than overburdening the public sector. There must be a common understanding that the public higher education institutes do not have an exclusive responsibility for higher education performance and private HEIs could play a major role if the policy environment is favorable. This approach will definitely create the possibility to reduce government capital investment in higher education, to increase private HEIs and allow the state to remain the decision-making entity responsible for

sustaining policy. The state policy should focus on the linkage between higher education and society and use this linkage to create conditions for society to have equal access both in private and public HEIs.

To reach the nationally aspired level of student intake, the state has to assist the private sector to build organizations that have a standard academic credibility. The purpose of this approach must be clear: Ethiopia must substantially increase higher education student intake and improve access. But, the question is, is it possible to reach the ambitious national higher education goal without the active involvement of the private sector? If so, would it be possible for the public HEIs to offer quality education under overstretched conditions?

### **Policy Interventions**

To fulfill the national development expectation and produce qualified personnel, private and public higher education institutions would have to share resources while utilizing the available resources optimally, initiate new forms of academic collaboration by adopting new technologies, introduce on-line networking facility among higher education institutes not only to prepare a data-base of learning resources, but concentrate on their strengths and produce quality materials for the whole education sector. Higher education institutes must be encouraged to mobilize resources which could be used for the development of the nation. Such intervention could create strong partnership within the higher education system and minimize the involvement/investment of the government in tertiary education. At the end, tertiary education would not be focal area of government national investment area.

A highly powered joint commission or board at national level could be established to work on the issue of placement, funding and research as well as development work that could lead to innovations in curriculum, teaching and learning. The establishment of such powered team would act as a sensitive organ to forecast the future higher education development trends. In general, this set-up could predict the future trend and provide an early warning system in the employment sector as well as in educational management.

Such kind of arrangement could also encourage mobilizing additional resources by achieving better interaction with the other sectors such as the industry and business. The creation of competition between the public and private higher education institution will facilitate the optimum utilization of the available facilities/resources that could end up in improving the academic quality of the graduates.

### **Policy Postures**

Dramatically increasing of student intake is unlikely under a business-as-usual scenario. We should think out of the existing framework. Without the government policy leadership and active involvement of public as well as private institutions it will be impossible to bring effective change. Traditional decision-making entities, which are built for other policies and times, should not crowd out this important public priority and the current system in place requires substantial redesigning. The specifics could differ across the training types.

There is no clear policy guideline how the private higher education institutions contribute to higher education sector. Thus, since the last proclamation, the performance of private higher education, was not seriously analyzed and implication of public policy postures toward private higher education was not well known. This was due to the absence of state student support; direct state payments to independent private institutions, etc. To overcome this problem and increase higher education student intake in the country, it is not possible to follow the *laissez-faire* policy posture. Under the current system, the possible policy postures towards student intake increment could be: central-planning or market-competitiveness.

Central-planning, where private institutions are treated by the state much like the public and play planned roles in the higher education system with respect to enrollment, is a posture in which the division between private and public higher education is rather blurred. The state funds for privates must be allocated in the form of direct subsidies, as in the case of many European countries. This pattern is at the opposite end of the conceptual continuum from the *italics* posture. In this pattern, private institutions are

incorporated integrally in the extensive state planning and management of higher education, get their share of attention when new state initiatives affecting higher education plan, and, most importantly, receive a substantial share of the state's higher education budget in the form of subsidy or loan. The central-planning approach usually implies little distinction being made between private and public institutions. Private institutions, dependent on state money are subjected to various formal and informal state model capable of sustaining MoE's mission and approach and maintain flexibility to respond to state demand. They will become quasi-public. In terms of enrollment share, the privates usually could represent ten or twenty percent.

There are various options to use private HEIs in order to increase the annual national student intake capacity of higher education sector. For example, in India the best private HEIs are affiliated to public HEIs in their areas. Under this arrangement the public HEIs are responsible to monitor and evaluate the education quality of the affiliated institutes. In other words, academically the affiliated private HEIs are regulated by the public HEIs. The partner HEIs are committed to work out different arrangements on various educational issues such as using the same syllabi, educational materials, etc and to the extent of giving the same exams in both institutes at the same time. Students from private HEIs could be awarded degree from the University of Affiliation. Under the current development status of the private HEIs in Ethiopia it may not be possible to arrange such twining or partnership in the field of natural sciences, but for social sciences, which do not require high tech laboratories, the chance is very high particularly in big cities like Addis Ababa.

Market-competitiveness, is one in which public institutions operate in an environment deliberately designed to be like that faced by the privates. The state introduces market elements into the higher education system, seeks to create a competitive, open market structure, and stresses the importance of individual student choice by allocating "portable" student aid grants, which enable students to 'vote with their feet'. In this pattern, state intervention is limited. Students from both private and public institutions qualify for student grants or/and tuition equalization grants are made available to students in private institutions. The state encourages private-public competition by gathering and

disseminating comparative information about institutions characteristics and performance. In this model, in contrast to the previous one, public and private institutions are more autonomous in terms of academic issues.

Both of these possible policy postures look unrealistic and inapplicable under our condition. At this time, we have to admit that no single model of policy has yet been proven to accomplish what the country needs. Substantial increase in HEIs students' intake could not be ensured unless we encourage open and frank discussion, debate and refinement of the existing policy. We need a different language for talking about, and designing, the type of policy capacities, a language that will draft us away from the current ways of thinking to bring zero-sum struggles within the higher education system. MoE must be able to invite responses to this idea and must be in a position to engage the federal government on this issue. This may probably be the legacy of rational growth, broad access and higher educational quality.

### **Rethinking**

The Ethiopian government must focus on both public and private higher education institutes in order to increase student intake. One major change that could be introduced is the shift in financing from a state-funded system to one that requires all higher education institutes to rely more and more on private funds, tuition fees, own generated money from various interventions, etc. This includes the expectation that students will also depend largely on government loan or private financing for their education. The government will be involved in regulatory works and could utilize the capital investment of higher education in other economic sectors or expansion of basic education. Total liberalization of the tertiary education will also expand the role of foreign educational institutions to take part in the growing market for education in Ethiopia. This shift in funding will force and encourage the private institutions to work on academic quality and seek other fund sources rather than depending on student fee and at same time will force the public higher education institutes to seek alternatives to raise most of their operating funds from other sources rather than being government-funded enterprises. Under the current political system in near future, the central government would not be able to



provide all the money needed for higher education, so public HEIs must be initiated by the government to “face the market” through creation of competition in student placement. Although the total financial support for education from the central government continued to increase, in near future it will be expected that large amounts will be on other educational sub-sectors. So that tertiary education will receive a smaller fraction of the national budget, which must be allocated only to student loan. What must remain as sources of fund are contracts and university-run business enterprises, adult education programs and student tuition charges.

If the Ethiopian government introduces the truth concept of market that brings keen competition among institutions nationwide and funds only few high quality institutions there is a possibility of merger of institutes that causes reduction in the number. Here the issue of merger is not only valid to private institutes, but equally valid for the public one. The merger is not physical one, rather structural.

Competition between higher education institutes would be impossible without higher education loan system for needy students since the majority of population can not support their children’s education cost at higher level. In any case, student loans are still a small part of the whole financing system and government must be able to shoulder it or arrange bank loan system. These loans, however, can only be used for tuition. The central government must provide scholarships in addition to loans to students from poor families and rural areas. In addition the university must also provide scholarships based on academic achievement. Under any circumstance the government must allocate fund to HEIs. But, each institute has to compete for the available fund that will be for expenditures such as facilities or equipment.

### **Observations and Predictions**

One of the most interesting aspects of this paper is the opportunity to speculate about what might happen if the government is determined to create competition by introducing a new placement policy.

As long as MoE controls the placement process, higher education institutions are not competing with one another in the way that institutions challenge one another like in other countries. Although Ethiopian universities to engage in recruitment of graduate student, they simply accept all of the undergraduate students assigned to them. This lack of institutional involvement in student placement must be changed and the government should reform and relax the current system to give chance for students to join the higher education institute they prefer. Currently, as government financed organizations, public universities can not negotiate or propose change on number of students and they lack the freedom to make the final decision or manipulate decision. The issue of marketing/privatization may be a classic example of looking at the glass and deciding whether it is half empty or half full. It is clear for all scholars that this strict regulation of student placement is part of the long tradition of centralized control over higher education and all believe that it must have changed with the change of political direction of the country. Whatever the cost may be, one significant area for the exercise of market forces, of course, is the introduction of decentralized student placement approach. If the government is willing to introduce this approach, some institute will keep on moving for their better performance (market share); and others will cease to exist since they have no state subsidy to support them. The few that come out of this challenge could be those who serve a different student market or best education quality. The absence of such fully operating market in Ethiopia, particularly in student placement will significantly affect the reputation and educational quality of some of the universities and affects the development of the emerging private higher education institutions. If the country continues to follow the current mode of the student placement, it will take a long period to come to the era of true institutional competition for fund. Neglecting the cost implication aside it would be good for government policymakers to look at the positive implications of competitive based student placement before imitating this aspect of other countries. Once the competition for students through financial aid has started, it will definitely bring qualitative changes.

One of my frequent thinking was “after the initiation of private higher education institutes what would be the situation of the higher education sub-sector in the coming

years?” But my wish and the reality did not go side by side. The usual observations were student population has slide down and the triple mandates of higher education were not fulfilled in most private institutions and in opposite in the public sector more students , low research output, reduction of student participation in practical, more programs with a low percentage of PhDs holder and more scholars going out of the higher education system. These conditions forced me to look for appropriate solution, thus, talked with top ranking scholars in higher education institutions. But, without specifying exactly what the current problems are, all have taken “democratic management” that involves consultation with key stakeholders as the only means to come out of the existing higher education challenge.

One can observe that the higher education scene in Ethiopia is very fluid right now, but it would solidify in the coming years if the government gives students the right to choose their placement, introduce tuition fee, loan, etc. Thus, institutions that want to make change, or need to make change, will have a relatively short window of opportunity in which to implement significant reforms. This scene may also force also the Government of Ethiopia to look the issue of expansion of tertiary education using the public fund critically. The rapidity with which certain projects are being undertaken (the construction of new public universities) and not encouraging the private higher institutions somewhat haphazard changes without a long-range plan. Policymakers and policy analysts also must be mindful of this window of opportunity “private higher education”. From my long year’s observation in the higher education sector of Ethiopia, I think of this as an exciting time to raise important questions. Let me posit a few. Under the existing pressure, are Ethiopian public higher education institutes competitive enough to offer quality education? and what will be the share of the private sector to bring the change? In the time of globalization, will MoE sustain with the current trend of HEI management, which did not bring the expected reform, for a long period of time? These questions must get answers.

Rather than strengthening the control, I assume that the current national higher education funding that lack equity could not fuel the higher education reform in this country and cannot continue forever. Due to the introduction of new funding model people may a ask

how will the relationship between MoE and individual higher education institutes continue to develop if MoE does not have direct control over student placement and fund? My guess is that after the introduction of competition for student placement by public and private higher education institutions, MoE will be expected to exercise new forms of control in the future—indirect, more subtle, more sophisticated rather than top-down directives. As is the case in many countries, government will shift to a steering function rather than a command and control model.

### **The Way Forward**

The intellectuals are optimistic about the future of tertiary education in Ethiopia. The activities in most higher education institutions during the last few years indicated that young academicians are determined to bring reform, willing to enter market competition and undertake high-quality research provided that the government paves the way. The degree of progress in the last few years is not discouraging, but forced the scholars to speculate various possibilities. Certainly the breadth of change and the government determination were impressive. But, after the proclamation 351/2003 the government felt to introduce market competition in higher education system. There was an expectation that Ethiopian higher education system will change virtually in every dimension in a very short time through the free participation of each personnel in the system. Ethiopian scholars are not traditionally conservative about their own lives and work, but they are being forced to shift ground quite dramatically due to top down command in every aspect. If there is a shift in school of thinking it will be a ground to believe that higher education will be responsive to reform and the relationship between MoE and individual higher education institutes will be in a much better position than the current days. Higher education institutes will interact with the larger society in ways that are unimagined by the government.

The higher education reform has produced many positive results. Undeniably, the higher education reform has produced many positive results. Despite these, the country should view skeptically any allegations that education system is still failing and not allow

criticism and to overshadow signs of positive momentum. The country must act on what the national scholars know and build on the progress already made.

The new development is not quite so unpromising. But, we must bear in mind that national achievements must be based on scholars experience and comparisons of different education systems. However, at the same time it must be taken into account that the generation demands always new intervention which is not rooted in the indigenous knowledge and these demands must be fulfilled as long as they are responsible to carry the financial burden.

For the last three decades there was an impression that the quality of the graduates from the higher education institutions have declined, but the impression was without looking the higher education environment. Most of the academicians believe that student did not failed, but the system was weak to address the real issue.

As author of this paper I have tried to reflect my concern and none of you will expect me to bring every aspect of the issue. My aim is to initiate discussion on this important issue, i.e. quality education, student placement and creation of competition between the public and private higher education institutions.

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# Helping Weak Students – Three Decades of Research on Student Support in Southern Africa

Mike Cantrell (PhD)

## ***Abstract***

*'Access' and 'equity' are terms which can be found in the higher education development plans of most countries in Africa. The challenge of widening access, while at the same time maintaining standards, is one which the southern African region has been grappling with for the last 30 years. The new imperative to open previously closed doors to South African students of all races at the end of apartheid produced a number of models of student support from which lessons can be learned.*

*The review covers initiatives in Botswana, Lesotho, Mozambique, Namibia, South Africa and Swaziland and focuses on one case study - a well documented Science and Mathematics Foundation programme at the University of the North in South Africa. This annually selects 150-250 students from disadvantaged education backgrounds with special aptitude tests which show they have potential for further studies, despite weak paper qualifications. Students are admitted into an integrated preparatory foundation year before entering degree programmes. Tracer studies reveal that ex-foundation students, previously judged to be too weak to be admitted to degrees, consistently out-perform others in the subsequent years of degree studies. By the beginning of the new millennium, virtually every university and technikon in South Africa had created a student support system.*

*The paper emphasizes that the nexus between students and research is essential to prove the impact of interventions such as those described and concludes by showing how specially designed programmes can also contribute to equity issues.*

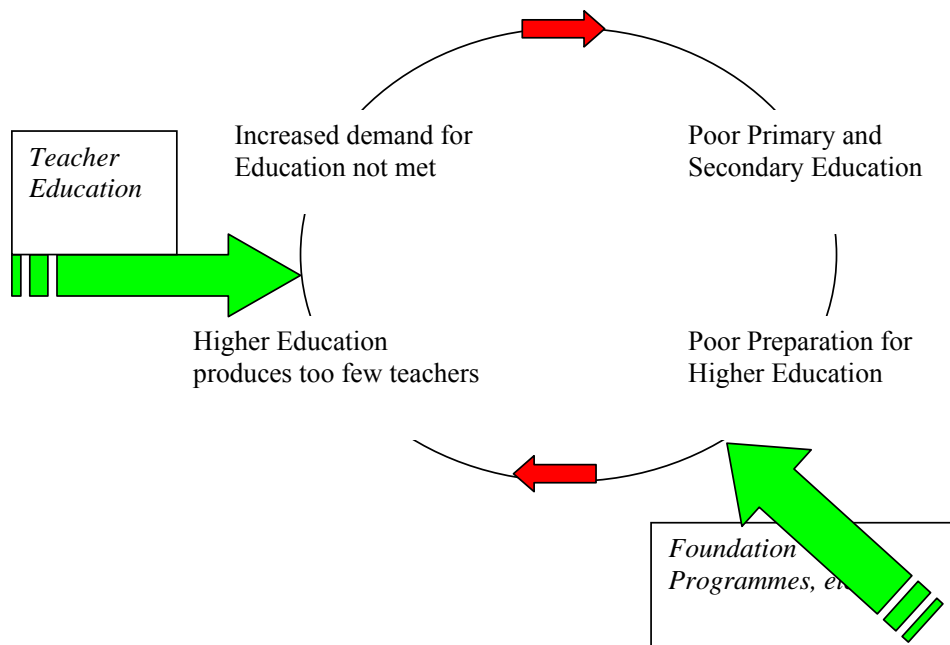
## **Introduction**

The expansion of tertiary education to create graduates to spearhead economic development has been a constant theme throughout Africa for decades. This paper focuses on ways that the countries of southern Africa have tried to increase student intakes in the fields of Science and Mathematics. These become the future scientists, engineers and technologists expected to take a leading role in economic transformation. Secondary education was judged to be a poor preparation for such students and the small numbers entering science faculties and high attrition rates meant that innovative schemes had to be devised to increase the number and quality of graduates. For the sake of brevity, the above are described collectively as ‘science graduates’.

## **Models of Intervention**

There are essentially two ways to tackle the inadequate supply of science graduates (Figure 1). The first is to improve the quality of teaching at secondary level through better pre-service and in-service training of teachers. However, this is a long-term strategy: given the many challenges at secondary level such as increased enrolment, low appeal of teaching as a profession and lack of resources for teaching science, this strategy may not be successful.





**Figure 1:** *The self-perpetuating cycle of poor education and two interventions to break it – Teacher Education (pre-service and in-service) and Foundation Programmes of various designs.*

The second strategy is for special interventions by the universities themselves. These are medium term (5-15 years) and have taken a number of forms and names – academic support, pre-entry science, access, foundation, and extended programmes.

This paper focuses on university interventions – their characteristics and evidence for their success. A common feature is that they offer an alternate route into higher education for students who fail to gain the necessary grades in the school leaving examination. These university innovations are markedly different from bridging or cramming courses which revise the secondary school syllabus for students to retake the school leaving examinations before they can apply for university entry.

### **Pre-Entry Science Courses**

The first started in Botswana in 1977 as a 7-month upgrading programme for all students wishing to enter the Science Faculty at the National University. The model was later copied in Swaziland, Lesotho and Mozambique (Thijs, 1993). Pre-Entry Science Courses (PESC) provided mathematics and science upgrading and emphasized hands-on laboratory experiences. These courses were carefully integrated with language and communication skills development. There were also strong career guidance and counseling elements. Annually, several hundred students went through these programmes, the majority being recommended for science degree studies on completion (see Cantrell, et al, 1993).

While this model produced well-prepared students for degree studies over many years (18 years in the case of PESC Botswana) it had several faults. Firstly, neither the school system, nor the science faculty was changed by this intervention. Secondly, it was difficult to prove whether the pre-entry programmes were successful since there was no control group which entered degrees directly with which to compare. Pre-entry programmes in these countries were eventually phased out as secondary education was deemed to have improved sufficiently.

### **Academic Support Programmes**

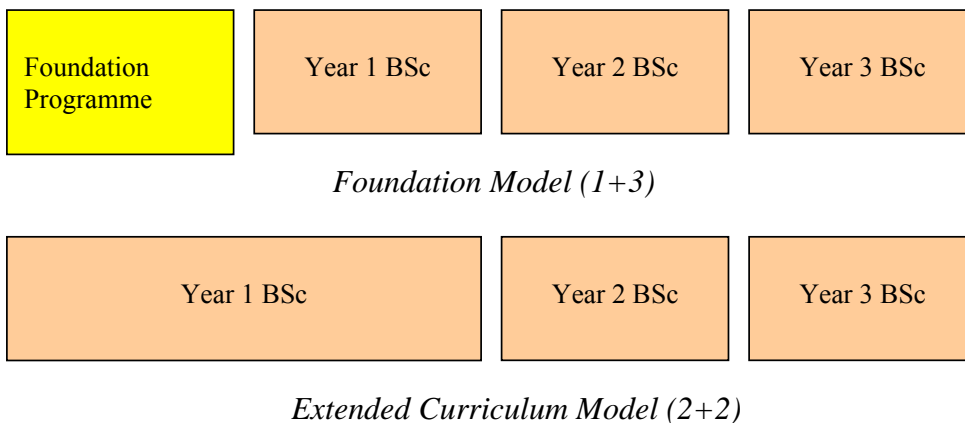
Moving from the 1970s to the 1980s, the historically white universities in South Africa started to admit black students into regular degree programmes from disadvantaged education backgrounds. For many, the pace and content were too difficult and a number of academic support programmes (ASP) were established to provide extra tutorials and assistance alongside their normal studies (see NARSET, 1997). However, these were of limited success since the students felt stigmatized and found the extra workloads excessive.

This period was important in creating a new and innovative field called Academic Development (AD) which advocated a holistic approach and the transformation of the

whole institution to meet the demands of post-apartheid South Africa. In other words, the institution must also change and adapt to the characteristics of incoming students. As the AD movement gathered momentum, it led to the creation of a national association called the South African Association for Academic Development (SAAAD) which later evolved into the Higher Education Learning and Teaching Association of Southern Africa (HELTASA) <http://associated.sun.ac.za/heltasa/index.html>. Most universities set up Academic Development Centers which coordinated ASP and later redesigned student support into one of two models – either foundation or extended programmes. These replaced ASP and both were adopted and proved successful over the following two decades.

### Foundation Programmes & Extended Curricula

By way of introduction, Figure 2 shows the difference between the two models. Foundation programmes are generally one year long with their own curriculum (and often own staff) and prior to a normal degree programme. Extended programmes spread ('extend') year 1 content over two years, thus slowing the pace, supplement theory with extra hands-on experiences in science laboratories and provide tutorial support.



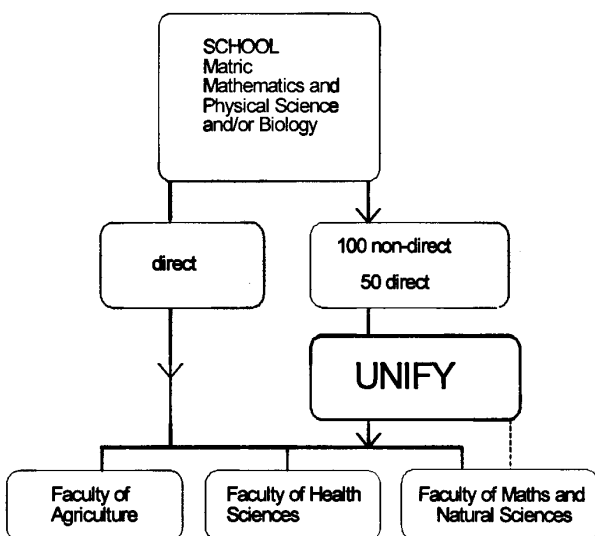
**Figure 2:** The two student support models for weaker students. The Foundation Programme model has a different curriculum, while in the Extended Programme model the normal curriculum is stretched over two years.

Space prevents a more detailed comparison of the two models and my focus turns to one case study which documents the more common foundation year approach. By 2001 a South African directory listed 15 technikons and 23 universities with foundation programmes in Science, Engineering and Technology (College of Science, 2001). This remarkable spread of student support systems was largely as a result of democratic elections in 1994 and the widening of access to all races (an equity issue – see later).

### **Case Study: UNIFY**

One of the largest and most successful foundation programmes in South Africa was UNIFY (UNiversity Foundation Year) at the University of the North (UNIN) - recently renamed the University of Limpopo. A detailed account of project design and organization is beyond the scope of this paper. Its goal was to substantially increase the number and quality of students entering the science faculties. The entry route is summarized in Figure 3. The majority of 150-250 students admitted annually were too weak on paper to qualify for direct entry into the science faculties, though some chose to come through the foundation even though they had direct entry qualifications.

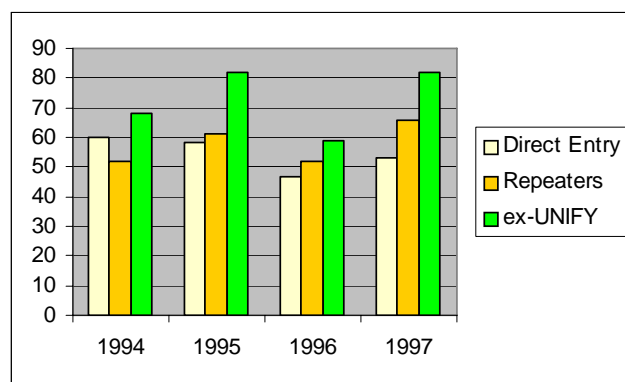
Through a four-year research project, a reliable and fair selection mechanism was developed to assess potential, rather than achievement (using normal school leaving examinations would have neglected their disadvantaged school education). The product was a combination of Science, Mathematics and English aptitude tests that have high predictive validity for later degree performance (Zaaiman, 1998).



**Figure 3:** *The position of UNIFY (attached to the Faculty of Mathematics and Natural Sciences) in the student access route for UNIN's three science faculties.*

Annually 110-120 students who passed UNIFY were recommended to enter Year 1 of the Science degree programmes at UNIN. A pass in UNIFY was accepted as an alternative entry qualification since most would not qualify on the basis of school performance.

Various tracer studies (summarized in Zaaiman, 1998) show that UNIFY students consistently out-performed direct entry and repeating students (Figure 4). Not only is this shown in pass rates, but some ex-UNIFY students were 'top of the class' in mainstream courses. For example in 1996, 3 of the 5 chemistry prizes were awarded to ex-UNIFY students in various undergraduate courses.



**Figure 4:** The end of 1st Year pass rates (averages over a number of Faculty of Mathematics and Natural Sciences courses) for Direct Entry (first time direct entry), Repeaters (Direct Entry repeaters of Year 1) and ex-UNIFY students in four consecutive years (Zaaiman 1998, p 102 and UNIFY files).

Two other aspects merit attention. Firstly, mainstream staff was able to spot ex-UNIFY students despite large classes through their commitment to work and willingness to participate in classroom discussion. An unexpected effect was that ex-UNIFY students often took up student leadership roles and served on the Student Science Councils.

### Equity Issues

Mention has already been made of the equity issues in South Africa: by the mid-1990s the university selection mechanisms were required to create student populations which reflected the ethnic mix of the country. To illustrate how Foundation Programmes can address equity, I turn to some data from Namibia.

Namibia has only one national university and one polytechnic. Not only does the demand for scientists and technologists far exceed supply, the intake procedures of tertiary institutions raise questions of ‘fairness’ (equity) since until recently they provided little or no entry opportunities for marginalized groups and excluded the majority of school leavers from further study by selecting students from a few advantaged schools.

To illustrate the constraints of admission practices, the 2004 graduation statistics from the Faculty of Science at the University of Namibia (UNAM) are highlighted (from Cantrell, 2004). Graduation speeches hailed the significant increase in B.Sc graduates (nearly

twice that of the previous year). Even so, there were only 57 Namibian graduates. The following details emerge:

**Fact 1:** only 30% of Namibian B.Sc students graduated in 4 years (the minimum time), 44% took 5 years, 19% took 6 years, 5% took 7 years

**Fact 2:** three good schools in the northern half of the country produced 89% of the future graduates

The figures speak for themselves – most (70%) students failed to complete their science degrees in four years. In addition, only three schools supplied 89% of the BSc intake from the populated northern part of the country.

By the year 2000, access programmes in the rest of southern Africa were already exploiting the large pool of students with potential for further studies, but lacking paper qualifications. The same untapped pool existed in Namibia. For example – which student has the greater potential for further studies – the one who attended a well-resourced school in the capital and attained a C grade in physical science, or the one from a rural school who attained an E with no dedicated laboratory or qualified physical science teacher? Yet, using UNAM's selection mechanism, the latter was barred from tertiary education.

How might a well-designed Foundation Programme have affected these graduation figures? Firstly, the number of students graduating would have been much higher had there been a Foundation Programme for a large number of students. Secondly, based on the data from UNIFY, many of these would have done well in their subsequent degree studies and would have graduated in minimum time. Thirdly, many more schools would have been able to supply students for university studies. What a morale booster that would have been for teachers and students alike. Fourthly, some of the foundation students may well have been from minority groups such as the San (bushman) who had no educated leadership to represent their views.

As a post-script, it can be reported that there is now a Foundation Programme running at the University of Namibia's northern campus.

### **Conclusions**

The conference focus on the nexus between students and research has been interpreted here as research on student admissions and progression. Data from one Foundation Programme (UNIFY) in South Africa has been used to prove the worth of the innovation. Through a well designed tracer study and two control groups (direct entry and direct entry repeaters) it has been possible to show how a special programme for so-called 'weak' students can reverse such problems and create a large pool of good science graduates for the expanding economy.

In the same project, another research endeavor created a reliable selection mechanism which spotted potential for further study since school leaving examination results could not be used if equity issues were to be addressed. The notion that disadvantaged schooling background can be corrected through access programmes is perhaps new for many readers. Many educational systems simply accept that there are good and bad schools. However, where graduates are in short supply, to waste this valuable source of students is unnecessary when a variety of remedies are proven to work.

The various programmes reviewed here have accumulated much data on student intakes, foundation performance and subsequent degree progression. This was necessitated by donors providing external funding and requiring regular reports on their impact. In closing, I appeal to all higher education institutions to give priority to the collection and analysis of student data (entry, progression, graduate tracer studies, etc) so that the impact of their programmes can also be reliably assessed.



