THE EFFECTIVENESS OF MODULARIZATION APPRAOCH IN JIGJIGA UNIVERSITY

M.A THESIS

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MAY, 2016

HARAMAYA UNIVERSITY

The Effectiveness of Modularization Approach in Jigjiga University

A Thesis Submitted to the College of Education and Behavioral Sciences, the Department of Educational Leadership and Management, Post Graduate Program Directorate, HARAMAYA UNIVERSITY

In Partial Fulfillment of the Requirements for the Degree of MASTER OF ART IN EDUCATIONAL LEADERSHIP

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May, 2016

Haramaya University

POSTGRADUATE PROGRAM DIRECTORATE

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We hereby certify that we have read and evaluated this Thesis entitled: **The Effectiveness of Modularization Approach in Jigjiga University, Ethiopia**. We recommend that it be submitted as fulfilling the thesis requirement

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DEDICATION

This study is dedicated to my family,specialy, my brothers and sisters :- (Solomon Shimelis, and Kimem Shimelis both who were left us with death), Demeke Shimelis, Fikre Shimelis, my wife Zemenay Tenna, my doughter Saron Teshome, my son Natan teshome ,Mahder demeke and all my family and my freinds who were made extraordinary help for the complétion of this study, and from the begining up to end of this research and my education

STATEMENT OF THE AUTHOR

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every serious effort has been made to avoid any plagiarism in the preparation of this thesis.

This thesis is submitted in partial fulfillment of the requirement for a degree from the School of Graduate Studies at Haramaya University. The thesis is deposited in the Haramaya University Library and is made available to borrowers under the rules of the library. I solemnly declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

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BIOGRAPHICAL SKETCH

The author was born in East Harerghe, Harawacha town in 1979. When he reached the age of primary school, he attended Harawacha Primary School. Then after, he attended Jigjiga secondary school and went to Kotebe College of Teacher Education and acquired a diploma in Chemistry in 2001 and working as chemistry teacher, department head, unit leaders and management committee members of jigjiga secondary school. Subsequently, he joined Haramaya University and graduated in Chemistry (B.Ed) degree in 2007 and he has been working as college instructor at Dr.Abdilmejid College of teacher Education from 2011 till now. Then, he joined Haramaya University for his Master of Art in Educational Leadership and Management.

ACKNOWLEDGEMENTS

I would like to thank and acknowledge my Advisor, **Bahar Adem (Ph.D**) for his immeasurable, optimistic, encouraging and constructive comments and suggestions in shaping this study from the very start to the finish. Without his highly expertise, it was hardly possible to see this work in its present shape. Also, I would like to thank my Co Advisor **Ato.Wakgari**.**Tasisa**. (Assistance Professor) and I would like to thank my best friend Dr. Ayalew Niguse, Dean of the College of Veterinary Medicine, JJU, for his extraordinary support for the accomplishment of this thesis

It is my pleasure to express my deepest gratitude to my best friends and sisters that I could not mention their names because of my inability in stating their names orderly according to their assistance and help in every work of this study, again I thank you very much

ABBRIVATIONS AND ACRONYMS

ARVP	Academic and Research Vice president
BPR	Business processing Re-engineering
CBE	Competence based Education
CBC	Competence based Curriculum
CTE	College of Teacher Education
CSA	Central Statistical Agency
DVM	Doctor of Veterinary Medicine
ECTS	Europeans Credit Transfer System
GTP	Growth and Transformation Plan
HU	Haramaya University
ILO	International Labor Organization
JJU	Jigjiga University
MoE	Ministry of Education
NQF	National Qualification Framework
REB	Regional Education Bureau
SRS	Somali Regional State

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ABSTRACT

The purpose of this study was to assess The Effectiveness of Modularization Approach Implementation in Jigjiga University..The study was conducted in all 9colleges of JJU on the basis of available sampling technique. A total of 407 respondents were included in this study, these were 61 Instructors, 21 Leaders, and 322 students. The descriptive type of data analysis was employed. To conduct this study, both qualitative and quantitative data were used. The data were collected mainly through closed and open-ended questionnaire and interview. In addition, documents were used. The responses were analyzed using frequency and percentage. The finding of the study revealed that, the majority of instructors believed that there was low experience sharing opportunities with other Universities. Leaders perceived that collecting, analyzing and using data to identify modular implementation priorities, and design a system of communication among staff for information sharing, availability of manuals and guidelines regarding modularization and experience sharing opportunities with other University in the area were around the average and medium.. The majority of respondents perceived the positive effect of modular implementation practice on teaching and learning achievements. The frequencies of modular trainings at college level, active participation of instructors, and the chance of giving and receiving constructive feedbacks among attendant teachers were around the average and medium. The study also identified budget delay, time to practice the program, sufficient training for Instructors and heads, lack of awareness from the University leaders, Instructors and students about the program, inability to accept constructive feedbacks from colleague instructors, lack of collaboration and open communication among Instructors, lack of manuals and guidelines with regard to modularization, and lack of experience sharing in the area were the prime problems for the practice of modularization. Furthermore, the study unearthed that the modularization program was implemented in the medium level until the time of this study conducted. Therefore, it can be recommended that, the University should give great attention about modularization program and should also capacitate the all colleges equally with the relevant materials and skills. Moreover, the stakeholders or NGO's should work closely with the colleges based on a series of monitoring and evaluation system for its effectiveness. Finally, it can be generalized that modularization implementation in the Jigjiga university is, in small extent exceeds the average level.

Key Words: *Modularization, Curriculum, Leadership, Jigjiga University*

1. INTRODUCTION

This part of the paper deals about the problem under study and its approach. It also deals the background of the study, statement of the problem, research questions, objective of the study, scope of the study, and definition of key terms of the study.

1.1. Background of the Study

The move towards modular approach to curriculum implementation has got a long history though the literature that supports it. It was scant when compared to other bodies of knowledge (Kathleen, S. W. 2006). These days, the approach has drawn special attention all over the world in education systems, from technical and vocational education and training to higher education. The concept of modularization evolved in higher education in the United States in the second half of the nineteenth century (Santopietro, G.,*2006*)

According to UNESCO conference in Palermo 1998, a shift from teaching to learning implies: 'a new approach to curriculum development taking into account. For the purpose of:- Multi and interdisciplinary, Flexibility of choice, but in a coherent system which allows for modularization and credit transfer (Santopietro, G.,*2006*.).for instance, the validation of work experience, the organization of the academic year in semesters, 'self-managed' learning, a coaching role for the teacher, professional support services, investment in new delivery and quality assurance mechanisms especially in off-campus operations(Estes, Cheryl, 2004), a new definition of scholarship that balances discovery and transmission as well as the integration and application of knowledge.

Europe (Bologna Process) states that modularization increases mobility of students over countries and universities (McKimm,J. 2007). It depends on qualifications framework that has five pillars: Knowledge and understanding, Applying knowledge and understanding making judgments (based on complex data and information), Communication, and Learning skills. Many European universities have also been implementing modular curriculum based on the Bologna Agreement ((Estes, Cheryl, 2004)).

Interest in modularization in the sector of vocational education and training has more recent. The introduction of a modular system in Britain for craft training by the Engineering Industry

Training Board in 1968 marked the start of this approach to vocation training which was then emulated in many other industries (Kathleen, S. W. 2006.). The extensive International Labour Organization (ILO) project on ‘modules of employable skills’ (MES) from the mid-1970s onwards, aimed at workers in developing countries, was a particularly significant initiative in relation to a modular approach to vocational education and training (ILO, 1984) in (Cooke, 2001) There were a lot of reasons for the increased interest in modular education; namely: Cutbacks in financing which leads to restructuring and reorganization, Wider range/diversity of student requirements, Demand for flexibility in labor market, More freedom of choice, Increased access and/or consumption of the educational supplies.

Modularization is proper academic recognition of prior learning, achieved in greater horizontal and vertical mobility by learners (McKimm,J. 2007). The promotion of a flexible learning system which must include a range of distant and face-to–face delivery mechanisms, Using cost-effective combinations of resources-based learning and teaching technologies against this background, South African Techniques have re-opened the "modular structure" debate – a debate that informed change internationally thirty years ago (Kathleen, S. W. 2006).

. It is a process by which educational awards are broken up into component parts of a more or less standard size. It is a process of organizing parts based on their competencies or themes. It is a process of bringing topics/subjects together based on their themes or competences in the realization of the graduate profile already specified. It is a matter of making things happens in their natural order (Cooke, 2001). Therefore contents in a particular course or courses in a module should be put in their natural flow to avoid thought interruption (McKimm,J. 2007). It is an attempt to avoid fragmentation among topics or courses in a module. In modularization, educational programme split up in self-contained small unit modules In this report they discuss a variety of methodologies for promoting "active learning." However according to (Mayer 2004) strategies like "active learning" developed out of the work of an earlier group of theorists—those promoting discovery learning.. Therefore, a modular system in education has an organizational component (the curricula would be organized based on themes, competences, correlation, etc.) a pedagogical component (MoE , 2013)

Modularization is an output –oriented system Modularization in its purest form involves assessing someone's qualification against a standard without necessarily previously teaching this person or giving him advice. One Criterion in modular approach is the certification of each passed module (Boud, D. and Falchikov, N. 2006.). So every single module is well documented and has a value on its own in the education system in the labor market. In other words, modularization is job- oriented in nature. A learner may take only a single module to be qualified by achieving the specified competence(s) in that particular module, and then he may access a job(Estes, Cheryl, 2004). This is a crucial factor to give a module the character of a single standing unit. Is systematic approach of adapting the existing curricula of program of studies to deliver each topic learning-teaching activities relating with the professional competencies anticipated through predominantly student-centered delivery. A systematic approach to create a given Study programme (Boud, D. and Falchikov, N. 2006.):Has two components-organizational and pedagogical or didactical. Generally, the Modular curriculum is a competency based curriculum where by measurable learning outcomes are defined and teaching-learning methods. And assessment tasks aligned with those learning outcomes are put in place and uses innovative educational strategies (Lorna P.,Joseph C,(2005). It is an integrated curriculum which combines closely related subjects by taking course themes, competence, correlation, common skill, international methods, assessment techniques and other activities in to a meaningful way. In an integration strategy, the whole is greater than the sum of its parts.

Higher Education Institutions (HEIs) in Ethiopia have embarked on major reform since last decade (MoE, 2013). For the reform to take effect, the institutions have used business processing and re-engineering (BPR) as a tool. In the reengineering of the Learning-teaching Core Process, modularization was proposed as a best way for the implementation of curricula and the production of competent global graduates. Based on their BPR results which was harmonized at national level, Universities such as Hawassa, Bahir Dar, Debre Markos, Debre Berhan, Haramaya and Jimma have already taken the courage to move forward in implementing modularization. Almost all of these universities invited international expert in the area of modularization for training and gained expertise (Yizengaw, T., 2003). These universities have cascaded the training down to the academic community. They have already organized their curriculum into module and started the implementation (Cooke, 2001). They

have also doing their best to reach other universities with training and awareness creation so that they would be able to implement the modular approach to curriculum in 2012/13 Academic Year. Other universities have also started exerting maximum effort to be in the pipeline with regard to modularization.

The guideline serves as a springboard for this purpose. After seriously looking at the efforts being made by universities to organize their curricula in modular approach and recognizing the role that this approach can play in improving the quality of education, the Ministry of Education through one of its wings, HESC, has given special attention to the effort. The ministry has sponsored through Leadership and Management Capacity Development Project (LMCDP) series of Training of Trainers (ToT) on modularization. This has contributed a lot to the effort of creating local experts in the area (Yizengaw, T., 2003). The ministry is also doing its best in the harmonization of modularization in all public universities. It has organized the harmonization of academic policy to be used by all public universities so that academic quality and standard has been uniformly maintained. The policy was formulated in such a way that it can accommodate the new developments emanate from modularization (MoE, 2013).

Competencies consist of a description of the essential skills, knowledge, attitudes, and behaviors required for effective performance of a real-world task or activity. These activities might be related to any domain of life, have typically been linked to the field of work and to social survival in a new environment (Santopietro, 2006). Haramaya University, the emphasis of competence is not on the mastery of knowledge rather on the capacity to perform tasks. In general, the term competence is used to indicate a relation with occupational tasks as well as more transcending generic personal characteristics or skills/abilities. The elimination of remaining obstacles to the free mobility of students (as well as trainees and graduates) and instructors (as well as researchers and higher education administrator).was very fundamental.

The Ethiopian higher education institutions were followed the lecture or the old methods of teaching for the last four or five decades(Estes, Cheryl, 2004), but now a days, the method has been improving to the student- centered approach and the approach further improving to the higher level from time to time, as the literature indicates this approach which has thought as

best method for the whole institution in the Ethiopian context and also thought as the best practice of most European countries higher institutions. To implement this new approach, the Role of the higher institutions leadership qualities are significant, especially the higher education (Cooke, 2001). The leadership in higher education in general, the leadership of jigjiga universities in particular has to play their paramount role in the implementation of the modularization approach. As it was declared by ministry of education (MoE) and the mandate and responsibilities they have to play, with regards to the guidelines of modularization (MoE, 2013)

1.2. Statements of the problem

The statement of the problem was pertaining to: Ethiopian higher Education curriculum is considering a change from traditional lecture and demonstration to self-paced, computer-generated modular instruction. Numerous public schools have made this change in the past few years. Since higher education was contemplating this transition as well, research was conducted to determine whether the change to modular instruction could be quantitatively proven superior to traditional instruction (Yizengaw, T., 2003). Historically, research on this topic has been inconclusive. Experts in the field of Technology Education have disagreed as to the effectiveness of modular instruction or any significant difference between it and traditional instruction (Estes, Cheryl, 2004). Since available research could not substantiate the advantage of change, an experiment was conducted at Burlington Middle School (Mayer 2004). As a new approach in Ethiopian education system, policy makers and planners need to have an insight on the progress and challenges of modular approach and to re-evaluate the policy plan. Plus, no evaluative studies published were there following its implementation. It might expect to shed light on the challenges and successes of this paradigm shift- particularly from leadership perspectives (Yizengaw, T., 2003). It would give pretty clear direction for the concerned bodies in JJU, other universities and stakeholders. There was also, student and instructors complains on the new approach, and conceptual gap. And some of them said that, the problem may be directly related to leadership of the university, so as, to examine the degree to which they have committed and devoted to implement of the new approach (MoE, 2013)..