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# Standards-Based Educational Management and Recognition to Improve the Quality of Pre-service Education

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Tesfaye H/Tsion

## Abstract

*Jhpiego, an affiliate of the Johns Hopkins University, is an international non governmental organization supporting ministries of health and education of Ethiopia in capacity building programs. The objective of the study was to initiate standards based educational quality management and recognition (SBEM-R) in higher institutes.*

*Between October 15 and November 25, Jhpiego conducted onsite orientation workshops on standards-based educational management and recognition (SBEM-R) at three public universities and facilitated formation of SBEM-R teams. The teams assessed the status of medical, nursing and midwifery education using the assessment tool in the seven respective schools under the universities. The tool has 62 educational standards in five areas, namely, classroom and practical instruction, clinical instruction and practice, assessment approaches, school infrastructure and teaching materials and educational management.*

*The assessment findings revealed low achievement across all areas in the seven schools with a total average of 23.9%. Achievements by schools ranged from 17.9 % to 30.6 %. When computed by area, school infrastructure and teaching materials had the lowest score (11.4 %) followed by assessment approaches (13.3 %). The situation was almost similar across medical, nursing and midwifery schools. These findings lay the ground for the subsequent small and incremental quality improvement. The use of SBEM-R will help educators and students to actively participate and institutionalize educational quality improvement, as the tools are easy to use, and have both "what to do" and "how to do" components.*

## **Introduction**

### ***Background***

Jhpiego, an affiliate of the Johns Hopkins University, is an international non-governmental organization supporting ministries of health and education of Ethiopia in capacity building programs. Ethiopia is one of the countries hard hit by HIV/AIDS epidemic and facing its adverse socio-economic impacts. In response, the Ethiopian Government planned to scale up HIV/AIDS prevention, care and treatment services. However, shortage of trained human power is one of the rate limiting factors in this endeavor. In order to respond to the aforementioned situation, Ethiopia included capacity development programs through in-service training and pre-service training. However, higher education institutions do not adequately prepare health professionals to deliver quality HIV/AIDS services, creating a seemingly unending need for in-service training, which is costly (HERQA, 2006).

Therefore, as part of the long-term sustainability plan, PEPFAR (The U.S. President's Emergency Plan for AIDS Relief), through CDC (Centers for Disease Control) Ethiopia and implementing organization Jhpiego, initiated and funded a pre-service educational strengthening program since 2007. In the two years of implementation Jhpiego learned that the quality of teaching learning process for medical, nursing and midwifery students in higher education was below the required level of competencies as defined by international and national standards. Consequently, Jhpiego in collaboration with three public universities started an educational quality improvement program using Standards Based Educational Management and Recognition (described in detail below).

### ***Problem Statement***

Quality assurance in many countries is exercised with the intention of ensuring minimum standards indicated in the quality of inputs; processes and outcomes. However, there are no universally agreed upon standards of quality since different institutions are observed using different measures to check quality of their programs.

With mounting evidence that quality could no longer be taken for granted, the emphasis moved from assurance of the status quo towards active efforts to identify weaknesses as opportunities for improvement. Even that, some argued, might be only a one-step benefit: it ought to be more dynamic and continuous, reaching for ever-higher levels. In this way, the closed quality cycle would become the open quality spiral.

The African Union (AU) has identified quality assurance as one of the key focus areas of higher education in its Plan of Action for the Second Decade of Education for Africa. A survey of leaders and experts in the United States suggested that continuous quality improvement has succeeded in moving attribution of blame for failures away from individuals and towards systems and has put new emphasis on the customer, but that it remains to show benefit to the United States health system overall. A cluster of papers in the ISQua journal (from France, Israel and the United States) debated the sustainability of continuous quality improvement in health care, generally concluding that it can be effective and sustained if it is used correctly in a receptive environment (Jhpiego, 2006).

In Ethiopia, numerous small scale initiatives to improve the quality of educational practices were tried in order to address the different components of quality: structure, process and outcome. Higher Education Relevance and Quality Agency (HERQA) initiated a structured quality enhancement and accreditation system (Jhpiego, 2006). In its consultation paper entitled “Developing the Quality Assurance and Standards Framework for Higher Education in Ethiopia,” HERQA advocates the development of benchmark information on subject standard threshold which articulates the minimum levels of knowledge, attitude and skills expected of a degree graduates in different subjects. The purpose of such a framework is to assist

- higher education institutions in designing and approving new programs of study in health science;
- external examiners and academic reviewers in verifying minimum requirements are met and comparing educational quality and relevance across schools or academic programs;

- where appropriate, professional societies in their role in accreditation and review of academic programs relating to professional competence; and,
- students and employers when seeking information about quality and relevance of higher education provision that meets their needs.

The agency has also developed a draft internal quality assessment manual identifying ten focal areas for self-evaluation by the higher education institutions. The manual, however, doesn't clearly indicate what is to be assessed under each focal area.

Through this office there were a number of accomplishments in the use of standards or benchmarks to improve the quality of education in higher education institutions. Nevertheless, the undertakings by HERQA so far, by in large, focused on content standard development, with the anticipation that Academic Development Resource Centers (ADRC) in higher institutions will support the educational processes (Jhpiego, 2005).

The use of Standards-Based Educational Management and Recognition, therefore, will compliment the already initiated movement towards improving educational quality. SBEM-R does this through its focus on the educational process i.e. classroom, practical, infrastructure, students assessment and overall educational management. Though the support of PEPFAR began with that of HIV/AIDS pre-service education strengthening, Jhpiego Ethiopia believes building continuous quality improvement of higher educational processes will serve as a basis to creating the system and culture of making quality in the hands of individual faculty members. In addition, the use of standards can also, in the long run, be institutionalized to such offices as ADRCs to be continually reviewed and changed to meet the needs.

### ***Quality in Health and Health Sciences Education***

Quality assurance is a more comprehensive approach to quality. It is related to compliance with standards and can be applied to facilities, programs, systems and sectors. The main purpose is to foster an environment in which everyone involved

supports quality, is alert to problems of performance and opportunities for improvement and is prepared to take responsibility for setting in motion the needed changes to improve care. Thus, quality assurance is primarily rehabilitative rather than punitive, aiming to give the fullest possible play to the capacities for self-expression and self-actualization innate to everyone (Jhpiego, 2005).

The quality assurance approach aims at continuously improving overall performance, and total quality management allows the integration of other quality assurance approaches to quality, such as quality control and accreditation. The comprehensiveness of total quality management draws on quality models that take all the functions and key elements of the entire organization into account. Total quality management is based on the whole system and on the participation of customers, clients and society. An important aspect is introducing quality models that aim to identify the key aspects of the organization or system such as leadership, staff, infrastructure, core processes of service delivery and key results inspired by the structure–space–outcome framework.

In recent years, the ministry of education has started undertaking a higher education system overhaul with the intention of improving the governance, management and leadership in the higher education system, in order to achieve the objectives of the reforms indicated in the higher education proclamation number 315/2003 (Federal Democratic Republic of Ethiopia, 2003). HERQA also plays role in ensuring the relevance and quality of the training program. As one of its powers and duties, the agency will also assess the relevance of the curriculum in the universities to Ethiopia's development needs.

### ***Use of Standards for Quality Improvement***

There are many learned discussions surrounding the definition of standards. Perhaps the best discussion of definition is advanced by Avedis (2007). He tells us that standards are “professionally developed expressions of range of acceptable variations from a norm or criterion. He goes on to define the criteria as “predetermined elements against which aspects of quality of medical service/education may be compared, and norms as measures of usual observed performance.” (WHO, 2003).

The Oxford Dictionary provides several key concepts for the definition of standards. First, it notes that standards are degrees of excellence. Second, it suggests that standards serve as a basis of comparison. Third, it notes that standards are a minimum with which a community may be reasonably content and, finally, that a standard is recognized as a model for imitation. If these same concepts are applied to health sciences teaching we can formulate a definition of standards as a “benchmark” of achievement which is based on desired level of excellence. As such, standards become models to be imitated and may serve, in turn, as the basis for comparison.

### ***Standards-Based Educational Management and Recognition (SBEM-R)***

SBEM-R is a practical management approach for improving the performance and quality of health sciences pre-service education. It is the systematic utilization of performance standards as the basis for the organization and functioning of this implementation and the rewarding of compliance with standards through recognition mechanisms. SBEM-R follows four basic steps:

- Setting standards of performance in an operational way
- Implementing the standards through a streamlined process
- Measuring progress to guide the improvement process toward these standards
- Recognizing the achievement of the standards



**Figure 1:** Steps of the SBEM-R Process

This process begins with the development of evidence-based operational standards in a specific area of higher education for health. The performance standards developed are included in an assessment tool that can be used for self-, peer, internal and external assessments at the faculty and/or department level. Implementation of the assessment tool leads to identification of performance gaps to be reduced or eliminated. University/college managers and providers can then analyze the causes of the gaps - lack of knowledge and skills, inadequate enabling environment (including resources and policies) and/or lack of motivation - and identify and implement appropriate interventions to close these gaps.

Individual faculty members and departments are encouraged to focus on action and begin with simple interventions (the “low-hanging fruit”) in order to achieve early results, create momentum for change and gradually acquire change management skills to address more complex educational process gaps.

Partial improvements are rewarded during the process using a combination of measures including feedback and social recognition (e.g., ceremonies, symbolic rewards). The university’s overall achievement of compliance with standards is acknowledged through a recognition mechanism, which is usually designed by the Ministry of Education or other key stakeholders or institutions in each country program. This recognition normally involves institutional authorities and the community (Avedis, 2007).

### ***How SBEM-R is Unique***

SBEM-R uses the essential elements of the performance improvement approach, enhances them with practical quality improvement and quality assurance methodologies, and incorporates the experiences gained in implementing similar approaches by other international health organizations. The result is a simplified process that has the following distinguishing characteristics:

- SBEM-R is a much focused approach that does not begin with the discussion of performance of quality methodologies in general. Rather, the improvement



process is built around specific content area, making the process more concrete and meaningful for users.

- Uses a proactive approach, focusing not on problems but on the desired level of performance and quality to be attained.
- The operational performance standards show providers and managers, in detail, not only what to do but also how to do it.
- The motivational element is considered essential for the success of SBEM- R process. The recognition of achievements in improving performance is a key element of the approach.
- Continual measurement is used as a mechanism to guide the process, inform managerial decisions and reinforce the momentum for change.
- The power of clients, students, and the community is an important element of SBEM-R. Through the establishment and dissemination of clear and objective standards, SBEM-R facilitates the empowerment of clients to act as informed consumers and enables partnerships among teaching institutes' personnel and students and clients and communities.

Moreover, SBEM-R is not the only possible way of dealing with performance and quality improvement challenges, but it can be a powerful and practical mechanism to orient and strengthen instructors and managers in the fulfillment of their tasks.

Finally, this paper will try to describe the participatory operational research conducted by Jhpiego Ethiopia in collaboration with Addis Ababa, Gondar, Jimma Universities, and medical, nursing and midwifery faculty members in the three universities. The baseline assessment showed actual performance measured against desired performance level defined by the assessment tools.

- Are the performances in educational management successfully met?
- Is the class room experience of students meeting principles of adult learning?
- Do the educational infrastructures meet the minimum standards for a quality teaching and learning in the three universities?

- Are the clinical practices organized to equip students with the needed skills for service provision upon graduation?

### ***Materials and Methods***

Jhpiego organized modular workshops on standard-based educational management and recognition for the medical, nursing and midwifery schools in three public universities. The first three-day modular workshops were conducted on-site at each University campus between October and November 2007. The purpose of the first module workshops was to enable participants to prepare for and initiate an SBEM-R process in their respective universities and schools. Topics that were covered include: quality in education, standards-based educational management and recognition model, setting standards, implementing standards, gap identification and cause analysis, and change management. Prior to the workshop Jhpiego adapted the SBEM-R assessment tool from that one used in Afghanistan for accreditation of midwifery education. The tool is organized into five key sections focusing on the core and support functions of educational programs, namely, classroom and practical instruction, clinical instruction and practice, student assessment approaches, school infrastructure and teaching materials, and educational management. The tool was also pilot-tested and revised. Further revisions were also made based on comments given by faculties. The three day workshop at each university culminated in the formation of university and school level SBEM-R teams tasked with facilitation of the SBEM-R process in their respective institutions. The teams further reviewed the assessment tools at greater depth and the tools were revised accordingly.

Then, university working groups conducted baseline assessment in the month of December 2007 using the revised assessment tools. The tool has 62 educational performance standards and many more verification criteria corresponding to each standard. Sixteen standards are that of classroom and practical instruction, fifteen are that of clinical instruction and practice, ten are of assessment approaches, ten are of school infrastructure and teaching materials, and eleven are that of educational management. The possible answers are yes, no or not applicable and there is a comment section. A performance standard would be considered met if the answer for all the verification

criteria would be yes or a combination of some positive responses and some not applicable responses. The data collection techniques were interviewing, observing and document review. Respondents for the interview included: school deans, department heads, instructors and students. Observations were made of classroom and clinical sessions as well as school infrastructure. Document review was applied where it was necessary to verify the presence and appropriateness of school policies, rules and other relevant files. Interviewees and observed sessions were selected purposively. Using a predetermined scoring system the assessment results were manually compiled and percentage achievements scored by area and total.

Six months after the first module workshop, a second module workshop was held in Hawassa attended by SBEM-R team members and heads of the participating schools/departments at the three Universities.

## **Results**

We report here the results of the SBEM-R Module One Workshop, findings from the baseline assessment and Module Two Workshop.

### ***I. SBEM-R Module I Workshop***

The first module workshops organized at the three Universities between October and November were attended by 116 faculty members involved in the teaching of medical, nursing, and midwifery students. Specifically, 27 were from the first, 41 from the second and 48 from the third university. The onsite workshops led to the establishment of SBEM-R teams at each university with representation of target schools and sampling of faculties across basic and clinical sciences as well as public health departments. Generally, the initiative was well received. Despite initial uncertainties, participants in all the universities welcome the need to monitor and improve quality of education and put it as a shared concern. They also expressed their willingness to promote and use Standards-Based Educational Management and Recognition as an approach in this endeavor. There were rich and hot discussions and debates on the performance standards and verification criteria of the assessment tool which helped in enriching the tool and persuading faculties

about the purpose and relevance of SBEM-R. The Jhpiego team further discussed with the SBEM-R teams at each university, gathered more comments and suggestions on the tool and developed plan of action for baseline assessment. The tools were further revised based on the feedbacks obtained from faculties.

## ***II. Findings of the Baseline Assessment***

All the seven schools under the three universities completed the baseline assessment between December 2007 and January 2008. All the three universities were found to have low scores. Medical, nursing and midwifery schools alike did not meet majority of the standards. Of the 62 educational standards, school achievements ranged from 17.86 to 30.61 %, the average being 23.9 %. Overall, lowest achievements were observed in school infrastructure and teaching materials (11.40%) and student performance assessment (13.32 %). Table 1 summarizes the findings by area, school and university.

**Table 1: Findings of SBEM-R Baseline Assessment at Three Public Universities in Ethiopia, 2008**

| University     | School | Percentage Achievement by Area of Assessment |  |                            |   |                             | Total (62)   |
|----------------|--------|--|--|----------------------------|---|-----------------------------|--------------|
|                |        | Classroom & Practical Instruction (16)       | Clinical Instruction and Practice (15) | Assessment Approaches (10) | School Infrastructure and Teaching Materials (10) | Educational Management (11) |              |
| University I   | MDS    | 18.75  | 28.6                                   | 0                          | 10  | 45.45                       | <b>21.31</b> |
| University I   | NSS    | 50   | 20                                     | 20                         | 10  | 0                           | <b>22.58</b> |
| University I   | MWS    | 31.25  | 13.33                                  | 20                         | 10  | 36.36                       | <b>22.58</b> |
| University II  | MDS    | 33.3   | 7.14                                   | 22.2                       | 10  | 18.8                        | <b>17.86</b> |
| University II  | NSS    | 50   | 20                                     | 11.1                       | 20  | 36.4                        | <b>30.61</b> |
| University III | MDS    | 18.75  | 40                                     | 20                         | 10  | 36.36                       | <b>25.81</b> |
| University III | NSS/   | 50   | 7.1                                    | 0                          | 10  | 54.5                        | <b>26.23</b> |
|                | MWS    |  |  |                            |   |                             |              |
| <b>Total</b>   |        | <b>36</b>                                    | <b>19.5</b>                            | <b>13.32</b>               | <b>11.4</b>                                       | <b>32.6</b>                 | <b>23.9</b>  |

### ***III. SBEM-R Module II Workshop***

Jhpiego organized a second module workshop in Hawassa on May 19-21 with the aim of strengthening the SBEM-R process at each teaching institution. A total of 27 participants including SBEM-R team members and department heads attended the workshop. Jhpiego team gave interactive presentations and facilitated group exercise on such topics as gap identification and cause analysis techniques, selection of interventions, networking and benchmarking, recognition of achievements and resource mobilization. University SBEM-R teams presented the results of their baseline assessment, experiences using the assessment tool, successes and challenges. In their report, SBEM-R teams indicated that they had given feedback to their respective schools and colleagues. They also expressed their plan to further disseminate the baseline results using multiple channels. The major discussion issue during the presentation was the scoring system. Some felt scoring based on standards is demotivating as it requires fulfillment of all the verification criteria. Others argued it should continue as it is once we agree on the essential verification criteria for a standard to be met. After thorough discussion it was agreed to continue using the standards with the option of using verification criteria based scoring as additional. Motivational issues for SBEM-R team members were also another big discussion point. It was agreed that there needs to be a system for motivating faculties actively working in SBEM-R and other pre-service training strengthening activities. Jhpiego team stressed that universities themselves should primarily be responsible for putting in place a sustainable recognition scheme. Jhpiego would do its part by providing a package of non-monetary incentives like opportunities for involvement in trainings as co-trainers and participants, sponsoring paper presentation in conferences and purchase of educational books. Finally, participants prepared institutional plans of actions to continue implementing the SBEM-R program. The major issues in their plan were strengthening SBEM-R teams; gap identification and detailed cause analysis; selecting and implementing interventions; and monitoring progress.

## **Discussion**

Jhpiego has successfully implemented Standards-Based Management and Recognition approach to monitor the performance and improve quality of health services in several countries in Africa, Latin America and Asia. The approach has been applied to improve diverse health service areas like infection prevention, maternal and neonatal health, essential obstetric care, and family planning/reproductive health (5). Jhpiego has also introduced in several hospitals of Ethiopia to improve quality of HIV/AIDS services. And there have been documented improvements in serial measurements. (Personal Communication, Abdu Nurhussien). Similarly, Standards-Based Management and Recognition has been applied for strengthening and accreditation of midwifery education in Afghanistan with great success. (6)

As part of its pre-service HIV/AIDS education strengthening project, Jhpiego Ethiopia introduced SBEM-R as a quality improvement tool. At present, there are SBEM-R teams at each university facilitating the SBEM-R process. The program and its team members are recognized by the respective institutions and schools.

Although the three public universities are among the most experienced in health professional training, baseline results leave a lot to be desired. But as experience in implementation of SBM-R and SBEM-R shows, low baseline score is rather the norm than the exception. This finding is consistent with the findings of the needs assessment on medical, nursing and midwifery education completed in 2006. The needs assessment report shows that teaching methods were largely traditional, student performance assessment was problematic and infrastructures and teaching materials were inadequate (HERQA, 2006). However, the initiated program lays the ground for small and incremental quality improvement by putting the onus on faculties and institutions themselves. The tools tell not only what to do but also how to do it. Based on the action plan developed during the second module workshop, schools will do detailed cause analysis, select and implement interventions, and measure progress before coming to the third module workshop.

## **Conclusion**

The Standards-Based Educational Management and Recognition is a useful tool to monitor and improve quality of education in higher institutions. The use of SBEM-R will help educators and students to actively participate and institutionalize educational quality improvement, as the tools are easy to use, and have both” what to do” and “how to do” components. Even though the scores reflect the low baseline score by the three major public universities, the authors believe that these findings lay the ground for the subsequent small and incremental quality improvement.

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# **Problems of Teacher-Made Tests: A Prime Concern for Quality of Education**

Yalew Endawoke (PhD)

## ***Abstract***

*The quality of education could be attributed to a number of factors which include assessment. The type of assessment techniques employed by teachers affect the decisions they make about students and their instructional management. The validity and reliability of the decisions made depend on the quality of tests. In our educational system, the promotion and repetition of students in their schooling are determined by the achievements of students measured by classroom or teacher made tests. The quality of the tests is ensured by applying the principles and suggestions of item writing. Consequently, in this study 9 tests of various subjects prepared by teachers from higher learning institutions (Private Colleges), a TVET college, and Higher Education Preparatory Secondary Schools were analyzed for their quality. The results indicated that 100% of the tests had problems related to language use, consideration of item writing principles and suggestions, content validity, and other technical issues. The implication of the study is that the quality of education could be severely jeopardized by the nature of the tests developed and used by teachers. So assessments used by teachers should be the concern of all stakeholders. Ignoring this crucial element of the educational process is tantamount to paying no heed to the quality of education which leaves the objectives of the national policy unachievable.*

## **Introduction**

These days, Ethiopia is expanding education not only to meet the Millennium Development Goals set out by the UN but also to fill the labor market demand of the country in various fields of specializations. The human capital requirement of the country is much higher than the market demands, specially, in the areas of Engineering, Science and Teaching professions, to mention a few. To respond to the ever increasing demand of professionals and skilled human power, the Ethiopian Government aggressively invests a huge amount of fund to the establishment and expansion of higher education. Student population which is booming at primary and secondary education, on the one hand, and the ever increasing demand of human capital, on the other, serve as a push factor to the government to expand higher education institutions. Such efforts can only be materialized if and only if those rudimentary elements of educational quality are well defined and met.

The teaching-learning process is organized, arranged and planned in a systematic way so as to effectively and efficiently achieve those educational goals set out by the government. More specifically, the Education and Training Policy (1994) expounded that the purpose of formal education is to promote the physical, intellectual, and social development of children so that they become useful citizens of the country, as education is the process of increasing the knowledge, skill, and understanding ability of a person that makes one's life more interesting and enjoyable (World Book Encyclopedia, 1985). But how do we know whether students develop the required level of skills, understanding, and ability to carryout the expected activities or not?

Ethiopia is a developing nation that is striving hard to become self-reliant, and endeavors to eradicate poverty in the coming few years, and attain the developmental level of middle income countries. Such efforts are not, however, without challenges and problems. The road to development is painstaking and rough as well as looks like a mirage that seems visible but difficult to reach and touch. There are considerable challenges in recent decades that encounter the country. One such challenge includes quality of education. It is a fact that there are undeniable developmental indicators that evidenced the country's move towards a positive direction. The efforts so far made

should be complemented with other consequential inputs to development, one of which is education. It is believed that the more educated the society becomes, the more economically and socially advantageous it becomes. In other words, the future economic and social well-fare of the society relies heavily on the level of education everyone attains. It has been argued that education positively and strongly correlates with the economic and social development of a society. That is why countries' all over the world invest large sums of budget to the education sector.

Expansion is one of commendable and major steps the Ethiopian Government is taking. Yet, one grave concern for the nation that attracts the attention not only of those that are directly involved in the process but of the government and the society at large is the quest for the quality of education.

The quality of education in Ethiopia is becoming one of the major concerns of various stakeholders. Quality of education, which can be defined in a number of ways, becomes an everyday topic for teachers, educators, educational bureaus, the government and parents. The major purpose of education is to enable everyone “to learn, realize their full potential, and participate meaningfully in society” (UNICEF, n.d.).

Enrollment rates, equity, participation rates, and other educational factors are given due attention by both the regional and federal governments and the outcomes are immense and encouraging. In spite of such increments in enrolment rates, and the attention given to equity and equality, the UNICEF (n.d.) report indicated that too many children are learning far less than what they are taught about or what they ought to learn in school.

The results of the three national learning assessments conducted in country clearly crystallized such claim. For instance, in the third national learning assessment over 10,000 grade 8 students have participated, and were tested on Mathematics, English, Physics, Chemistry, and Biology. The results showed that no one region scored a minimum pass point, which is 50%. The overall average (the national composite score) was a little more than 35%.

At this point a number of questions may be raised. Is it due to the low quality of education provided to the students? Is it due to the inefficiency of teachers in providing students with the necessary knowledge and skills? Is it due to factors related to the students themselves? Who is more accountable to this low achievement of students?

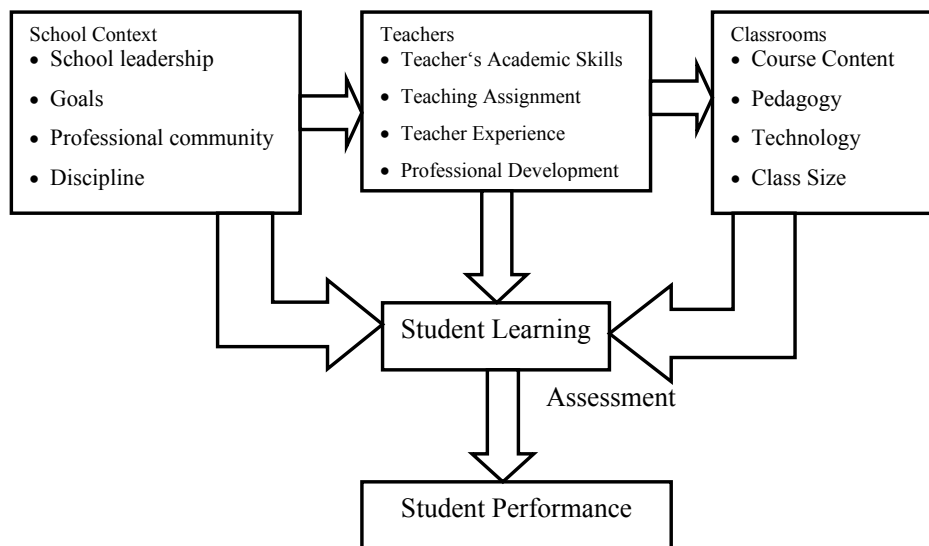
This could imply the very critical issue of the quality of education. This low learning achievement could be most likely due to a combination of factors that include low morale of teacher, inadequate professional training of teachers, inadequate learning environments, inappropriate teaching methods and frequently unmotivated teachers, and the nature of assessment techniques adopted by teachers.

Studies on the quality of education took into account a number of factors as indicators or standards of education. According to National Center for Educational Statistics [NCES] (2000), a school that is characterized by high quality is a major cause for students' success. It is unquestionable that multitudes of factors account for students' academic successes and failures. NCES gave much emphasis to school quality as the main cause of student learning and performance. It argues that defining school quality is the first step toward measuring and monitoring it. It acknowledges that both social and academic dimensions are important ingredients of student learning. The social component, which includes attitudes, ambitions, and mental well-being of students, resulted from interactions students have with their parents, teachers, friends, and significant others; and the academic dimension pertains to student learning which is affected by in-and out of school contexts. NCES (2005: vii) stated the following on the issue.

Many factors are associated with school success, persistence, and progress toward high school graduation or a college degree. These include students' early school experiences, motivation and effort, and courses taken and other learning experiences, as well as various student characteristics, such as gender, race/ ethnicity, parents' educational attainment, and family income. Monitoring these factors in relation to the progress of different groups of students through the educational system and tracking students' attainment are important for knowing how well we are doing as a nation in education.

Though the factors are many and vital, the Center responds to the timely concern of the nation which is the academic quality “by focusing solely on the school characteristics that have been shown to improve student learning” (NCES, 2000: 2) and ultimately their performance. Accordingly, as “student learning is, in part, a function of various characteristics of the schools and the process of schooling, examining the characteristics of schools that are related to learning illuminates some of the reasons why students are, or are not, learning at optimum levels” (NCES, 2000: 1).

The Center identified 13 indicators of school quality on the basis of recent research suggestions related to student learning. These indicators were grouped into three major categories classified as the characteristics of teachers, the characteristics of classrooms, and the characteristics of schools as organizations. As represented in Figure 1, those school quality factors can affect student learning both directly and indirectly (NCES, 2000:4).



**Figure 1:** School Quality Indicators and their Relationship to Student Learning and Performance (adapted with modifications from *Monitoring School Quality: An Indicators Report*, NCES, 2000)

Research repeatedly showed that teachers are crucial elements in the learning of students. For example, Hanushek (1992), as quoted by NCES (2000: 5), 'The estimated difference in annual achievement growth between having a good and having a bad teacher can be more than one grade-level equivalent in test performance.' Moreover, NCES (2000: 5) revealed that teacher quality is the most important determinant of school quality by quoting the result of a study by group of researchers:

This analysis identifies large differences in the quality of schools in a way that rules out the possibility that they are driven by non school factors ... we conclude that the most significant [source of achievement variation] is ... teacher quality ... (Rivkin, Hanushek, and Kain, 1998: 32)

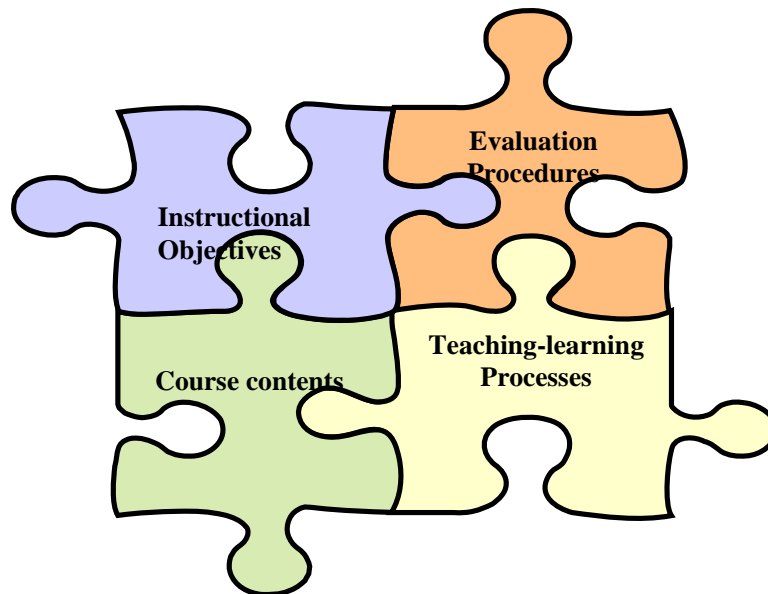
Of the various criteria that could be used to define teacher quality, the most salient one is teachers' ability and skill to construct and use quality assessment techniques that best measures their students' mastery or achievement of the learning objectives.