1.3. Research Questions

The following are the research questions and have to be answered by this study

1. What is the perception of the leaders, instructors and students of the university towards the implementation of the modularization approach?
2. To what extent the principle of modular approach of teaching being implemented in JJU?
3. Are the JJU Leaders exerting their maximum effort in the effective implementation of the modularization approach?
4. What were the factors that affect the implementation of modularization approach in JJU?

1.4. Objectives of the study

1.4.1. General objective

The purpose of the study is to:- Examine the status of implementation of the modularization approach and suggesting the corrective measures to be taken from the early stage of implementation by the leadership, in the case of JJU and further, the emphasis given by the leadership.

1.4.2. Specific objectives

1. To assess the perception of the leaders, instructors and students of the university regarding implementation of modularization.
2. To examine the extent of modularization approach implementation by the leaders and instructors of JJU.
3. To find out the roles played by the Leadership of the University about the implementation of the modularization
4. To investigate factors that, affect the implementation of modularization approach in JJU.

1.5. Significance of the study

The significance of the study is: Due to strong differences of opinion between experts in the field of Technology Education, only conclusive findings can guide fruitful dialog and sound decisions on this issue and Policy makers and planners to have an insight on the progress and

challenges of modular approach and to re-evaluate the policy plan. It has paramount significance for the (MoE), SREB and Dr. Abdulmejid Hussein (Jijiga) CTE; It would be used as one reference material for further study. It would give clear direction for the concerned bodies in JJU, other universities and stakeholders about the implementation of modularization approach.

1.6. Delimitation of the study

The domain of the study would be all leaders, the president and vice presidents, supporting staff, and all the 9 colleges of JJU of the 35 departments of first and second year students and instructors. This is due to the newly started program given for first and second year student as well as instructors and also delimited to limited resource, facilities and time. Therefore, the researcher is limited to one university of all its colleges. Also to examine from perception up to the main factors that affect the implementation of modularization approach.

1.7. Limitations of the Study

In conducting this study, some limitations were encountered. Among them, there was reluctance for interview from some respondents due to their uncertainty on the purpose of the study. However, after the researcher's open discussion with them about the purpose and the benefit of the study, they finally agreed for the interview. Secondly, there was a problem of more literatures, especially with regard to our country and more particularly on the study area. Thus, the researcher forced to give more emphasis on some obtained literatures which focus on our country's Modularization.

1.8. Operational Definitions

Approach*:* - is the activity reflects real life and learners focus on meaning**,** they are free to use any methods. Spiral teaching means to keep moving upward, but also keep returning to the fundamentals.

Implementation:- is the carrying out, execution, or practice of a plan, a method, or any design for doing something. As such, implementation is the action that must be executed.

Leadership:- is the ability to influence the others or the followers, is the power or ability to lead other people., is the ability to evaluate and/ or forecast a long term plan or policy

Modularization:-is designed with standardized units that can be fit together in a variety of ways adjective. An example of modular used as an adjective.

Modular approach;-is the approach/method used by instructors, students, during modularization.

Roles: - is a part or character played by the instructors, deans, and heads of the departments in JJU: the teacher's role in society: the rights, obligations, and also role **is** a character or part played by a performer.

University;-is the system that integrating at least more than ten or above faculty or colleges of academic institutions.

University Leadership;-is the process of integrating the University top managers, academic and non academic staffs to the achievement of the University mission, vision, CBE or modularization.

2. REVIEW OF RELATED LITERATURE

This part of the research deals about the Evolution of the modularization, the concept, the current status, Modularization itself, Principles for Modularization, Implementation, Challenges In Implementation, role of stack holders, impact and module preparation. This section of the paper, also therefore, discusses basic and relevant issues raised in the available literature.

2.1. Modularization Approach

Modularization evolved in higher education in the United States in the second half of the nineteenth century (MoE,2013).The introduction of a modular system in Britain for craft training by the Engineering Industry Training Board in 1968 marked the start of this approach to vocation training which was then emulated in many other industries (Roberts, 2007). The extensive International Labor Organization (ILO) project on 'modules of employable skills' (MES) from the mid-1970s onwards, aimed at workers in developing countries, was a particularly significant initiative in relation to a modular approach to vocational education and training (ILO, 2004). In South Africa the broader process of political, social and economic transition also impacts on the transformation of Higher Education.

The Bologna Declaration is a pledge by 29 countries to reform the structures of their higher education systems in a convergent way. The declaration is the key document which marks a turning point in the development of European higher education (Luckett: 2007). It is a commitment freely taken by each signatory country to reform its own higher education system or systems in order to create overall convergence at European level. The Bologna Declaration is not a reform imposed upon national governments or higher education institutions. The Bologna process originates from the recognition that in spite of their valuable difference European higher education systems are facing common internal and external challenges related to the growth and diversification of higher education, the employability of graduates, the shortage of skills in key areas, the expansion of private and transitional education etc. The

declaration recognizes the value of coordinated reforms, compatible systems and common action (MoE, 2013).

The goals of bologna process is**:-**To create a European space for higher education in order to enhance the employability and mobility of citizen, To increase the international competitiveness of European higher education, The introduction of undergraduate and post graduate levels in all countries, ECTS (European, Credit Transfer System),and Compatible credit systems also covering lifelong learning activities and A European dimension in quality assurance with comparable criteria and methods (Theodossin,1986). European Credit Transfer and Accumulation System is based on the principle that 60 credits measure the workload of a full-time student during one academic year (Hence, in a three year Bachelor Degree program a students must take at least 180 ECTS). The student workload of a full-time study program in Europe amounts in most cases to around 1500-1800 hours per year and in those cases one credit stands for around 25 to 30 working hours.(Clark, 2006).

The new Higher Education system must meet the needs of a restructured technologically orientated economy and provide well planned teaching and learning programmes and contribute to the advancement of all forms of knowledge. Higher Education Institutions must encourage new learning and teaching strategies and in particular modify traditional models of discipline-based and sequential courses and qualifications (U.S.DoE, 2000). Learning programmes, therefore, need to be redesigned to accommodate outcomes-based education and training. The model of modularization will have to support National Qualification Framework (NQF) objectives and requirements.

The new programmes should be developed and be able to articulate within the National Qualification Framework (NQF) to encourage: an open and flexible system credit accumulation and multiple entry and exit points for learners Since the early 1980s, in particular, a variety of national and regional reforms, as well as many local variations, have involved the introduction and development of modules (MoE, 2013).Proper academic recognition of prior learning achieved greater horizontal and vertical mobility by learner the promotion of flexible learning, system which must include a range of distant and face-to–face delivery mechanisms, using cost-effective combinations of resources-based learning and

teaching technologies. Against this background South African Technique's have re-opened the "modular structure" debate – a debate that informed change international thirty years ago.

There is a need to tie modularization to emerging trends in educational thinking in response to a new paradigm, shift in teaching and learning (Dochy, 2001), especially in regard to the presentation of teaching and learning events through self-instructional, stand-alone learning packages. proper academic recognition of prior learning achieved greater horizontal and vertical mobility by learners the promotion of a flexible learning system which must include a range of distant and face-to–face delivery mechanisms, using cost-effective combinations of resources-based learning and teaching technologies Against this background South African Techniques have re-opened the "modular structure" debate – a debate that informed change internationally thirty years ago (MoE,2013).

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2.1.1. Active learning

Active learning is an umbrella term that refers to several models of instruction that focus the responsibility of learning on learners. (Bonwell and Eison, 1991) popularized this approach to instruction (Bonwell &Eison 1991). This "buzz word" of the 1980s became their 1990s report to the Association for the Study of Higher Education (ASHE). In this report they discuss a variety of methodologies for promoting "active learning." However according to (Mayer , 2004) strategies like "active learning" developed out of the work of an earlier group of theorists—those promoting discovery learning. While there is no question that learners should be engaged during learning and cognitively active, several researchers have noted that being

behaviorally active during initial learning can be detrimental to schema acquisition (Mayer 2004) (Kirschner, Sweller& Clark 2006) (Sweller& Cooper, 1985; Cooper &Sweller, 1987).

It has been suggested that students who actively engage with the material are more likely to recall information (Bruner 1961), but several well-known authors have argued this claim is not well supported by the literature (Anderson, Reder& Simon 1998) (Gagné 1966) (Mayer 2004) (Kirschner, Sweller& Clark 2006). Rather than being behaviorally active during learning, Mayer (2004) suggests learners should be cognitively active.

2.1.2. Cooperative learning

Cooperative learning (CL) is instruction that involves students working in teams to accomplish an assigned task and produce a final product (e.g., a problem solution, critical analysis, laboratory report, or process or product design), under conditions that include the following elements (Johnson et al.1998): Positive interdependence. Team members are obliged to rely on one another to achieve the goal. If any team members fail to do their part, everyone on the team suffers consequences. Individual accountability and all team members are held accountable both for doing their share of the work and for understanding everything in the final product (not just the parts for which they were primarily responsible). Face-to-face promotive interaction. Although some of the group work may be done individually, some must be done interactively, with team members providing mutual feedback and guidance, challenging one another, and working toward consensus. Appropriate use of teamwork skills, Students are encouraged and helped to develop and exercise leadership, communication, conflict management, and decision-making skills. Regular self-assessment of team functioning. Team members set goals, periodically assess how well they are working together, and identify changes they will make to function more effectively in the future (MoE,2013).

2.2. Competence Based Education

2.2.1. The Concept of Competence

Competence is the possession of certain attributes (knowledge, skills, and attitudes). It is the quality or state of having sufficient knowledge, judgment, and skill to carry responsibility and provide services (Nasseh, 1996). A description of what somebody can (do) also provides the

same meaning. A competency is defined as "a statement that describes the observable demonstration of a composite of the specific skills" (Hall & Jones, 1976, p. 29).

Competence is a complex term associated with the number of synonyms concept such as competencies, qualifications, skills and so forth, especially in the professional practice. Competencies describe the student's ability to apply basic and other skills in situations that are commonly encountered in every day life. According to (Parry ,1996), competence is a cluster of skills, attitudes and underlying knowledge elements allowing an individual to perform tasks that are part of a function or role/up to the standard/s. Competency may be defined as the ability to do a particular activity to a prescribed standard emphasizing what people can do rather than what they know. "Standard," (the actual threshold or level of performance) is internally tied to the judgment that someone is "competent," i.e., has reached an acceptable level of performance on a designated competency (MoE,2013).

Competencies consist of a description of the essential skills, knowledge, attitudes, and behaviors required for effective performance of a real-world task or activity. These activities may be related to any domain of life, though have typically been linked to the field of work and to social survival in a new environment (Santopietro, 2006). Thus, the emphasis of competence is not on the mastery of knowledge rather on the capacity to perform tasks. In general, the term competence is used to indicate a relation with occupational tasks as well as more transcending generic personal characteristics or skills/abilities.

2.2.2. Characteristics of Competence

A competency focuses on the performance of the end-product or goal-state of instruction
Traditional education tends to focus on what and how learners are taught and less so on whether or not they can use their learning to solve problems, perform procedures, communicate effectively, or make good clinical decisions (Albanese et al.2007). By emphasizing the results of education rather than its processes, CBE provides a significant, even dramatic shift in what educators and policy-makers look for in judging the effectiveness of educational programs. In CBE, the critical issue is that the learner reaches the specified level of performance in a competency; how he or she got to that point (the educational

process) is secondary. Competency reflects expectations that are external to the immediate instructional program. Traditional educational programs too often have an insular character in which the expectations of learners are based on what has been taught with internal, educational metrics of success such as performance on a standardized exam (Albanese et al.2007). In CBE, success is determined by the ability to perform to expectations that are largely determined by stakeholders outside of the educational program itself. Competency is expressible in terms of measurable behavior, although traditional education does assess learner knowledge and progress; CBE places a much higher premium on learner performance of tasks and activities representative of the competencies (MoE,2013).

Hence, the assessments are more than just paper-and-pencil tests; they emphasize behavioral measures that depend on integrating knowledge and skills derived from an aggregate of educational experiences and parts of the curriculum (Roberts, 2007,. competency uses a standard for judging competence that is not dependent upon the performance of other learners but by the expert judgment of practitioners and educators in the field. Each performance assessment of competence must be accompanied by explicit criteria for determining whether or not a given learner has or has not attained the required level of performance to be considered "competent." These criteria or performance standards are not determined by the performance of other learners (i.e., not graded on a „curve"). Thus, it is desirable and expected that all learners will achieve "competence" after training (Albanese et al.2007).competency informs learners, as well as other stakeholders, about what is expected of them by focusing on the outcomes of education. Competence based education is often much more transparent and therefore accountable to learners, policy-makers and other stakeholders. Indeed, defining a discipline's values, goals and priorities is an implicit part of defining competencies, which enables the competencies to communicate these values and expectations to various stakeholders within and outside the discipline (Nasseh, 1996. Currently, there is wider belief among most educators and authors to consider the existence of strong relation with the professional practice at curriculum level and in the separate educational units and in assessment of the tasks that graduates should be able to perform or key problems that they should be able to identify and solve are at the centre of CBE.

2.2.3. Kinds of Competency

In practice two types of competences can be distinguished. These are general competences/generic competencies (transferable skills) and subject specific competences (theoretical, practical and/or experimental knowledge and subject related skills) abilities or domain specific competencies (Nasseh, 1996. Generic competencies needed in all domains within a profession and transferable, that is useable in new professional or life situations. Whereas, domain specific competencies are cluster of knowledge, skills and attitudes within one specific content domain related to the profession (Albanese et al.2007).The subject related theoretical and practical and/or experimental knowledge includes the actual contents that are specific factual knowledge relating to the discipline. The general competences refers the capacity for analysis and synthesis, general knowledge, awareness of the national and international dimension, capacity for independent learning, co-operation and communication, tenacity, capacity for leadership, organizational and planning by appropriate or inappropriate learning/teaching methodologies and formats. Learning outcomes and general academic (generic) competences and subject related competences, have shown us that approaches to teaching, learning and assessment have an impact on the workload required to achieve the desired learning outcomes and, consequently, on credit allocation, curriculum design and context, coherence of the curriculum, teaching organization, ability and diligence of the student and so forth(MoE,2013).

2.2.4. Benefits of Competency Based Education

Competency-based education is an institutional process that moves education from focusing on what academics believe graduates need to know (teacher-focused) to what students need to know and be able to do in varying and complex situations (student and/or workplace focused). Competency based education can also be understood as outcome based instruction which is adaptive to the changing needs of students, teachers, and the community (Roberts, 2007,. This perception implies that CBE focuses on functional approach to education by emphasizing life skills and evaluates mastery of those skills according to actual leaner performance. The terms such as learning outcomes, or outcomes-based education, are often used synonymously with CBE. However, “competencies” often carries with it a broader, more conceptual connotation

of what the learner is able to do as a result of the education whereas “outcomes” is often used in reference to the performance on exams and other metrics that document the learning that has taken place.

Competency-based education is a framework for designing and implementing education that focuses on the desired performance characteristics of specific filed professionals. Although this has always been the implicit goal of more traditional educational frameworks, CBE makes this explicit by establishing observable and measureable metrics that learners are expected to accomplish(Roberts, 2007,. The ability to perform to established expectations is the criteria by which a professional is deemed to be competent. In general, what is new in CBE is that all educational activities are aimed at educating competent graduates, able to act competently in their later professional practice; it implies total integration of the constituting curriculum elements. Educational outcomes (competencies) that are linked to workforce needs, as defined by employers and the profession are increasingly complex in nature, rather than deriving from the addition of multiple low-level objectives. In Competence Based Education, large skill sets are broken down into competencies, and assume sequential levels of mastery. Hence, competencies reinforce one another from basic to advanced level as learning progresses. The impact of increasing competencies is synergistic, and the whole is greater than the sum of the parts. Competencies within different contexts may require different bundles of skills, knowledge and attitudes. The challenge in CBE is to determine which competencies can be bundled together to provide the optimal grouping for performing tasks. And also designing learning experiences that support students as they practice using and applying these competencies in different contexts is another challenge (Schlusmans, & et al, 2000).

2.2.5. The Need for Competency Based Education

There are a number of national and international initiatives and reasons including the post-industrial knowledge economy which are more dynamic and complex increased mobility and flexibility urged the move towards CBE. Relating learning with the world of work becomes the economic trend of the day (Lorna & Joseph, 2005). Traditional education input driven,

based on “body of knowledge”, divided in disciplines, programs overloaded and often fund to be irrelevant to the actual practices. This in turn contributed to the mismatch between educational supplies to demand. Increasing attention for ‘generic skills’ (life skills) in 21st century such as: Cooperation, Communication, Entrepreneurship, Problem solving, so forth. The need for closer link between academic learning and the professional practice is now higher than ever. Some of the reasons include (Lorna & Joseph, 2005):To increase transparency of professional profiles in study programmes. To shift to a more learner oriented approach to education and To develop higher levels of employability and shared language for consultation with all stakeholder. In addition, the formal education system in Ethiopia is currently in a state of great transformation accompanied with an increased interest of stakeholders in quality and mandates that standards be developed and codified. In the competency-based curriculum, the students will be able to know, demonstrate, comprehend, apply, analyze, synthesize and evaluate a particular topic of instruction in the curriculum so as to develop the desired capabilities(MoE,2013).

2.2.6. Organizing curriculum for competency-based education

What is to be learned or curriculum, is at the heart of every educational modalities. But it is the way how the curriculum is developed that makes difference between traditional models from CBE. As tradition, the professionals themselves have set requirements that can serve to determine who can obtain membership based on completion of curricula that they determine. The competency based curriculum CBC) is one of the driving forces that are designed to improve the quality of education. The approach is a major shift in apportioning responsibility for the design and implementation of teaching and learning in the classroom. Unlike the subject specialist curriculum which has completely centralized function, the CBC divides the responsibility for development and implementation between central (MoE) and the educational institutes. In this regard the MoE will be responsible for the development of educational standards, whereas, the institutes will be responsible for translating the standards into a meaningful program syllabus and instruction at the classroom level. By doing so they could able to provide the opportunity for nationally developed standards to be adapted to local community needs.

Three fundamentally different characteristics may emerge when we compare CBC to the more traditional ones(Roberts, 2007,. These are: first, CBC explicitly maps the specific needs of the community to a set of competencies for the workforce to be trained. This means that, it guides decisions about what graduates of the educational programs must be able to do, in order to address the key professional issues of the community. Second, CBC uses identified expectations to develop and implement learning experiences (the curriculum) designed to produce the desired knowledge values, and skills in the learners to achieve these competencies. Finally, CBC uses the same set of competencies to develop critical assessment programs to determine the extent to which they are reached. Developing procedures that help us to combine and integrate the World of Knowledge and the World of Work in teaching is the major challenge in CBC approach of Higher Education (Van Merriënboer,1999). In the design and development of a CBC the determination of competencies is a first step. This can be done by a 'Wisdom of Practice' approach. Permanent communication with the world of work to define what competent graduates should be able to show is the better approach to be followed. In CBC learning has to be organized on the campus (thematic teaching, problem-based learning, project oriented learning, simulated companies) virtual learning environment focusing on student career development of already defined competencies (Larry and et al., n.d.2006).The underpinning in competency based approach is that educational reform for improving the quality of education and training serves as the means to ensure that all human resources know their roles and responsibilities and possess the skills to fulfill those responsibilities.

As a model for curriculum design and delivery, the approach is typically one, which controls and assesses learning through establishing preset objectives and outcomes, which might relate to skills, attitudes or values. The technique for constructing a competency-based program (curriculum) involves backwards planning and asks the question, what do students' need to learn to become successful professionals. The question is answered by conducting through discussion with those professionals from the fields of business, politics, social, cultural and environmental sectors to define the criteria for success. Educators then take this information and convert it to learning outcomes or specific statements of behavior that students must perform that demonstrate learning which becomes the educational standards as well as

defining when these standards should be mastered from the lower level to the higher education system. Such planning can work backwards starting with students in the final year of program. If it is known what students need to learn in the final year (3rd year), then one can define what needs to be learned in 2nd year, and continue until the entire scope of the standards is determined.

Accordingly all programs teach subjects, specific outcomes that have to be extracted from the external standards to define curriculum for a specific program. The definition of what is to be learned is in the form of statements of demonstrable behaviors. With the creation of minimum performance standards, that is, standards that indicate the lowest level of performance acceptable, it is then possible to create a curriculum and the means to assess student performance related to the curriculum. Contents will be organized based on thematic arrangement (Module) to produce specific competencies. Hence, assessments are aligned with curriculum which, in turn, is aligned to the standards, and that they measure learning in terms of how students perform using, as much as possible, a real world situation as possible. Ensuring the effective implementation of curriculum and assessment requires developing appropriate instructional materials to support learning activities including textbooks, workbooks, and so forth. In addition, instructors need to be trained in how to use the new materials since the methodology of CBC requires shifting from teacher-centered to student-centered approaches (Lorna & Joseph, 2005). In general, based on the nature of the curriculum organization curriculum modularization found to be means to materialize CBE in current Ethiopian Higher Education system.

2.3. The Concept of Module

Nobody seems to be entirely clear about where modular instruction and modularity wave came from. Some look for definitions in dictionaries, others mention the first applications in American and Canadian universities. It seems that some do look for the roots of modularity in psychological research and in those theories which fall under the rationale for modular instruction (Dochy, 2001). For instance, Roberts indicated the introduction of a modular system to be in Britain for craft training by the Engineering Industry Training Board in 1968

in vocation training (Roberts, 2007,). Others also indicate the first adoption of modular education in American higher education. Particularly, with the first introduction of the elective system in 1869 at Harvard University, there has been a great variety in the definition and use of modular instruction and implementation of modularization (Dochy, 2001). However, modular teaching is one of the most widespread and recognized teaching learning techniques in America, Britain, Australia and other western countries. In addition, modular teaching is used in almost all subjects like natural sciences and medicine and even in social sciences as well as in computer education. All kinds of subjects are being taught through modules (Farooq, 1997).

Despite the variations in its development and conception, attempts made were to align with competencies, competence based education, thereby match the graduates competence with the demand of the market (U.S.DoE, 2000). Hence, modular approach demands changing the old structure of curriculum (knowledge-based) to give way to a new one, competency-based type of curriculum--which stresses identification of professional/vocational skills, job-specific skills and transferable skills a graduate may have after completing the curriculum. The link between modular approach and competence based education is indicated in the aforementioned section/chapter of this guideline. It is important to note, according to (Cooke 2007), however, that 'there are difficulties in presenting the concepts and definitions associated with modularization as being universally accepted' as it also holds true to other educational terminologies.

Thus, module is different to different people and this variation might have led to different practices. Let us see how scholars differently define module. According to (Theodossin ,2010) a module is a measured part (or course) of an extended learning experience leading to the attainment of a specified qualification(s), for which a designated number of modules is required, with the group of required modules known as a program. (Goldshmid, 2008) also defined a module as a self-contained, independent unit of a planned series of learning activities designed to help the student accomplish certain well-defined objectives. Similarly, (Luckett 2007) defined a module as a coherent, self-contained unit of learning, designed to achieve a set of specific learning outcomes that are assessed within that unit of learning. Thus,

a module from the above definitions can be conceptualized and serve as a working definition as:

A self –contained and independent learning units in a given study program that result in set of learning outcomes leading to the acquisition and development of certain professional competencies as described in graduate profile. A building block of a study program, an independent unit of a program, but there are interdependence among different modules. a coherent whole of course requirements- learning objectives, the teaching/learning situations and contents, assessment, etc. , meaningful unit within a program of study where these combination of meaningful units result in a program of study(Roberts, 2007,.

This meaning is created by merging similar courses and bringing fundamental contents from supporting areas into these merged courses. If there is a content /course from other subject areas that shall be brought in the middle of these courses, it has to be brought there and reinforce the learning process. To give meaning to the students, the supportive courses should not be put separately rather they should come at the middle or in a place where they fit best so as to reinforce the learning of students (Dinkelmann, 2001). For instance, a math course for chemistry students shall be integrated in the module where its best. So, it is more than bringing together Organic Chemistry I, II, and III together and give the course in two months or semester. In so doing, each module will be complete and independent and can be put together with other modules to form a degree award.

Thus, modularization provides the students freedom to choose among the modules and flexibility to organize a combination of them according to their own needs or professional preferences.Yet, care must be taken that the recent concept about module is different from the previous conception (Dochy, 2009). For instance, let’s see how the current concept deviates from the definitions of a module.A module is a teaching material (traditional way of conceptualization). This conception of a module is related to the distance teaching material commonly used in Ethiopia. A module is a collection of courses.

In some universities in Ethiopia, particularly those which have implemented the ECBP curricula, modules are regarded as collection of courses. The courses organized in modules have no impact on the delivery and engagement of students' learning though the courses are organized in the form of modules they are still provided in the form of discreet courses. Hence, it should be noted that the new conception of a module is different from the above conceptions in that courses should be delivered according to the sequences in the module to enhance students' competence by maintaining the principle of hierarchy of knowledge or natural flow of knowledge and unity of ideas,(Dinkelmann, 2001).

2.3.1. Module size and Duration

The credit allocation for a module has a particular level. This is contained in the particular level descriptor in the module structure. These describe the level at which students should operate at various points in the programme. Pre-requisites that Relates to any prior requirements for admission to the particular module. And Co-requisites that Indicates which modules must be taken in conjunction with this particular module(MoE, 2013).

Module duration (width) is the time duration over which a module of a specific size or weight is offered (Dochy, 2009). This could vary for a specific sized module within the generalized model from 1 week, 1 term, a semester or even a year. Within the functioning of a timetabling roster it would even be possible to have the same module offered over two different durations within the same course structure. The module duration is considered to be a function of a size that is to be offered, and the presentation mode that is to be implemented. Cognizance would naturally have to be taken of any system constraints which would possibly have a bearing on the duration which would be practically implementable (MoE, 2013).

2.3.2. Presentation Modules

The presentation mode may be considered as an operational variable which caters for flexibility in the model in that it allows for modules to be presented from a variety of different available modes. (MoE, 2013) Contact Teaching:-All students in a learning programme enroll for set prescribed module and all students attend class at predetermined times scheduled during the week. Learning programmes run over a predetermined time, for example, a semester(Roberts, 2007,Block-courses: - A block-course is a module presented over a

compact period of time. A typical example of a block-course is an intensive offering (e.g. 1 week full-time) after which the module is evaluated and considered as being completed. Part-time/Evening classes: - This form of tuition is generally used for students who are not able to attend conventional daytime classes

2.4. The Concept of Modularization

Following are some of the possible conceptualizations of modularization which have almost similarity, according to(UK, 2000)Is a process by which educational awards are broken up into component parts of a more or less standard size is a process of organizing parts based on their competencies or themes. a process of bringing topics/subjects together based on their themes or competences in the realization of the graduate profile already specified. A matter of making things happens in their natural order. Therefore, contents in a particular course or courses in a module should be put in their natural flow to avoid thought interruption. An attempt to avoid fragmentation among topics or courses in a module (Dinkelmann, 2001).

Therefore, a modular system in education has both a pedagogical and organizational component (the curricula would be organized based on themes, competences, correlation, etc. Modularization is proper academic recognition of prior learning, achieved in greater horizontal and vertical mobility by learners (Luckett: 1997). The promotion of a flexible learning system which must include a range of distant and face-to–face delivery mechanisms, Using cost-effective combinations of resources-based learning and teaching technologies against this background, South African Techniques have re-opened the "modular structure" debate – a debate that informed change internationally thirty years ago.

It is a process by which educational awards are broken up into component parts of a more or less standard size. It is a process of organizing parts based on their competencies or themes. It is a process of bringing topics/subjects together based on their themes or competences in the realization of the graduate profile already specified (Goldshmid, 2008). It is a matter of making things happens in their natural order. Therefore contents in a particular course or courses in a module should be put in their natural flow to avoid thought interruption. It is an attempt to avoid fragmentation among topics or courses in a module. In modularization,

educational programme is split up in self-contained small unit modules. Therefore, a modular system in education has an organizational component (the curricula would be organized based on themes, competences, correlation, etc.) a pedagogical component.

Modularization is an output oriented system Modularization in its purest form involves assessing someone's qualification against a standard without necessarily previously teaching this person or giving him advice (Theodossin, 2006). It is an integrated curriculum which combines closely related subjects by taking course themes, competence, correlation, common skill, international methods, assessment techniques and other activities in to a meaningful way. In an integration strategy, the whole is greater than the sum of its parts. This could be carried out based on logical arrangements of contents from simple to complex and psychological arrangement of learning experiences (in relation to learners' ability, interest, aspiration and background). In light of the comments in the previous section a selection of definitions of a module is offered below: For (Mackintosh 2008) a module is a 'unit of learning'.

According to (Theodossin2006) a module is meant to be the following: a measured part (or course) of an extended learning experience leading to the attainment of a specified qualification(s), for which a designated number (and possibly, sequence) of modules is required, with the group of designated/required modules known as a programme, a programme of studies, or a modular course structure. (Goldshmid, 1988) states that: a module is a self-contained, independent unit of a planned series of learning activities designed to help the student accomplish certain well-defined objectives'.