According to Ferrara (2007:18), student outcomes serve as indicators to weakness of a system. She, thus, stated:

Deficiencies in school functioning or in student learning or performance are seldom merely the result of a single weakness in the organization of the school or in poor instructional programming in a particular area of learning. Rather, deficiencies in school or student performance or in school and student outcomes often serve as indicators of systemic weakness--horizontally, vertically, and interactively—in leadership, in characteristics of the culture, in programming, in the choices of instructional methods and approaches across the learning environment, and in decision making at all levels of the school and the instructional program.

In any educational institution and curriculum provision, evaluation of the attainment of the objectives set forth by teachers, schools, education bureaus and/or Ministry of Education is of a prime concern. Measurement experts argue that evaluation procedures,

course objectives, instructional provisions, and course contents are interrelated wherein one cannot go without the other. Evaluation plays a central role in ensuring whether the objectives have been achieved using the course contents or not. Without evaluation it is impossible to determine the extent to which students have mastered the courses they have been taught, the degree to which teachers were effective in their lesson presentations and other instructional processes, and to what degree the objectives have been achieved. The interplay among instructional objectives, instructional processes, course contents, and evaluation procedures can be represented diagrammatically as in Figure 2. Our goals and objectives are the destinations we wish to reach, the instructional processes are the interactions that involve students and teachers based on the course contents, and the course contents serve as the vehicles that take us to the desired outcomes we wish to effect in our students, and the evaluation procedures are the compass that indicate whether we are on the right direction or not. In this case, any failure in any one of these educational process elements could lead to a failure in the other three. Specially, devastating would be the problem of having valid and reliable assessment and Specific, Measurable, Attainable, Realistic and Time-bound (SMART) instructional objectives.



*Figure 2: The Interplay among the four basic Elements of Educational Process.*

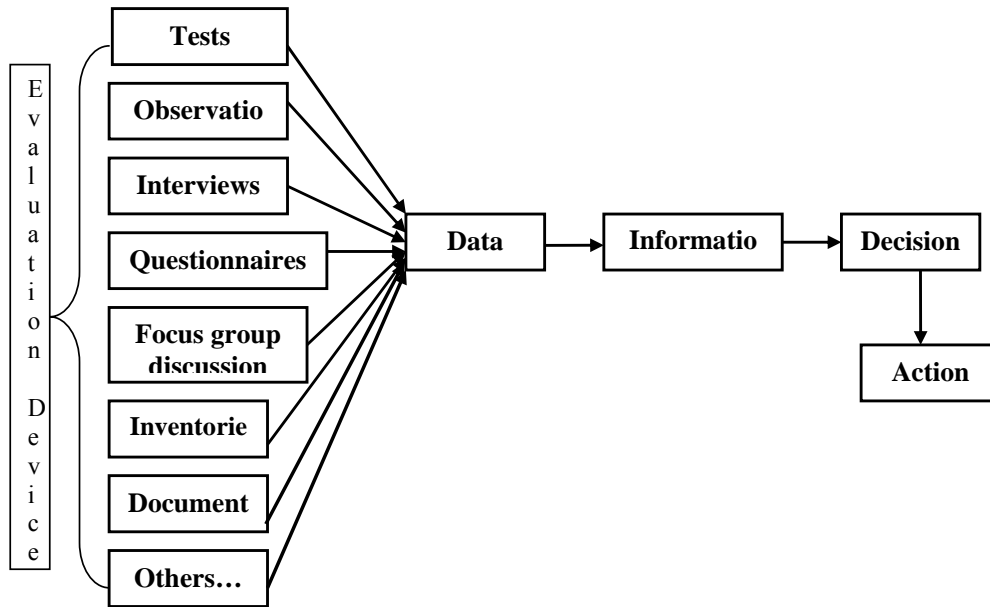
In general, evaluation serves a number of purposes not only at classroom levels but also at local and national levels. It is used to determine whether the education system lives up to the objectives set or not. It also helps to identify the weaknesses and strengths of the education system, and provides formative information for system managers, directors, teachers and a wider society. It serves as a ground to open up dialogue and provides the basis for development planning and school improvement. Evaluation helps to focus on processes intended to achieve those learning outcomes.

Measurement experts argue that in the absence of good measures of performance, the quality reform process could not be well-guided. This is tantamount to saying without measuring the effectiveness and efficiency of performances, it is practically difficult to determine whether it is up to the standard or not. Either quantitatively or qualitatively, the human mind “measures” the status of the performance achieved by individuals who performed certain tasks.

In every walk of life, we talk about decisions, decisions, decisions.... But decisions do not come out of vacuum. They are made based on valid and reliable data. The data that are used to make decisions are gathered through evaluation techniques which include tests, systematic observation, anecdotal records, interviews, questionnaires, assignments, projects, etc. depending on the nature of the behavior being measured and the type of decision to be made.

The quality of decision we make and the relevance as well as significance of actions we take depends almost entirely on the nature of evaluation techniques we employ to gather data. This can be best illustrated by Figure 3.





*Figure 3: The Link among Evaluation Devices, Data Collection, Decision, and Action.*

As can be easily understood from Figure 3, the reliability and validity of the data depend on the nature and type of evaluation devices used to gather the data that are used as inputs to making decisions and taking actions.

To ascertain whether these objectives are met or not, and maintain the quality of the teaching-learning process, evaluation of students' achievement play a predominant role. Supporting this, Cole and Chan (1994), Stapleton (2001), Elliot, Kratochwill, Cook and Travers (2000) argued that teachers constantly collect information through different techniques such as through asking questions, performance monitoring in class activities, written assignments and tests to determine students' level of achievement, to evaluate the effectiveness of instruction, to identify topics that require additional teaching and to plan new instruction that are considered important aspects of the teachers' roles. In addition, Ebel and Frisbie (1991:30) said, "to teach without evaluating the extent of learning would be foolish." This is due to the fact that it is through evaluation that one can understand whether the process is going well or not. Thus, without evaluation instruction becomes

meaningless. In line with this idea, the DES Task Group on Assessment and Testing, as cited in Stapleton (2001:3), stated that “promoting ...learning is a principal aim of schools. Assessment lies at the heart.”

In schools and higher learning institutions, it is tests that are most frequently used for making decisions about student progress, teaching effectiveness, and the achievement of the schools or institutions in general. Specially, in the Ethiopian education system, tests are the sole evaluation techniques used to make decision about students and other conditions related to the teaching-learning processes. Tests have the effect of motivating students to work hard, of helping educators make decisions regarding placement, selection, classification, of causing program improvement, of assessing student' progress; and of assisting employers to evaluate the competence of applicants and to recruit the prospective employees that fit vacancies. As a result, student assessment is pervasive in schools. Teachers construct daily, weekly, and term assessments for their classrooms.

Though measurement experts posited that effective assessments are used to tap and reflect students' abilities, achievement, skills and potential, and to make predictions about future behavior, but, unfortunately, the role of the assessment of students learning is not well understood and remained the under-researched aspect of higher education.

The study of assessment of students' achievement is important for a variety of reasons. In the first case, it is through assessment that we get any information about students, second it enables us to make decisions of any sort, and it helps us to improve the quality of the whole educational process. However, in order to do all this, it should be accurate and meaningful, as indicated in the previous section.

Therefore, the major part of the quality of education rests on the nature and quality of tests. Tests that fail to provide valid and reliable data are subject to erroneous decisions, which ultimately lead to flawed actions that jeopardize the social and economic health of the nation, in general, and students in particular. The testing is considered by NCES (2005: 1) as foundation for development by stating that “the nation's economic and social health depends on the quality of its schools. If students are not taught the values and

social skills necessary to become good citizens and do not learn the academic skills necessary to be economically productive, then the schools have not succeeded in their mission,” which is ascertained through rigorous use of evaluation techniques including tests.

The assumption held in this study is tests are the primary concern of education quality. This assumption emanated from two serious problems the researcher observed from the tests developed by teachers at various levels. The first problem is the technical or mechanical aspect of the tests, and the second is the quality of the tests.

The course *Measurement and Evaluation* at a graduate level, requires students to do projects on tests developed by teachers in preparatory schools and higher learning institutions. The researcher, thus, realized that a broader study has to be carried out to unveil the problems of teacher-made tests to the public so that necessary measures shall be taken to curve out the problems.

To sum up, the purposes of this study are to answer the following questions:

1. What are the major problems of teacher-made tests?
2. Do teachers apply the principles and suggestions for writing test items?
3. How do test results affect the quality of education?
4. What are the major problems of teachers in the development of tests?

## **Methods**

### ***Participants and Sampling***

The researcher used 9 test papers developed by preparatory school teachers, higher learning institutions, and a TVET college. The papers were selected using incidental sampling. Graduate students were sent to preparatory schools, the TVET College, and private colleges. The students collected the test papers from those teachers who were willing to provide them and others were obtained from the students who have taken them.

### ***Data Analysis***

Once the test papers were obtained, they were analyzed in terms of the general principles of item writing, their content validity, suggestions for item writing, the type of objective taxonomy and domain type they covered, and language use. In this case, checklists used by various measurement experts (e.g., Nitok, 1996; Gronlund, 1988; Mehrens & Lehman, 1984) were used in determining the quality of the tests. Students' textbooks and some course outlines were used to ensure the content validity of the tests. The data were analyzed using qualitative data analysis technique.

### **Results**

In this study, nine papers collected from two private colleges, a government TVET college, and two higher education preparation secondary schools (HEPSSs) have been analyzed. Subject-wise, there were two Introduction to Psychology Final Tests (from a Private medical college), History Final Test (from a Private Teachers College), English Tests (from HEPSSs), one Introduction to Sociology Final Test (from a Private Medical College), one Social Studies final test (from a Private Teachers College), one Civics and Ethical Education final test (from a TVET College), and two Geography tests (one mid and one final tests from HEPSS). This pool of tests was randomly selected from the schools and colleges to be analyzed and evaluated. The results obtained are presented in the following section.

#### ***Test 1: Introduction to Psychology***

This is a final test developed by a teacher in a private medical college. The test has four parts consisting of 25 multiple choice items with four options, 15 true-false items, 10 matching items, and 1 short item. For the multiple choice items, the students were instructed to "choose the best answer." In terms of taxonomy of objectives, 100% of the items measure cognitive domain which focused mainly on simple learning outcomes or knowledge level (86.3% or 44 items), 5.9% (3 multiple choice items) dealt with comprehension, and 7.8% (4 multiple choice items, viz., 5, 10, 12, and 13) somehow assess the application levels. Though this weakness (the emphasis given to simple

learning outcomes), which is a major characteristic of teacher-made tests, is not peculiar to this test, the grave problem is that it is not professionally prepared and useful in meeting the desired objectives. It seriously jeopardizes the performance of students and contributes to the deterioration of educational quality. One obvious problem of the test which is seen at the surface is language usage. It is imaginable that the teacher has a serious language problem. But on top of that, the teacher should be so careless in the preparation and editing of the test items. He/she might either be the only staff in the college to prepare the test or not willing to allow colleagues to revise or edit the test, or he/she might have no time to go through the test before it was ready for administration. Or the college may not have a section that checks the quality of the items, or experts who have professional competence to do the editing. In either way, the problem is so worse that it could affect not only the performance of the learners but also their language competence. As teachers are models for their students, there is a high degree of likelihood to copy what teachers do and say. In this case teacher' language problems could easily be 'transplanted' onto students, which is the unfortunate downsize of the quality of education.

The teacher in the test instructed the students to "choose the best answer" for the multiple choice items. Unfortunately the instruction given to the students is erroneous as all the items are correct type. The items deal with definitions, facts, names, and to some extent labels. In other words, the items focus on who, what, when, and where types of questions which have one correct answer that require the students to rote memorize names of persons, things, years, fact, definitions, places, etc. In such conditions the use of "the best answer type" is not appropriate. The best answer type is used when the items deal with questions of how, why, in what manner and other similar nature. In these types of questions there may not be one specific correct answer. All the options could be potential answers to the question, but comparatively one is the best answer from the given list of alternatives that best satisfies the item.

Items 1, 2, 3, 4, 5, 7, 9, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24, and 25 had serious language and/or conceptual problems and the majority of them are meaningless and difficult to understand. For example, take item number 1. It says, "Which one of the

following stage; that children are sexually dormant and active in playing & learning basic skills.” It is grammatically erroneous, and conceptually confusing to the students. Take item 2. It runs as follows: Who is the physician that classified personality with related bodily fluid? The reader can easily understand how difficult it would be to the students to conceptualize the idea presented in the item. Or the students may answer it simply being led by the clues included in the item, such as “physician”, and “bodily fluid”. See also items 15 and 21. Both items start with blank spaces. Item 15 says: “\_\_\_\_\_ a process of attaining adult form is:-” This item is so vague. It is also copied directly from source material wrongly. Item 21 has a clue that could help uninformed students to get the correct answer. The item runs as follows:

“\_\_\_\_\_ is the scientific study of how people think, feel, and behave is [sic] social situation.

- a) Developmental psychology
- b) Social psychology
- c) Industrial Psychology
- d) Health psychology”

Here, the probability of getting the correct answer is high because the word “social” in the stem gives clue to the students to associate it with the word “social” in alternative “b”, which is the correct answer.

In the test, the option “None” or “None of the above” was used where it should not be and more than suggested by measurement experts.

Coming to the true-false items, the serious problem is taking statements directly from source materials. This action is highly discouraged by measurement and evaluation experts (Linn & Gronlund, 2000; Mehrens & Lehman, 1984) for at least two reasons: taking statements directly from sources encourages rote memorization which has little effect on the learning quality of the students, and directly copied materials become so confusing and vague that students may find it difficult to understand the question and to provide appropriate answers. One can observe how the majority of the items in the true-false part are so vague and difficult to answer. For instance, item 15 says, “Emotion is classified into four”. This is a directly copied idea from the source material. But the answer could be both true and false depending on the type of information the testees have

or the criteria they use to classify emotions. What criteria were used to classify emotions: pleasantness–unpleasantness; intensity; behavioral and physical components, or any thing else? What did the teacher expect from the students: the types of emotions such as anger, happiness, rage, sorrow, anguish, joy, sadness, etc? Or what? What does “four” indicate in the item?

In the true-false items the majority of the items are picked from the same topic areas. Items 1 and 2 are related items. Items 4, 6, and 7 are similar issues. This encourages guessing and rote memorization, or at worse it puts some students, who for some reasons gave little emphasis to that portion of the material, at a disadvantage. The arrangement of the items is so poor that it sequentially puts the items from the first chapter to the last.

In matching exercise, the directions are so poor, the items include heterogeneous materials, and some items can be answered based on general knowledge without reading or studying the course. All the items are poorly constructed. It is strongly suggested that the responses (lists in Column B) should be shorter than the “solutions” to the problems (premises listed in Column A). But here all the parts of the matching exercise contained a mix of both problems and solutions together in one column. For instance, the word “Id” in Column A had to be interchanged with the phrase “Animalistic nature” in Column B. The items listed here are so confusing to the students. For example, the answer for items 1, 5, and 7, could be “E”, which is Freud. The answer for items 2 and 6, could be “B” or Maslow. The items are not mutually exclusive. There are also a number of errors in the list. The last section deals with short answer. One can see how nominal this section is that it only presents one item to the students.

Finally, the test lacks somehow content validity that it focused on only certain segments of the course that the items failed to represent the contents properly and efficiently.

### ***Test 2: Introduction to Psychology***

This is also another test developed by another teacher in the same private medical college. The test was a final examination conducted in September 2000 E.C. The test had 10 true-false, 15 multiple choice, 5 keyed response, and 10 matching exercise items.

Compared to the directions of this test with the previous test, this test is by far better in a number of ways. First, the directions told the students what to do, when to do, how to do, and where to write the answers. For example, if we take the true-false part direction it reads: Read each of the following statements and write “True” If [sic] the statement is true or write “False” If [sic] the statement is false on the space provided.

Apart from the problem of language, the true-false items suffered from clues that lead students to the correct answers. For example, if we take item 1, the answer is obviously “False” because the phrase “...every thing in every moment...” makes the statement absolute, which informs students to mark it false. Item 4 has also the same problem. Phrases “All ... with one and the same ...” qualified the statement in an absolute way which indicate the students to choose “False” as their response to the item.

In Part II, there are multiple choice items each of which involve 4 to 5 options. One of the major weaknesses of this part is its direction. Although almost all the items were correct answer type the direction instructed students to choose the best answer. The other weakness of these items was frequent use of “None of the above” and “All of the above or All”. Measurement experts recommended that these options should be used sparingly as there are a number of problems associated with these options. But 12 of the 15 items used either one or both phrases as their options.

The strong side of this test was the use of application items, though the number of items was limited to three. Although the items are so confusing and lack homogeneity as well as characterized by language problem, the use of keyed response (see items 16 – 20) was one positive side of this test. The quality of the items is very poor and there is high probability of getting the correct answer by guessing simply because of the presence of clues in the items. The difference between the number of items and the number of responses is only one which maximizes the possibility of obtaining the right answer by method of elimination.

The other section of the test is the matching exercise items. In this section, there are 10 items. The problem here starts with the direction. The direction is not clear and



informative to the students. The items are so heterogeneous that the students have a good deal of opportunity to score the right answer by partial information about the subject presented. The majority of the problems or premises are put in column B and the short ones are placed in column A.

Still, this test also has a problem of content validity as it presents a few items from a large content area of *Introduction to Psychology* course.

### ***Test 3: Social Science Test***

This test was developed by a private teachers college to assess students' achievement of *History*. But, it did not indicate whether the test was designed for the purpose of final examination or for the mid-test. However, from the contents it covers, it looks more of final test. It consisted of 14 multiple choice, 5 true-false items, and 5 matching items, in that order. The majority of the items measure knowledge or lower cognitive level of learning objectives. All multiple choice items but 3 were knowledge items. Item 3 was comprehension. The problem of the test starts with the test direction. The test did not have general direction at all. Even it did not tell the reader which subject test it is, and the time to do the test is not also indicated. The directions for the three parts of the test are so poorly written that they did not show the nature of the items. For instance, the direction for the multiple choice items reads: "Chose the best answer." Though wrongly written, all the items were not "best answer". The directions of the true-false and multiple choice items are also very poor and unclear.

Almost all the items were not written in clear and understandable way that students can easily comprehend their meanings and answer the items based on their knowledge.

Consider item 3. "Prince Henry was given the name 'Henry the navigator' because

- A. Due to un reserved [sic] support to navigation & exploration
- B. He allocated a budget for making voyages & exploration
- C. Due to the aim of circumnavigating Africa & enter in to [sic] Indian ocean [sic]
- D. Due to his religious mission
- E. All except 'D'"

In this item, there is a mismatch between the stem and its alternatives. In the stem part the word “because” did not grammatically parallel with options “A”, “C” and “D”. Therefore, there is high likelihood of selecting alternative “B” as this is more in agreement with the stem. This problem arises not from lack of knowledge of students but from the confusing nature of the item itself. The item could have been best written in the following way:

Why was Prince Henry given the name ‘Henry the Navigator’? That was due to

- A. his unreserved support to navigation and exploration.
- B. the budget he allocated for making voyage and exploration.
- C. his aim of circumventing Africa and entering into Indian Ocean
- D. his religious mission
- E. all except D

Many items of the test could have been written in a similar fashion than they were actually written. Punctuation, grammatical and other forms of errors are rampant in the items.

In the true-false part, items 1 and 4 were not good items. They were not written clearly that students could understand them. Item 1 could have been rewritten as follows: “Slave trade was the main obstacle for European countries to occupy large territory in Africa in the 19<sup>th</sup> C.” Here the qualitative term “large” is misleading to many students as they interpret it in various ways.

The last section, which is matching exercise, was also very poor in a number of ways. First, it does not have any direction. The list of items dealt with heterogeneous materials which could increase the probability of getting the answers by guessing. The items placed in both Columns A and B are not as per the suggestions of item writing for matching exercise. The short ones are positioned in the Premise part while the long ones are put in the Response section, which is against the suggestions. The test also lacks content validity as the items dealt with a few portions of the course.

#### ***Test 4: English Final Test for grade 11***

The major purpose of providing English to students at various level of education is to enable them develop their language skills for the purpose of learning other subjects offered in English, and communicate with others using the language. To do so, students are expected to acquire proper knowledge of the subject matter. One way of ensuring their level of competence is the use of carefully crafted assessment techniques. Unfortunately, as you can see the test on Appendix X, this does not hold true. The test is so poor in a number of ways. One major problem is editorial. The test suffered from language problems and other technical aspects of measurement. It is cried by many educators, education bureaus, teachers, and the Government that students have serious problems in English. Can we expect our students to be competent while our teachers fail to teach them properly? Can we attribute the failure of their language competence to themselves? Many say that students' failure in their academic achievements is due to lack of using their mother tongue. However, experiences showed us that they are still weak in their own languages.

The test is not fit not only for the test of English language competence but for any other subjects. Look for instance the directions. The first direction says: "Three of the following statements are true and two them are false, circle only the true states ets, According to the passage." Apart from its obvious language problem it gives students clues to the answers. The students are told that two items are false while three are true, hence, they try hard to find three true answers and two false answers. If students get all correct answers, can we say that they know definitely the answers?! Unfortunately, not necessarily! Consider also the second direction: "Chose the best alternative following sentences /questions according to the passage."

Grammatical inconsistencies, mechanics errors, and other forms of test problems are common in the test. Its failure is not only obvious from measurement points of view but from the English language testing also.

***Test 5: Final Test for Professional Course for Private Teachers College Diploma Students***

This test was prepared by a private college for diploma students to measure their mastery of general method of teaching, which is one of the courses that provides students with the understanding of test preparation and other evaluation procedures. The test has 5 true-false, 5 short answer type, and 10 multiple choice items. Unfortunately, this test is poor in a number of ways. First, some of the items have little or no relevance to the course being measured. For instance: “Man can influence [sic] the social environment but the natural environment can’t” has no significance to the course that dealt with teaching methods. The directions for true-false and multiple choice items are problematic. The direction of the true-false items runs: “Write true for corrects statement and write False for incorrect statement.” This direction is vague that does not inform students of how and where to write the answers. The obvious language problem was evident in it. Negative words used in the true-false items were not also emphasized so that students can easily see them and answer the questions without overlooking them. Items 1, 3, and 5 had this problem. Item 4 is tricky that could easily confuse those impulsive students. It says, “Field trip method of teaching method is a planned visit to places inside the regular class room.” Most students would mark this item “true” because much of the idea contained in it is correct. The part that makes the item “false” is the phrase “inside the regular classroom”. Students sometimes answer a question based mainly on the information they get in the previous section of the item. The phrase “inside the regular classroom” does not add value to the item but confusion to the students.

In the second section, we find the short answer type which comprised confusing and difficult items to comprehend. Consider the first item: “\_\_\_\_\_ Approach of teaching refers when, students are given more chance to participate.” How clear is this item to you as you read it? If I correctly got the central idea, the teacher wanted to ask the students the following question:

A teaching approach that gives students more chance to participate [during instruction] is referred to as \_\_\_\_\_.

Item 2 of this section has a serious problem. Students can provide a number of answers to this question as it is so vague that did not restrict and direct them to a certain point. The third and the four items also are ambiguous. All the other items did not follow the suggestions to prepare quality items. The students are requested to provide the responses (answers) before they read the questions. This is strongly not recommended by measurement and evaluation experts.

When we come to the multiple choice items, we can see that the majority of the items have one or more problems of punctuation, language, conceptual or principle. Some items are trivial that they measure unimportant knowledge of students. For instance, item 2 asks students the question:

“The grade level of second cycle primary education syllabus include:

- A. 6-8      B. 5-8      C. 4-8      D. None”

How important is this question to this level of students? Aren't they the product of the system? The course is not meant to develop the general knowledge level of students but their understanding of the subject matter of teaching methods.

Some items have conceptual problems. For instance, item 8 says:

“Goals that are designed to be attained in longer periods are

- A. Objectives      B. Aims      C. A & B      D. None”

The concepts aims, goals and objectives are different and have various meanings. Goals are concepts used in their own right that represent intermediate level of planned actions that bridge objectives and aims. But, here, they are considered as synonymous with aims.

Practically speaking, the last item is not a multiple choice type. It is a true-false type that could have been included in the first section of the test. As this test is a final test, there are only 20 items of different format. Can you imagine how unrepresentative the items could be to the course content? Can we think of a test comprising 20 items to appropriately and sufficiently cover a semester's course? Certainly not! The test is not content valid. The use of “None” and “All” was inappropriate. Although 100% of the test

items measure simple knowledge, the students were instructed to “Choose the best answer from the given choice”.

***Test 6: An Introduction to Sociology - Final Examination to Medical College Students.***

This test is by far better in a number of ways than the rest of those tests analyzed. The test has purpose, general direction, and proper place for students to write their name, department, ID number, and section. Moreover, it communicates to the students the measure to be taken if they cheat during the test. That is great!! The direction for the true-false items is properly and clearly written. The test contained 15 true-false items, 25 multiple choice, and 10 matching exercise items. The increase in the number of items enhances content validity.

Though the test has these strengths, there are a number of weaknesses. Some items in the true-false part are copied directly from the source material which, as stated earlier, encourages rote memorization by the students. Except a few editorial problems, the true-false items are fine and clear.

In part two, we have the multiple choice items. All the items measure simple rote memory of the students or simple learning outcomes at a knowledge level. The majority of the items have options that are circular – that is, ideas are repeated in two options of the same item (see items 22 and 23). Principles of item writing are violated in most of the items. For example, the negative words are not underlined, common words are not included in the stem, and items developed from various sections or units are not randomly distributed in the test. They are placed sequentially from the first to the last section. This could encourage rote memorization.

There are some conceptual, vague, and unclear items in this section. For example, consider item 21 which was presented as follows:

“the state of keeping of divorcing and remarrying with different serious of partner or spouse is:-”

Getting the central idea of the item would be difficult to the students. Either they try to correct it, ask the teacher for clarification or simply guess the answer. The other problem observed is over-mutilation of the items. For instance, item 20 is written as follows:

“ \_\_\_\_\_ and \_\_\_\_\_ are the types of cultural innovations.”

This is not a good way of presenting items to students as it makes the idea confusing and leads them to provide many possible answers.

Content-wise, the majority of the items focus on sexual and marriage relationships. Other topics seem to be given less weight in the test. This could affect the achievement of the students in a various ways. Some students who gave much emphasis to this section may have the chance to score more than others who focused on other topics. Achievement difference would be the result of variation in emphasis rather than knowledge.

The direction is also misleading that it instructed the students to choose the best possible answer. Each item has one correct answer and students are required to identify that correct answer.

The last part of the test is a matching exercise. The strength of this section is that it places short items on the right and the longer ones on the left columns. Nonetheless, the items included here are so heterogeneous that the teacher cannot confidently ensure that the students' answers represent their knowledge on the subject matters presented to them. As heterogeneity increases, the possibility of getting the correct answer through guessing and elimination also increases. The direction is not as per the suggestions of writing matching exercise items.

#### ***Test 7: Civics and Ethical Education Final Exam for TVET Night Students***

This test was designed to students in a TVET program. The test had 5 true-false, 12 multiple choice items, 3 short answer, and 5 matching exercise items. The good thing of this test is the use of different item formats like the other ones. The true-false items are characterized by general knowledge rather than knowledge based on the taught course. Anyone who can read and understand the items can answer them correctly without going to the class to attend the lessons. The direction is also a problem for students. The

students are not instructed where and how to write their responses to the questions. In multiple choice items, the items deal entirely with simple knowledge of facts, names, and definitions. But the students are told to choose the best answer from the list of alternatives which does not fit to the nature of the items. The majority of them treat general issues that students do not need to go to school to learn. Take the first item (item 6), the answer can be obtained by the students simply based on their general knowledge. Similarly items 7, 8, and 12 can be answered without attending a course in classrooms.

All “the fill in the blank” items did not follow the principles of item writing for short answer type. The blanks are placed at the beginning which would affect the response accuracy of the students.

Matching exercise items also suffered from the problem of heterogeneity of materials and improper positioning of the responses and premises. The direction is also poorly prepared. Some items deal with names, others with concepts and still others with practices. This doesn't allow students to study hard and focus on higher order learning outcomes.

The validity of the test is also so poor that it did not represent the whole course content in an appropriate and representative manner.

***Test 8: Geography Final Exam for Higher Education Preparatory Secondary School Grade 11 Students***

In this test, there were 40 items partitioned into 3 sections of which the first comprised 5 true-false items, 6 matching exercise items followed by 22 multiple choice items. In this test, the true-false items had no major problems except items 3 and 5. In item 3, there were confusing statements on top of spelling errors. The item says: “The Atlantic Ocean drainage system is the largest drainage system interms [sic] of annual discharge but not interms [sic] of drainage density.” In this item, the comparison reference is not given. It said the “largest” but in comparison to what? Against what is it the largest? Such use of qualitative terms has also been employed in item 5. The words “tremendous” and “large”



are vague and could confuse the students to give the proper answer. In general, however, in this test errors are minimized in the true-false items.

The direction for matching exercise items is somehow informative and instructs the students how they use the responses in column B, though, still, it lacks clarity. The good side of this part is, unlike the other tests analyzed so far, the use of homogeneous materials. All items deal with drainage systems. The problem here is the placement of the premises and the responses. They are interchanged their positions.

The last section of the test involves multiple choice items each of which have four options except item 18, which is a true-false item. All items, except item 28 which assesses comprehension, measure simple knowledge of facts, names, places, and specific figures. As result, the direction used is not proper. With the exception of some punctuations and editorial problems, the items are written clearly and the alternatives are placed in a proper order. The majority of the destructors are plausible in that they attract uninformed students as equally as the correct answers. This is one strong side of the items. The grave weakness of the test is its emphasis on only two content areas, namely; water bodies and drainage systems, and population. A few items deal with soil and wildlife as well as rainforest. This condition made the test to gravitate towards the measurement of limited course contents which could affect the learning and study habits of students. Hence, the problem of content validity is seriously put at risk.