A module is a coherent, self-contained unit of learning, designed to achieve a set of specific learning outcomes that are assessed within that unit of learning. A module is a building block from which a programme (and its qualification) is constructed (Luckett,2007).In summary a module should be characterized by:- explicit aims, specified intended outcome ,specification of any prior learning requirements clarification of the methods of learning and the context in which the learning activities will take place provision of differentiated learning experience. Is a self –contained and independent learning units in a given study program that result in set of

learning outcomes leading to the acquisition and development of certain professional competencies(MoE,2013)

2.4.1. Principles of Modularization

Principle one:-Using the current classification of courses by streams, try if all the courses can be fit as one module and provided as a single course Remember that some of the courses designated as part of given stream (example in Biology we can have botany, zoology, etc) are random and are not properly related to the stream to decide the proper stream they belong to or create a stream of their own (Dochy,.2009). Principle two: - Consider fitting together courses currently provided as part I, part II etc as in the case of Organic Chemistry I and II, Financial Accounting I and Financial Accounting II,..Eng. I and II, Spoken English I and II and so on. Principle three; Consider realigning together requisite and prerequisite courses into one module(Dochy,.2009). ; Do not forget that if a given course is a prerequisite to another, then logically the contents of the two courses belong to the same area and in a given hierarchical order. 'Principle four:- Review the content of each of the courses delivered for a program and if there are any unnecessary redundancies in the courses, the redundancies have to be eliminated, Redundancies refer to topics, could be ideas, concepts, or theories that are treated with the same level of depth in various courses and have no relevance to strengthen the students' learning. Principle five:- Attempt to make sure that content, if it is very important, is treated with greater degree of complexity, ensuring relevance and novelty to the students as the level increases, Or delete topics that add little value to the students and appear to take uniform level of complexity, This is a very useful technique in curriculum organization-termed as reiteration. In fact, we should not repeat a topic with the same breadth and depth in three courses (Dinkelmann, 2001).

Principle six:- Include the courses relevant to reinforce learning, commonly called as supportive course to which they fit, Bring courses/fundamental contents from supporting areas into these clustered or merged courses (see above figure III how basic mathematics is made to fit in and reinforce learning).A math course for accounting students shall be integrated in the module where it fits best. So, it is more than bringing together Financial accounting I, II, and III together and give the course, If there is a content /course from other

subject areas that shall be brought in the middle of these courses, it has to be brought there and reinforce the learning process. Principle Seven:- Courses currently given as common courses from other departments, for example civic and ethical education, psychology for managers, math for management, etc. given by other department staffs other students have to be either:- realigned into the recipient program's core courses and delivered by the members of the department, or come together as a package to form general foundation courses.

2.4.2. Steps in Modularization

In designing modular curricula, there are series of steps that one has to follow. The major steps used in both the models are suggested (Roberts, 1987) in (Cooke, 2001) as follows. 1,Brainstorm major problems of the existing curriculum This is about introducing and explaining the existing curriculum of the current education policy of the nation.2. Create awareness on modularization to different stakeholders (including students) and establish common understanding through frequent workshops3.Establish task forces at different levels a. University b. College/faculty c. Program/department (module teams and leaders)4. Revisit the graduate and professional profile of the existing programs Professional profile is also named as job profile or occupational profile. A job profile is a breakdown of the duties and task required of and performed by a person for a specific title/ job (Dinkelmann, 2001). The graduate profile is a description of the personal qualities, skills and attributes a student is expected to obtain by the end of graduation programme at the University 5. Formulate graduate profile/outcomes for new program6. Decide on core, elective and general modules that fit the graduate profile 7. Cluster existing courses into modules or check existing modules for fit with graduate profile8. Divide modules over program 9. Award credit points to the modules,10. Allocate study hours to various activities and Pay attention to generic competencies

2.5. Implementation of Modularization

The implementation should be with regards to Continuous training and advocacy workshop on poor competency of graduates, fragmented curriculum and mode of delivery, relative advantages of modular curriculum, Plan to get resources and effective utilization of the available resources, Share experiences and urge the MOE to take imitative for modularization

and harmonization, Provide students support service remedial action, Creating enabling working environment and Promotion of university–industry linkage. (MoE, 2013)

2.5.1. Instructors Concern and Workload

Some instructors fear that turning class time over to students for small group discussions may cause the instructor to "lose control" of the class. By giving students the power to express themselves in small groups, the quiet order of a lecture hall is certainly lost. However, this does not mean that the teacher has lost control. Establishing a quiet signor setting a specified time to turn attention to the front of the class may be helpful in maintaining order. Group work seems messy and non-linear to instructors who are used to presenting traditional linear outlined lectures. Instructors should remember that student learning is usually nonlinear. Students enter the classroom with different prior knowledge and experiences, and their path to the "finish line" usually involves a number of starts, stops, and sidetracks (Herron, 1996).

Students learn in different ways, some by listening to an instructor, some by seeing a demonstration, and others by manipulating the world around them. However, research shows that successful students engage in activities that allow them to reflect on their own understanding and practice giving explanations about what they are learning. Group work can offer a positive learning experience to students with a variety of preferred learning styles. Although it is important to realize that students often thrive in a nonlinear learning environment, some students do not know how to handle the ambiguity inherent in open-ended activities (Dochy,.2009. Many students feel that the chemistry in a textbook is absolute truth and fail to think about it as a model for representing the world or as a source of questions. Again, reassurance from the instructor that becoming good problem solvers is hard work and some initial discomfort might be expected eases student concerns. As the nature of modular approach demands extensive engagement of instructors, there has to reasonable workload consideration (Dinkelmann, 2001). For instance, when determining instructors' workload, it is necessary to consider the following elements among others: academic rank (related to research work), The type and nature of module he/she is going to deliver (lecture modules vs practical modules), Additional responsibilities an instructor has, Number of modules the instructor is delivering simultaneously and Being postgraduate students (2^{nd} degree, 3^{rd} degree, etc.)

2.5.2. Students' Concerns and Workload

In moving away from a traditional textbook, the overall picture is sometimes lost to many students (Dochy,.2009. Early assessments of Chem Connections modules report that some students have difficulty seeing how the Explorations tie together. Students describe this problemas a lack of fit between elements of the class. Students grope for connections between class activities, laboratory activities, reading assignments, computer work, and, above all, graded assignments. The evaluators have found problems of incoherence in both modular and traditional classes. However, in traditional classes the students tend to order of chapters in their text as a framework where none other is offered. This feedback continues to emphasize the need for instructors to provide a modular syllabus for students which includes daily assignments, laboratory activities, and due dates. Some modular class students have reported problems using their text book as only are source, instead of marching through the text in a linear fashion(Dochy,.2009. They may assume that the text represents the only way in which the topics it contains can be related to each other. The multiple source nature of the modules can help the students learn a more sophisticated way of approaching source and reference materials. However, the modular teacher must make a special effort to place the elements of the whole course into conceptual and activity framework that allows the student to structure knowledge coherently. Instructors, therefore, need to remind students daily of the story line and of the overarching question that is driving the individual inquiries in class and in the laboratory(Dochy,.2009. These frequent verbal reminders are called sign-posts. Each class period and each Session must have closure, especially when the class is working in small groups. It is important that the students come back to a focal point and confirm that what they are doing in their groups is on track. The workload of a module/course unit is based on the total amount of learning activities a student is expected to complete in order to achieve the foreseen learning outcomes (Roberts, 1987 in Cooke and Dinkelmann, 2001). It is measured in time (in work hours); for example, a module of 5 credits allows to 27*5=135 hours of work of a typical student. In practice different approaches are used to calculate the student workload. Although there are differences due to the subject, common denominators can be identified .The calculation of workload in terms of credits is not an automatic process. The professor and experts in the area have to decide on the level of complexity of the material to be studied per course unit. Prior experience of the staff plays an essential role. One of the

main contributions of the process of credit allocation is that it leads to more reflection on curriculum design and teaching methods on the part of the teaching staff.

2.5.3. Challenges in Implementation

The Challenges in Implementation expected will be resistance from (students, staffs, and leaderships), Resource limitation (class rooms, laboratories, materials, time and experts), Lack of experience of the approach for the students instructors and leaders as well, Absence of policy guideline ,Low commitment in the instructors side, Absence of best practices (bench marks) for all of the campus community, Lack of harmonization prevents mobility for graduate students scholarships and others, Alignment problem with the job market for instance students who has taken banking and finance and dismissed, will be certified and can work because of acquiring enough skill in that area, Poor students' academic background, leading to problems when starting , modularized university education (MoE, 2013)

2.5.4. The Role of Stakeholders in Implementation

The Role of Stakeholders will be concentrate on/ about what is expected of them by focusing on the outcomes of education, Competence based education is often much more transparent and therefore accountable to learners, policy-makers and other stakeholders (McKimm, 2003). Indeed, defining a discipline's values, goals and priorities is an implicit part of defining competencies, which enables the competencies to communicate these values and expectations to various stakeholders within and outside the discipline (Dochy,.2009. Currently, there is wider belief among most educators and authors to consider the existence of strong relation with the professional practice at curriculum level and in the separate educational units and in assessment of the tasks that graduates should be able to perform or key problems that they should be able to identify and solve are at the center of CBE (competence based education) (MoE, 2013)

2.5.5. Benefits of Modularization implementation

Develop learners' autonomy:-Modular curricula encourage students to take responsibility for their own learning as it supports the shift of focus from the traditional instructors centered teaching to student centered learning (MoE, 2013). Ensure satisfactory minimum standard:-

the learning outcomes and the assessment techniques are clearly stated, modular curricula allows instructors to check out whether or not students acquire minimum competences identified for the module (MoE, 2013). Enhance instructors competencies:- Modular curricula demands instructors to employ progressive assessment, use diversified teaching methods, carefully plan the lessons etc(Dochy,.2009. As a result, instructors will have a chance to monitor the progress of students learning and the whole provision of the module (McKimm, 2003). This then allows instructors to look in to the strength and pitfalls of the instructional process and take remedies for further improvement. In so doing, instructors will produce a package of their teaching as evidence of improvement of their students' learning. Hence, this will further develop and be shown as evidence of their professional development (MoE, 2013).

Integrate theory and practice:- modules are largely self-paced and the learners' proceeds in small steps it is possible to support each step in practical work by appropriate theoretical explanations (MoE, 2013). Cater for individual differences in learning:- the modules are self-paced, they do cater to an extent for individual differences in the learner abilities, interests and degrees of application. Encourage mastery (Allen and Sickle 1984) points out those conventional courses are usually graded normatively, i.e. by comparing the work of each student with that of others. Sometimes students "pass" a course with grades at lower than 50% implying that they have not mastered at least 50% of the content. By contrast, modules have a built-in-fail-safe mechanism that encourages students to master the whole of the content and so assessments are set with this aim in mind(Dochy,.2009). This avoids the hit-and-miss approach of the conventional course and ensures that future work is based on a sound understanding of all previous learning. Encourage a changed role for the teacher:-As modules inherently are student centered, the teacher's role is limited to facilitation of students learning (MoE, 2013).

2.6. Teaching-Learning and Assessment

2.6.1. Active Learning in Modular Approach

The traditional curriculum focused on the teacher rather than the learner. However, in recent years there has been a paradigm shift taking place, moving the emphasis from teaching to

learning and a more student-centered curriculum. This change has impacted on the curriculum design process with a greater emphasis on the learning in terms of knowledge, skills and competencies within courses and modules. The focus is on how learners learn and the design of effective learning environments. There are a variety of models for the design of courses in higher education (Toohey, 1999; Biggs, 1999) and many of the same issues are relevant in the context of designing modules. In the process of devising a module, the key is to forge educationally sound and logical links between learner needs, aims, learning outcomes, resources, learning and teaching strategies, assessment criteria and evaluation. In modular approach teaching, seeking to incorporate the following to your module design can offer a greater likelihood of fostering a deep approach to learning (Donnelly,2006):sustained interaction with content and others; relating new ideas to previous knowledge; providing explicit explanations and a clear knowledge base to students; structuring in a reasonable student workload; providing opportunities for students to pursue topics in depth so that they can understand the material for themselves; ensuring an appropriate formative and summative assessment strategy.

These ideas resonate with teachers in today's higher education environment and have implications both for our choice of learning and teaching strategies and how we assess learning. An awareness of these approaches to learning is fundamental to the entire module design process. There is merit in ensuring that students are exposed to a range of teaching and learning methods across their program of study (Dochy,.2009. A defining characteristic of a 'higher education' should be one in which learner autonomy and responsibility are encouraged and rewarded. As learning environment evolves, learners have become increasingly demanding on personalized learning which allows them to build their own knowledge pathway. This significant change in learning requirements imposes a new learning paradigm which ensures learner-centered, with flexible mode of content configuration, and adaptive delivery and assessment (Dochy,.2009. As it is mentioned in chapter-2, the above issues are the core philosophies of modular approach teaching and learning process. When we think about student-centered teaching learning process, constructivist theory of learning is the leading one.

2.6.2. Constructivist Learning

Constructive alignment is an approach to curriculum design that maximizes the conditions for quality learning by ensuring alignment throughout the process, from the forming of learning outcomes, to the choice of teaching methods to assessment.Within the constructivist paradigm, the accent is on the learner rather than the teacher. It is the learner who interacts with his or her environment and thus gains an understanding of its features and characteristics. The learner constructs his own conceptualisations and finds his own solutions to problems, mastering autonomy and independence. According to constructivism, learning is the result of individual mental construction, whereby the learner learns by dint of matching new against given information and establishing meaningful connections, rather than by internalising mere factoids to be regurgitated later on. In constructivist thinking, learning is inescapably affected by the context and the beliefs and attitudes of the learner. Here, learners are given more latitude in becoming effective problem solvers, identifying and evaluating problems, as well as deciphering ways in which to transfer their learning to these problems (Dochy,.2009.

It could be argued that constructivism emphasizes the importance of the world knowledge, beliefs, and skills an individual brings to bear on learning. Viewing the construction of new knowledge as a combination of prior learning matched against new information, and readiness to learn, this theory opens up new perspectives, leading individuals to informed choices about what to accept and how to fit it into their existing schemata, as well as what to reject. Recapitulating the main principles of constructivism, we could say that it emphasises learning and not teaching, encourages learner autonomy and personal involvement in learning, looks to learners as incumbents of significant roles and as agents exercising will and purpose, fosters learners' natural curiosity, and also takes account of learners' affect, in terms of their beliefs, attitudes, and motivation.

2.6.3. Teaching and Learning Modules

Disseminate knowledge Lectures, Up-to-date textbooks, Reading, Handouts, Guest' lectures
Use of exercises that require students to find up-to-date knowledge Develop skills in using library and other learning resources(Bourner1997) Directed private study, Open learning materials and Use of the Internet Develop capability to use ideas and

information(Bourner,1997) Case studies, Practical activities, Work experience, Projects, Demonstrations, Group working, Simulations (e.g. computer based), Workshops Discussion and debate, Essay writing Develop the student's ability to testide as and evidence Seminars and tutorials, Supervision, Presentations, Essays, Feedback on written work, Literature reviewing, Exam papers, Open learning, Peer assessment Self-assessment. Develop the student's ability to generate ideas and evidence Research projects, Workshops on techniques of creative problem solving, Group working Action learning, Lateral thinking. Brainstorming, Mind-mapping, Creative visualization, Coaching, Problem solving, Facilitate the personal development of students; Feedback, Experiential learning, Learning contracts, Action learning, Learning logs, Role play, Structured experiences in groups, Reflective documents, Self-assessment, Profiling(Bourner1997) Develop the capacity of students to plan and manage their own learning; Learning contracts Projects, Action learning, Workshops, Mentors, Reflective logs and diaries, Independent study, Work placement, Portfolio development, Dissertations

2.7. Assessment in Modular Instruction

Some scholars suggested that current assessment practices in higher education did not equip students well for a lifetime of earning and the assessment challenges they would face in the future. It was argued that assessment practices should be judged from the point of view of whether they effectively equip students for a lifetime of assessing their own learning. Assessment could be sustainable if it meets the needs of the present without compromising the ability of students to meet their own future learning needs. That is, assessment activities should not only address the immediate needs of certification or feedback to students on their current learning, but also contribute in some way to their prospective learning.

To ensure that assessment is part of the learning process, it should be learner-centered assessment and should reflect a learner-centered curriculum. Assessment methods and approaches need to be focused on evidence of achievement rather than the ability to regurgitate information. Inevitably this means a lesser concentration on traditional written assessments, particularly time-constrained unseen exams, and a greater emphasis on assessment instruments that measure not just recall of facts, but also the students' abilities to

use the material they have learned in live situations. Modular assessment strategies are usually adopted wherever individualized competency-based education and training is implemented. Typically, modular assessment is integrated in to the instructional package to ensure that mastery of the outcome is based on the demonstration of the competencies defined rather than test taking skills.

2.7.1. Types of Assessment Practices

Diagnostic assessment; is often undertaken at the beginning of a unit of study to assess the skills, abilities, interests, experiences, levels of achievement or difficulties of an individual student or a whole class can involve formal measurements (e.g. tests, fitness tests) that are used to establish a starting point or baseline or informal measurements (e.g. observation, discussions, questioning) programming and planning, and learning and teaching methods used, as well as assessment choices. Summative assessment; assists you to make judgments about student achievement at certain relevant points in the learning process or unit of study (e.g. end of course, project, semester, unit, year)Can be used formally to measure the level of achievement of learning outcomes (e.g. tests, labs, assignments, projects, presentations etc.)Can also be used to judge program, teaching and/or unit of study effectiveness (that is as a form of evaluation).Formative assessment; is the practice of building a cumulative record of student achievement usually takes place during day to day learning experiences and involves ongoing, informal observations throughout the term, course, semester or unit of study, is used to monitor students' ongoing progress and to provide immediate and meaningful feedback, Assists teachers in modifying or extending their programs or adapting their learning and teaching methods. Is very applicable and helpful during early group work processes (Bourner1997)

Informal assessment involves: systematically observing and monitoring students *during* in class learning and teaching experiences, interacting with students to gain a deeper knowledge of what they know, understand and can do circulating the classroom and posing questions, guiding investigations, motivating and quizzing students, providing opportunities for students to present or report upon their learning and teaching experiences, Collecting, analyzing, and providing feedback on in and out of class work samples (e.g. how their group work projects are progressing).Formal assessment involves: the use of specific assessment strategies to

determine the degree to which students have achieved the learning outcomes, assessment strategies including: essays, exams, reports, projects, presentations, performances, laboratories or workshops, resource development, artwork, creative design tasks, quizzes and tests, journal writing, portfolio, Individual and/or collaborative tasks that usually attract a mark (group work may include both an individual and group component

2.7.2. Comparison of Assessment

The concepts of assessment have undergone changes, particularly with regard to CBE. Differences between the old and new concepts of assessment are shown below.

Old concepts of assessment	Modern concepts of assessment
• Summative assessment in a formal setting used as the main form of assessment • Examination at the end of the term or the year • Norm-referencing, comparing a student's performance with other students as an indicator of final ranking and for placement/selection. • Knowledge and recall of content is heavily stressed	• Formative and informal assessment • Continuous assessment is an integral part of the teaching-learning process • Criterion-referenced, comparing student's performance against pre-determined criteria/ standards to provide feedback and improve performance • Stress is placed on the learning process

2.7.3. Feedback

Feedback is used to actively improve student learning. Feedback is informative and supportive and facilitates a positive attitude to future learning. Students benefit from clear and helpful feedback on their learning. Everyday learning activities as well as special tasks and tests provide opportunities for the provision of feedback. This places responsibility on staff to plan assessment in order to (a) Develop their own skills in providing quality feedback, and (b) Develop in students the skills they need to provide sound feedback to each other.

2.8. Monitoring and evaluation

Monitoring can be defined as a continuous or periodic check and overseeing by those responsible for the course at every level. It should focus attention on processes and performance with the objective of drawing attention to particular features that may require corrective action. It includes putting activities in place to ensure that input deliveries, work plans, expected output and other actions are proceeding according to plans. Monitoring should enable curriculum planners and teachers to detect serious setbacks or bottlenecks of the implementation process that may cause the programme not to achieve expected learning outcomes (McKimm, 2003).

In this regard, there are many issues that need attention of all teachers and the management in general in monitoring the implementation of modular approach Students' entry behavior; do the students meet the required competence to take a nodule? are the criteria or pre-test provided to students in identifying students entry behavior appropriate for the course or the module? Teaching staff – are the teachers available, motivated and capable of teaching the new course? Have any training needs for teachers been identified and addressed with regard to the required competencies of teachers to implement modular approach (for instance teachers' competence in assessing students' performance, implementing active learning methods, etc)? The teaching and learning process, how is the written curriculum translated into practice?, Are the teaching and learning methods appropriate? Is the balance between different types of learning mode appropriate in achieving the stated outcomes? Assessment;- are the assessments appropriate in terms of level, reliability and validity and do they discriminate between assessing skills, knowledge and attitudes? Are the regulations and procedures appropriate and are they being followed? Learning resources:- are the recommended books and journals and other teaching materials available? Is access to the library and other resources adequate? Performance standards:- are the minimum performance standards being reflected and achieved? The following competency check points could be employed to check whether the curricula developed are in line with the competency based approach (Roberts, 1987 in Cooke and Dinkelmann, 2001).

Are final qualifications or end terms formulated as core (key) competencies (graduate profiles) in their context? Or as long lists of separate goals/objectives with disciplinary knowledge and skills without context?, Are stakeholders from the world of work involved?, or are the discipline experts/teachers determining what the content should be?, Are competencies formulated in terms of development stages? Are there levels and indicators?, or are they simply scattered here and there without any levels and indicators?, Are competencies inspiring and suitable to design learning lines and integrated themes for projects?, or is it just a series of roles and tasks?, Are assessment procedures used that are also used in the professional practice? Is learning strongly linked to situations from the professional practice? or is there emphasis on acquiring basic knowledge before practice? Are knowledge, skills and attitudes integrated and are they learned in a professional context, or are they taught separately in skills training sessions? Are situations from the professional practice point of departure for the curriculum, or is disciplinary content determining the structure of the curriculum

Table 1, shows that the summary of the implementation, monitoring and evaluation (McKimm, 2003)

No.	**Levels of Monitoring and Evaluation**	**Members**	**Frequency of Meeting**	**Points of Discussion**	**Reporting**	**Remark**
1	University	AVP, APO, Registrar, deans, heads, and student representatives	Monthly	• Teaching learning • Assessment • Resource • Student engagement • Team work • Student progress • Strengths • Areas of improvement • interventions	Report to the president	
2	College	Dean, heads, module team leaders, and student representatives	Monthly		Report to the AVP every month	
3	School/department/program	Heads, module team leaders, and student representatives	Per Two Weeks		Report to college dean every two weeks	
4	Module team	Module team leaders and all members, and student representatives	Per Week		Weekly report to the School/department/program	

3. RESEARCH DESIGN AND METHODOLOGY

This part of the paper deals with research design, source of data, sample size and sampling techniques, Instruments of data collection and method of data analysis and interpretation

3.1. Research Design

The descriptive types of both qualitative and quantitative methods have been used. This method is selected because the nature of the study needs wide description and investigation. The study is basically descriptive because it helps to make detailed analysis of existing phenomena with the intent of employing data to justify the current conditions.

3.2. Source of Data

The source of data would be JJU main campus of the total colleges, namely all social science streams, all natural science stream and all of languages total of 35 departments.

3.2.1. Primary Data Source

The primary data have been collected through questionnaire, interview and Focus group discussion. This is to gate genuine data directly from the respondents

3.2.2. Secondary Data Source

The secondary data have been collected through document analysis, record office, registrar, library and archives. The secondary data have also analyzed and checked with the primary data

3.3. Population, Sample Size and Sampling Technique

3.3.1. Population and Sample Size

The population of this study would be the presidents, college deans, department heads, the instructors, students and the line stuffs of the campus. The source population for this study has been also 35 departments distributed across 9 colleges of JJU. Out of all instructors and students of the whole departments mentioned above, 70 instructors and from the list of

students of 2000 and by using (Cohen, 2007) sampling table of 2000 total student 322 would be determine by using table.

3.3.2. Sampling Technique

To achieve fair representation, random sampling technique would be employed. After randomly choosing, of the all colleges, all departments of first and second year students and instructors would be selected out of all departments, *i.e.* (all 9 colleges have 35 dep't. Moreover, from the sample, academic director, quality assurance directorate, College deans, department heads, instructors and students are selected. In order to facilitate early access to reach the required respondents with the limited time available, the random sampling were used for instructors and leaders and availability sampling technique were used for students.

Table 2.The summary of Population, Sample Size and Sampling Technique

S. No	College	Population	Sample size	percent	Sampling techniques
1	Students	2000	322	16.1	systematic random sampling
2	Instructors	70	61	87.1	Systematic Random sampling
3	Leaders	24	21	87.5	Systematic Random sampling

3.4. Data Collection Instruments

Those,which includes. Focus group discussion (FGD): student and instructors, Questionnaires of the students and instructors and Document Analysis. The questionnaire and the interview sample items would be prepared and administered to deans, department heads instructors and students. The questionnaire would be employed to obtain factual information, opinions and attitudes from respondents. Besides, interview has been used to get information directly from the deans. Due to time and the status they possess, interview would be considered as a better instrument for themselves. The questionnaire has contained close and open-ended questions to

help the flow of adequate information as much as possible. The questionnaires have been tried out on some Departments before its actual administration. Based on the results of the pre-testing, the question items that appear with lack of clarity, ambiguity, grammatical and sentence structure errors would be modified and corrected. After all these refinement and correction, the final questionnaires have been administered to the sample departments.

3.4.1. Questionnaire

The questionnaire has been prepared to collect information from Instructors and students. Both structured and unstructured questions were included in the questionnaire to create an opportunity for respondents to express their feeling freely. The questionnaire would be prepared in English due to the fact that all respondents are instructors and students. The questionnaire would be constructed in three parts: the first part of the questionnaire would be used to obtain relevant personal information from respondents; the second part was designed to secure information about the actual practice of instructors' modularization program. The third part would be constructed to obtain information about the assessment and evaluation mechanisms of modularization program.

3.4.2. Focus Group Discussion

The focus group discussion has been done face to face with the students as well as the instructors in the class rooms independently and the target of this group was to check with responses of large/strata's and also whether they are giving similar response or not in the modularization questionnaire.

3.4.3. Interviews

Two types of structured and unstructured interviews would be prepared. The first for the leadership and the second is designed to obtain primary information from (academic director and academic quality assurance officers) of the University.

3.4.4. Document Analysis

Besides questionnaire and interviews, the researcher would be used the document as secondary sources of data collection.

3.5. Sampling procedure

After completing my proposal defense, I have asked the department of educational leadership and management, the letter and then they wrote the permission letter for the JJU So that, I went to and entered the office of JJU president and vice research and academic president and they said go head, then the copies of the permission letter was distributed to each colleges/schools and departments. So then after the questionnaire was checked by my respective advisors, and the questionnaires were distributed to the University and responses returned, again for students similarly, and interviews were given for leaders but this task was very challenging because of their busyness/time. Finally all the responses were analyzed and interpreted. In addition to this, I want thanks and appreciate all leaders, instructors, students and other supporting stuffs

Regarding the population procedure, the number of instructors, college deans, deputy deans, department heads, and head of Academic director office, Quality assurance office, Human Resource Development Department are relatively small and are the only source of information for this study, all were included in the study using purposive sampling methods. All of them were also purposefully selected for interview based on their long term service and educational qualification, except the instructors and heads.

From a total of 2000 students attending a sample size of 322 students were selected using systematic and stratified random sampling technique. 169 male and 39 female students were selected from natural science stream and 90 male and 22 female students from social science stream by using random sampling technique using a check list collected from the record office of the college. In other words, 16.1 % of the total student population from each college was taken as subjects of the study (samples) using stratified (based on their sex and grade) and availability random sampling.

3.6. Methods of Data Analysis

The data collected during the study using different instruments in based approach were analyzed mainly quantitatively (questionnaire) and in some cases qualitatively (particularly in the case of some interview and document analysis) was tallied and systematically organized through tabulation to facilitate analysis. The interview result would be also analyzed and narrated qualitatively. The information, which would be gathered using the document inspection, has been Organized and incorporated. The results obtained would be analyzed, interpreted and counter checked against the result obtained from primary sources. Moreover, percentages and a series of tables would be also used to summarize and clarify the research data. All statistical significances would be evaluated, have been used to test categorical variables to look in to relevant associations. Moreover, the odds ratio would be used to calculate the strength of associations for quantitative variables.