***Test 9: Geography Mid-Test for Higher Education Preparatory Secondary School of Grade 11 Students***

This is almost similar in many respects with the previous test type. It consisted of 2 true-false, 7 matching exercises, 7 multiple choice, and 4 short answer items. Although it is good to have more types of item formats, it is not advisable to have two items in one section of a test. This would increase the probability of getting the correct answers by guessing. It has been indicated that item-for-item reliability of true-false items is low because of guessing effect (Mehrens and Lehman, 1984). The next section presented matching exercise items. The direction is unclear and could be confusing to the students. Consider the direction: “Match Item ‘B’ With Item ‘A’ and Note that item ‘B’ can be

repeatedly match with item 'A'." How clearly could you understand this direction? But fortunately students used to work on various matching exercise items in their past schooling and try to answer the items based on their experiences rather than on the direction given to a test. The items are copied from the previous test with some modifications in the Premises part (Column A). This is a bad practice in the evaluation process as students will be forced to search aggressively for previous test papers to get ready for the test instead of preparing themselves on the course contents they learned.

The multiple choice section started with an erroneous direction which instructed students to "choose the best answer from the given alternatives," while the items are all correct type ones. The test writer did not consider the majority of item construction principles such as avoiding the use of negative words or emphasizing them, avoiding or minimizing the use of "all of the above" and/or "none of the above", minimizing differences in the lengths of options, etc. Some items were bewildering to the students. See for example item 4. Spelling, punctuation and other errors are common in the test items of this section.

The last section was short answer type which did not completely follow test item construction suggestions. The blank spaces are put at the beginning of the test items. The last item looks vague and gives clue to the students to get the correct answer. The number of dashes informs the students of the number of required responses.

In this test, the items were pooled from the same content area: Water and related factors. Thus, the test has a limited possibility of enhancing the understanding of various course contents by the students. This would restrain their cognitive development in the said course.

### **Discussion and Implication**

The major purpose of this study was to critically analyze test papers prepared by classroom teachers at preparatory schools and higher learning institutions to identify the strengths and weaknesses they had and to unveil the effects they could have on the overall quality of education. The assumption is that the quality of tests and other

assessment techniques employed by teachers ultimately determines the quality of education in general, and the teaching-learning processes as well as students' performance in particular. As stated earlier, almost any type of decisions made by students, teachers, educators, parents, and policymakers depends to a greater extent on the level and quality of students achievement, which in turn, relies entirely on the quality of assessments employed.

When we intend to develop and use any assessment technique, we have always some purpose in mind. We do not do assessment for the sake of doing it. We want to make sure we have achieved the objectives we set, to determine the extent to which students mastered the subjects they learned, to assure which part of the curriculum was challenging to the students and which was not, to ensure the effectiveness of the instructional process, etc.

When we make decisions based on the data gathered through various assessment techniques, our primary concern must be on the usability, reliability and validity of the data. We ask: Do the assessment techniques we developed measure what they are purported to measure? Do they generate information that enable those concerned to make sound decisions? To answer these questions affirmatively, the tests used to collect the information should be prepared in such a way that errors are minimized, content validity is maintained, principles and suggestions of test development are carefully observed, and purpose are well defined. If these conditions are not met, the whole endeavor we exert in the educational process will be doomed to failure. This could be one of the most principal factors that jeopardizes the quality of education. Graduates who pass through weak systems of evaluation would never demonstrate their potentials during learning and develop skills, attitudes, and knowledge which are consequential in the world of work. If the tests do not demand them to practically exhibit their potentials and challenge them to master the subjects they learn, they will never be effective citizens who can contribute to their country's development as stipulated in the Education Training Policy of Ethiopia (1994).

This study raised some basic issues concerning the quality of tests prepared by teachers. The results of the test items analysis showed, however, serious pitfalls in a number of expected practical considerations. As indicated in the analysis part, it was found that the test papers had the following major problems.

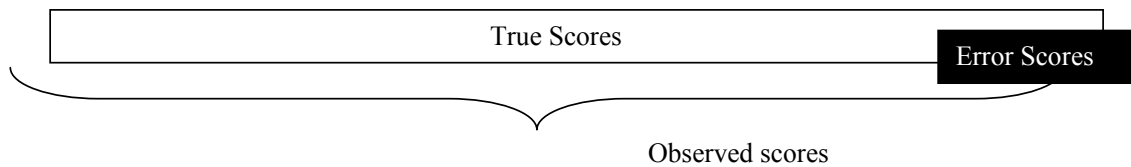
1. Technical errors
  - a. Item writing principle-related problems
  - b. General item writing consideration problems
  - c. Content validity problem
2. Skill-related problems
3. Negligence problems
4. Language competence problems

Test experts and measurement specialists have formulated important principles and suggestions that could guide teachers in the development of test items of various formats. The ultimate goal of those principles and suggestions is to produce items of high quality that measure the desired learning outcomes on the bases of the learned materials. They benefit the teachers to minimize unintentional errors or irrelevant clues that would enable uninformed or unprepared students from getting the correct answer and to avoid any obstructions for those informed students not to miss the right answer. In other words, teachers should avoid any clue that could enable students to get the right answer. Students should not get the right answer if they did not know the subject well. This would lead us to erroneous decisions about the performance of students. If, for instance, a student scores 50% of a test simply by the help of clues in a test, we will make a value judgment that the student has an average “knowledge” on the subject tested. This is an invalid decision that depends on data that are not objective. If, on the other hand, we prepare ill-defined items that are characterized by vagueness and lack of clarity, students will miss the correct answers even if they may have a good deal of knowledge on the subject. In this case their failure could not be attributed to their lack of knowledge but to the quality of the items used to tap their academic behavior. In both cases the nature of the tests could affect the performance of students. Any score students get is a combination of two factors. They are results obtained through the knowledge students

have which are called true scores and those scores students get by guessing, test-wiseness, clues, or miss because of the confusing nature of the items, which are called error scores. This can be put conceptually as follows:

$$\text{Students' Obtained Scores} = \text{True Scores} + \text{Error Scores}$$

Graphically, this can be illustrated in the following way.

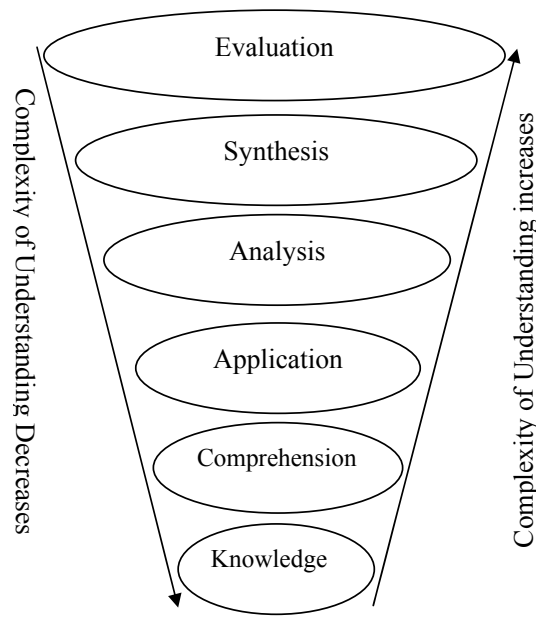


If a student scores 45 out of 50, can you be dare to say he/she knows all those items correctly answered, i.e., the 45 points? Can you say the student missed the remaining 5 items because he doesn't know the ideas presented in those items? Definitely you can't! Why there are a number of factors that contaminate the student's achievement which we call sources of errors? Our effort in education is to minimize these errors through the use of carefully crafted items and controlled test administration sessions. Cheating, guessing, poorly constructed items, test-wiseness, low content validity tests, and many other factors account for error scores. In this case one of the responsibilities of teachers is developing quality items that measure students' learning competence and their achievement behaviors. No matter how carefully the tests are administered, no matter what the students know about the subject matter, and other examinee-related factors are controlled, if the test items are not as quality as they are expected to be, the intended learning outcomes will not be successfully measured. This evidences that evaluation is at the heart of the whole educational system.

From the analysis of the tests, it looks that the teachers seem to have a number of problems: lack of commitment to the profession, carelessness, lack of understanding of the subject matters they teach, lack of competence in item writing, and serious language problem. Almost in all tests there were a number of errors and mistakes, some of which could be avoided through careful editing of the tests. The teachers did not use items that

could be used to assess higher order learning outcomes. This could be accounted for by their lack of understanding of the subject matter or lack of skill the construction of items or, at worst, due to leniency error. When the teachers feel that their students should not fail (without understanding the subjects they teach) they develop items that are simple. The goal of these types of tests is to promote students from one year or grade level to the next.

The tests analyzed so far were poor in terms of measuring various learning outcomes. In other words, the total emphasis of the tests was on rote memorization or simple knowledge of facts, names, places, figures and conditions. This, however, will not help us reach our educational goals as stated by the Education and Training Policy (1994). The Policy envisioned that our educational system would be geared towards producing problem solver, creative, innovative, competent and critical thinker citizens. In order to meet these national objectives in a practical manner, the evaluation system should be made comprehensive enough to cover a wide area of cognitive, affective and psychomotor domains. If we focus on the cognitive domain which is measured by teachers using paper-and-pencil test, it has six levels. The simplest is the knowledge level which refers to rote memorization of facts and figures that depend mainly on surface level learning or maintenance rehearsal. Knowledge acquired through this procedure “evaporates” before it reaches the long term memory center of the students. The highest and complex level of the cognitive domain is evaluation which focuses on enabling students to develop deep level of understanding using elaborative rehearsal. The relationships of the levels are indicated in Figure 4.



**Figure 4:** *The Levels and Complexity of Cognitive Domain.*

As repeatedly stated in the previous sections, according to Ebel and Frisbie (1991) and Capper (1996), the major function of teacher-made test is to measure students' achievement and to contribute to the evaluation of their educational progress and attainments. The second function is to motivate and direct student learning.

As teacher-made tests are the sole means of measuring instructional outcomes in our school systems, where standardized tests are never employed, they provide data to make decisions on important learning outcomes.

Hence, if tests are poorly constructed, the information they provide lead teachers to wrong judgment about their students' academic achievement. The validity and reliability of the information that the tests provide depend on the quality of the tests, which in turn, depend on principles underlying their construction and use. Regarding this point, measurement experts like Cole and Chan (1994) and Ebel and Frisbie (1991) suggested that teacher-made tests lead to effective teaching if they are carefully crafted in a positive

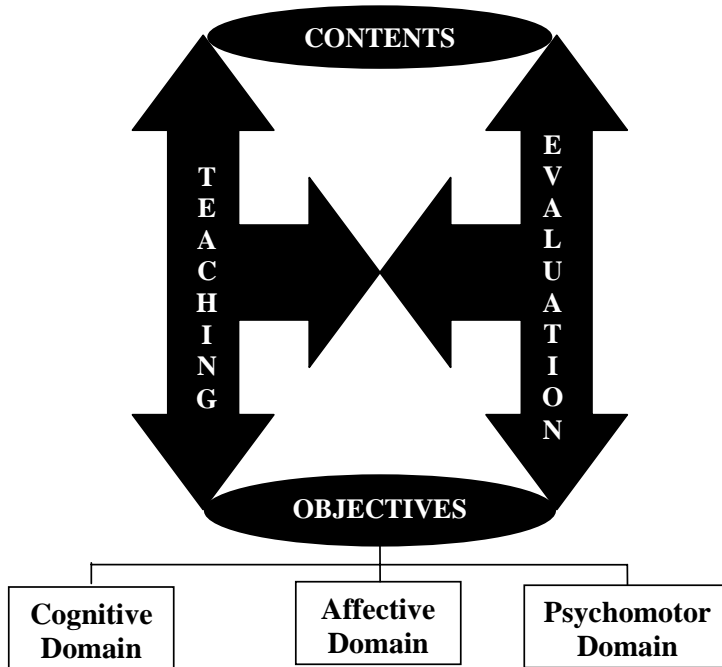
and constructive way following the principles of test construction and if teachers are knowledgeable about and skilled in the use of educational tests. Tests have an impact on what is taught and learned in classrooms, especially, when the results of the tests are used to make important decisions.

Unfortunately, however, educators and teachers in schools and higher learning institutions give less attention to this issue. In relation to this point, Mehrens and Lehman (1984:189) stated, “one of the most common mistakes of teachers is that they do not check the effectiveness of tests.” Sometimes students fail not only due to lack of ability but as a result of the poor quality of the tests themselves. The quality of tests can be improved by using general and specific principles (suggestions) of test construction (Gronlund, 1972).

From the above figure (Figure 4), we see that the level and complexity of understanding increases from the knowledge level to evaluation. As we have seen in the results’ section, almost 100% of the items of all test measure the simplest level of learning outcomes as it is easy to construct and correct items of this nature. But can we achieve the goals we set in the Educational and Training Policy through these types of items? Unfortunately not! The tests are poor not only in terms of their emphasis on the lowest level of cognitive domain, but they also lack content validity. The tests cover restricted areas which did not represent the courses they are meant to measure. In this case the decisions teachers make not only affect the students (negatively and positively) but they endanger the quality of education in a number of ways. As indicated earlier, in Figure 2, educational process involves four fundamental elements that are interrelated to each other and impact the major part of the quality of education. The interactions of these elements could be best represented as in Figure 5. Objectives are the expected outcomes we wish to attain at the end of the course delivery. The objectives could be cognitive, affective, or psychomotor which focus on a diverse nature of behavioral outcomes that we anticipate from our students. Unfortunately, however, the tests focus 100% on the cognitive aspect of learning. The other element is the teaching process through which teachers assist or support their students to get the most out of those courses taught to them. The contents



are the vehicles that help reach the objectives, and evaluation is a means to ascertain the effectiveness of the teaching process and the attainment of the objectives. In this case the quality of the tests (assessment techniques or evaluation) developed by teachers is a determining factor that either positively or negatively impinges on quality of education.



*Figure 5: The Interactions among the Elements of Educational Process.*

The implication of this study is, therefore, the quality of the tests directly affects the quality of education. If teachers have no competence to measure their students using properly crafted tests, the data they gather will not represent the intended learning outcomes, as a result the decisions they make about their students will not be valid and reliable. Hence, serious attention should be paid to this grave situation by various education officials to design a way to overcome the problem through improving teachers' language competence, their test development skills, and raising their motivation as well as enhancing their commitment to their profession. Most importantly, broader scope of research should be carried out to examine the extent to which the poorness of the tests affects the quality of education as a whole.

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# Higher Distance Education in Ethiopia: Course Materials Development, Delivery and Evaluation Practices

Desalegn Sherkabu

## ***Abstract***

*This paper aims at investigating higher distance education course material development, delivery and implementation in Ethiopia. The study is made on distance education divisions of Admas, Alpha, and St.Mary's university colleges, and Institute of Distance Education of the Ethiopian Civil Service College. The researcher interviewed ten course material writers and/or tutors, four programme developers, eleven students (in group, i.e., focus group discussion), and analyzed about fourteen course modules. In addition to individual interview and focus group discussion, an observation check-list was also used to collect part of the data required for the study. The qualitative data collected using interview and focus group discussion, and document analysis were all analyzed and interpreted using a qualitative argumentation technique. It was found out that the Ethiopian higher distance education institutions employ what is commonly referred to as the deep-approach to learning in their print mode. It appears that they had to work more on strengthening their academic and counseling services, as well as administrative services at study centers. Finally, the paper recommended that the higher distance education institutions need to keep on producing deep-approach self-instructional materials by way of incorporating such techniques as those indicated in the discussion section of the paper. This could entail the need for establishing strong educational resource center for use of up-to-date and appropriate instructional technologies at their study centers. It was also recommended that emphasis should be given to provide additional academic supports, counseling and administrative supports to learners at the required level by assigning the required professionals.*

## **1. Introduction**

### ***1.1. Background of the Study***

Distance education is an alternative and not the last resort option to educate oneself (Marilyn, 1994; OU, 2002). Today, unlike in the last few decades, educators have shifted their minds from the debates over the “Advantages and Limitations of Distance Education” to the search of the how of making it effective. Nevertheless, the misconceptions might, in fact, still need some more time to cure until researchers and educators show the wider public that the distance mode can produce competent graduates in almost every field and at all levels of education so long as the medium is supplemented with appropriate instructional technologies (Hooper, 1971; OU, 2002).

According to Amera (2004), for example, issues like demanding intensive and independent works from students-which were seen as limitations of the distance mode of educational delivery over the past decades, are today taken for being consistent with the learner-centered approach. Here, I agree quiet well that modern educators commend active involvement of the learner in constructing knowledge, by keeping teachers’ interaction minimal. Moreover, innovations like adoption of technology, that facilitates two-way communication, and learner-centered approach, and activity method of teaching show that teaching-learning through distance mode is no longer with problems but with much more opportunities and benefits.

Distance teaching-learning has become not just the fashion-of-the day but a necessity. For example, according to Redding (1996) as cited in Marew (2002), there were 835 institutions offering 35,511 courses through distance education in 195 countries. Among countries providing education through distance mode, 92 of them are in Europe, North America, Africa and Asia.

We need distance education for reasons like avoiding barriers of physical separation from both schools and teachers; meeting an educational need that cannot be covered by the traditional curriculum; allowing learners to make personal choices like deciding what to study, where and when, self-pacing and studying based on one’s choice of style,

preference and interest of reading; its appropriateness to teach adults at work as it allows them to relate abstract concepts to concrete experiences at work environment (Amera, 2004).

However, it is no question that the quality of educational provision in our higher education institutions, including the distance mode, needs improvement. One way of bringing improved educational quality is through application of important research findings in the area. In other words, we need to continuously probe into the issue to meet the desired quality. According to Marew (2002), the multidimensional benefits that we could get from distance education can only be truly provided by those who involve in distance education provision more on developing and running relevant, valid and of course significant programmes. The researcher believes this should go farther to the point of following a worthwhile distance education model if not philosophy. This would necessitate investigating distance education programmes that we have in Ethiopia today. Findings of such studies would help in keeping the quality of the programmes.

### ***1.2. Problem Statement***

Distance education refers to a variety of educational programmes and activities where learners and teachers are physically separate. Obviously, this fact makes the distance mode challenging on the part of programme organizers, course material developers, counselors, tutors, and especially students. Efforts to overcome these challenges take different forms that can come under the form of using chosen instructional strategies, student support service delivery, salient assessment and evaluation mechanisms, and appropriate educational technologies. Of course, technology itself is a crude term that includes a continuum of human achievements that may range from ancient scriptures on stones then on papyrus and today's electronic forms of data storage, processing and retrieval systems.

No doubt, if we are to fight the sense of loneliness and the consequent negative impact on student, which comes from the mode of delivery itself, we need to remove the obstacles.

This study raises the following leading questions that attempt to assess some of the crucial elements in the distance mode of educational provision.

- To what extent do the instructional strategies in use by Ethiopian higher distance education providers fit the deep approach?
- To what extent are student support services being provided by the Ethiopian higher distance education providers appropriate?
- What kinds of assessment methods do the institutions employ to measure their students?
- How much appropriate are the educational technologies in use?

### ***1.3. Purpose and Specific Objectives of the Study***

The aim of this study is to investigate course materials development, delivery and evaluation practices among higher distance education institutions in Ethiopia.

The specific objectives of the study include:

- providing Ethiopian higher distance education providing institutions with genuine appraisal;
- providing educators and other concerned bodies with evaluative information on the quality of the distance education programmes that are being run by them;
- providing all other distance educating institutes in the country with opportunities of sharing experience in the area;
- providing related review of literature in the area of distance education provision; and,
- initiating other researchers to undertake further research in the area.

### ***1.4. Scope of the Study***

This study focuses on examining distance education provision by Ethiopian higher education institutions. It is mainly conducted on distance education division of Admas University College, Alpha University College, Ethiopian Civil Service College, and St.



Mary's University College. Thus, although the experience can have implications to all such other related institutions in the nation, the findings and conclusions that will be reached at will only be directly applicable to those referred above.

### *1.5. Definitions of Terms*

**Deep-approach:** An approach to distance education course material development that was meant to involve learners through constant questioning and doing rather than shallow and receptive reading.

**Higher distance education institutions:** Colleges, university colleges, and universities offering (delivering) courses in distance mode.

**A modest distance education:** A realistic distance education provision that is in line with the basic requirements of the mode on the one hand and is well-fitted with the available technology on the other hand.

## **2. Review of Related Literature**

### *2.1. The Deep Approach*

The distance reader is noted to have faced what is called “shallow-learning.” Regarding the concept “shallow-learning”, in his book titled “Planning and Developing Open and Distance Learning”, Melton writes the following:

Where students are studying at a distance, it is all too easy for them to passively accept what is being presented without thinking too deeply about the issues involved. It is, therefore, common in ODL to try to involve students in the process of learning through the provision of activities and projects (Melton, 2002).

In this connection, what is required particularly in college education is what Marton and Salijo (1976) describe as a “deep approach” to learning: an approach where students concentrate more on understanding the overall messages being conveyed and

assumptions on which it is based. According to the above mentioned writers, self-instructing learners commonly adopt a surface approach to learning – tending to concentrate on memorizing facts and detailed information without reflecting on the underlining assumptions and arguments.

If we keep on reading resources on distance education, we would get more and more of same arguments above. The Open University of United Kingdom (UK OU) has made considerable efforts to encourage a deeper approach to learning through the building of activities and projects and courses (Melton, 2002).

However, the writer strongly argues about where and how to use activities. Accordingly, in recommending the use of activities, and projects to encourage deep learning, it is recognized that students often have quite distinct preferences as to how they learn. This is to mean that some might even get activity method frustrating and prefer either reading text, watching TV, or small group discussions and the like. This reminds professional teachers of the idea of learning style. Whereas there are students who get learning by doing more effective, there also exist students who prefer to listen to reading a body of text or important books for their quick mastery of a body of knowledge. Materials can be made activity based. However, it is also recognized that students can develop new learning styles (Bargar and Hoover, 1984; Hyman and Rosoff, 1984; Joyce, 1984) thereby increasing the variety of ways in which they might learn, but where students are expected to develop new ways of learning they need to be given appropriate guidance and support.

## ***2.2. Student Support Service in Distance Education***

Despite the “inspiring” title that distance educators address course materials or modules “self-instructional,” a name connoting that the student can effectively communicate with the supposedly available teacher in the text; they need not mean that the distance student should be left without any assistant. In this connection, Alemayehu and Desalegn asserted the following.

Although in designing self-study materials, every attempt is made to respond to the varying needs of different types of students, it is inevitable that students will encounter problems from time to time where they will need individualized help. They need different types of support at different points in time (Alemayehu and Desalegn, 2007).

Of course, distance education students (learners) need supports of all kinds including: academic, counseling, and administrative. Let's see these forms of support one by one in a concise manner.

### ***2.2.1. Forms of academic support.***

Academic support could be offered in various forms. For example, in the British Open University (OU), besides sessions on learning skills, additional academic support sessions, and tutorials at distance, there are courses for which they arrange day schools; residential schools. The OU describes the day schools as follows.

As their name suggests, day schools provide an extended period of teaching, and usually involve all students on a particular course, in one or more region attending at one centre. Here the tutor could be requested either to give formal lecture or exposition to all the students, that could be followed by related group work. Two or more colleagues might give linked presentations on a relevant theme, or share workshops or laboratory sessions. These kinds of possibility require liaison and teamwork (the Open University, 2002).

The OU residential schools are meant for courses that specifically require these for up to a week during summer. This is when the profile of the course itself requires so. The tutors would here be following the approach they use with conventional students but may require orientations.

The OU session on learning skills include such skills as ranging from reading academic material to revision and examination skills. The three types of support discussed above are all face-to-face tuitions and are better done by team approach.

The OU also arranges additional academic support sessions. The OU describes this sort of support as follows:

From time to time, you may find an individual student or a group of students, who for a variety of reasons need particular kinds of tutorial help. Perhaps a student has been ill and has fallen behind with the course, or you may have a student who cannot attend tutorials. It might be that some students are having difficulty with a particular session of the course or certain key concepts on which the course is based (the Open University, 2002).

The OU also arranges what are called tutorials at distance. These are in case of certain courses that for part- and sometimes all-of their tuition require the telephone or computers for the part.

The correspondence tuition is still another form of academic support that distance students most commonly are required to get. It's a form of support to students to learn through written feedback on their course work assignments. This too follows its own principles of providing. It's the main form of one-to-one teaching in the OU. It involves helping students with both the course content and the development of their study and learning skills. It's not just marking; it's a teaching as well, and hence the name-correspondence tuition.

### ***2.2.2. Counseling support.***

Distance learners need ideas from others by sharing their difficulties they come across while they are reading. It is a support or counseling from a helping professional teacher-in his/her role as a social worker. Here, counseling is academic support tutors help learners on how to achieve to their maximum level. The support usually creates conducive psychological environment.

Some of the personal skills that a distance education tutor requires in this connection include: patience, empathy, warmth and genuineness, being respectful, being creative, being adaptable, being culturally sensitive, recognizing who the learner is as a person and

as a learner; being realistic, and being organized and accountable. According to the OU (2002), what a tutor need to bear in mind about face-to-face tutorial in distance learning is learners expect different things:

- Help and support in doing assignments,
- Teaching, guidance, and explanation on core issues of the course; and
- Social support.

### ***2.2.3. Administrative support.***

Distance learners need to be provided with sufficient directions regarding the rules, regulation and schedules of the teaching institution, college, or university. The programme coordinators need to provide strong follow up of circulation of assignments. Moreover, studying the subject and preparing for examination needs strict direction by the institutions, program organizers and/or the tutors ahead of time. The programme organizers need to accurately and timely distribute course materials, register students, and other administrative works.

### ***2.3. Assessment in Distance Education***

In relation to course material preparation for college education, Walker (1994) noted that assessment in using the LC Approach should be in relation to outcomes made explicit to students, staff and employers; be based on a range of strategies through which a student can demonstrate what he/she knows or understands or can do; be based on a range of evidences appropriate to activity; include review and reflection, and lead to the identification of future goals and targets; facilitate the formative recording of achievement; should be supported by appropriate quality assurance; and should enable students gain credits for their attainments.

On the other hand, the formal contexts through which the modular approach can enhance learners' capability are: the extent to which students use tests to improve the quality of future assignments; the extent to which the assignment is not focusing narrowly on one aspect of performance (say, for example, simple recall of facts); the extent to which

assignments are fair and relevant; and the presence or absence of an assessment framework to ensure the coherence and progress in students' learning (Leask, 1994). He further noted that students identify the assessments in modules that are in the middle of program (formative), for they keep them in track timely by clearly showing their progress too. In the modular approach, learners like feedbacks that are placed close to activities and questions for different reasons. For example, they are said to create opportunities for learners to investigate and thus consolidate their knowledge. Some of the common assessment strategies in the LCA are given by Leask (1994) as: production of resource packs; essay (usually on problematic education issues); teaching experience plans and evaluation; laboratory manual completion; staff and peer assessment of seminar work; display (using it or visual aids); presentation of a sequence dance or gym; formal examination (with a variety of types of questions); short tests; analysis of case studies; group displays; test with viva; seminar notes; logs or diaries; seen questions; investigations practical assessment; oral presentations.

Not common as some of the above methods sound in the Ethiopian higher education culture, others are really convincing and have been frequented too. For example, essay or composition in language classes and group presentation and formal examinations are common assessment strategies. What we learn from the above lists of strategies other than the need for variety is that activities or questions that are well built on cases or situation analysis based on visits promote learning through investigations that are to be done by learners.

If learners are to probe deeply into the issues involved in their study, instructional materials need activities and projects to engage learners in the process of learning. Projects tend to be much more open-ended than activities with students being given considerable freedom to determine their own goals and the means of achieving them. However, even in projects where students are given a considerable freedom to determine the nature of their assignments, the process can be carefully structured. In this way, for example, students are expected to develop their thinking in stages-obtaining feedback even on their initial outline plans.

## ***2.4. Distance Education Technologies***

We have already pin-pointed that the print medium itself is a technology: a time free technology of course. Yet, the distance education obtained its recent name distance education than correspondence education with the coming in to being of much more advanced means of communication-ranging from telephone, audio-cassette, video-phone, fax, and video-conference that can assist the print medium. E-Learning, which is electronic learning, had its more sophisticated form with the coming of the Internet-simply taken to be a network of computers. Yet, e-learning has existed in the form of educational Compact Discs (CD's).

This has also been made possible for students by just sitting on their PC's. Given the creativity of the self-instructional developer/teacher; the modern electronic media that allow asynchronous classroom organization and group work for distance students can be made possible.

The important point here is to note factors that should be considered in our choice of technology for our distance education institutions. For example, getting an e-tutor might be a case. E-tutoring would require one to be committed to the job and preferably to have sufficient training and the required backing from the institution like training on production of educational resources, and instructional and web-designing. The other approach is to conduct it in a team of a course material developer, and instructional designer, a web-designer, a server administrator, etc.

## **3. Methodological Considerations**

### ***3.1 Methodology***

This qualitative study is mainly conducted on distance education institutions of Admas University College, Alpha University College, Ethiopian Civil Service College, and St. Mary's University College. Attempt was made to examine the instructional strategies that these higher distance education institutions are currently employing; their student support services, modes of assessment, and types of educational technology.

Thus, focus was made to investigate the case from three perspectives: students (i.e. as important determinants of a program), tutors (i.e. instructors who participated in module development process and tutoring), the programme developers and/or coordinators, and the materials themselves (i.e. the modules under close examination of the researcher).

### 3.2. Sampling

The modular materials of disciplines under investigation were chosen on accessible sampling technique. Accordingly, two materials were selected from each of the higher distance education providing institutions. The materials chosen on accessibility basis are presented in the table below.