Depending on the nature of the basic questions to be addressed and the variables to be treated, the following statistical tools would be used. A frequency and percentage (%) distribution were conducted to determine the personal characteristics of respondent and analyze their responses. It was also be used to check whether or not there exists a significant difference between the groups of respondent. This statistical test would be chosen since the three groups (leaders, instructors and students) are independent, and the data are in terms of frequencies in discrete categories. Since it includes all the rating scales possible, it can reasonably show the relationship between the three independent groups. Textual analysis techniques adopted from (Colorado University 2006), in which the collected data were categorized and those which were frequently replied by most respondents were used to analyze the data. The Data collected and converted in to percentage form and analyzed, interpreted then summarized and ready for conclusion and recommendation

3.7. The Ethical Issues

The ethics of study was accomplished from the beginning up to the end according to the rule and regulations of the research ethics, surly; there was not be any kind of doubt for the study groups, implementing bodies, the leadership and anybody who has got a kind contribution for the study. Moreover all student data including result and records has very confidential

4. RESULTS AND DISCUSSION

This part of the research comprises two major parts. The first part presents about the profile of the respondents and part two deals with the analysis and discussion of the data collected from subjects to seek answers for the basic research questions raised in the statement of the problem. The data were about the practice of University based modularization which covered the perception of University based modularization, the effects of modularization on teaching-learning achievement the University based modularization trainings, actual practice of University-based modular and the factors that affect modularization program. And the data gathered through questionnaire was from instructors, and students. The data gathered through interview were from leaders, academic directors and academic quality assurance and library heads. All data provided the main data for this study. They presented the ideas, views and perceptions of leaders, department heads and instructors and students in an attempt to bring light to the meanings embodied in the research questions. The main research question of this study sought to answer, how students, instructors, and leaders perceive the practice of University based modularization program in JJU.

A. Questionnaire

Before the administration of the questionnaire to the actual subjects in the study, a pilot study was conducted to check the relevance, clarity and chance of ambiguity of each item in the questionnaire. Then based on the feedback obtained, the necessary modifications will be made for the actual usage.

Pilot Test

Before collecting the actual data, pilot test was conducted in order to check the reliability and validity of the questionnaires. Piloting the instrument has a paramount importance for shifting out the difficult, vague and ambiguous items and concepts and it is one of the best ways of improving the instrument for data collection procedures. Thus pilot test was conducted at Jijiga University, College of veterinary medicine, which is included in the sample schools, on 30 second and third year students and 2 biology teachers. Based on the data collected the validity and reliability of the instruments was ensured after making the necessary correction

according to methods described in Crownbach alpha method. Four questions were modified based on the comment suggested by biology teachers ensuring the validity of the questionnaire. Thus, the instrument was found valuable to collect the data for the main study and then after it was administered as scheduled.

B. Group Discussion

A series of 4 focus group discussions was carried out among purposively selected students to explain some of the findings from questionnaire and interview. The number of participants in each group ranged from 9-10 individuals. A semi-structured discussion guide was used to lead the discussions. The principal investigator moderated all focus group discussions. Two trained research assistants tape recorded and took note of all discussions. The focus group discussions centered on adolescents'/students perception of the role of implementation of modularization in shaping their mode/attention and tried to elucidate reasons for some of the problems faced in modularization

C. Interviews

In general, for this study, the participants were drawn from three different kinds of JJU-stakeholders. These were JJU leaders, department-heads and instructors. One set of questionnaire was distributed for instructors and department-heads and, from 70 instructors only 61(93.3%) were filled and returned respectively. On the other hand, 9 (100%) college deans, 9 (100%) vice-college deans and 3 (100%) academic director directorate, general academic quality assurance and planning heads were interviewed.

D. Document Analysis

The document included the departments' modular program reports and study report of the modularization and academic director office. Documentary analysis would be used to collaborate the Information obtained using questionnaire and interviews. So, according to the above guidelines, there has been observed upward and down ward communication letters that deals about implementation of modularization program regarding facility, on job training, workshops, seminars, practical works, materials and others.

4.1. Background of Respondents

Table 3. The respondents' characteristics of Leaders and Instructors

SN	Items	Leaders(21)				Instructors(61)			
		Male		Female		Male		Female	
1.	**Total Service (Years)**	**N^o**	**%**	**N^o**	**%**	**N^o**	**%**	**N^o**	**%**
	- 0-5 yea	5	23.8	2	9.5	25	40.9	3	4.9
	- 6-10 years	10	47.6	1	4.7	15	24.5	2	3.2
	- 11-15 years	3	14.2	-	-	15	24.5	2	3.2
2	**Service** in JJU **(Years)**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
	- 0-5 years	8	38.1	2	9.5	23	37.7	3	4.9
	- 6-10 years	10	47.6	1	4.7	26	42.6	4	6.5
4.	**Qualification**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
	Degree	3	14.2	2	9.5	12	19.6	3	4.9
	M.Ed/M.A/M.Sc.	11	52.3	2	9.5	37	60.6	4	6.5
	PHD/DVM/MD	3	14.2	-	-	5	8.1	-	-

Table – 4 . Background of Student Respond

		JJU students								**Total Respondents**
		Natural science Colleges				**Social science Colleges**				
		M		**F**		**M**		**F**		
		f	**%**	***f***	**%**	***f***	**%**	***f***	**%**	
No	**Age**									
1	< 17	-	-	-	-	-	-	-	-	-
2	18-19	74	23.1	24	7.5	40	12.5	12	38	46.8%
3	20	95	29.6	15	4.6	50	15.6	10	3.7	53.2%
4	>20	-	-	-	-	-	-	-	-	-
	Total	**169**	**52.7**	**39**	**12.**	**90**	**28.1**	**22**	**47**	**100%**

With regard to Table 3, the majority (47.6%) of leaders were experienced in education from six to ten years of total service. The second highest percent (23.8%) of leaders have experienced a total of service ranging from zero to five years. Whereas, the working experience of leaders in the present JJU were found to be the highest percent (47.6%) from six to ten years and secondly from zero to five years. This indicated above, most of the leaders had sufficient working experiences in the University, which is crucial to scrutinize the

environment in relation to modular program. This shows that the merit of leadership more inclined to a total years of service that of leaders experienced in the profession. It is helpful in order to cooperate and lead instructors for the practice of JJU-based modularization because of their long standing record of experience. On the other hand, instructors were one of the best sources to assess the practice of JJU modular program. The highest percent (40.9%) of total experience of instructors ranged from six to ten years. The second highest percent (24.5%) of total service years of instructors in this study ranged from zero to five years.

Again, instructors' working experiences in JJU also ranged from zero to five years is the second highest percent (37.5%) and from six to ten years of service in JJU were the highest percent (42.6%).From these data, one can understand that most of the respondents were more experienced. Thus, the availability of experienced and matured educational workers helped the young instructors to adjust themselves to the professional growth and healthy relationship with the work and fellow instructors for teaching and learning improvement. Regarding the sex composition of respondents, females were found to be low which is (9.5%) and (4.9%) from the age range of 0-5 years in number, in both parts of leaders and instructors. This indicates that female participation in both positions is still low (9.5%) and (4.9%) in both age ranges in JJU where these data were secured.

With regard to academic qualification, the highest percent (52.3%) and (60.6%) of leaders and instructors were qualified with second-degree. In addition to that, the second highest percentage (14.2%) and (19.6%) of instructors and leaders were first-degree holders and insignificant amount (14.2%) and (8.1%) of leaders were DVM/Ph.D degree holders. The modularization program is concerned with the upgrading of instructors' qualification in addition to updating of instructors' knowledge and skills.

Finally, regarding the gender distribution of both, from the table 2, above, of total service years 18(85.2%) male, 3(14.8%) female were among the leaders and 55(89.9%) male, only 6(10.1%) were among instructors. Moreover, regarding service years in the University, again 18(85.2%) male, only 3(14.8%) were female leaders and 49(80.3%) male, 12(19.7%) were female instructors. In addition to that, regarding qualification of leaders 17(80.7%) male, only

4(19.3%) were female and qualification of instructors, 54(88.3%) male, only 7(11.7%) were female

Table-4 shows that, from a total of 320 students, most of the student respondents were exist at the age range of (18-19) that means (53.2%) in both sex and the rest were exist at the age range of (20) which means (46.2%). In addition to this, most of the respondents (64.8%) were in natural science college and the rest (35.3%) were social science college but the female student respondents were low (12.1%) in natural and (7.5%) in social science streams

4.2. Data Analysis and Interpretation

4.2.1. Perception given by leaders, instructors' and students

4.2.1.1. Leaders' perception

One of the popular top management of the university interviewed that "the perception of all leaders have high except few newly employed once". The other leader told that my perception on modularization has been very good and one college dean told me through the interview that "I have medium perception, but some other college deans might have low perception due to other responsibilities of the position they hold. Finally, one leader told me that he has low perception about modularization due to the missing of the training given by the Haramaya University. Generally, most of the leaders at Jigjiga University have medium perception about modularization implementation.

4.2.1.2. Instructors perception

Table 5: The perception in implementation of modularization program

	Items		Degree of agreement									
			VH		H		M		L	VL	No resp.	
			f	%	*f*	%	*f*	%	*f*	%	*f*	%
1	Needs of the program	61	18	29.5	13	21.3	5	8.2	13	21.3	9	14.
2	Interest to stay in the campus env't	61	8	13.1	13	21.3	10	16.	17	27.8	7	11.
3	Assessment of inst'rs' training needs	61	13	21.3	15	24.7	9	14.	14	22.3	2	3.3
4	Assessment of students' interest.	61	7	11.4	16	26.2	14	22.	7	11.3	9	14.
5	Needs to use available resources	61	7	11.4	6	9.8	17	27.	13	21.3	14	22.
6	Willingness of admin. staff to Support teachers	61	11	18.0	16	26.2	13	21.	7	11.4	9	14.
7	Like to run Modularization program	61	10	16.3	13	21.3	13	21.	7	11.4	13	21.
8	Motivated to Cover the courses within allocated time	61	8	13.1	14	22.3	13	21.	9	14.7	11	18.
9	Initiation to give enough skill for st.s	61	9	14.7	13	21.3	14	22.	10	16.3	8	13.
10	Need to Give solution for old curri. readmission s.s	61	7	11.4	6	9.8	17	27.	13	21.3	13	21.

Key: Very high (VH) = 5, High (H) = 4, moderate (M) = 3, Low (L) = 2 and very low (VL) =1

The above Table 5, depicts in perception for modularization program. Respondent Instructors in item No 1, were, 18(29.5%) and 13(21.3%) responded that consideration of needs of the modularization program before planning has very high and high importance in the process of implementing the program respectively. To the contrary 13(21.3%) and 9(14.0%) were responded low and very low consideration while (8.2%) and (6.6%) has preferred neutrality and no responses respectively.

Whereas, for item No 2, (27.3%) and (11.0%) of them replied Interest to stay in the campus environment has low and very low importance. to the contrary (13.1%) and (21.3%) were responded very high and high importance. While (16.1%) and 4.9% of the total teacher respondents preferred neutrality and did not comment respectively.

The majority in item No 3, (21.3%) and 15 (24.7%) indicates that assessment of instructors' and training need given very high and high consideration. On the other hand 22.3% and 3.3% were preferred to respond low and very lo consideration. While 14.3% and 13.1% were responded neutrality and no responses respectively.

In item No 4, 16(26.2%) and (11.4%) of instructors respondents were Assessment of students' interest, were given high and very high consideration. To the contrary, 11.3% and 14.0% of them were respond low and very low importance while 22.0% and 13.4% responded neutral and no response.

As, indicated in item No 5, 13(21.3%) and 14(22.1%) of the respondents were Needs to use available resources should be given low and very low consideration. to the contrary, 11.4% and 9.4% of them responded very high and high consideration while the rest were respond neutral and no response respectively.

And item No 6, 16(26.2%) and 11(18.0%) of them given willingness of administrative staff to support instructors should be high and very high considerations. On the other hand, 11.4% and (14.1%) were responded low and very low consideration while others preferred neutrality during modular program has been planned.

In item No 7, 13(21.3%) and 16.3% of the respondents Like to run Modularization program gave very high and high consideration. On the other hand 11.4% and 21.3% of them were

respond low and very low importance while 21.3% and 8.4% of them responded neutral and no response in the University environment as an important factor.

In item No 8, 8(13.1%) and 14(22.3%) of teacher respondents were indicate that motivated to Cover the courses within allocated time should be given very high and high consideration. To the contrary, 14.7% and 18.0% of them were responded low and very low, while the rest (21.3%) and (9.8%) prefer to respond neutral and no response.

For item No 9, 9(14.3%) and 13(21.3%) of the respondents gave very high and high importance for reviewing the training program. On the contrary 16.3% and 13.1% of them were respond low and very low while 14(22.3%) and 11.3% or significant number expressed that they do not have good understanding.

Finally, for item No 10, 13(21.3%) and 13(21.3%) of them were respond, need to give solution for old curriculum readmission students were given low and very low consideration. To the contrary, 7(11.4%) and 6(9.8%) were respond very high and high consideration while few responded neutral and no response. Leaders were also asked through interview session about the precondition which should be considered before Modularization was planned.

They indicated among other things that need available of resources, assessment of instructors and students' need, system of reviewing the program as well as willingness of the administrative staff to support instructors have crucial role in the implementation of modularization program.

With respect to the perception, Glover and law (1996) state that perception is important. It ought to be made in available time, finance, workforce, space and political conditions. Moreover, carefully planned modularization activities will be successful while less systematic and inadequate planned programs are likely to fail. An adequately plan bases it self on critically identified and determined training needs.

- Thus, it is safe to argue that, while instructors' modularization program, the needs of the program, the willingness of administrative staff to support instructors and assessment of instructors' training needs should be given high consideration.

4.2.1.3. Students' perception

Table 6: The perception in implementation of modularization program

No	Items	VH		H		M		L		VL		No resp.	
		f	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
1	Needs of taking Orientations	70	21.8	110	34.3	42	13.1	38	11.8	60	18.7	-	-
2	Like to learn in modular appro.	5	1.5	181	56.5	67	20.9	14	4.3	41	12.8	13	4.0
3	Interest to use available materials	56	17.5	42	13.1	111	34.6	56	17.5	42	13.1	13	4.0
4	Training needs on modules	97	30.3	-	-	70	21.8	42	1.1	97	30.3	14	4.3
5	Motivation of students	56	17.5	83	25.9	42	13.1	28	8.7	97	30.3	14	4.3

Key: Very high (VH) = 5, High (H) = 4, moderate (M) = 3, Low (L) = 2

And very low

The above table 6, item No 1 deals with perception about modularization program so then, 70(21.8%) and 110(34.3%) were strongly believe that as they have very high and high needs of taking proper orientation and as there were motivation by the University. To the contrary, 38(11.3%) and 60(18.7%) of them responded low and very low effect and only 13.1% of were responded medium effect .Therefore, more than 56.2% of them gave positive response

Then in table 6, above again item No 2, (appendix- IV) Like to learn in modular approach answered5(1.5%) and 181(56.5%), were respond very high and high values. To the contrary,14(4.3%) and 41(12.8%) of the respondents were responded low and very low effect, while only 20.9% and 4% of them responded medium and no response respectively. So that 58.5% of the students responded positive response.

More over for item No.3 regarding Interest to use available of manuals and guidelines regarding modular curricula were respond 111(34.6%), medium. But 56(17.5%) and 42(13.1%) of them were responded as they have very high and high interest respectively. On the other hand, 17.5% and 13.1% were responded low and very low interest while the rest responded no response. So, around 34.6% and 30.5% of them responded medium and high response respectively.

In addition to this, for item No4, Training needs on modularization were 97(30.3%) and 70(21.8%), respond very high and medium respectively. To the contrary, 13.1% and 30.3% of them responded low and very low interest, while the rest prefer to respond no response. Therefore, more than 30.3% responded positively

Finally on the same appendix item No 5, which is Motivation of students with regards to modularization were among all sample students 28(8.7%) and 97(30.3%), were respond low and very low . To the contrary, 17.5% and 25.9% of them were responded high and very high respectively, while the rest responded no response. For this item they gave 39.3% negative response

Similar literature, Roberts indicated the introduction of a modular system to be in Britain for craft training by the Engineering Industry Training Board in 1968 in vocation training (Roberts, 1987) in (Cooke 2001). Others also indicate the first adoption of modular education in American higher education. Particularly, with the first introduction of the elective system in

1869 at Harvard University, there has been a great variety in the definition and use of modular instruction and implementation of modularization (Dochy,1989). However, modular teaching is one of the most widespread and recognized teaching learning techniques in America, Britain, Australia and other western countries. In addition, modular teaching is used in almost all subjects like natural sciences and medicine and even in social sciences as well as in computer education. All kinds of subjects are being taught through modules (Farooq, 1997).

- Finally, from table 6 above, among 5 items, three of them i.e. needs of taking proper orientation, like to learn in modular approach and Training needs on modularization were respond positive results. On the contrary, the other two of the items. Interest to use available of manuals and guidelines regarding modular curricula and Motivation of students with regards to modularization were responded medium and low respectively. Therefore it can be concluded that, there is medium perception among the students

4.2.2. Extent of modularization by leaders, instructors, and students

4.2.2.1. Extent of modularization by leaders

4.2.2.2. Extent of modularization by instructors

Table 8: Extent of Modularization Implementation,

SN	Items	VH		H		M		L		VL		No.res.	T
		f	%	f	%	f	%	F	%	f	%	f	%	
1	Module development	3	4.9	8	13	11	18.	14	22	20	33	-		61
2	Control factors affecting campus env't	2	3.3	9	14	15	24.	19	31.	12	19.	6.6		61
3	Identify dev't needs of each instructor	-	-	13	21	21	34.	17	27	7	11	4.9		61
4	Decides on the appropriate duration and time	-	-	13	21	19	31.	16	26	12	19	1.6		61
5	Decides on the formation of the groups of active learning	3	4.9	11	18	18	29.	22	36	7	11	-		61
6	Selects an appropriate facilitator for the group	8	13.	12	19	18	29.	9	14	8	13	9.8		61
7	Sharing experience	11	1	8	13	15	24.	23	37	2	3.	3.2		61
8	Give orientations	5	2	11	18	17	29.	19	31	8	13	1.6		61
9	The leaders' contrib'n to the	2	6	3	1	1	34.	10	6	2	3.	9		61

imp'n of mod'n	

Key: Very high (VH) = 5, High (H) = 4, moderate (M) = 3, Low (L) = 2 and very low (VL) =1

The above table 8, shows the role of the leaders in the implementation of modularization. Teachers included in the study were asked to rate the activity level of the Leaders.

Accordingly, respondents in item No 1, 14(22.0%) and 20 (33%) expressed that they did not have any idea about modularization development, acknowledged at low and very low status. On the contrary, 3(4.9%) and 8(13.1%) of them were respond high and very high consideration while the rest were responded neutral and no response.

With regard to item No 2, most 19(31.1%) and 12(19.0%) of them replied that there is little effort in controlling factors influencing University environment by their leaders. To the contrary, 2(3.3%) and 9(13.1%) of them were respond high and very high influence while the rest were respond neutral and no response.

Majority, 13(21.4%) and 21(34.4%) of the total instructors' respondent in item no. 3, responded that moderate effort to identify development need of each instructors were respond high and neutral nevertheless, 27.3% and 11.4% of them respond low and very low, while the rest prefers silence.

The majority 16(26%) and 12(19.0%) of them in item No 4, indicated that Decides on the appropriate duration and timing for the course were low and very low consideration. On the other hand 13(21.3%) of them were responded high consideration while the rest prefers neutrality and no response. Similarly leader's contribution was at moderate condition.

In item No 5, the majority 22(36.0%) and 7(11.0%) of the respondents were responds on Decides on the formation of the groups or active learning low and very low consideration. On the other hand 4.9% and 18.0% were responded high and very high consideration while 29.0% of them responded neutral.

In item No 6, 13.1% and 19.0% of the respondents were on selects an appropriate facilitator for the group respond very high and high consideration. To the contrary 14%

and 13% of the respondents were responded low and very low consideration. While 18(29.5%), and 6(9.8%) were responded moderate and no response respectively.

Regarding item no,7, most of them 23(37.5%) and 2(3.2%) of them described that leader's exhibit little contribution to Contact a near by University (share experience). On the other hand 11(18.0%) and 8(13.0%) were responded very high and high consideration while the rest were prefers neutrality and no response.

In item No 8, 19(31.1%) and 8(13.1%) of respondent indicated that there was low and very low ,on Leaders' Give orientations on the course to the participants in implementation of the modularization program. On the other hand 5(8.2%) and 11(18.1%) of them responded very high and high consideration while, the rest 17(29.0%) and 1(1.6%) respond neutral and no response.

In item No 9, of the total instructors' respondents 12(19.6%) and 13(21%) were responded very high and high consideration respond moderate consideration for the University leaders' contribution to the implementation of modularization program. On the contrary 10(16.1%) and 2(3.2%) were responded that low and very low contribution while 21(34.4%) and 3(4.9%) were prefers to respond neutrality and no response.

- In general, instructors responded on Extent of modularization implementation were 20(33%),19(31.1%),22(36.0%),23(37.5%),19(31.1%)and19(31.1%) for modularization development, controlling factors affecting influencing University environment, Decides on the formation of the groups or active learning, Selects an appropriate facilitator for the group Contact a near by University (share experience).and, Give orientations on the course to the participants respectively believed that leaders had little Contribution towards modularization program implementation in the University.

Literature reviews also shows that identifying the development needs of each teacher and the JJU staff as whole, arranging modularization opportunities, monitoring progress and evaluating performance must be undertaken by University/college leaders. The University leaders are the common denominator of these factors (Marezely, 1996).

Furthermore, the leaders' role in nurturing modular is significant and begins with sensitivity to the JJU development needs. He has to develop professional kinship with the JJU staff in order to create conducive environment for modular are the roles and responsibilities of a leaders. The leaders acknowledge that even though they got good knowledge of their roles and responsibilities in modular implementation they had little contribution to modular program implementation.

In general, scholars have indicated that the implementation of modularization activities requires good University management and favorable environment with voluntary participation of University community. Dim mock 52 (1993) asserted that the connection between quality of JJU-based management and curriculum are typically assumed. Underlying much of the emphasis on University modularization management and leaders' professional development is the belief that improvement in the management of University will necessarily generate better quality curriculum, on teaching and learning

This entails, therefore, leaders, instructors, experts and other concerned bodies should attempt to improve the program through a joint effort in order to achieve the objectives of modularization. Otherwise the vision to produce professionally well informed and motivated instructors, capable of delivering quality education was not be fulfill.

4.2.2.3. Extent of modularization implementation by students

Table-9:Extent of Implementation on Modularization Program

No	Items	Scores												Total
		VH		H		M		L		VL		No resp.		
		f	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	
1	Inst'rs' supervision in classrooms	14	4.3	83	25.9	153	47.3	28	87	14	4.3	28	8.7	320
2	Inst'rs' engagement in co curric activities	28	8.7	111	34.6	70	21.8	83	25.9	-	-	28	8.7	320
3	Interrelationship b/n inst'rs and st.ts	42	131	97	33	83	29	56	15	-	-	42	131	320
4	Active learning participation of st.s in the classroom	28	8.7	111	34.6	111	34.6	-	-	26	81	58	18.1	320
5	Availability of reference	14	4.3	42	13.1	83	25.9	70	21.8	83	25.9	28	8.7	320

books, internet

Key Very high (VH) = 5, High (H) = 4, moderate (M) = 3, Low (L) = 2 and very low (VL) =1:

The above table 9, in item No 1, deals about the extent of implementation of modularization programs, according to the respondents' item No.6,14(4.3%), 83(25.9%) and 153(47.3%), of students' responded, supervision in classrooms were very high, high and medium respectively. To the contrary, 28(8.7%) and 14(4.3%) were responded low and very low So, more than 77.3% responded high and medium

Furthermore in item No 2, 28(8.7%), 111(34.6%) and 70(21.8%)of Instructors' engagement in co curricular activities were responded very high, high and medium respectively. To the contrary, 83(25.9%) of the respondents have responded low and very low. So, more than 64.6% gave positive response.

Then for item No 3, 42(13.1%), 97(30.3) and 83(25.9%) were responded interrelationship between instructors and students, very high, high and medium respectively. To the contrary, 56(17.1%) of them had responded low and very low. Therefore, more than 50.3% of them responded positively

In addition to this, item No 4, 28(7.8%), 111(34.6%) and 111(34.6%) of them responded, that active learning participation of students in the classroom was very high, high and medium respectively. On the other hand 26(8.1%) of them were responded low and very low. So, More than 74.6% gave positive and medium result.

Finally item No 5,14(4.3%), 42(13.1%) and 83(25.9%) of them were, Availability of reference books, internet and other facilities responded very high, high and medium. On the other hand, 70(21.8%) and 83(25.9%) of them were responded low and very low. So, more than 47.9% responded low result.

Finally, from literature, the introduction of a modular system in Britain for craft training by the Engineering Industry Training Board in 1968 marked the start of this approach to vocation training which was then emulated in many other industries (Roberts, 1987). The extensive International Labour Organization (ILO) project on 'modules of employable skills' (MES) from the mid-1970s onwards, aimed at workers in developing countries, was a particularly significant initiative in relation to a modular approach to vocational education and training

(ILO, 1984) in (Cooke ,2001). There are a lot of reasons for the increased interest in modular education; namely: Cutbacks in financing which leads to restructuring and reorganization, Wider range/diversity of student requirements, Demand for flexibility in labor market, More freedom of choice and Increased access and/or consumption of the educational supplies

- From the above table 9, Instructors' supervision in classrooms, Instructors' engagement in co curricular activities, Interrelationship between instructors and students, Active learning participation of students in the classroom and availability of reference books, internet and other facilities were responded medium, very high, high, medium and medium respectively. Therefore the Status of Implementation of Modularization Program is going in a very good condition

4.2.3. Roles/effort of leaders on modularization implementation

Table 10:Roles /effort made by the leaders in order to follow up Modularization program.

The above table 10, indicates which instruments, according to teacher respondents, have been used by leadership to monitor modularization program in scores;. Instruments used for evaluating modularization program.

No	Items	US		ST		RA		NA		UD	
		f	%	*f*	%	*f*	%	*f*	%	*f*	%
1	Questioners	-	-	11	18.0	7	11.4	29	47.5	13	21.3
2	Observations	14	22.3	13	21.3	18	29.5	4	6.6	7	11.4
3	Discussion	6	9.8	17	27.8	15	21.5	3	4.9	9	14.7
4	Interviews	-	-	9	14.7	13	21.3	24	39.3	7	11.4
5	Systematic follow up	-	-	9	14.7	13	21.3	19	31.3	15	24.5
6	Analysis of document	-	-	-	-	17	27.8	21	34.4	15	24.5
7	checking portfolio	9	14.7	19	31.1	13	21.3	8	13.1	7	11.4

Key: Usually (US), some times (ST), rarely (RA), Not at all (NA) undecided (UD)

According to instructors' response in item No 1,29(47.5%) and 13(21.3%) of them believed that leaders Not at all and undecided used Questioners respectively, in order to follow up Modularization implementation program. On the other hand 11(18%) and 7(11.4%) were

responded some times and rarely questionnaires used by the leaders, while the rest responded no response.

In item No 2, 18(29.5%) of them were respond that leaders rarely used observation, in order to follow up Modularization implementation program. On the other hand 14(22.3%),13 (21.3%), 4(6.6%) and 7(11.4%) of them were respond leaders used observation, while the rest preferred no response.

In item No 3, 17(27.8%) of them were respond that leaders sometimes used discussion, in order to follow up Modularization implementation program. On the other hand 6(9.8%), 15(21.5%), 3(4.9%) and 9(14.7%) of them responded usually, rarely, not at all and undecided respectively leaders used discussion to follow up instructors while the rest prefers no response.

In item No 4, 24(39.3%) of them were respond that leaders not at all used interviews, in order to follow up Modularization implementation program. On the other hand 9(14.7%), 13(21.3%), and 7(11.4%) were responded some times, rarely, and undecided respectively, while the rest responded no response.

Again in item No 5, 19(31.3%) of them were respond that leaders not at all used Systematic follow up, in following up Modularization implementation program. On the other hand 9(14.5%), 13(21.3%) and 15(24.5%) were responded some times, rarely, and undecided respectively. The rest prefers no response.

In item No 6, 21(34.4%) of the instructors were respond that leaders not at all used, Analysis of document in following up Modularization implementation program. On the other hand 17(27.8%) and 15(24.5%) were responded rarely and undecided respectively. To the contrary, usually and some times were not responded on this item and the rest responded no response.

Finally, in item No 7, 19(31.1%) of the instructors were respond that leaders sometimes used, in checking portfolio in following up Modularization implementation program. On the other hand 9(14.7%), 13(21.3%), 8(13.1%) and 7(11.4%) were responded usually, rarely, not at all and undecided respectively. While the rest responded no response.