**Table 1: Sample of Course Materials Selected for the Study**

| No. | Course title                           | Institution                            |
|-----|--|--|
| 1.  | English                                | <b>Admas University College</b>        |
|     | Law of Persons                         |  |
|     | Family Law                             |  |
|     | Law of Succession                      |  |
|     | Penal Law                              |  |
|     | Law of Civil Procedure                 |  |
|     | Introduction to Information Technology |  |
|     | Basic Application and Mathematics      |  |
| 2   | Administrative Law                     | <b>Alpha University College</b>        |
|     | Working Capital Management             |  |
| 3   | Law of Evidence                        | <b>St. Mary's University College</b>   |
|     | Public International Law               |  |
| 4   | Statistics for Management              | <b>Ethiopian Civil Service College</b> |
|     | Strategic Planning and Management      |  |

Furthermore, a sample of ten course material developers/ tutors, a group of eleven students for focus group discussion, and four programme organizers-one from each of the four institutions were taken for the study.



### ***3.3. Data Gathering***

The following techniques (tools) were used to collect the required data for the study.

#### ***3.3.1. Interviews***

Three separate interview schedules were prepared and utilized to gather data from material developers and/or tutors, trainees and programme coordinators (for details see Appendix A, B and C).

#### ***3.3.2. The observation checklist***

The checklist on Appendix D is just used for checking whether or not the deep approach strategies have been sufficiently employed in the course materials. This checklist mainly observes whether or not the devices of the deep approach are found within the stipulated range, and the match of the devices with the already stipulated instructional objectives. The other related criterion is the relevance of devices with the actual demand of the students upon graduation.

### ***3.4. Method of Data Analysis***

The study has employed a qualitative description for an in-depth analysis. This qualitative description was used to analyze data, such as the researcher notes from focus group discussions with trainees, and data from the open-ended interviews with trainers.

## **4. Data Analysis and Presentation**

**4.1.** The first question raised to all the three groups of respondents, and on which the document analysis went runs as follows:

“Do you think that the text books/modules are inviting and make learners read critically and without getting lost now and then? How? Please explain giving example? If your answer is no, what do you suggest? ”

Despite the complaints of some student respondents on certain modules, nearly all tutors and programme developers favour the modules. They stress on the detailed make up of the modules and the rigorous procedures with which the course development process passed. Some writers for some of the institutes, however, refrain from passing through all that. For example, whereas some of the institutions have a course team including authors, three different editors, internal and external reviewers with student evaluators; others heavily depend on the personal effort of the author by only providing a type setting assistance. Another technical issue that can be raised here is that the payment the institutions allocate for the course developing team. It is hard to deny the fact that the amount we invest on each course material can affect the quality. This creates an obvious irregularity. However, further research might be needed before reaching at a conclusion.

Much of the teaching through distance mode happens in course material development. This is possible by designing the course contents in such a way that learners can do most, if not all, their learning from the materials alone. The materials must carryout all the functions a teacher would carryout in the conventional situation: guiding, motivating, asking questions, discussing alternative answers, appraising every learner's progress, giving appropriate remedial or enrichment help and so on. To get such instructional materials is not an easy task. It requires educators to do their best.

The course materials and accompanying worksheets have been checked against the following ten distinct elements of self-instructional materials.

- Course introduction;
- Learning objectives;
- Advance organizers/Unit introductions/;
- Content presentation;
- Activities;
- Examples and visual;
- Summaries;
- Self-check questions (SCQs);

- Language style;
- Other points.

The researcher has learnt from the study that the sample higher distance education providing institutions are well on progress in developing “deep-approach” course modules. The researcher has, for the most part, not only noted the presence of the above listed elements but also have found the objectives well set and serving as a guide to the other curricula elements. The selection of content; activities; self-check or assessment questions; tutor-marked assignments, and final examinations all made the course, module and or unit objectives their bases.

The eight sample modules can be taken as clear indication of the fact that the higher distance education institutions are running a distance learning program that is inline with what modern approaches in the field suggest and in fact what the objective reality of our country permits. To be specific, the materials reviewed generally address the crucial elements of a quality of Distance Education material. For example, in all the course materials, we find introductions for courses and for units. These introductions and, in fact, unit sections in some of the course materials have objectives. The introductions at each level attempt to point out the forthcoming points to students. Contents except in rare cases are presented in detail and well-sequenced manner. For example, the pattern in the “English” course consistently develops across the units: Unit introduction, Reading, Vocabulary, Note making and Summary, Grammar, Speaking, writing, Summary and Self-Check Questions (SCQs). This is a very good style as learners can easily get used to the pattern quickly after working through the first two units.

The contents in the materials match with the already set objectives. Most of the course materials are rich in activities. For example, the “Law of Persons, Family Law and Law of Succession ” course materials have activities along with “In-text questions”. In most of the course materials, the writers have shown to use varied presentation of lessons using diagrams and pictures. Except in few cases, course materials have included unit summaries and Self Check Questions (SCQs). For example, the SCQs on p.18 of “ Civil Procedure law ” is really interesting as it both encourage learners and examine their

progress with their study. The language is also clear in most of these materials. To this end, the course “English” can also be more self-sufficient by addressing, listening skill. Thus, it will be good to support the learning texts by media in the future.

In modern instructional theories the provision of content from simple to complex is highly favored. The idea of advance organizer stresses on the need for the writer’s intentions, in an explicit statement, which indicate to the learner what comes next. Most course materials have unit introductions. And most of the introductions have the following qualities.

- Provide general idea about what will be encountered in the major topics to be treated.
- Provide students with an overview of relevant previous lessons and an outline of key ideas on the present lesson.
- Indicate how the topics are partitioned and interrelated and the relevance of each topic to the unit or course.
- Constitute a framework for the unit.
- Present at higher level of generality and inclusiveness.

Content is the vehicle through which the objectives are achieved. In most of the courses, contents have been presented. The content of the materials generally:

- Match with contents specified in the curriculum;
- Partitioned to appropriate and balanced chapters/units and sections" based on the weeks in the semester;
- Have an introduction, body and conclusion;
- Progressively increase the degree of difficulty;
- Well-structured, logically sequenced and very clear;
- Give interesting and appropriate titles to each;
- Balance between depth, breadth and coverage;
- Match with the specified objectives;

- Concise;
- Readable with moderate density of information;
- Present it progressively, in small and easy to master steps;
- Systematic flow and sequential organization of material.

Nevertheless, if we open, certain courses from not few of the institutions, we see a series of text. This presentation needs breaks by inserting activities and/or in text questions. Doing this will make the course more appropriate for distance learners. This is due to a common practice to include activities or at least a question within three pages of a self-instructional material.

As any distance material is expected to be self-instructional material, it should be written in a conversational style. The language used in the course materials should be very simple and clear. These are good characteristics of distance education materials. There should be a dialogue between the student and the material in the absence of the teacher. Although this is used in stating unit objectives in most of the courses, it is not kept in presenting the content throughout the material in certain courses.

Activities - what students do in order to learn the content of the material - should provide students with opportunities for practical application based on the understanding of the content. Activities also should provide learners' with an opportunity to learn and encourage them to relate what they are learning in real life situation. They should encourage students to reflect on the issues that they are learning. Therefore, materials for distance education should encompass many activities that help learners apply what they have learned. According to literature in the area, ideally activities should appear regularly in two to three pages interval.

In general, most of the activities in the modules:

- are realistic about the time it will take to do the activity; with clear purpose ;
- contain clear instructions;
- include background information that may be relevant to the activity

- encourage students to become actively involved,
- are integrated with the core content
- help students to apply their newly developed knowledge to new situations.
- are relevant for the learner and course objectives;

Most of the course materials fulfill these requirements although some of the activities are Self Check type questions. However, certain activities in certain courses are not accompanied with feedback or comments that help students so as to enable them to check whether their responses are correct or not. In addition, some of the activities lack a clear step-by-step instruction advising students what to do.

In-text-questions of certain course can be promoted to the level of activities by building them on cases and relating them to the day- to- day activities in their work environment.

Distance learners can not really grasp new ideas unless they are given ample and practical examples. Thus, in distance education materials, adequate real life examples and illustrations should be presented. This, indeed, is instrumental to help students to relate contents with real life and, practical experiences. Also, problems related with the subject should be incorporated in the materials. In most law courses, for example, articles from different relevant provisions and Codes are used widely as examples. This helps to understand the articles and relate the content of their learning with the practical problems which they would face in their job.

The more the examples are in language courses, the more learners understand the pattern of the grammar. Even when there are examples in courses like English, they should not be limited to 1-3 in number. The real life examples and illustrations provided in the courses *Law of Succession* and *Mathematics* help students to relate the content with the relevant real life and, practical experiences and problems related with the subject.

In the course '*Law of Family*' in addition to the provision of real life examples, students are asked to give their own examples. This is a good experience as it helps students to use their own experience to relate it with what they have learnt. It also helps them to observe the relevance of the content to their job.

Most of the course materials of the colleges are aided by various visuals. For example, the courses *Introduction to Information Technology and Basic Application* and *Mathematics* are full of visuals. Pictures (like on PP.63&87 English Course materials), diagrams (like on PP. 88 & 89 of the same materials), PP.42 of *Penal Law* course material and *Law of Succession* pages 48 and 51 are very essential to facilitate students understanding of the material. Otherwise, the student can't see the relevance and importance of learning the course. In short, the visuals in the materials are:

- clear and simple to understand;
- well-positioned;
- not too decorative;
- simple in structure;
- uses helpful leadings;
- used when it is found a better way to present an information;
- used to substantiate a point in a text (not to repeat what has been already stated).

Unit summary at the end of each unit can help students to capture the major points of the units once more again and check as well as measure their progress before they proceed to the subsequent units. Nearly, all the course materials have summaries for the above stated purpose.

In most materials, there are self-assessment questions at intervals of discussions. For example, in the course *Law of Family* self-assessment questions are presented throughout the material. This helps students to practice what they learnt and check their progress. It provides students the opportunity to practice what they have learnt in a real life situation and to help them express their ideas and thereby develop their writing skills. Some additional detailed questions such as choice, true and false, matching would have better been included at the end of each unit to help the students to assess if they have understood the detail points of the material and thereby to check and monitor their progress.

We appreciate; there are assignments for each course. The work sheets of the materials require students to fill their personal data. This helps to identify the student and handle the assignment properly. Moreover, it helps the college to get personal information of the student regularly. The work sheets have clear step-by-step instructions that make clear for the students to understand what is expected of them before writing their answers to the questions. Moreover, the weight (marks) to be given for each question is indicated. This helps students to understand the relative emphasis given to each question and to allocate the efforts and the time to be invested on each question. Work sheets of most of the materials include variety of objective and subjective questions. This helps to cover the detail points treated in the course as well as to assess high level learning and develop the students writing skills (writing their ideas by their own words).

The teaching materials are generally well formatted with adequate space to help students to write their remarks and notes. Providing space in distance material helps to make the material attractive and increase its readability. This is one of the good qualities of distance education materials.

The titles in the materials are numbered systematically to keep the flow of the presentation. Most of them used not more than 3 digit numbers. This helps not to confuse students and make the flow of the presentation very clear. However, certain course modules use up to five digit numbers which may make the numbering system very complex. Instead, it is possible to use limited (1-2) digit numbering to identify titles. In addition to this, it is possible to differentiate the level (sequence) of the titles using variety font sizes and font faces.

All the course materials indicated the reference materials that are helpful to indicate the sources used in developing the materials to be used and to indicate students the material to be used as additional reading materials.

**4.2.** The second question raised to all the three groups of respondents runs as follows:

“What do the student support offices do in their respective higher distance education to distance students?”



**4.2.1.** Regarding the academic support most respondents appreciate the modules. The academic support they discuss in the second place is the tutorial. Most respondents stated that the time allotted for tutorials are not enough. In some of the institutions, there are instances where tutorials are scarce, cancelled due to the few number of students registered for the course at the center. In some other instances second (last) tutorial sessions have been noted to be cancelled and students were just made to sit for final exams. Still, in some other instances tutorials were made only once per semester. Still, other respondents have noted that tutorials at study and regional centers out of Addis Ababa are mainly held for common courses. Reasons could be absence or shortage of tutors for certain advanced courses. A related problem raised is that certain practices appear to demonstrate instances where tutors who are not professionals in the particular area of study are assigned. Some tutor respondents also complain that students come to tutorials without reading and inviting them to lecture and participate little. Others strongly oppose this view and say it all depends on how the tutor attempts to handle the problem.

Despite the above deficiencies, however, tutorials are highly regarded and respondents call for increased tutorial sessions and hours for each course. According to some of these respondents, the academic type learner supports from the tutors come in two major forms: face-to-face tuitions and script comments. The face-to-face tuitions are those supports from tutors in the form of both didactic and/or facilitative type classroom lessons. The script comments are those written comments that the tutors provide on subjective type assignment questions. These, in fact, have been found by student respondents most useful. However, in some of the colleges, assignments were found to be objective type questions that provides little guarantee both to the individual students' effort, and the tutor commenting on the answer-sheets.

The other type of support respondents raise is that they all facilitate conditions in which students hire the tutors themselves in groups.

**4.2.2.** Regarding the counseling service, in not few of the institutions, orientations are provided to students. The institutions provide “student information handbook” wherein most important information are found.

Still, some believe that they have practiced orienting learners when semesters begin. They, in fact, believe that the practice needs further strength.

Nevertheless, most respondents including programme organizers believe that they worked little except the rare practices they encountered with certain individual students haphazardly. Of course, as tutors are teachers and social workers themselves, students obviously can get some support. The problem here is that they have little time to spend with individual students for caring. Consequently, the researcher had little belief that additional academic supports to individual and group based academic and counseling supports were practiced.

**4.2.3.** Administrative support to distance student includes registering students, collecting payments and issuing slips and receipts, distribution of assignments and recording files, etc. Especially, student respondents in some of the institutions had big complaints in that the study centers attempt to run the business of distributing materials in disorganized manner using unqualified professionals-sometimes even 10<sup>th</sup> graders, and yet the programme is college education. Overall, the improvement in administrative support like developing an effective means of information communication using appropriate media, student respondents also demanded consistent academic calendar to be in place.

**4.3.** The third question raised to all the three groups of respondents, and on which the document analyses runs was, “*On the modes of assessment that the distance education providers follow?*” Accordingly the respondents confirmed, a 30% continuous assessment and a 70% end of course exam as the trend of assessment. The 30% assignment itself in some of the institutions as has already been discussed earlier, are limited to objective type questions. This would affect the type of script comment and hence the degree of support that learners get from the tutors. In some other institutions, the trend is the assignments focusing on broader and subjective type questions would

invite the learner to focus on advanced levels of knowledge. Some tutors in such institutions contribute a great deal to the learner support provision.

The end of course examinations counting 70% of the marks cover the whole course and varieties of questions include: True/False items, multiple choice items, matching items, completion type items, and open-ended subjective questions, such as work out or write out. Of course, because the subjective type questions remain limited in final examinations for feasibility of marking reasons. Therefore, writing subjective type questions for the most part of the 30% assignment in two or three continuous assessments depending on the modular breakdown of the course sounds sensible.

With regard to the appropriateness of the continuous assessment, students in some of the institutions have pointed out those assignments questions of earlier batch students are used again without any change. Up until very recently, some of the institutions didn't mark the assignments. These were mal practices noted. Both of the aforementioned practices do negatively affect the quality of education that the institutions provide.

## **5. Summary, Conclusion and Recommendations**

### ***5.1. Major Findings of the Study***

This part of the paper tries to jot down major findings of the study. Strategies for deepening the approach of learning employed by the distance education course materials included: focusing on coining appropriate general course objectives, and specific unit level objectives; incorporation of techniques like brainstorming and/or in-the-middle text questions, activities with helpful comments and/or feedbacks; brief summaries in the form of diagrams, charts, etc.; self-checks, and self-assessment questions that are followed by answer keys. Perhaps, relating the activity questions with the actual work situation of learners upon graduation is mentioned as a major technique of fighting surface learning by the distance students. The careful placement of the answer-keys with notes in the course introduction and/or guide that remind learners not to abuse the answer-keys has been employed as a major technique. The inclusion of cases,

illustrations and examples are also found to be an important technique. The logical organization of the course (i.e., the breakdown of the materials into modules, or modules into units, etc.) is found to have helped in building concepts upon previously studied concepts-scaffolding.

The academic supports by the institutions are mainly based on formal tutorials that were found to be not only insufficient but also totally missing in cases of certain advanced sources. Also, additional academic supports when provided take same form. Counseling services to students were also found to be minimal. The administrative support provisions especially at the study centers were found to require further strengthening. Improved service provision in module distribution and keeping record of students' grades were also some of the challenges the study found.

Uniformity of assignments and examinations as well as marking, which were found to be one of the biggest challenges of the system, were found to have been further aggravated by the growing number of students. Problems include leniency-versus stinginess of markers; repeating assignments and/or examination questions.

The use of technology by the institutions though limited, passed the print mode and in rare cases audio materials for part of language courses. The effort towards the use of advanced technologies need be focused on.

## **Conclusion**

In recent times, the demand for distance education programmes has increased at an alarming rate in Ethiopia. However, the multidimensional benefits of distance education cannot be achieved haphazardly. This paper had attempted to explore the current trends in course material development, delivery and evaluation of distance education in Ethiopian higher institutions. It was made on distance education divisions of Admas, Alpha, and St. Mary's University Colleges, and Ethiopian Civil Service College. The institutions have well-done self-instructional modules that demonstrate considerable efforts towards reducing shallow learning. The relative recency of the distance mode of educational provision in Ethiopia, the overall bias that institutions in the country have towards the

particular mode of educational provision, and the limited involvement in up-to-date educational technologies were found to have limited the volume of student support that the institutions should provide. Despite this, comforter conclusion over the programmes of the institutions, the institutions have a lot to learn from their practices and other institutions. The encouraging continuous assessment and course examination practices need attention at their preparation, administration and post administration phases. The researcher hopes that those responsible bodies would examine their programmes and make the necessary amendments. Among other things, they need to consider enhancing the capacities of educational resource centers, and studying centers that provide academic, semi-academic and administrative support services to learners.

## **Recommendations**

### **On the basis of the findings, the study recommended the following**

- Higher distance education institutions should keep on producing course materials that allow deep-learning by way of fulfilling the techniques suggested in the discussion section of this paper;
- They should all strengthen their academic support services (i.e. tutorial-face-to-face and correspondence tuition), and by establishing effective educational resource centers both at headquarters and at study center;
- They need to provide counseling support services as the very mode of educational provision requires, to enhance effectiveness of the programmes;
- They need to strengthen their administrative support services to students at study centers like by assigning professionals.
- They also need to provide attention to the assessment and evaluation practices to enhance efficacy of the learning process.

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**Assessment of Major Factors Affecting Female Pre-service College  
Trainees' Field of Study Selection: The Case of TECs and TVETs in  
Oromia Regional State.**

Boki Tola and Kabtamu Ayele

***Abstract***

*The Purpose of this study was to investigate major factors affecting female TEC and TVET trainees' field of study or department selection. To achieve this objective, 295 female students from 3 TECs and 127 female students from 3 TVETs, totally 422 female trainees, were randomly selected and used as source of information. Besides, department heads and gender focal persons of the sample colleges were included as source of supplementary information. All the necessary information were collected using pilot tested questionnaire and interview. The result of the study indicates that female trainees are influenced by two major factors: internal and external based on their origins. Thus, it was found that the internal factors are factors that emanate from the 'self' such as the feelings of inability, academic anxiety, low self confidence, and fear of practice as well as extra work. On the other hand, peer pressure, inability to get orientation, absence of role models, failure of teachers to encourage females, traditional beliefs and the like are external factors. Generally, the study concludes that the combination of the two factors affects female trainees in the selection of their field of study.*

## **1. Introductions**

### ***1.1 Background of the Study***

Higher education plays a significant role to enhance positive social changes, economic development and better life style. This is because economic development highly depends on the availability of skilled human power and this, in turn, is dependent up on the type and level of education. Nowadays, it is generally agreed that higher education is one of the key elements for socio-economic development of a country, for poverty eradication as well as for good governance (MOE, 1999; Habtamu, 2003). Accordingly, the Ethiopian Government seems to be cognizant of this fact and is investing more in higher education these days.

However, inequality of access to higher education opportunities among the various social groups in our society was and still is a serious problem. There exist significant variations in the number of admissions and graduates by sex, ethnicity, urban and rural. Evidences indicate that even in developed countries, women do not have equal enrollment in some areas of study such as Physics and Engineering to that of men (Dowd, 1999).

Though not detailed enough; there are adequate policy statements to support these disadvantaged social groups, especially, females in their educational career. Article 35:3 of the Constitution of FDRE of 1995 states the need to fill inequality and discrimination vacuum suffered by women in Ethiopia. Hence, women are stated to be supported through affirmative actions. The purpose of such actions is to empower women so as to enable them participate fully in the political, social and economic life of the country.

Similarly, stemming from the policy statement of FDRE 1995, article 35:3 , the Oromia Regional State Government (2004) indicated that female enrolment at all levels of education should be enhanced and efforts should be made to narrow the gender gaps in education. The policy further states the need to ensure access to quality education and training programs so as to bring about the desired result, to strengthen their competence focusing on the application of quota systems, and various measures of affirmative actions.



As a mechanism of implementing the stated proclamation and alleviating the problem of female students' access to higher education, affirmative action strategy in quota system has been in practice since the new education and training policy of Ethiopia. Consistent with this, Getachew (2007) pointed out that since education is an investment in development, both males and females should benefit equally from the process of development by improving and widening their access to education. In line with this, Fentaw (2001) stressed that the strategy is quite important and helpful in increasing female students' participation in higher learning institutions.

However, as a weak side of these affirmative actions, Fentaw (Ibid.) added that the affirmative action strategy has been limited to admitting more female students without a concomitant effort aimed at helping them to academically cope with higher education demands. Thus, dropout rates of quota students were very high.

Current practices in Oromia Teacher Education Colleges also indicate that high quota in college admission is being given to female students. From this point of view, practical evidences reveal that the Ethiopian Government, in general, and the Oromia Regional State Government, in particular, has given due attention to girls' education extending to the tertiary level. However, there have been complaints from almost all Teacher Education Colleges that female trainees are over-represented in Social Sciences, Languages and Esthetics departments. This implies that female trainees avoid Maths and Natural Science from their selection as their fields of study. In the case of TVETs, similar practice is found that female trainees escape from joining fields such as Woodwork, General Mechanics, Auto Mechanics and Constructions.

Globally, the issue of differences between men and women in their selection of fields of studies has long drawn attention of researchers even in developed countries. Dowd (1999) pointed out that college women in American universities continued to be over represented in traditional female fields of study, such as the Humanities and Education, and under-represented in traditional male felids of study, such as Physical Sciences, Computer Science and Engineering. Surprisingly, studies conducted in this country had shown that Humanities and other Liberal Art majors earn low salaries relative to their

peers. Traditional gender differences related to field of study prevail even among those graduates of highly selective institutions. According to the data, men outnumbered women in Engineering and Applied Science fields, the Physical Sciences, Economics and a greater number of men majored in Business. Contrary to these fields of study, women outnumbered men in English, the Fine Arts, the Social Sciences and the Humanities (which include Philosophy, Foreign Language and Literature). As indicated in the table below, the experiences of our colleges for female students seem to have certain similarity with this.

**Table 1: Survey of Elit College graduates respondents: Frequencies by majors**

| No. | Major Fields   | Men   | Women | Total |
|-----|--|-------|-------|-------|
| 1   | Engineering, Computer Sc. & other applied sciences                   | 622   | 199   | 821   |
| 2   | Biology, biochemistry and other Biological sciences                  | 476   | 490   | 966   |
| 3   | Visual, theatre, or other fine Art and music                         | 91    | 201   | 292   |
| 4   | History  | 243   | 251   | 514   |
| 5   | English  | 146   | 373   | 519   |
| 6   | Foreign Languages and Literature, Humanities (Philosophy and others) | 184   | 424   | 608   |
| 7   | Chemistry, Geology, Physics & other physical Sciences                | 235   | 130   | 365   |
| 8   | Sociology, Anthropology, & other Social sciences                     | 134   | 247   | 381   |
| 9   | Economics  | 454   | 322   | 776   |
| 10  | Political Science  | 287   | 289   | 576   |
| 11  | Psychology   | 121   | 276   | 397   |
| 12  | Business   | 180   | 131   | 311   |
| 13  | Communication  | 33    | 83    | 116   |
| 14  | Education  | 4     | 23    | 27    |
| 15  | Mathematics & Statistics   | 70    | 65    | 135   |
| 16  | Nursing  | 2     | 123   | 125   |
| 17  | Other  | 76    | 139   | 215   |
|     | <b>Total</b>   | 3,378 | 3,766 | 7,144 |

Source: Dowd, A. (1999)

### ***1.2 Statement of the Problem***

Both in developed and developing nations, gender inequality had been a major problem affecting the right of women and has continued to be an important barrier to socio-economic development. Never-the-less, the discrimination against women remained pervasive in most developing countries, reaching its peak in Ethiopia.

Recently, with the implementation of the new education and training policy of Ethiopia, a strategy of narrowing this gap has been designed and girls' education has got due attention. Regardless of these efforts, female College trainees' self-concept and their attitudes towards Maths and Physical Science subjects seem to be at its lowest peak. In relation to this, Mead (2006) argued that campaigns to support the college women to enter Science, Engineering or Medicine fields can only reach and help the young women who are interested and prepared with a background in Science and Mathematics to take advantage of opportunities offered by colleges.

The author further contends that female college freshman students seldom shift from traditional female fields to traditional male fields such as from Fine Arts to Chemistry, from Journalism to Engineering, except in rare instances. Researches conducted in Nigeria also indicated that self-concept, & attitude towards science subjects are the causes for the students under-achievement in science subjects (Akubuiro & Joshu, 2004). This practice seems to be reflected in our colleges in relation to first year female trainees' stream/ field of study selection. The following table indicates sample registration data in each department in the last three years.

**Table2: Three Years Registration Data of TECs in Four Main Departments (1997-1999)**

| College            | Fields of study/departments |      |    |     |           |    |     |           |     |     |                |     |     |
|--------------------|-----------------------------|------|----|-----|-----------|----|-----|-----------|-----|-----|----------------|-----|-----|
|                    | Year                        | Math |    |     | N/Science |    |     | Languages |     |     | Social Science |     |     |
|                    |                             | M    | F  | T   | M         | F  | T   | M         | F   | T   | M              | F   | T   |
| <b>Assela CTE</b>  | 1997                        | 146  | 26 | 172 | 142       | 87 | 229 | 85        | 152 | 237 | 77             | 131 | 208 |
|                    | 1998                        | 23   | 26 | 49  | 22        | 28 | 50  | 16        | 32  | 48  | 20             | 30  | 50  |
|                    | 1999                        | 42   | 8  | 50  | 28        | 23 | 51  | 15        | 33  | 48  | 10             | 38  | 48  |
| <b>Jimma CTE</b>   | 1997                        | 191  | 59 | 250 | 182       | 77 | 259 | 57        | 141 | 198 | 96             | 146 | 208 |
|                    | 1998                        | 81   | 27 | 108 | 57        | 53 | 110 | 31        | 78  | 109 | 41             | 69  | 110 |
|                    | 1999                        | 153  | 34 | 187 | 95        | 11 | 106 | 64        | 164 | 228 | 86             | 139 | 225 |
| <b>Roble CTE</b>   | 1997                        | 131  | 34 | 165 | 124       | 59 | 183 | 109       | 123 | 232 | 165            | 121 | 2   |
|                    | 1998                        | 90   | 4  | 94  | 82        | 54 | 136 | 57        | 91  | 148 | 57             | 52  | 109 |
|                    | 1999                        | 110  | 29 | 139 | 130       | 73 | 203 | 58        | 139 | 197 | 75             | 124 | 199 |
| <b>Nakemte CTE</b> | 1997                        | 160  | 53 | 213 | 104       | 63 | 167 | 51        | 112 | 163 | 76             | 101 | 177 |
|                    | 1998                        | 65   | 35 | 100 | 47        | 55 | 102 | 28        | 69  | 97  | 49             | 53  | 102 |
|                    | 1999                        | 128  | 39 | 167 | 123       | 94 | 217 | 66        | 164 | 230 | 121            | 158 | 279 |

M=Male F=Female T=Total

Source: Registrar Office of the Colleges

As indicated in Table 2, most female trainees rush to Social Sciences and Languages avoiding Mathematics and Natural Sciences in the case of TTCs. In a similar pattern, the data obtained from the registrar office of the colleges indicates that most female TVET trainees are observed escaping from such fields as Mechanics, Woodwork, Metalwork and Constructions.

Emphasizing on the issue of field of study selection, Hyde (1993: in Emebet, 2001) described that the inequality of males and females in the area of education is quite staggering. The writer pointed out that the inequality is reflected not only in lower levels of attainment and higher dropout rates for girls but also apparent in different curriculum choices offered to or made by men and women at the secondary and tertiary levels: most notably in the low enrollment figures for women in scientific and technical fields. A similar study conducted in America showed that most U.S. Students' aptitude for Science

and Maths is declining. This was attributed to the effect of role models (Howard, 1996). The existence of such problem is at its peak in the Teacher Education and Technical as well as Vocational colleges of the Oromia Regional State Government.

As can be seen from Table 2, female trainees are concentrated in some fields of study. The reasons behind this problem, in the context of Oromia regional state, are not yet studied. The intention of this study is, therefore, to assess the main factors that hinder female trainees from joining those traditionally male fields of study.

To this end, the following major research questions were formulated to be answered in the study.

1. What are the major factors affecting the first year TEC and TVET's female trainees' preference in their selection of fields of studies?
2. What are the possible measures to be taken to overcome these problems?

### ***1.3. Objective of the Study***

The main objectives of this study were:

- Identifying the major factors that affect first year female TEC and TVET trainees' field of study selection; and
- Pointing out some intervention mechanisms to alleviate or minimize these problems.

### ***1.4. Significance of the study***

The result of this study will be significant for it:

1. enables Teacher Education and Technical and Vocational Education Training Colleges of the Oromia Regional State to get feedback on main factors affecting female trainees' field of study selection.
2. provides frame-work for the TECs and TVETs to prepare welcoming program, orientation and course clarification for first year students at the beginning of the academic year.

3. contributes to course materials developers to consider the hidden and perceived factors that have negative effect on females' attitude towards traditionally male fields of study.
4. enables instructors teaching at TEC and TVET level to address against stereotyped belief regarding female college trainees' towards some traditionally male fields of study.

## **2. Research Methods and Design**

### ***2.1 Study Population***

The population of this study was all second and third year female trainees of TECs and TVETs of the Oromia Regional State. First year students were excluded because this data was collected before their admission to the colleges. Thus, the five TECs and the three TVETs were the focus of the study. Among these, three TECs and all the three TVETs were selected as representatives of the remaining.

### ***2.2. Samples and Sampling Procedure***

In order to enhance reliability and representativeness of the sample, systematic random sampling technique was applied using the trainees' identity numbers obtained from the registrar office of the colleges. Because they are supposed to give reliable information for this study, all department heads of the colleges were purposively included in the interview. Besides, gender focal persons from each of the colleges were non-randomly selected for the interview because they are assumed to know problems female students' encounter in their colleges.

### ***2.3. Instruments***

In this study, the data collection instrument employed was self-administered, questionnaire to be filled by female college students. The questionnaire has two main parts, i.e., the preliminary section which deals with basic information such as name of their college, department and year. The second part, the main part of questionnaire, consisted of 8 open-ended and 12 close-ended questions. In order to supplement the data

collected through the questionnaire, department heads and gender focal persons of the colleges were interviewed. Both the questionnaire and interview frames were locally developed and commented by professionals, revised, translated into “Afaan Oromo” and pilot tested before final use.

#### 2.4. Methods of Data Analysis

Basically, this study employed descriptive and qualitative analysis. The qualitative description was employed to analyze the data gathered through the open ended items of the questionnaire and the interview to identify the major factors that affect the female trainees’ interest to select the traditionally male subjects as their field of study. In order to make the differences more observable, numbers and percentages are given in tables.

### 3. Results of the Study

In this study, the first question was related to their department selection in both the TEC and TVET cases. Analysis of the result obtained is summarized as follows.

**Table 3: Department Choice of the Participants**

| TEC Participants |                 |                    |             | TVET Participants     |                    |             | Remark   |
|------------------|-----------------|--------------------|-------------|-----------------------|--------------------|-------------|--|
| No               | Department      | No. of respondents | percent     | Department            | No. of respondents | Percentage  |  |
| 1                | Social Science  | 134                | <b>45.4</b> | RWS                   | 4                  | <b>32.4</b> | Candidates under No.1 are assigned not have chosen their own choice. |
| 2                | Language        | 56                 | <b>18.9</b> | Electricity           | 32                 | <b>25</b>   |  |
| 3                | Natural science | 44                 | <b>14.9</b> | Surveying             | 16                 | <b>12.6</b> |  |
| 4                | Math            | 29                 | <b>9.8</b>  | Drafting              | 15                 | <b>11.8</b> |  |
| 5                | Esthetics       | 9                  | <b>3.1</b>  | GM                    | 6                  | <b>4.7</b>  |  |
| 6                | EDPM            | 14                 | <b>4.7</b>  | Road Construction     | 5                  | <b>3.9</b>  |  |
| 7                | ANFE            | 9                  | <b>3.1</b>  | IT                    | 4                  | <b>3.1</b>  |  |
| 8                | <b>Total</b>    | <b>295</b>         | <b>100</b>  | Electronics           | 3                  | <b>2.4</b>  |  |
| 9                |                 |                    |             | Auto Mechanics        | 2                  | <b>1.6</b>  |  |
| 10               |                 |                    |             | Building Construction | 2                  | <b>1.6</b>  |  |
| 11               |                 |                    |             | Masonry               | 1                  | <b>.8</b>   |  |
| 12               |                 |                    |             | <b>Total</b>          | <b>90</b>          | <b>100</b>  |  |

GM: General Mechanics

RWS:

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As can be seen from the table above, the majority of TEC respondents (45.4%) admitted that they had selected Social Science as their major field of study. Language, with 18.9%, is found to be a second preferred field of study. From the above table, it is observable that many of the TVET female trainees (32.4 %) indicated that RWS was their first choice by the time they joined college. However, it was known that they were assigned to this field of study by the district that sent them for training without providing them options to select from or without considering the interest of the trainees. Thus, analysis of their responses reveals that, about 25 % of the students had selected electricity as their major. Information obtained from the instructors disclosed that such kind of females' inclination towards electricity is a recent phenomenon. It is also possible to see that, Surveying (12.6%), and Drafting (11.8%) excluding RWS were the second and third preferred fields of study respectively.

Secondly, it was designed to investigate the departments/ fields of study that female trainees prefer least. Accordingly, the following result was obtained.

**Table 4: Less Preferred Fields of Study / Departments by Female TEC Trainees.**

| No | Department      | No. of responses | Percentage  |
|----|-----------------|------------------|-------------|
| 1  | Maths           | 263              | <b>89.2</b> |
| 2  | Natural Science | 24               | <b>8.1</b>  |
| 3  | Languages       | 5                | <b>1.7</b>  |
| 4  | Esthetes        | 2                | <b>0.7</b>  |
| 5  | Social Science  | 1                | <b>0.3</b>  |
|    | <b>Total</b>    | <b>295</b>       | <b>100</b>  |

The above table reveals that the majority of respondents (89.1%) reported that they are less interested in majoring in Maths. It is also found that, Natural Science, with 8.1% respondents is the second less preferred department. Similar item was presented to TVET respondents and similar result was obtained. This result was also summarized as follows.



**Table 5: Less Preferred Departments/Fields of Study by Female Trainees  
(TVET respondents)**

| <b>No</b> | <b>Department</b>     | <b>No. of responses</b> | <b>Percent</b> |
|-----------|-----------------------|-------------------------|----------------|
| 1         | Auto Mechanics        | 31                      | <b>24.4</b>    |
| 2         | General Mechanics     | 28                      | <b>22.0</b>    |
| 3         | Woodwork              | 18                      | <b>14.2</b>    |
| 4         | Electronics           | 12                      | <b>9.4</b>     |
| 5         | Building Construction | 9                       | <b>7.1</b>     |
| 6         | IT                    | 8                       | <b>6.3</b>     |
| 7         | Building Massonery    | 6                       | <b>4.7</b>     |
| 8         | Electricity           | 6                       | <b>4.7</b>     |
| 9         | Metalwork             | 3                       | <b>2.4</b>     |
| 10        | Drafting              | 3                       | <b>2.4</b>     |
| 11        | Road Construction     | 2                       | <b>1.6</b>     |
| 12        | Surveying             | 1                       | <b>0.8</b>     |
|           | <b>Total</b>          | <b>127</b>              | <b>100</b>     |

As reported by the participants, it was known that Auto Mechanics (24.4%), General Mechanics (22%) and Woodwork (14.2%) were the three less preferred or most disliked fields of study.

As the main purpose of the study, the students were made to respond to the reasons why most of them avoid Math and Natural Sciences from their choices. The majority of them listed out factors such as fear of numbers, lack of Mathematical ability, poor-self confidence, exaggerated information about Math being a difficult subject, and societal pressure or traditional belief that Math to be males' field of study.

The responses obtained from their instructors somehow supplement the reasons indicated by the students. The instructors also added that most females have Math anxiety. Moreover, Math courses are related to Physics and Chemistry. However, most female students call these subjects 'hard sciences' and perceive them to be difficult.

On the other hand, it was found that most female trainees want to join Social Sciences and Language. As a reason behind it, most of them pointed out that such fields are not challenging for females because they have no calculations and they demand less practice as they are more of theory.

The instructors' responses exactly go with the trainees' idea that most female trainees prefer Social Science because they perceive it easily achievable. It was also found that most of them were told by their seniors to join Social Science Department. Contrary to their friends, some participants reported that their parents encourage them to study Natural Science or Math. However, most of the respondents indicated that their parents are not educated and had no role to guide them in field of study selection.

Similar to the TEC respondents, the TVET participants were made to respond to the reasons why most of them avoid GM, Auto Mechanics, Constructions and the like from their choices. The nature of such fields being high labor demanding on practice and actual job, traditional belief that assigns Math/ Natural Science as males' field of study, perception of difficulty of the subject, less probability of getting jobs, societal and cultural pressures are some of the possible reasons forwarded by the participants.

Their instructors also suggested that most of female trainees escape from General Mechanics or Auto Mechanics and Constructions because these fields require laborious practice as well as job. The instructors further added that these fields are related to Math but most females have feelings of lack of capacity in Math. They also pointed out that the TVET participants suspect that they may not be able to get job because of traditional believes. This is because of organizational bias in favoring males for employment especially in such fields as Mechanics, Woodwork, Electricity and Constructions. Because of such factors, most TVET female trainees prefer Secretarial Science, Surveying, Drafting, Office Management and the like.

In order to investigate their earlier experience, they were made to respond to items dealing with role models. Analysis of the result, therefore, shows that more than half of the participants (51.2 %) had no female teachers when they were students at lower grade

levels. Just opposite to practical experiences, 43.7% of them indicated that they had been lucky in getting female Math/Natural Science teachers.

A similar question with different content was presented to TVET participants and similar result was obtained. The majority of the students (58.3%) reported that they did not know any female engaged in vocational areas. However, 36.2 % of the respondents indicated that they are familiar with females being engaged in the vocational area, such as Woodwork, Mechanics and Electricity.

The other suspected reason to have influence on department selection of female trainees' was peer pressure. The participants' response to these items treating this aspect was summarized and indicated as follows.

**Table 6:** "Had your seniors told you that studying Math/Natural Science is difficult for females?"

| No           | Responses     | No         | Percent     |
|--------------|---------------|------------|-------------|
| 1            | Yes           | 243        | <b>82.4</b> |
| 2            | No            | 50         | <b>16.9</b> |
| 3            | I am not sure | 2          | <b>.7</b>   |
| <b>Total</b> |               | <b>295</b> | <b>100</b>  |

A result given in this table shows that 82.4% of the respondents indicated how they are influenced by their seniors. A similar result was obtained in the case of TVET respondents. About 59.1% of them reported that their seniors had persuaded them that such fields as General Mechanics and Woodwork are difficult fields for female trainees.

With regard to their self-concept, 57.6 % of the TEC respondents and 67.7% of the TVET participants indicated that they do not believe in the presence of high probability of dismissal if they join Math /Natural Science, General Mechanics, Auto Mechanics, Woodwork. Contrary to this, 28.1% of the TEC participants and 21.3% of TVET participants indicated that the probability for their dismissal would increase if they join the mentioned fields of study.

To investigate whether the respondents are influenced by traditional beliefs or not, they were made to respond to items dealing with such issues.

Analysis of the result indicates that in both the TEC and TVET cases, the majority of the respondents are not influenced by traditional attitudes. Surprisingly, 84 % of TEC and 66.1 % of TVET respondents indicated that they do not believe that fields such as Math/Natural Science, Woodwork, Mechanics and the like are fields to be studied only by males.

Relating some fields of study to job world, 66.8% of the TEC respondents indicated that they will not be challenged in the world of job if they study Math/Natural Science. Contrary to this, 26.4 % of them argued that it would be difficult to them in the world of job if they study Math or Natural Science. Different results were found in the case of TVET participants. Among the participants, 69.3% of them reported that it will have some sort of difficulty later in their job if they study such fields as Woodwork, Mechanics, Constructions, Metalwork and the like. Contrary to this, 26 % of the TVET respondents indicated that it would not be difficult for them in the course of their job if they study such fields.

From practical point of view, it is actually speculated that access to information on how to be successful in Math/Natural Science could influence students' selection of fields of studies. In this regard, 56.6% of the participants indicated that they didn't have access to information on how to be successful in Math or Natural Science subjects. Similarly, 47.2% of the TVET participants indicated that they had no access to information about these fields of study.

On the other hand, it is suspected that orientation provided at the beginning of the year, could have influenced their selection. The responses to a question eliciting this idea were summarized as follows.

**Table 7:** "Did you get enough information/orientation about the departments before you select departments?"

| No.          | Response      | TEC Participants |            | TVET Participants |            |
|--------------|---------------|------------------|------------|-------------------|------------|
|              |               | No.              | Percent    | No.               | Percent    |
| 1            | Yes           | 110              | 37.3       | 53                | 41.7       |
| 2            | No            | 177              | 60.0       | 69                | 54.3       |
| 3            | I am not sure | 8                | 2.7        | 5                 | 3.9        |
| <b>Total</b> |               | <b>295</b>       | <b>100</b> | <b>127</b>        | <b>100</b> |

As it is given in this table, a similar and related response is obtained in the case of TVET and TEC participants. Thus, 60% of the TEC and 54.3% of the TVET respondents revealed that they did not get ample orientation about the fields before they were made to select the fields that they are studying.

As a consequence of the above failure, the participants in both cases pointed out that the absence/ inadequacy of prior orientation to be the most likely cause for their failure of selection of some traditionally labeled male fields of study. From the TEC group, 45.8% of them reported that absence of early orientation and course clarification can be the cause for their lack of willingness to select these traditionally male fields of study such as Math and Natural Science. However, 40.7% of them reported just the opposite of what is stated above.

In a similar fashion, 56.7 % of the TVET participants reported that absence of early orientation had negative influence on students' choice. Only 24.4% of them indicated their belief that absence of early orientation might not have negative influence on their field of study selection.

#### 4. Discussion

In this study, attempt was made to investigate female trainees' field of study selection. As it is indicated in Table 6, most of them, i.e., 45.4%, described that Social Science was their first choice. Following this, 18.9 % of them pointed out that Languages were their first choice. Hence, their response implies that most female trainees are attracted more to Social Science and Languages. As a contributing reason, it was found that most female trainees perceive Social Sciences and Languages as less challenging, easily achievable

and less demanding. The result of this study is found to be consistent with the result of a study conducted in the USA, which indicated that females outnumber males in English, Fine Arts, Social Sciences and Humanities - including Philosophy, Foreign Languages and Literature (Dowd, 1999). Dowd further indicated that in such fields as Engineering, Chemistry, Math and Statistics males outnumber females (Table 1).

Similarly, TVET participants' selection of field of study indicates that females commonly avoid some traditionally male dominated fields of study. It was found that such fields as Electricity, Surveying, Drafting, Secretarial Science, and Information Technology are the most preferred fields of study by female collegians. This result again seems to be congruent with the American experience; the Elite College graduates (Table 1)

Generally, the figures given in table 3 and 4 are indicators of the over representation of female trainees in some traditionally female fields of study. The opposite of this, i.e., less preferred fields /departments are also given in table 4 and 5. Accordingly, it was found that Mathematics is the least preferred field of study by female trainees (89.2% given in table 4). To some extent, this result is congruent with the result of a study conducted in Assela College three years back (Boki, 2006). This result confirms the current observed practice. Most students, including males, are suspected to have a feeling of Math incapability and at times Math anxiety. This issue works even for developed nations. These days in America, it is strongly argued that American students are performing less in Math and Physical Sciences (Mead, 2006). However, evidences indicate that Mathematics is favored by boys. Girls, on the other hand, favor language and arts (Brintner, 2002). The basic reasons for gender differences in Mathematics attitudes and abilities seem to be the stereotyped beliefs that Math as an exclusive domain of knowledge for the male. Studies have shown that traditionally Math has been a masculine discipline. According to some evidence, although girls seem to believe that studying Math was just as appropriate as for men; their behavior in course selection was more stereotyped (Ernest, 1976, in Seleshi, 1995).

In a similar manner, TVET participants pointed out that fields such as Auto Mechanics, General Mechanics, Woodwork and Constructions are less preferred by females.

Basically, these fields are highly related to Mathematical concept. However, it was indicated that most females are suspected to have a feeling of Math incapability.

In this study, the primary objective was not to find out the departments that female trainees' favor or disfavor. It was rather to investigate the reasons why female trainees do not join those traditionally male dominated fields of studies. Accordingly, participants pointed out various reasons.

An attempt was made to find out most preferred fields of studies by female trainees. Accordingly, results of the study indicate a phenomena matching with the reality of our region. As indicated in the result section (Table 3), most female TEC students prefer Social Sciences. In the analyses of the result, the reasons can be summarized as 'self-related' and 'demand' factors. The 'self-related' factors are the self-concept the individual has towards that subject.

Hence, it includes feelings such as "I am incapable of this subject" and the like. On the other hand, the 'demand factors' are such factors as absence of calculations, less practical demand and absence of other challenges linked with the subject.

As in the case of TVET participants, most of them give high weight to demand factors and challenges that are expected to appear later on their job. As it is given in the result section, they pointed out that such fields as Surveying, Drafting, and Secretarial Science do not require much labor or practice.

Theoretically, the reasons for differences in students' selection of fields of studies could be various. One of those reasons could be the presence or absence of role models. As it was described in the result section, more than half of TEC participants reported that they have had no good role model. Similar result was noted from TVET participants as well.

Studies in the field of Psychology provide evidences of locus of control as a changeable variable which can be affected by modeling. From the results of her study, (Teglasi, in Howard, 1996), indicated that internal locus of control in women is stronger in relation to other women than in relation to men. In this study, most of the participants revealed that

they didn't have good female Math/Natural Science teachers, or didn't know any female technician or wood worker or Mechanic. Having strong theoretical background, this might have negative effect on the students' selection practices of fields of studies. The participants themselves admitted that their inability to get good role models has discouraged them towards these traditionally male dominated fields of studies.

The other factor assessed in this study was peer pressure. Peer pressure, accompanied with traditional attitudes, could have a magnified effect on the female trainees. The result shows that, 82.4% of the participants indicated that they were told by their seniors that Math/Natural Science is challenging for females. In relation to this, the National Assessment of Education Progress (NAEP) in America revealed some basic differences between boys and girls. Thus, Mead (2006) stated that boys out perform girls at all grade levels, very slightly in Math and Science. She further described that girls in American schools have just improved their performance, and as a result, they have narrowed or even closed some academic gaps that previously favored boys.

As to the case of our colleges, the results obtained in this study seem to be contrasting to the Americans case. Evidences obtained from the instructors' shows that most female trainees who have already joined Math or Natural Sciences are scoring low. However, the instructors admitted that there are few females who are competent and who outperform their male counter parts.

In this study, it was also slightly attempted to know the extent of their self-concept in relation to these traditionally male dominated fields of studies. Accordingly, it was found that 57.5% of TEC and 67.7% of TVET participants do not believe that they will be likely to be dismissed if they join these traditionally male dominated fields of studies. Never-the-less, most of them had reported that their first choice was non-Math (Table 2 and Table 3). The instructors' responses were also found to be contradictory with this view. As to the responses of the instructors, most of the warnings/low achievers in Math or Natural Science departments are females. The instructors had indicated that only few female students in such departments are competent enough to their male counterparts.



Thus, the students' responses are found to be contradictory with what is practically observed in the colleges.

After studying a given field, it is obvious that the next step is joining the professional world. Thus, it is suspected that the trainees might have retreating from selecting some of the fields because of fear of challenges/difficulties later in their professional work. However, 66.8% of the TEC respondents indicated that they have no fear of challenges on work if they study Math or Natural Science. However, 69.3% of TVET participants reported that studying such fields as Mechanics, Woodwork and Metalwork and Constructions would lead them to face challenges at the job world. The supplementary information gathered from instructors also indicates that females do not favor some challenging works such as Mechanics and Constructions.

Another possible factor is that female students' selection of field of study is affected by prior access to information that leads to success in these fields. With this respect, 60% of the TEC and 54.3% of the TVET participants reported that they did not get enough orientation about the fields of study that they are made to select. Hence, absence or inadequate orientation most probably leads to less awareness of what to do, what challenges to confront and what benefits to gain later. Thus, the absence or inadequacy of early orientation is suspected to have imposed negative impact on students' choice.

As to the measures to be taken by the concerned bodies, participants requested for different affirmative actions. As it is given in the result section, their responses ranges from simple orientation and course clarification to the extent of demand of different grading. The participants' demand for positive discrimination; such as the affirmative action, have got some acceptable ground. The instructors also supplemented the students' responses by indicating the appropriateness of some affirmative actions forwarded by the participants. They added that, it would be right to minimize the problem by attracting females to these traditionally male dominated fields of studies through job opportunities and further education. Thus, the request for such affirmative actions is congruent with actions that had been taken by such countries as Malawi, Gambia and Mali (MOE, 1999).

The result of this study, therefore, shows that affirmative actions should extend beyond the quota system of admission of females to colleges.

## **5. Conclusions and Recommendations**

The overall objective of this study was to assess factors that affect female pre-service college trainees' selection of field of study. Accordingly, the results obtained show that most TEC female candidates select Social Science and Languages as their major field of study. It is also known that most TVET new entrant female trainees favor Surveying, Drafting, Secretarial Science and Electricity as their major field of study.

On the other hand, it was also found that female candidates in the TECs avoid studying Mathematics. Likewise; TVET participants rarely select Auto Mechanics, General Mechanics, Woodwork and Constructions as their major fields of study.

To find out the reasons for such failure, attempts were made to get information on various factors. Accordingly, participants of the study tried to list out different factors they encountered personally and/ or their friends. For the sake of simplicity of presentation, the various reasons were compressed and summarized into two major categories. These factors are:

- 1. Internal factors:** these factors are factors that originate from the female trainees themselves. Though these factors are not studied in detail, potential factors include academic self- concept, attitude towards some subjects and positive/negative self talk. Generally, the trainees' self made' doubt, which may be objective or subjective, was found to be one factor hindering female trainees from joining such fields of studies as Math, Natural Science (in TECs,). In the case of TVETs General Mechanics, Woodwork, Metalworks & Constructions.
- 2. External factors:** these factors are factors that emanate from the “out-of-self” or from the environment. Naturally, these factors have high explicit and implicit pressure on the internal factors. These factors too, are not deeply and independently investigated in this study. However, from the results obtained, such factors as absence of role

models, peer pressures, absence of information and orientation/course clarification, failure of teaches to encourage female students are grouped under this category.

With regard to the solutions, affirmative actions apart from encouraging female students are quite essential. Offering role models for them and positive discrimination favoring females starting from the elementary schools through freshmen and senior college students need to be planned both in short- and long-term.

In concluding the study, the authors propose the following recommendations for the consideration of policy makers and stake holders. This proposal has been summarized in to two, based on the time frame of implementation.

***Recommendations for short term (immediate) implementation***

1. The colleges, i.e., the TECs as well as the TVETs, should provide brief orientation and course clarification in the presence of female instructors and gender focal persons, from the respective fields, if possible, before the students select their field of study.
2. Special attention should be given to those female college trainees who have already joined those fields that are avoided from by most female students. Based on their interest, the colleges should arrange tutorial programs and extra curricular activities to enable them compete with their male counter parts.
3. The colleges should provide incentives for female trainees who have been successful in such fields so that they can gain recognition and confidence and they can be exemplary for other students.
4. The college gender committee should not only be established but also be fully functional and well staffed. The gender committee should also provide guidance and support to female trainees in relation to their selection of field of studies.
5. Female trainees who complete their study from TVETs in such fields as Woodwork, Mechanics, Constructions and the like should be provided equal job opportunities with males.

### ***Recommendations***

1. The districts, collaborating with the Oromia Education Bureau (OEB), should recruit more female teachers who graduated in Natural Sciences and Mathematics so that they can act as role models for their students starting from the primary level.
2. Teachers, teaching both at primary and secondary levels, should encourage and pay more attention to girls, especially in relation to such subjects as Math and Natural Sciences. They need to work towards the development of feelings of capability and self-concept towards Mathematics and Natural Sciences.

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**An Investigation of the Relationship among Teacher-student  
Interpersonal Behavior, Anxiety and Students' Achievement in  
Language Classes**

Bekalu Atnafu

***Abstract***

*In every academic setting, there are various factors that affect the performance of students. Teacher-student interpersonal behavior and anxiety are some of them. The focus of this study is to review the relationship of teacher-student interpersonal behavior, anxiety and achievement in language classes. Having this objective, samples were taken from St. Mary's University College. The study uses questionnaires and document analysis to collect data. The data collected through questionnaire were analyzed with Pearson Product Moment Coefficient of Correlation. Pearson ' r ' was used at 0.05 alpha levels. That is, the statistical test was calculated at 5% level of significance. Consequently, the observed t-value above 0.05 was considered as non-significant whereas t at 0.05 and below was significant. Teacher-student interpersonal behaviors and anxiety made significant contribution to students' language performance. As a result, it was concluded that there were valuable correlations among teacher-student interpersonal behavior, anxiety and the performance of students.*

## **Introduction**

In higher institutions of learning, there are various factors that hinder the performance of students. These factors could be social, psychological, and environmental. Students are able to master the necessary skills and competence if they are in a psychological and social comfort zone. Higher learning institutions can not realize their lofty objectives without analysis of students who join institutions. Thus, an inventory of student interpersonal behavior and psychological conditions would help higher learning institutions properly handle human inputs.

Of all the factors that affect the performance of students, teacher-student interpersonal behavior and learners' emotions have subtle effects. This particularly holds true in language classes. For many students, language courses are the most anxiety-provoking courses they take (MacIntyre, 1995, cited in Kondo & Ying-Ling, 2004). Language anxiety is not exclusive to beginners; university students with an extensive language learning background can also perceive considerable levels of language anxiety (Ortega-Cebreros, 2003). Language classes are a bit different from others; it is full of interactions, tasks and activities in which some people experience psychological blocks like anxiety. That is, the uniqueness of foreign language anxiety in comparison with other academic anxieties lies on the interactive nature of language classrooms and the continual request on learners to communicate (Ortega-Cebreros, 2003).

In addition to the interactive nature of language classes, language learners have dual tasks of not only of learning a foreign language but also using it (Foss & Reilzel, 1991); as a result, language anxiety is more likely to occur in foreign language lessons than in lessons in the other subjects of the curriculum. On top of these, foreign language classes require students to communicate via a medium in which only limited facility is possessed (Horwitz et al., 1991). These additional feelings of incompetence about grasping the language in the first place and about the inability to present oneself in a way consistent with one's self image would induce anxiety (Foss & Reilzel, 1991). This affects the performance of students.



Regarding the effect of anxiety, facilitating and debilitating anxiety have been used by language anxiety researchers. Facilitating anxiety is an asset to learners' performance while debilitating anxiety is detrimental (MacIntyre & Gardner, 1989). Facilitating anxiety keeps students alert and leads to high language proficiency and good grades in language classes; whereas debilitating anxiety may lead to poor performance in speaking (Oxford, 1998 cited in Feigenbaum, 2007).

Anxiety is also classified as being state and trait. State anxiety arises as a temporary condition in response to a particular situation or event; on the other hand, trait anxiety is a relatively stable personality trait which is applicable across a variety of situations (MacIntyre & Gardner, 1991; Oxford, 1998 cited in Feigenbaum, 2007; Woodrow, 2006).

Comparison between state and trait anxiety revealed that it is state anxiety that influences the language learning process (MacIntyre & Gardner, 1991 cited in Feigenbaum, 2007). In this regard, it can be said that state anxiety is highly linked with the learning environment. That is, language anxiety is conceptualized by many language anxiety researchers (Kondo & Ying-Ling, 2004) as a situation-specific trait. In addition to this, Spielberger, Anton & Bedell (1978) cited in Woodrow (2006) added situational specific anxiety, the third type of anxiety, which reflects a trait that recurs in specific situations.

On the other hand, Leary (1982) cited in Ohata (2005) defined social anxiety as a type of anxiety that arises from the presence of interpersonal evaluation in real or imagined social settings. In relation to this, Horwitz (2001) forwarded that the help and friendship the teacher shows toward students, how much the teacher talks openly with students, trust them, and is interested in their ideas, perceived teachers' support may be possible to reduce the anxiety of language learners. In congruent with this, Turkish students identified their teacher's manner as an important source of anxiety (Horwitz, 2001). In light of the findings above, forming personal relationship with students is helpful in reducing language anxiety.

This indicates that a particular environment that a teacher creates in the classroom may have a tremendous impact on students' emotional reaction- anxiety (Ohata, 2005 citing

Bailey 1983, Tsui, 1996; Price, 1991 cited in Worde, 2003). Worde (2003) kept on saying that having a relaxed classroom environment as paramount importance in reducing anxiety. In a similar study, Horwitz (2001) citing Palacios's (1998), findings state that it might be possible to keep anxiety levels to a minimum level with a supportive and constructive classroom environment. That is, anxiety decreased when instructors create a warm social environment (Young, 1991).

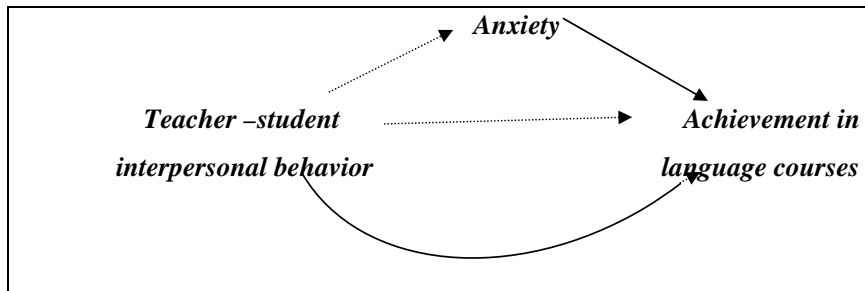
Needless to say, classroom environment influences affective factors and non-threatening learning environment fosters academic success. Promotion of classroom environment characteristics such as cohesiveness and democracy (Fraser 1986 cited in Finch 2001) and being sensitive to students' affective needs have consistently positive influences on learning. Curriculum, teaching methodologies, materials, textbooks, and assessments rely heavily on narrowly defined academic achievement (Rogers, 1951 cited in Finch, 2001).

By listening to the students as they express their needs, beliefs and perceptions (Reid, 1999 cited in Finch, 2001), the teacher could create conducive environment. Sano et.al, (1984) cited in Finch (2001) noted that even creative production is possible in a "non threatening environment which encourages meaningful learning and the creative use of English. Students give credit for warm – hearted interaction between teachers and learners as well as among learners themselves. This makes teachers consider their basic assumptions and reactions while making interactions with student; having taken off the authoritarian "dispense of correct language" hat, the teacher can begin construction of a dogma-free warning space sensitive to the affective needs of the students (Finch, 2001).

It is the researcher's premise in this study that teacher-student interpersonal behavior could bring deep-rooted emotional effect on today's language classes. This psychological effect, in turn, affects the performance of students. In view of the above points, it is imperative that teachers in general and language teachers in particular have to develop awareness of the phenomenon of language anxiety and the effect of teacher-student interpersonal behavior. To this end, the following research question has been formulated:

- What are the relationships among teacher-student interpersonal behavior, anxiety and the performance of students in language classes?

On the basis of the above theoretical and empirical investigation, the following conceptual framework is developed for studying the relationship among anxiety, teacher-student interpersonal behavior and achievement.



**Figure1:** *Conceptual framework for studying teacher-student interpersonal Behavior, anxiety achievement*

Source: Adapted from the theoretical and empirical findings discussed above.

### ***Method***

This study was done taking St. Mary's University College as a case. The total number of freshman and third year students in the department of Language was about fifty and twenty-two, respectively. Availability sampling technique was used. Since the research was designed to show the possible correlation among anxiety, teacher-students behavior and achievement, the appropriate instruments chosen for the collection of data were questionnaires and document analysis. Two forms of questionnaires which are standardized scales of "language anxiety" and "teacher-student interpersonal behavior" were adapted and distributed to freshman and third year English major students at St. Mary's University College. Students were requested to fill in the questionnaires with 'their language teachers in mind'. The students were also asked to rate the items on a five point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Students' academic performance obtained from the Registrar's Office of St. Mary's University College was also used as a source of data. For the freshman students, first year second semester grade point was taken into account whereas for senior students the last semester grade points was used.

The results were tabulated and analyzed. The analysis was made using inferential statistical measures. The inferential measures were designed to draw strong conclusions about the data. The basic purpose of utilizing inferential statistical analysis was to see correlation among anxiety, teacher-students behavior and achievement. The data collected through questionnaire were analyzed with Pearson Product Moment Coefficient of Correlation. Pearson ' r ' was used at 0.05/0.01 alpha levels.

## Results and Discussion

**Table 1: Correlation between anxiety and achievement**

|                     | Level of anxiety |        |        |        |        |        |
|---------------------|------------------|--------|--------|--------|--------|--------|
|                     | Low              |        | Medium |        | High   |        |
|                     | Fresh            | senior | fresh  | senior | Fresh  | senior |
| Language Course GPA | .638**           | .138*  | .548** | .228   | -.604* | -.704* |

\*\* Correlation is significant at the 0.01 level (2-tailed).

\*Correlation is significant at the 0.05 level (2-tailed).

As it can be seen form the table above, when the level of anxiety became at a low or medium level, a positive relationship existed between the levels of anxiety and the achievement of students in the language course. The correlation was moderate and little for freshman and senior students respectively. This correlation was found to be significant at 0.01 levels for the case of freshman students. That is, the observed t-value for anxiety and achievement in language course is less than the appropriate t- critical value for acceptance. Hence, the achievements of students in language courses and anxiety, in this study are correlated significantly. It has been said that second or foreign language learning is anxiety- provoking. As a result, students might experience mild, moderate or severe anxiety in the process of language learning. However, a high level of language learning anxiety might become detrimental to performance and students are less bold and find it difficult to think clearly (Argaman and Abu-Rabia, 2002; Brown, 1994; Ohata, 2005b; Crookall and Oxford, 1991). That is, there is a tendency for students to experience mild anxiety while their performance tends to increase. This indicates that the

amount of anxiety experienced by students could not exceed the norm and hinder the students' ability. This further implies that the optimal level of anxiety could not impede language learning process; instead, it facilitates the stages of acquisition. This was, of course, in line with the well established fact that facilitating anxiety motivates learners to emotionally 'fight' their learning tasks. In contrast, debilitating anxiety motivates the learner to 'flee' from the new learning task (Scovel, 1991).

As it can be seen from the table above, when the level of anxiety became high, there was a negative correlation between anxiety and the achievement of students. The observed t-value for anxiety and achievement was found to be significant at 0.05 showing that there was statistically negative significant correlation between anxiety and achievement. That is, while students were scoring better in the English course, they were ranked lowest on anxiety score. This further revealed that maximum level of anxiety might hamper the performance of students.

**Table 2: Correlation among teacher-student interpersonal behavior, anxiety & achievement**

|                     | Teacher-student interpersonal behavior |        |
|---------------------|--|--------|
|                     | Fresh                                  | senior |
| Level of anxiety    | -.228                                  | -.830* |
| Language Course GPA | .383*                                  | .853** |

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

The above table also showed that there was a negative correlation between anxiety and teacher-student interpersonal behavior (-.830; -.228); and the correlation was high up on senior students (-0.830) and low on freshman students. This high correlation was found to be statistically significant. This depicted that when teacher-student interpersonal relationship became healthier, the amount of anxiety students experience was lower. Still, the possible reasons might be the degree of acquaintance. The more students stay in the University College, the better relationship they form with teachers; and this in turn

reduces the level of anxiety. Staying long in the University College, in the case of senior students, enabled them to develop desirable teacher-student interpersonal behavior.

On the contrary, as can be seen from Table2, the level of correlation between teacher-student interpersonal behavior and anxiety was found to be (-.228) in the case of freshman students. This indicated that freshman students entering higher learning institutions might not have desirable teacher-student interpersonal behavior. This happened due to the fact that they became strange to the learning environment in general and with teacher-student interpersonal relationship in particular and this might make them experience psychological discomfort. Thus, the learning environment that recognizes the importance of teacher-student interpersonal behavior is unarguably important so as to reduce psychological instability. Otherwise, this psychological instability would affect the performance of the learners.

In general, teacher-student interpersonal behavior might regulate the level of anxiety that students experience and this might hinder the achievement of students. In a similar study it was reported that Chinese and Indonesian students are not used to asking questions in lectures; Japanese students are reluctant to speak in front of other students (Jiang, 2001). This implied that the teaching-learning interaction is influenced by the teacher-student interpersonal behavior. And this might affect the interaction that should exist in the language class.

It is evident from the above table that there is also a relationship between the performance of students in the language course and teacher-student interpersonal behavior (.383, .853). Still, the relationship was higher on senior students (.853). This discrepancy which existed between freshman and senior students might be due to the fact that senior students owing to their years of stay might develop healthy interpersonal relationship with teachers. As a result, when the performance of students improves, healthy teacher-student interpersonal behavior tends to increase. In other words, healthy teacher-student interpersonal relationships might be a prerequisite for good performance and for engaging students in learning activities. A similar study has shown that students' perceptions of teacher-student interpersonal behavior are strongly related to the

achievement of students (Oord and Den Brok, 2004). Interaction has got a special place in language classes since the peculiar feature of language class is its nature of interaction. In the domain of this interaction, respectful relationships should exist. In this regard, teachers are to be approachable and students have to feel free to ask questions and interact easily so as to exploit their full potential.

In the process of classroom interaction, it is assumed that people send both content and relational signals at the same time, with the latter often determining how the former is understood (Watzlawick, et al.1967 cited in Oord and Den Brok, 2004). In relation to this, teachers having healthy interpersonal relationship with students are seen by students as someone that is a good leader, helps and understands students, provides some responsibility and freedom and is not too strict, is not uncertain, admonishing or dissatisfied with students (Wubbels and Levey, 1993 cited in Oord and Den Brok, 2004).

## **Conclusions**

The purpose of this study is to explore the relationship among teacher-student interpersonal behavior, anxiety and achievement in language classes at St. Mary's University College. To this end, data were collected from both freshman and senior students in the department of languages. Based on the findings of the study, the following conclusions are forwarded.

- There was a statistically negative significant correlation between anxiety and achievement while the level of anxiety was high. On the contrary, when the levels of anxiety become low and medium, achievement and anxiety are correlated positively.
- It was found out that there was a negative high correlation between teacher-student interpersonal behavior and anxiety among senior language students. And the correlation was little on freshman language students. This showed that the longer students stayed in the University College, the better teacher-student interpersonal behavior and achievement became. The possible justification might be familiarity of the learning environment. While students are staying in

institutions for a long period of time, they might develop healthy interpersonal relationship with their teachers. Furthermore, staying long in the institutions enables students to be acquainted with the type of tasks they are required to carryout. Thus, if students are accustomed to the task as well as the nature of teacher-student interpersonal behavior, the level of psychological tension would reduce.

- The findings of the study also depicted that there was a positive correlation between the performance of students and teacher-student interpersonal behavior. In general, the finding of this study showed that there were valuable correlations among teacher-student interpersonal behavior, anxiety and students of performance.



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## **Information Minorities: Knowledge, Attitude and Behavior of Students with Hearing Disabilities about HIV/AIDS preventive Measures**

Bekele Workie

### ***Abstract***

*The study has had three fold objectives: to investigate hearing impaired students knowledge, attitude and behavior about HIV/AIDS preventive measures, to find out whether or not knowledge, attitude and behavior of the hearing impaired students about HIV/AIDS preventive measures relate each other and to determine whether or not difference exists regarding knowledge, attitude and behavior about HIV/AIDS preventive measures within the groups of the hearing impaired across the sexes. To materialize these objectives, from a total of 151 hearing impaired students, 80 students (46 males and 34 females) were selected by stratified followed by simple random sampling technique. And male and female students from each stratum were taken proportionally. The result of this research showed that nearly half (62.8%) and below half (37.2%) of the hearing impaired students had correct knowledge and incorrect knowledge about HIV/AIDS preventive measures respectively. Concerning their attitude, below half of the respondents had unfavorable (48%) and favorable attitude (43.8%) about the preventive measures, and 8.2% of the respondents were in dilemma to decide whether or not they have favorable / unfavorable attitude. 42.2 % of the hearing impaired students did not practice any of the precautions not to be infected by HIV/AIDS, but only 17.8%, and 42% of the respondents practice the preventive measures sometimes. And there was statistically significant relationship among knowledge, attitude and behavior about HIV/AIDS preventive measures ( $X^2=649.410$ ,  $df=4$ ,  $P=0.000$ ). There was no statistically significant difference in knowledge( $X^2 =0.042$ ,  $df=1$ ,  $P= 0.877$ ) and behavior( $X^2=0.496$ ,  $df=1$ ,  $P=0.481$ ) between female and male respondents. However, there was a significant difference in attitude between the sexes of the respondents about HIV/AIDS preventive measures ( $X^2=13.946$ ,  $df=1$ ,  $P=0.000$ ). That means females have more positive attitude (mean rank of 653.15) to the practice the preventive measures than males do have (mean rank of 579.17). Finally, mounting efforts should be made to adapt the teaching of HIV/AIDS to the special needs of the hearing impaired.*

## **Introduction**

Unfortunately, data on the incidence, prevalence and situation of persons with disabilities are fragmented, incomplete and sometimes misleading (Ethiopian Federation of Persons with Disabilities (EFPD), 2001; and Tirusaw, 2000). However, the 1984 population census of the country gave a good picture of the magnitude of disabilities and best describes the proportional number of the different categories of disabilities. As a result, 42.2 % of the disabled are visually impaired. This comprises around 1.5 % of the total population of the country. On the other hand, from the total population of the disabled, 7.8 % are with hearing impairment. This comprises around 0.28 % from the total population of the country; 6.5 % leprosy from the whole population of the disabled and 0.23 % from the whole population of the country; 2.0% epilepsy from the disabled population and 0.07% from the total population; and 24.0 % others from the total population of the disabled and 0.87 % of the total population.

The base-line survey of disabilities was also carried out by Tirusaw, Hannu, Agdew and Daniel (1995) and the result of the survey shows the proportion of different disability categories as follows: 30.8 % physical impairment; 30.5 % visual impairment; 14.9 % hearing impairment; 10.3 % chronically ill; 6.5 % mentally retarded and 7.1% others. World Health Organization (WHO), (1999) also estimated that 10.0 % of the population in the developing countries are persons with disabilities.

Variation by specific disability in percentage distribution from both reports might indicate the presence of drawbacks to determine the rate of prevalence of disabilities. According to Kirk and Gallapher (1986), Hallahan and Kaufman (1988), and Taylor, Sternber and Richard (1995) inadequate definition of the target group and unwillingness of parents to disclose that they have a child with disabilities are the major drawbacks to determine the prevalence of disabilities. Tirusaw (2000), moreover, explained that the presence of diversified, pre and post natal disability factors like infectious diseases, difficulties contingent to delivery, under nutrition, civil strifes and periodic episodes of draught and famine and absence of early primary and secondary prophylactics at large has brought an increase in the rate of the phenomena. Therefore, we are compelled to

assume that in Ethiopia persons with disabilities comprise 10% of the total population (about 80 Million), as estimated by WHO (1999). At this juncture, it is worth interrogating the overall issues of HIV/AIDS in connection with persons who have special needs.

HIV/AIDS, at present, has far elided biomedical preventive measures. The most important mechanism of HIV/AIDS prevention is giving correct and up-to-date information about the disease. The Federal Democratic Republic of Ethiopia (FDRE), therefore, is duty bounded to design policies and strategies to halt the spread of HIV/AIDS. This could be possibly be done by providing accurate and accessible information for all citizens. This would prevent the distraction of the most important resource of the country-human resource. As a result, there are efforts of creating awareness and changing attitudes of citizens about HIV/AIDS. It, thus, seems possible to categorize the above mentioned efforts in to three: the visual, aural and audio-visual approaches.

The visual approaches of HIV/AIDS education include such materials as magazines, newspapers, leaflets, widely displayed posters (of HIV/AIDS infected individuals), sign language, etc. Obviously, these approaches transmit a great deal of information about HIV/AIDS and are accessible for the hearing impaired population. The aural approaches include, radio broad casts, awareness raising meetings, anti HIV/AIDS clubs, questioning-and- answering sessions, invited guest speakers and the like. Although these approaches give great opportunity to acquire information about HIV/AIDS, they are not accessible for the hearing impaired individuals. Other approaches include, TV programmes, movies, theater presentations, total communication approaches, and other audio-visual approaches. These approaches are equally accessible and inaccessible for the hearing impaired individuals: the visual part is accessible and the audible part is inaccessible.

As stated above, HIV/AIDS education approaches do not seem accessible for the hearing impaired individuals. We may say these are individuals who are information minorities. Consequently, this might lead us to doubt their knowledge, attitude and behavior about

HIV/AIDS, in general, and its preventive measures in particular. Though this is the fact, there has not been any research undertaken in Ethiopia on persons with special needs about HIV/AIDS, in general, and its preventive measures in particular. Are we letting them die as the result of ignorance? Hence, the study is an attempt made to find answers for the following research questions.

1. Do hearing impaired students have proper knowledge, attitude and behavior about HIV/AIDS preventive measures?
2. How do knowledge, attitude and behavior of the hearing impaired students about preventive measures of HIV/AIDS relate each other?
3. Are there differences regarding knowledge, attitude and behavior about HIV/AIDS preventive measures within the groups of the hearing impaired by sexes?

### **Definition of Terms**

**Knowledge:** clear and certain information of HIV/AIDS preventive measures that could be judged either correct or incorrect.

**Attitude:** A tendency to evaluate HIV/AIDS preventive measures with some degree of favor or disfavor (Stroebe and Stroebe, 1996).

**Behavior:** The practical involvement of an individual in activities which do not expose him/her for HIV/AIDS infection (i.e., applying preventive measures of HIV/AIDS effectively).

**Preventive measures:** Practicing abstinence, persistent use of condom and being faithful to single and healthy life time partner.

**Hearing impairment:** Hearing is disabled to an extent of 70 Db or greater that precludes the understanding of speech through the ear (Moore, 1996).

## Research Methodology

The study uses cross sectional research design and it was delimited to hearing impaired students in the schools of Region 14 Administration (Addis Ababa), specially students who are enrolled in the regular schools of secondary cycle secondary education (grades 9 and 10) and the preparatory grades (Grades 11 and 12). Students in these grade levels are assumed to be found at the puberty/adolescence stage which is the time of uncertainty and a time where different patterns of boy-girl relationship develop. These strains and uncertainties are greatly intensified for the disabled individuals (Moore, 1996). This might have an indication that the hearing impaired students have been involved in risky behaviors of HIV/AIDS infection.

### *Target population of the study*

According to the information obtained from the Special Education Program, Office of the Region 14 Administration Education Bureau, hearing impaired students were not enrolled in all secondary schools of the region. Schools with high number of enrolment were selected by using purposive sampling technique and are indicated in the table below.

**Table 1: Total Number of Hearing Impaired Students in the Sample Schools**

| Schools  | Hearing Impaired Students |           |            |
|--|---------------------------|-----------|------------|
|  | Male                      | Female    | Total      |
| The then Minilik Comprehensive Secondary School, now preparatory school. | 47                        | 32        | 79         |
| The then Entoto Vocational School, TVET College.                         | 61                        | 11        | 72         |
| <b>Total</b>   | <b>108</b>                | <b>43</b> | <b>151</b> |

Respondents of the study, hearing impaired students, were first stratified according to their sexes. After this task was completed, from a total of 151 hearing impaired students, 80 students were selected by using simple random sampling technique. Male and female students from each stratum were taken proportionally. An audiologist had measured their hearing acuity. However, the following students were not included in the study for they don't qualify the selection criteria:

- Hearing impaired students whose hearing acuity is below 70 Db.
- Individuals who have additional disabilities.

There were three hearing impaired respondents who were excluded by the exclusion criteria and another three respondents were substituted by using the same sampling procedure and same exclusion criteria as before. In the end, 46 male and 34 female hearing impaired students, were selected as respondents of this study.

### ***Instruments***

**Questionnaire:** A semi-structured questionnaire was used to assess hearing impaired students' knowledge, attitude and behavior towards HIV/AIDS preventive measures. The questionnaire had three parts. Part one was designed to assess the respondents' background, Part Two tries to examine knowledge about HIV/AIDS preventive measures. Thus, the later part had 'Yes' and 'No' options concerning the overall causes, symptoms, effects and preventive measures of HIV/AIDS. The third part of the questionnaire assesses respondents' attitude towards preventive measures. Respondents, therefore, were requested to indicate their response on the three point Likert scale (Agree, Undecided and Disagree). This was intended to avoid confusions respondents might have in clearly indicating their responses on a 5-point scale ranging from strongly agree to strongly disagree. The final part deals with precautions taken by respondents not to be involved in risky behaviors of HIV/AIDS infection.

**Interview Guides:** In addition to the questionnaire, interview guides for the sample schools' unit leaders, directors and students of anti-HIV/AIDS club leaders were used and developed in English and translated into Amharic and back into English (the purpose of doing this was the same as that of the questionnaire). The interview guides generally focus as to how the education of HIV/AIDS has involved the hearing impaired individuals. The interview sessions were held in Amharic so as to facilitate the mutual understanding between the interviewer and the interviewees.

**Pilot Study:** The purpose of piloting was to check appropriateness, understandability, acceptability and completeness of the items and evaluate the completeness and proper



recording of responses of each respondent. For the pilot study, 10 hearing impaired students (5 male and 5 female) were selected by simple random sampling technique. Dropouts were also approached with the help of the National Association for the Deaf and have been involved in the pilot study. The exclusion criteria which are used to screen subjects in the main study were also employed to screen subjects for the pilot study.

Face to face contact was made with all respondents while distributing the questionnaire to them. They were informed by the research assistants to note down any ambiguous words, phrases or sentences. As soon as they finished, discussion was held and many of them had expressed their feelings about the items and pointed out the items that are not clear to them and repetitive. Finally, the responses of the pilot group were subject to item analysis and as a kind of discrimination index. Correlation of items with the over all total were computed. According to Ebel and Frisbie (1986) discrimination index of item 0.40 and above are very good; 0.30- 0.39 reasonably good; 0.20-0.29 marginally good and bellow 0.19 poor items to be rejected. In this study, therefore, the criterion value for the discrimination index was set to be  $r = 0.30$ . Accordingly, items with coefficient 0.30 and above are accepted. The rest 7 were rejected. Reliability of instrument was assessed by computing KR 20 and KR 21 using the data collected during the pilot. The computation yielded reliability coefficient of 0.627 and 0.605 respectively. These values clearly show that the instruments seem to be highly reliable (Ebel and Frisbie, 1986).

### ***Procedure of data collection***

While interview was conducted by the principal investigator, the questionnaire was administered by hearing persons who are fluent in sign language. These methods of administering the questionnaire, for one thing, helps to establish rapport easily with the respondents and, for the other thing, respondents face any difficulty, especially comprehension difficulty (if any) the administrators are capable enough to search for and give immediate solutions. To these end, two research assistants were selected by establishing a minimum criterion of fluency in sign language. Training of the research assistants, therefore, was given for half a day through lectures, discussions and demonstrations by the principal investigator. Since the study inquires about the

respondents' private life, they might be reluctant to give complete answers. This anticipated problem was solved by informing respondents the confidentiality of their responses.

### ***Method of Data Analysis***

The Multi- dimensional Chi-square test (Brace, Kemp and Snelgar, 2003) was used in two ways: as a test of association among the dependent variables (knowledge, attitude and behavior) and as a test of difference in knowledge, attitude and behavior by sexes of the respondents. In a statistical analysis  $\alpha = 0.05$  was considered to accept or reject the null hypothesis. To give flesh to the results of the data analyzed through statistical tools, data gathered through interview guides were analyzed in the qualitative terms. Of course, percentage distributions/descriptive statistics were also used to know the proportion of the hearing impaired students who have correct knowledge, positive attitude and proper behavior about HIV/AIDS preventive measures.

### **Results and Discussion**

#### ***Knowledge, attitude and behavior towards HIV/AIDS preventive measures of students with hearing Impairment***

The result of this research shows that about 63 % and below half (37.2%) of the hearing impaired students had correct knowledge and incorrect knowledge about HIV/AIDS preventive measures, respectively. Concerning their attitude, below half of the respondents had unfavorable (48%) and favorable attitude (43.8%) about the preventive measures, and 8.2% of the respondents were in dilemma to decide whether or not they have favorable/unfavorable attitude about the preventive measures. 42.2 % of the hearing impaired students did not practice any of the precautions not to be infected by HIV/AIDS, only about 17.8% and 42% of the respondents practice the preventive measures sometimes.

Percentage distributions of respondents by correct knowledge, favorable attitude and proper behavior are more or less encouraging. This remains so for people with hearing

impairment are marginalized from the education of HIV/AIDS in countries like ours. This response was also verified by all anti-HIV/AIDS club leaders, directors and unit leaders of the sample schools. They were thus asked if they have tried to address the special needs of the hearing impaired students in connection with the education of HIV/AIDS and its preventive measures. Respondents too, were asked to specify how they or any other person can use condoms. They replied that they could read the instruction written on the cover page of condoms and apply it (76.3%). The rest (23.7%) gave a very general response that they could apply the education given by the Ethiopian National Association for the Deaf on how of using condoms.

From the responses given, one could argue that hearing impaired students are more affiliated to their association than their schools in acquiring information about HIV/AIDS. It might be explained in terms of linguistic barriers. In schools, there is no common language, the school community uses spoken language and students with hearing impairment use sign languages; however, in their association the community uses the sign language which allows the hearing impaired students to mingle with and acquire information about HIV/AIDS.

Respondents were asked “What are the modes of transmission for HIV/AIDS?” In this regard, 71.2% of the respondents have had correct knowledge and 28.8% were found to have misunderstandings on how HIV/AIDS could and could not be transmitted. The misunderstandings include; contaminated clothes (2.5%), social kissing (2.5%) sharing toilets (11.3%) and mosquitoes and insect bites (12.5%). The misunderstandings of HIV/AIDS modes of transmission might have contributed to the gaps in knowledge on all the three main preventive measures (abstinence, being faithful and condom use) about the disease. These are if a person is abstained from sex, it means that s/he is free from HIV/AIDS (24.3%); condom protects one from contracting HIV/AIDS (8.2%) and being faithful to different persons at different times prevent one from contracting HIV/AIDS (5.1%). This implies that students with hearing impairment need to be educated as to when and how the preventive measures could be applied and be effective. Apart from this, the misunderstandings on the modes of transmission might affect their social

interaction which is one of the most important ways to acquire information on any issue, in general, and HIV/AIDS in particular.

The possible explanation for gaps in knowledge might be societies' prejudice (Briggs, 1995). Societies consider disabled individuals as if they were asexual. Also, they consider educating disabled children is like a waste of money (Scholl, 1986) since God has already cursed them. The reality, however, is the reverse. This prejudice coupled with our societies' taboo of discussion about sexual matters may make students with hearing impairment uncomfortable to seek information on how to protect themselves from HIV/AIDS infection and might make pertinent bodies not to make any attempt to design education on HIV/AIDS preventive measures taking the special needs of the hearing impaired students in to account. Therefore, these misunderstandings might have contributed for the presence of gaps in knowledge on HIV/AIDS preventive measures since clear vision on modes of transmission directly relates with applications of HIV/AIDS preventive measures.

Generally, the result of this research is in line with Duncan, Dancer, Highly, Detholyn and Gibson (1997) who surveyed 129 students in grades 9-12 and found out that they had extremely limited knowledge of HIV/AIDS, with correct answer to only 8 of the 35 questionnaire items designed to measure their knowledge level. Other researchers had also assessed the knowledge level of hearing impaired individuals by presenting a specific knowledge questions bout the disease. The Florida HIV/AIDS Surveillance Data office (2001) also presented the question "What is AIDS?" for 279 individuals with hearing impairment. The statistics revealed the following: 53.8% correct answer, 11.8% incorrect answer, 30.5% do not know and 3.9% missing. This shows that almost half of the respondents had given incorrect answers for this vital questions regarding knowledge. Moreover, the office has asked another question "What does HIV negative mean?" Some of the hearing impaired individuals said it means "I have the virus" (40.2 %), while others said "I do not know the virus" (28.2%), others replied "I do not know" (23.4 %) and missing (8.2%). This indicates that the vast majority of the hearing respondents have misunderstandings about the diagnostic results of HIV/AIDS.

Concerning these misunderstandings, the American Psychologists Association (APA) (1998) stated that when you tell to the hearing impaired person that s/he is HIV positive, you may notice that s/he would smile because many hearing impaired people interpret the word “positive” as something good. Doreen, who is a deaf professional working with the deaf and for the deaf people narrated her experience when she finds out that her–sister-in-law had HIV/AIDS and in retrospective she realized that family member could be infected by her sister’s–in-law perspiration (Collins and Smalley, 1998).

Regarding the respondents’ behavior on preventive measures, the results are not interesting and encouraging. This is because only 17.8% of the hearing impaired respondents had practiced preventive measures. The vast majorities of the respondents were at risk of HIV/AIDS infection since few practice preventive measures some times (42%) and others didn’t practice at all (40.2%).

According to Ajzen and Fisherbein (1980), attitude towards a behavior is defined as the sum of “evaluative beliefs” about the consequence of performing the behavior in question (HIV/AIDS preventive measures). Any evaluative belief contains both an expectancy and value element. The majority of the hearing impaired respondents, thus, might have evaluated practicing HIV/AIDS preventive measures, especially condom use, in terms of what other people think about their behavior than what they personally benefit from applying HIV/AIDS preventive measures. Thus, they would not be inclined to buy and use condoms. As for faithfulness and abstinence, the expectancy element is important in our society as the value element.

Respondents were asked whether their impairment has an effect in their intentions of using condoms. In this regard, the question “how much effect do you think your hearing impairment has on your intentions of using condoms?” was presented to respondents. 13.7% of the hearing impaired respondents replied high, 26.3% said low and 60% said not at all. That means being hearing impaired person is a limiting factor to practice the preventive measures.

*Relationship among knowledge, attitude and behavior of the hearing impaired students about HIV/AIDS preventive measures*

**Table 2: Summary Table of Chi-Square Test on the Association of knowledge, Attitude and Behavior of the Respondents about the Preventive Measures of HIV/AIDS**

|           | Response Categories |     |     | Value   | df | P      |
|-----------|---------------------|-----|-----|---------|----|--------|
|           | -1                  | 0   | 1   |         |    |        |
| Knowledge | 271                 | -   | 449 | 649.410 | 4  | 0.000* |
| Attitude  | 576                 | 98  | 526 |         |    |        |
| Behavior  | 257                 | 269 | 114 |         |    |        |

$\alpha=0.05$

The result of the analysis indicates that there was statistically significant relationship among knowledge, attitude and behavior about HIV/AIDS preventive measures within the groups of the hearing impaired students ( $X^2=649.410$ ,  $df = 4$ ,  $P = 0.000$ ). Confirming this relationship Daniel (1996) disclosed the presence of strong relationship ( $P < 0.001$ ) between respondents' perceived risk of HIV/AIDS infection and respondents' use of condom. Moreover, the association between perception of risks of the disease and change in actual behavior (practice) was reported by Abrahm (1991). Feverstein (1979) in Tuirusaw (2000) claimed that one of the most typical traits of all human is the capacity to be modified as a result of new learning. This significant relationship might indicate that the dependent variables (knowledge, attitude and behavior) don't exhibit the quality of independence.

The above research findings are in line with the standard conception of attitude, which states that attitudes exert a directive influence on behavior. This means it is possible to restore confidence in the utility of attitudes as predictor of behavior and conceptualization of the supposedly link between attitudes and behavior. Thus, the discovery of the association might have promising implication to change behavior problems, in general, and HIV/AIDS, in particular, by increasing knowledge about the behavior in question.

Research finding on knowledge about HIV/AIDS and the subsequent attitudinal and behavioral change of using HIV/AIDS preventive measures, however, did not all lead to

similar conclusions. In this regard, Zinabu (199) indicated that there is no association between knowledge of HIV/AIDS preventive measures and the subsequent behavioral change to use the preventive measure ( $P= 0.512$ ). Besides, Misganaw and Fekadu (1996) stated that the association between knowledge scores with attitude was not statistically significant. Wicker (1969) after reviewing the relationship between people's verbally expressed attitude and behavior, he found close relationship between verbally expressed attitude and over behavior only in very few cases, the typical result being one of the slightest association, or no association at all. Simkins and Herndrick (1987) indicated that the university students of Missouri came up with high level of knowledge about HIV/AIDS but there has been little change in applying the preventive measures. Beyene (1997) concluded that students' attitude towards HIV/AIDS and their protective behavior don't match with the relatively high level of knowledge they have. Moreover, Ashebir (1995) found out that changes in attitude due to the advent of AIDS is very minimal, revealing that message based AIDS education used so far is not sufficient to bring behavioral change. By and large, these studies (i.e., studies abroad and in our locality) may indicate that the problem of using preventive measures of HIV/AIDS infection has gone deeper than ignorance.

***Knowledge, attitude and behavior about HIV/AIDS preventive measures by sexes of respondents with hearing impairment.***

**Table 3: Summary of Chi-Square Test on Knowledge, Attitude and Behavioral differences of Respondents as a function of their sexes**

|           |        | Mean Rank | Test Statistics | df | P      |
|-----------|--------|-----------|-----------------|----|--------|
| Knowledge | Female | 362.09    | 0.024           | 1  | 0.877  |
|           | Male   | 359.86    |                 |    |        |
| Attitude  | Female | 653.15    | 13.946          | 1  | 0.000* |
|           | Male   | 579.17    |                 |    |        |
| Behavior  | Female | 328.00    | 0.496           | 1  | 0.481  |
|           | Male   | 317.47    |                 |    |        |

$\alpha=0.05$

The result of the analysis using Chi-Square test in the above table shows that there was no statistically significant difference in knowledge (  $X^2 = 0.042$ ,  $df = 1$ ,  $P = 0.877$  ) and behavior (  $X^2 = 0.496$ ,  $df = 1$ ,  $P = 0.481$  ) between female and male respondents of the study. However, there was a significant difference in attitude depending on the sexes of the respondents (  $X^2 = 13.946$ ,  $df = 1$ ,  $P = 0.000$  ). That means females have more positive attitude (with mean rank of 653.15) to the practice of the preventive measures than males do have (with mean rank of 579.17).

There are research findings indicating that the presence of knowledge difference is inherited to the sexes. This seems adhering to the stereotypical notions of societies that females are usually labeled as biologically inferior than males including their cognitive competencies. For instance, Florida HIV/AIDS Surveillance Office (2001) explained that it is gender/sex which is an accurate predictor for knowledge difference on HIV/AIDS preventive measures. The result of this research, however, refutes the surveillance offices' finding and confirms with the research finding of Charles, Mekonnen and Tesfaye (1991) who disclosed that the respondents' sex doesn't seem to have a significant influence on acquiring knowledge about HIV/AIDS and preventing oneself from HIV/AIDS infection.

The finding of this research reveals that there is an attitude difference between the sexes: female respondents with hearing impairment have more favorable attitude than male respondents. This quiet contradicts the findings of Werner (1995) which has shown that females seem to be more fatalistic in their attitude than males towards HIV/AIDS. And explain the rationale in such away that more females (15%) than male (6%) believe that there is no way to avoid contracting HIV/AIDS. In connection with the findings of this research, here are a number of issues worth discussing which could possibly explain the presence of significant difference in attitude between sexes.

As explained earlier preventive measures of HIV/AIDS infection includes abstinence from sexual intercourse, being faithful to only one sexual partner, and condom use. In cultural terms, these phenomena, for instance abstinence has different values attached to females and males. Girls who abstained from sexual intercourse have been given more



prestige and value than boys. Regarding faithfulness, the same holds true for males and females in that females will be considered as prostitutes if they have more than one sexual partner and will be stigmatized by the society. One more thing that is included and defined as HIV/AIDS preventive measure is condom use. Condom use, as a method of contraception may be preferred more by females than males, for males don't experience pregnancy, abortions and/or birth which are only experienced by females and have an effect on their prestige and social status.

### **Recommendations**

- Mounting efforts should be made by all pertinent bodies to adapt the education of HIV/AIDS with the special needs of students with hearing impairment. One way of doing this could be giving training in sign language to educators of HIV/AIDS so that they could easily adapt to the needs of these people and transmit their message with out any communication barrier.
- There is a need for a more detailed and comprehensive investigation which includes many more variables in a wider scope so as to further strengthen the findings of the study and to give firm conclusions.

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## **Minutes of Presentation and Discussion**

### **Topic: Research-Teaching Nexus (RTN): the epistemological missing link in Ethiopian Higher Education Institutions (HEIs)**

- Presenter: Markos Mezmur
- Chairperson: Gessesse Tadesse (PhD)
- Rapporteur : Fanta Ayalew

According to the presenter, the three major missions of any university are Research, Teaching, and Community Service. With regard to the relationship between research and teaching, he said that these two key aspects of scholarship basically support one another, though the former does so in a higher degree than the latter. The main objective of the study is, hence, to show the loose connection that is believed to exist between research and teaching and find some viable strategies to tighten the nexus that should be there.

After citing some instances, the researcher indicated that the connection between research and teaching is somehow loose in the Ethiopian context. The researcher then tried to stress that the link between research and teaching should be maintained in order to enhance effectiveness of higher education institutions.

Besides his elaboration on how to strengthen effective synergies between research and teaching in various disciplinary contexts, he also presented a comparative depiction of higher education institutions, whose time of establishment vertically embraces the past as well as the present decades.

Finally, he suggested some strategies which are, indeed, useful to establish links between research and teaching, and emphasized that institutions should set their own strategies for the improvement of the nexus between research and teaching.

**Topic: Nurturing the Research and Teaching Nexus in Rift Valley University College (RVUC)**

- Presenter: Daniel Beyera (in lieu of Haileleul Zeleke)
- Chairperson: Gessesse Tadesse (PhD)
- Rapporteur: Fanta Ayalew

The major objectives of the study were prioritizing potential problems for less staff involvement in applied research at RVUC, suggesting ways that could nurture the symbiotic link between research and teaching in the UC, describing causes for the problem, indicating proper research directions, identifying priority research areas, and finally recommending ways for the implementation of the future research findings.

The researcher argues that the symbiosis between research and teaching at RVUC faces critical problems and needs to be addressed. He mentioned some of the recurring problems in the area.

With regard to the significance of the study, the researcher believes that the findings of his study will help higher education institutions realize that researches have the power to improve the quality of education they offer, inspire teachers to get involved in research works and publications, contribute to the growth and development of the local economy, and can be used as an input to policy makers.

The researcher admitted a limitation of the study: all the problems gathered from the staff of RVUC were not analyzed and synthesized in such a way that they could be included in the study due to time constraint.

As causes of the problem, the researcher sorted out some factors that affect involvement of teachers in research works such as lack of infrastructure, high teaching load, low research budget, lack of interest, and low personal capacity.

To curb the problems that hinder research works among teachers, the researcher suggested the provision supports/better facilities by the concerned bodies: adequate

access to IT, computers and printers, financial assistance, joint research opportunities, research labs, and research skill development workshops.

Finally, in addition to what has been said above in a bid to get a solution for the aforementioned problems, the researcher recommended that in order for teachers to engage in research works, their course load should be reduced, research budget should be allocated, customer based action researches should be encouraged, journals should be available for reference purposes, and universities should implement flexible research strategies.

### **Questions and Comments**

Despite time constraint to cover the papers and conduct further discussions within the allotted time, the chairperson somehow managed to entertain the following questions and comments along with the responses given by both presenters.

Q1...my name is Workye, I came from the Finnish Embassy, and I am advising on matters of education, in the Finnish Embassy. First, my appreciation goes to both presenters, because the issue is quite important and we did get the opportunity to expose ourselves to important findings and researches. However, I have a comment to the first presenter, some papers discuss on the role of the community in establishing nexus between research and teaching. I just want to hear the remarks in this regard. Thank you very much.

Q/C 2. ...First of all I really enjoyed the presentation, especially the second presenter, I understood that it is not his paper but he was quite relaxed with that, I really want to compliment him. When I decided to come to this conference, I wanted to learn and reflect with other members a little more about the claimed relationship. Reality, actually, denies that relationship, like the second presentation if people don't do researches, for various reason(s), I think, it is like a myth or a belief that is taken for granted that research and teaching have some mutual benefit. But that mutual benefit has not been shown to us through empirical evidence. And I think those people interested in that ...a little further

then we will know whether we grab it firmly or not. For example, one of the sources I think it is outdated; it says a research active teacher was found not to be better than a teacher who was less involved in research. One of my former teachers when, we complained that, he doesn't tell us when he doesn't come to class said one day (about 5 or 10 years ago) 'you see, you too will be teachers, be good researcher or good teacher 'look at this, this guy is telling us that these two things are separate, in the world around us you talk of research grants not of research teaching grants, we talk of teaching grants not of the two together. The world is pulling them apart. And yet like a belief, like a myth, we talk of the nexus between the two. Some private teaching institutions if not in Ethiopia now advertise teaching only. In that, I really want to see a little more sophisticated thing that would teach me a little more. Then the country, the higher education institutions, be it public or private, will then define their research agenda with the benefit extending to the stakeholders; particularly, the learners and the community, somebody was talking about involving the community. But at the moment are we really sure beyond a belief that the two are interrelated? Are we simply accepting, taking it for granted that they are interrelated? It is a little bit of comment not a question. Thank you.

Q3. I would like to thank the two presenters; I really appreciate what they have forwarded. Next, I want to emphasize on action research which is very much related to the classroom, classroom action research. And besides this, amongst us, there is a fear for doing research; what I mean is we see research as something of a very difficult task. The other thing, is the perception on the donors or the funding agencies; for example, we are talking about research we talk about researches which are sorts of other projects, we have to invest on action research, classroom action research. What I mean is we have to give incentives to teachers to encourage doing researches on their own actions of the teaching process. Otherwise, when we are talking about the nexus between research and teaching then it will be seen as a very big task when we look at it in the face of the perception that research means a very difficult task, therefore, I want to emphasize that classroom action research will be encouraged, research should not be seen as a very difficult task. And actions should be perceived as part of teaching; we, thus, have to do researches on our own action, thank you very much.

Q4. ...you like to offer postgraduate programs in the future, if faculty staffs are not research actives, how would you manage the situation? Will that not be a huge stimulus for the staff to get involved in research? How can you supervise postgraduate students when you are not actively involved in researches yourselves?

The chairperson suggested that some of the above are comments that don't need replies while some others are questions and invited presenters if they have something to say in this regard.

The first presenter was given the first chance to speak. He appreciated all those who asked and commented. In regard to community involvement, he said we have to develop the end results of the researches to a societal level in order to embrace the community at large. He also reflected that there are scholars who argue that teaching and research should not be interdependent; instead they should stand one free of the other. On the other hand, he said, there are scholars who strongly propagate that these two are inseparable.

In connection with the less involvement of teachers in research works, the second presenter said that most teachers are usually busy of running here and there to win their daily bread and hence they are short of time not only for research but even to carry out their regular teaching responsibilities. He also added that most teachers do not even have time to get prepared for the lesson they offer and in most cases they are exposed to a hectic life. In light of this, he said, leave alone engaging in research works, they don't even get time to read reference materials that are vitally important to the subjects they teach.



**Topic: Alternative Path of Increasing the Intake Capacity of Higher Education In Ethiopia: Challenges and Directions**

**Chairperson : Professor Zinabu Gebremariam**

**Presenter : Dr. Eylachew Zewdie**

**Rapporteur : Habtamu Lemma**

The paper focuses on indicating an approach that helps to increase student enrollment in higher education in Ethiopia. Based on the experiences of other countries and his personal observation, the researcher tried to indicate an alternative path that can potentially benefit both the public and private institutions of higher learning in particular and the society in general. He also expressed his conviction that his approach would generate scholarly discussions out of which beneficial results could be obtained.

According to the presenter, the government is currently engaged in maximizing student intake in public institutions of higher learning. This trend could have negative consequences. First, the quality of higher education may be compromised because of large student intake. Second the number of students joining private institutions of higher learning decreases. Hence the facilities built by these institutions may be left unused. The government's cost sharing policy is also another factor that discourages students' enrollment in private HEIs. In reality, however, he said, education in Ethiopia is being privatized.

A shift in approach that shares the burden of public HEIs and involve private HEIs is needed. In this approach, the government should put in place a system that allows both private and public HEIs to compete. Increase their intake and promote quality of education. In this connection, the presenter said, the performance of private HEIs is not well scrutinized.

In his approach, he emphasized the need for co-operation between private and public HEIs. Through affiliation and partnership between the institutions, he said, students could be awarded similar degrees. This, in turn, increases private HEIs intake of students

The presenter also indicated that market oriented education would help improve the quality of education. In his approach, government funding of public HEIs can't continue all the time. Market-oriented approach sets equal opportunity for all HEIs. Students also benefit from it. Instead of being assigned, they freely choose what and where to attend. Another advantage is that only strong institutions prevail and weak institutions die. To make this a reality, appropriate policy should be formulated, he said.

After the presentation, the floor was opened for discussion. A participant commented on the research methodology. He said that research needs to have a clear problem, methods of data collection and analysis. Personal observation and opinion alone may lead to wrong conclusion. He also commented on government intervention explaining the reasons why he believes that the government has to intervene in the expansion of education in Ethiopia. First of all, he said, education is a public good and the government should make sure that all citizens of the country are benefited. Second, there are programs of studies private institutions of learning do not participate such as science and technology fields. Third, the government is the responsible body that should ensure equity in education in the country. In market-oriented approach, however, the poor can't receive education just because they cannot pay.

The chairperson, in his part said, every one is entitled to his/her own opinion but discussions and debates are likely to bear fruit at the end. According to him, the Higher Education Strategy Center (HESC) is trying to seat a forum for public and private HEIs to discuss such issues. Another important point the chairperson mentioned was that public HEIs are in a reform process. The institutions themselves are trying to prepare and administer entrance exams although the task is too much for them.

Another participant said the presenter's new approach is worth a good heed and encouragement. He particularly stressed the importance of policy intervention that encourages private HEIs to play their role in higher education. He mentioned the case of Brazil where private higher education intake and quality assurance are both high. In this regard, the approach the presenter explained is very helpful.

The presenter started his reflection by reminding participants the objective of his paper generating discussions with regard to increasing the student intake capacity of private HEIs. Regarding his approach, he said he took into account his own observation and the experiences of other countries that were successful. Concerning government intervention, he expressed his belief that enormous funding of public HEIs by the government is not that much useful. The government should make use of private HEIs which had already put in place the necessary facilities. In addition, the present deterioration in quality of education can't be solved by increasing intake in the same public HEIs as before. The private sectors should be encouraged to play their part.

**Topic: Agricultural Research and Extension in Ethiopian Institutions of Higher Education**

**Presenter : Professor Belay Kassa**  
**Chairperson : Professor Zinabu G/Mariam**  
**Rapporteur : Ato Habtamu Lemma**

The paper focuses on reviewing the historical development of agricultural research and manpower training endeavors of public institutes of higher learning in Ethiopia. Based on the empirical findings from documents, it then draws sound conclusions and recommendations for future development in agriculture.

It was emphasized that our world is becoming highly knowledge based. And higher education institutes are sources of educated manpower. Therefore, the task of disseminating research based knowledge and technologies and training manpower is largely the responsibilities of these institutions.

According to the presenter, Alamaya (now Haromaya) University College is one of the leading higher education institutions of agriculture. It was established in 1954 with the objective of training man power, putting in place a system of research and disseminating research. Gradually, the second and third mandates were given to other bodies. The task of

disseminating research became the responsibility of the Ministry of Agriculture. Similarly, the Institute of Agricultural Research, established in 1966 was mandated in managing agricultural research. These measures, the presenter said, have weakened the university. At the moment, there are three key players in agricultural research in the country: namely, Ethiopian institute of Agricultural Research, regional agricultural research centers and institutions of higher education.

However, very few institutes of higher learning work with Ethiopian institute of Agricultural Research though they engage in research activities. For example, out of 120 researched crop varieties disseminated, the majority were contributed by Alamaya University.

The writer also outlined some major drawbacks with regard to the development of agricultural research in institutes of higher learning. He said many research work done in the country focused on personal interest and gains; farmers were not involved in problems identification and indigenous knowledge in not incorporated. He also mentioned lack of funding, priority to teaching/training, absence of research priorities, and collaboration among institutes, and marginal participation in dissemination of research findings.

Based on the conclusion drawn, the presenter forwarded the following recommendations:

- Institutes of higher learning should be committed to poverty reduction and do their level best in this regard.
- Research done in the institutes need to be holistic and multi-disciplinary.
- Research institutes must develop partnership and involve stakeholders.
- Institutes of higher learning must make effort to produce young researchers. They should also put in place a system where 75% research & 25% teaching tasks are advocated.

After the presentation, the chairperson opened the floor for reflection. One participant said, agriculture has become a business and without commercialization, agriculture is worthless. He then asked the presenter (president of Alemaya University) whether his University is planning the development of a curriculum in this connection. In response, the presenter acknowledged the importance of training liaisons that link agriculture with the business community. But the development of curriculum is a complex matter the needs need assessment and discussion with stakeholders.

**Topic: “Assessment of Major Factors Affecting Female Pre-Service College Trainees field of study selection: the case of TEC & TVET in Oromia Regional State.”**

**Chairperson : Ato Dagnachew Yilma**

**Rapporter : Ato Markos Mezmur**

**Presented by : Habtamu Ayele**

**Introduction:** In this section the presenter raised issues related with the importance of Higher Education Institutions. Also, raised was the issue of gender equity in higher education institutions. Issues of self perception among female students in their selection of fields of studies were also stated. As their representation take the majority in social science fields, their representation in natural science was less.

**Objective of the study:** The aim of the study was to assess factors that affect female students’ selection of fields of studies.

**Methodology:** The study depended on qualitative data. In the discussion it was indicated that the author used percentages to analyze and summarize data. Their analysis of the data was made at department level.

Study results indicated preferred and less preferred fields of studies by female students. However, the why of the issue was pointed out that it needs to be investigated in the future. His study also showed how their seniors psychologically influenced female students’ choice of departments.

Accordingly, the study recommended that colleges should provide ample of orientation & course description with the presence of female instructors.

**Topic: “Helping weak students: decades of research on student support in higher education in Southern Africa.”**

**Chairperson : Ato Dagnachew Yilma.**

**Rapporter : Ato Markos Mezmur.**

**Presented by : Dr. Mike Cantrell.**

This paper talks about student support system in higher education institutions for low achievers who achieve relatively less without fault of their own. The paper tried to look into experiences of South Africa, Botswana, Lesotho and Swaziland. The paper showed that students from disadvantaged education backgrounds have potential for further studies despite weak paper qualification. Hence, the paper argues equity in this sense has got to deal with disadvantaged groups like low achievers. This would ultimately help them to become average and top achievers.

The paper, also, tried to show alternative routs to higher education institutions to help weak students who have potentials to peruse their further education effectively. Furthermore, the paper attempted to show models that could be used in extending academic support for Math & Science Subjects. In the paper, the issue was seen in three categories of students: weak student, strong student, and students with good paper qualification but perform or found the 1<sup>st</sup> year experience a difficult one.

The question posed was “how do we expect these categories of students to achieve at the end of their Degree/Post graduate programs?” For this, the study reviews experiences of the few countries in the southern region of Africa

Mr. Chairman thanked the Presenters for the very important subjects which are, indeed, complementary. He further went on to state that the issues proposed by the presenters prompt discussion on debate and the like.

### **Questions posed to the presenter**

1. Are there similar Researches done in Ethiopia?

Dr. Mike responded that “Yes” but the studies are conducted at a freshman level.

2. An issue of independent work which researches show to be productive than the assisted ones has also been raised.

The presenter responded that schools are not meant to be exclusively preparatory places.

Dr. Yohannes, in his part, expressed his sincere appreciation to the presenters. Also, he raised the importance of criteria referenced assessment which is not used in the Ethiopian case. This has made the use of foundation courses impossible. Generally, he suggested that criteria referenced assessment and the foundation programmes offers lessons to learn from experiences.

3. how do you see quota system in relation to educational Quality.

Dr. Mike told participants that he doesn't think that there is nothing wrong with the quota system.

### **Comment to the first presenter**

A participant reminded that like quantitative data collection techniques, methodological issues of Qualitative data collection techniques needs to be spelled out.

Mr. Chairman once again thanked participants and presenters for their contribution in the conference

**Topic: Higher Distance Education in Ethiopia: Course materials Development  
Delivery & Evaluation Practices**

**Chairman** : **Ato Goitom Abrham**  
**Rapportor** : **Ato Markos Mezmur**  
**Presenter** : **Desalegn Sherkabu**  
**Research Theme:** **Instructional methods & practices**

The paper started discussion on the justification for the provision of distance education in countries like Ethiopia. It also tried to revise the number of institutions providing distance education with quality, relevance and appropriateness. The presenter speaks awful English!

The paper studied Distance Education provision in Admas University College, Alpha University College, St. Mary's University College as well as the Institute of Distance Education of the Ethiopian Civil Service College. The paper also stated challenges facing distance education provision in Ethiopia. The study used a descriptive statistics of qualitative data. He, thus, tried to present evidences of the way materials are produced for the distance division. A case he raised is an instance of English.

The presentation took too much time and Mr. Chairman was forced to stop the presenter before he fully communicated his research results.



**Topic: Standards Based Education Management and recognition to improve the quality of pre-service education.**

**Chairman** : **Ato Goitom Abrham**  
**Rapportor** : **Ato Markos Mezmur**  
**Presenter** : **Tigistu (M.D)**

The paper focused on the importance of Standards Based Education Management and recognition to improve the quality of pre-service education in achieving the goal of serving the society and/or the community. Also, his paper raised an issue of assessment in medical fields. Accordingly, he pointed out that there was inconsistency in this regards. He discussed the issues of phases of the program: planning, implantation, monitoring and evaluation, and rewards.

The schools covered in the study were medical schools, midwifery and Nursing Schools. In the Study, structured observation was used to gather primary data. The whole idea of the project was not only identifying problems but also these problems were prioritized by silting together. What a wonderful Presentation!

### **Discussions**

1. What are your strategies of disseminating the study results?

The 2<sup>nd</sup> Presenter Thanked for the excellent question and indicated that this year they have started working with some private college and will continue on working with them on the project.

2. How do you think institutions can carry out institutional quality audit?

Though it is difficult to measure final quality, we should conceive quality as a process.

The first presenter, in his part, raised some of the things that should be done for the coming semester. He then went on to briefly discuss the recommendations that his study has come up with.

**Topic: Problems of Teacher-made Tests: A Primary Concern for Quality of Education**

**Presenter** : **Dr. Yalew Endawoke**  
**Chairperson** : **Dr. Girma Mitiku**  
**Rapporteur** : **Ato Mesfin Tekleab**

**Objective:** the overall objective of the study was to explore problems associated to teacher-made tests, and their impact on quality of the education. The presentation dealt with different variables of the cognitive aspect of learning, the drawbacks of teacher-made tests as measurement for decision making and their possible impacts on quality of the education.

**Discussion:** participants of the workshop discussed on the paper presented and suggested constructive comments and questions for further elaboration on some issues were forwarded. The following section presents comments, questions and responses of the discussion.

C-1 The causes of problems of teacher-made tests, identified by the study, were related considerably to the inner quality of teachers, and the issue is how we can make teachers good? For one to be a good teacher should value personal relationship and respect people. If that is the inner feeling of the teacher, then assessment quality can be improved, and that happens when the teacher does it being happy with his/her job.

Q-1 The purpose of education is to bring about a holistic change in the part of the learners. Knowledge development is not the only thing needed for students but also attitude. Why the presentation focused only on the cognitive part? How can such attributes be measured easily in schools of 100 students in a class?

- A-1 The reason why this paper focused on only the cognitive aspect is because the topic is concerned with assessment that deals with cognitive issues, the other aspects are almost not practiced by teachers.
- Q-2 Repetition of past exams by teachers is a commonly observed practice without control over (collecting back) the exam papers. Exam papers are commonly found even in shops used to rap up things sold with. So, is it not worth to think of policy framework for evaluation of students?
- A-2 Regarding the policy, it would be important but the more important issue would be to have teachers implement it.
- Q-3 Is there any comparative studies made on assessment of teachers?
- Q-4 The paper dealt with much of the proximal factors what about the external environment of students the situation of families (living style) likely to influence the performance of students?
- A-4 The performance of students can be influenced by different factors some of which are internal and others external to schools. But this paper focused on in-school variables, assessments. The variables considered here are determinants of school quality.
- Q-5 Did you see a series of continuous assessments like tests and quizzes or limited only to the final exams?
- A-5 Regarding assessment types considered, there are many ways or techniques of evaluation, and the more techniques we use, the better knowledge we can have for decision making. However, the final exams are the one determining the decision about the students. And, it is assumed that they are comprehensive and thus reliable for measurement.

**Topic: An Investigation of the Relationship of Teacher–Student Interpersonal Behavior, Anxiety and Students’ Achievement in Language Classes.**

**Presenter :** Ato Bekalu Atnafu

**Chairperson :** Dr. Girma Mitiku

**Rapporteur :** Ato Mesfin Tekleab

**Objective:** Review teacher–student interpersonal relationship, anxiety and students’ achievement in language classes and forward possible suggestions for the betterment of students’ performance.

**Discussion:** The presentation was followed by discussion. Constructive comments were given and some questions were forwarded by participants to the presenter for further elaboration of some issues. The following were comments, questions and responses of the presenter.

C-1 While comparing the two variables, anxiety and performance of students, we should assume other things remain the same.

Q-1 Is there anything that the teacher can do before getting to class to reduce anxiety?

A-1 The causes of anxiety could be many: teachers, activities assigned to students and students personality, among others. The type of relationship between teachers and students could also cause anxiety. Teachers usually put themselves at a higher ladder.

**Topic: “Information minorities: knowledge, attitude and behavior of hearing disabled students about HIV/AIDS preventive measure: the case of some selected schools in Addis Ababa”**

**Presenter : Bekele Workie**  
**Chair Person : Melaku Girma**  
**Raaportor : Mesfin Tekleab**

The paper has three objectives. The first is investigating knowledge, attitude and behavior about HIV/AIDS preventive measures. The second objective revolves around how knowledge, attitude and behavior about the preventive measures are related one another and the last objective is whether or not there exists a significant difference between sexes about the preventive measures. For this purpose, students from grade 9, 10, 11 and 12 were selected because they are at the age of puberty. The total number of students that participated in the study were 105 male and 46 female. The researcher used stratified sampling method.

The presenter said in preventing HIV/AIDS, giving adequate and reliable information is the most reliable prevention method. Information about the prevention methods are transmitted using visual approach, oral approach and audio visual approach. For the hearing impaired students, these preventive approach are not fully accessible, especially the second approach is not an option for hearing impaired students.

The result of the data collected from the interview question showed that the majority of the hearing impaired students have incorrect knowledge about the preventive methods. Also around 40% of the students did not practice any of the preventive methods. The researcher said that the results are not encouraging. He even said that the hearing disabled students are marginalized from information about the preventive methods of HIV/AIDS.

The researcher recommended that the hearing impaired students must well be educated about when and how the preventive methods should be used. He also suggested training for trainers on sign language. Also, he recommended detailed and comprehensive investigation in the area.

### **Panel Discussion**

After the presentation, the chairperson invited questions and comments on the papers. Thus, one question was forwarded: Why did you only use quantitative method? The researcher responded saying it is a misunderstanding - the study employs both quantitative and qualitative method in order to come up with concrete findings.

The chair person formally ended the discussion and the panel at 4:00 pm in the afternoon.



**Dear Conference Participants**

**Colleagues and Guests**

**Ladies and Gentlemen,**

We are now about to close this conference, and call it a day. As it is evident, the conference has been tightly scheduled. To have such a program all in one day is hard work, but we believe it has really been worth of it. We hope you have had the same impressions.

As has been witnessed today, a conference of this type gives the opportunity to learn from each other and strengthen ties between institutions of higher learning – private and public alike. The discussions we have had today would enable us reflect on our achievements and drawbacks. But still, we need to take up the challenges vigorously and move forward unhindered by lame excuses. With no doubt, targeted support for PHEIs is highly needed. However, at the end of the day, winning the public trust primarily depends on our delivery of quality education. To attain this, synergetic efforts should be put in place by all stakeholders.

Before closing, on behalf of St. Mary's University College, I would like to express my sincere gratitude to H.E. Dr. Sintayehu W/Michael, Minister of Education, for his opening remarks, and for sharing his precious time with us. I thank Mr. Mohammed Cherif Diarra UNESCO, senior program specialist for education, for his key note speech.

My special thanks also go to paper presenters, chairs, and rapporterus.

I thank the UN Conference Center and Sheraton Addis for their excellent services. Finally, my special thanks to the academics and support staff of St. Mary's for their untiring commitment toward organizing the conference.

I thank you very much.