In general, according to instructors' response, 17(27.8%) and 19(31.1%), of them were responded sometimes leaders used discussion, and checking portfolio respectively, in following up the Modularization implementation program. On the contrary,18 (29.5%), 29(47.5%), 24(39.3%), 19(31.3%), and 21(34.4%) of instructors responded that observation, questionnaires, interviews and analysis of documents, respectively, were used rarely or not at all.

Instructors were also asked, using both open-ended and close-ended questions to identify which mechanisms of leaders use to monitor the modularization program. They responded that leaders used observation and checking portfolio as instrument in order to follow up the activity of instructors who are participating in modularization program. Besides, leaders and education officers were also asked to list the possible mechanisms used by their office.

Leaders pointed out the following instruments; portfolio, observation, checking attendance and analyzing minutes to follow up instructors' performance. The experts, on the other hand, expressed that they follow up modularization program in University using checklists and analyzing its results. Moreover, they indicated that they sometimes observe how instructors prepare portfolio in their University.

According to (MOE, 2006) the follow up and evaluation of instructors continuous professional development program should be on the basis of the following instruments; portfolio assessment, comparing with standards and results of instructors performance evaluation. Hence, it can be safely summarized that although there is some effort to follow up modularization program in JJU, leaders concentrate only on certain instruments.

This might be due to different reasons. One of the reasons might be lack of knowledge on the program evaluation schemes. Thus, leaders should get better understanding of the evaluation schemes and start using the different instruments to collect valid data and to see the gap between what has been achieved and what has not yet been. This would help them to take corrective measure to undertake a sound modularization program.

4.2.4. Challenges of modularization implementation

4.2.4.1. Challenges by leaders

Most of the leaders of the University told, some of the following challenges has been observe das they have responded through the interview. The constraints observed in modularization implementation were logistic, infrastructure, resource and manuals or guidelines. Yes there is a motivational problem and modularization did not fully given solution for old curriculum readmission students. They told that also there is responsible body to run the modularization program and also there is responsible body even at the college level. Finally, they told me, as there was traid to solve the problems by allocating additional budget to fulfill materials and infrastructures.

4.2.4.2 Challenges by Instructors

Table -11: Challenges of Modularization Implementation.

No.	Items	HE		ME		LE		NE		UD		No resp.		Total
		f	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	
1	Shortage of appropriate resource	18	29.5	12	19.6	17	27.8	9	14.7	5	82	-	-	61
2	Unfavorable University environment	9	14.7	11	18	17	27.8	14	22.3	6	9.8	4	66	61
3	Lack of support from University leaders	13	21.3	21	34.4	11	18.0	8	13.1	5	2	3	4.2	61
4	Shortage of time to effectively implement the program	12	19.6	15	24.5	10	16.3	11	18	8	13.1	5	8.2	61
5	Lack of budget to implement the program	19	31.1	13	21.3	8	13.1	12	196	7	11.4	2	3.2	61
6	Shortage of knowledge on the program	17	27.8	13	21.3	9	14.7	12	19.6	6	9.8	4	6.6	61

Key: High effect (HE) = 5, moderate effect (ME) = 4, least effect (LE) = 3, no effect (NE) = 2, undecided (UD) =1

The above table 11, deals with the University related factors negatively affecting the implementation of modularization program. Teacher respondents and heads were asked to rate

the extent of the effect of JJU related factors which inhibits the practice of implementing modularization program.

The result, as shown in the table above, in item No 1, 18(29.5%) and 12(19.6%) of the total teacher respondents stated that shortage of appropriate resources had high negative influence and moderate effect on modularization program respectively. On the other hand 9(14.5%) and 5(8.5%) were responded no effect and undecided respectively. while27.8% of them were responded least effect.

Regarding item 2, most of them 17(27.8%) of them indicated that unfavorable working environment did not have significant influence in the implementation of modularization program. On the other hand, 9(14.7%) and 11(18%) of the respondents were responded high effect and moderate effect respectively. While, 22.3%, 9.8% and 6.6% were responded no effect, undecided and no response respectively.

In item No 3, the significant number 13(21.3%) and 21(34.4%) of the total instructors indicated that lack of support from the JJU leaders had high effect and a moderate negative effect on modularization program implementation respectively. To the contrary, 13.1% and 8.2% were responded no effect and undecided respectively. While 18.0% and 4.2% were preferred least effect and no response respectively.

In item No 4, 12(19.6%) and 15(24.5%) of the respondents were responded Lack of time to effectively implementing the program, had high effect and moderate effect on modularization program implementation. On the other hand, 18% and 13.1% were responded no effect and undecided respectively, while 10(16.3%) and 5(8.2%) were preferred to respond least effect and no response.

In item No 5, 19(31.1%) and 13(21.3%) of them were responded lack of enough budgets of the program had significant or high effect and moderate effect in effective implementation of the program respectively. To the contrary, 12(17.6%) and 7(11.4%) were responded no effect and undecided respectively, while the 13.1% and 3.2% were responded least effect and no response respectively.

Similarly, in item No 6, most 17(27.8%) and 13(21.3%)of respondents stated that the most prominent factor negatively and moderately influencing modular implementation is lack of knowledge of the program respectively. On the other hand, 19.6% and 11.3% of them responded no effect and undecided respectively, while 14.7% and 6.6% of them were responded least effect and no response respectively.

They also pointed out that relatively facilitators had better training on modularization program. Lack of orientation among instructors, difficulty to decide the time for modular session and lack of commitment to practice the theoretical aspect of the training during modularization session were identified by leaders as factors negatively influencing the modularization program implementation.

In the same token, various scholars also suggest different prevailing conditions as hindrance to modularization implementation. According to (Darling Hammond and Mc Laughlin, 1996), settings that support instructors' inquiry and collaboration, extra JJU structure and support, participation by stakeholders, perspectives and priorities and the situation specific nature of instructors and learning may be key challenges for instructors' professional development. Bladford (2000) also asserts that modularization will be affected by: allocation of human and financial resources, alteration of structures and systems and presence or absence of staff development policy. With respect to factors that may affect modularization program in Ethiopian context; MOE (2003) pin points, among other things, lack of expertise and quality of knowledge in JJU administrative position as the main constraints.

As stated above, it is possible to put a concluding remark that administrative support for instructors to implement modularization programs should not be seen as limited only to advocating with policy makers and providing materials, financing and human resources. The symbolic leadership of the effective leaders cannot be underestimated as a change agent.

Thus, JJU leaders should be a learner as well as a leader. Beyond having a supportive attitudes and creating an atmosphere where there is a love of learning, JJU leaders must be the primary modularization developer, because it is the leaders who has the greatest direct control over the factors affecting JJU environment (Marezeley, 1996)

4.2.4.3. Challenges by Students

Table-12**:** Challenges on implementation of modularization.

No	Items	VH		H		M		L		VL		No Resp.		Total
		f	%	*f*	%	*f*	%	*f*	%	*f*	%			
1	Shortage of library, materials	56	17.5	56	17.5	83	25.9	70	21.8	28	8.7	28	8.7	320
2	Shortage of internet and network	83	25.9	83	25.9	[illegible]	4.3	28	8.7	83	25.9	28	8.7	320
3	Unable to get enough skill from practical work, as expected	83	25.9	70	21.8	56	17.5	56	17.5	14	8.7	28	8.7	320
4	Unable to finish the course within allocated period of time	14	4.3	83	25.9	97	30.3	42	13.1	78	26.2	-	-	320
5	Unable to give solution for old curriculum readmission student	83	25.9	42	13.1	97	30.3	56	17.5	14	4.3	28	8.7	320

Key: Very high (VH) = 5, High (H) = 4, moderate (M) = 3, Low(L) = 2 and very low(VL) =1

Table -12, above deals about challenges on implementation of modularization so, item No 1, Shortage of library, Softcopy and Hardcopy of Courses Materials were 83(25.9), scored medium. So, more than 83(25.9%) responded Shortage of library, Softcopy and Hardcopy of Courses Materials were at the medium level.

Then item No 2, Shortage of internet and network were 83(25.9%), 83(25.9%), scored high and very high. Therefore, more than 83(25.9%) were responding .Shortage of internet and network at high and very high condition

Item No, 3, which is 'Unable to get enough skill from practical work, as expected', were 83(25.9%), scored very high. Therefore, more than 83(25.9%) respondents Unable to get enough skill from practical work were in a very high condition.

For item No 4, this states 'Unable to finish the course within allocated period of time,' were 97(30.3%), scored medium. Therefore, more than 97(30.3%) responded Unable to finish the course within allocated period of time were at medium level.

Then for item No 5, that states, Unable to give solution for old curriculum readmission student, were 97(30.3%), scored at medium level. Therefore, more than 97(30.3%) were responded Unable to give solution for old curriculum readmission at medium level.

- Finally, from the above table 10, Shortage of library, Softcopy and Hardcopy of Courses Materials, Shortage of internet and network, Unable to get enough skill from practical work, Unable to finish the course within allocated period of time and Unable to give solution for old curriculum readmission student were responded medium, very high, very high, medium and medium respectively. Therefore, in the Challenges of modularization approach, most items were responded positively by students, therefore it can be summarized as there is great challenge

4.3. The triangulated finding / short summary of this chapter

Love for approach: The students did not much adore the modular approach as much as one may like to have, which is essentially reflected in such a way that the vast majority of the students (95%) did not select the "very high" tally. Likewise, the intention on the instructors' side is very visible when a very huge proportion, As instructors involved in the study preferred to tick on the "No Response" tally. A very good proportion of instructors selected the high and medium tally though. This is encouraging in such a way that if good lobbying on the system and tremendous consultation are made with instructors. So much so about instructors and students, it goes without saying that there is yet much to be done on leaders as well. As the data emerging from the human resource department of JJU and other sources, as well as the researcher's observation and follow up on developments over the study period, there is a very alarming rate of leaders turn over. It is not uncommon to find some

departments and colleges whereby the leader stays on the position just less than a year. By the time the head or dean gets some working experience on the modularization in particular and other issues in general, he/she is leaving the position and sparing for yet another inexperienced staff servings as headship/deanship. This is what has significantly affected this teaching paradigm.

On issues related on the importance of significant resources/ inputs for the approach, all parties had the insight that this approach is very resource (book, internet, labs) facilities, and all had responded that too little too early that this approach is implemented in the face of very rudimentary resources at JJU. On training need, all parties involved in the study agreed that a very subsequent inductive are a must do stuff.

4.4. Reports on Modularization

As we all knows modularized way of teaching learning process has been started since 2012/2013 academic year. Now the department of Animal and range science has a first, second and third year students who are attending their education with this curriculum. On August 2013 the process of developing the curriculum was total completed. The newly developed curriculum has its own positive side for teaching and learning process and challenges so the status of the curriculum in teaching and learning process and the challenges encountered indicated as follows:-

Based on the guideline/principle of the university in particular and the direction by MoE in general, the implementation of modularization system commenced since first semester of 2005 academic year and has continued for the 3rd batch now. This harmonized curriculum was implemented because:- Veterinary medicine education needs constant updating especially on the recent trends and thrusts of the veterinary profession, The present and past curriculums are overloaded with courses fragmented to a number of courses and administered in different semesters. Those that are related to each other should be merged as one module or learning unit so that the learner could easily understand them, A need to promote self-study and curiosity among students, so that the veterinary education can be problem-oriented, participatory/interactive and student centered, The curriculum needs to focus on practical training, facilitate independent learning, based on competencies in order to produce skilled veterinarians on top of their theoretical knowledge, The institution of continuous assessment

and uniform and clear evaluation, balanced course and credit was given due attention by the curriculum, All-rounded support and guidance, counseling of students, disadvantaged and less witted students was encouraged, During harmonization, all courses were decided to be given in parallel and hence, at this point in time, no block course was there, While implementing the curriculum, we faced challenges; yet we tried to implement the delivery system as much as possible in line with principles and directions stipulated in the harmonized curriculum.

Success

As modular systems are normally student-oriented, it has given the students some benefits: Acquiring of independent learning even though not as robust as was thought, Minimized students' abscentism, Close to zero attrition rates recorded last year, Enhanced student interaction due to the different activities given to them, Increased performance and point of students through continuous assessments, Increased student-teacher relationship, Made easy the process of identifying those students who are poor-performing and needed consultation, Due to fixed scaling schemes in this system (we later incorporated non-modular classes in fixed system as well), the collaboration and peer support practices among students has somehow improved, as the students are literally not competing among themselves, but with the modules and modules alone.

Challenges

One of the objectives of the curriculum was to focus on the practical trainings but there were challenges in executing this due to completely un fulfilled of laboratory facilities, The layout of the class rooms and chairs were not as such suitable for group discussion. So it is imperative to start re-think the classroom orientations (Especially chairs), Students complain to be too busy because of too much load, Multi faceted problems arising from Fx grades, All members of the CVM communities did not take adequate training on modularization.

Inherent nature of courses in Vet, Medicine did not allow robust group discussions, as the contents are often too bulky to cover in a semester if the student discussions were too much.

Serious lack of adequate reference materials, as we didn't add any resource this year to the existing ones, significant number of students relied on handouts given by instructors, thus avoiding going to library too much. We actually tried to take corrective measures recently.

Lack of internet access for students as well as instructors, which has worsened this year and Scarcity of teaching aids like LCDs, power problems and classroom facilities and cleanness.

Conclusion

It is a bare fact that modular teaching is resource-demanding approach of teaching philosophy. The College AC that did thorough discussion on the issue concluded very little problem are there in our curriculum. It is very well articulated, and when important a couple of courses that deal with pastoral settings have been incorporated to make it a little different from other universities. On the other hand, the AC concluded that we need to work tirelessly to fulfill all relevant teaching resources, text books, audiovisual aids, graphical pictures, laboratory facilities and above all better internet access for instructors as well as students. The classroom chairs (especially fixed chairs) should be made more convenient for modular teaching that demands too much student discussion.

5. SUMMARY, CONCLUSION AND RECOMMENDATION

This part of the study deals with the summary of the major findings of the study, conclusion drawn on the bases of the findings and recommendations that are assumed to be useful to enhancing the effective implementation of modularization program.

5.1. Summary

The main purpose of this study was to asses the effort /contribution of leaders for the implementation of modularization program at JJU. In doing so, the study had the following objectives: to investigate the perception of the leaders and instructors in the implementation of modularization; to examine practical situations in playing their role; to find out the status of implementation and the problems they face during implementation of modularization. Descriptive survey method was employed as it is more appropriate to asses the contribution of leaders and instructors for the implementation of the program.

The study included all the colleges in University. There were 140 instructors offering courses for first and second year students in the University. Among these, 50% of them were selected randomly and about 61 of them fill the questionnaire. Furthermore, all the available 21 leaders from JJU and 320 students were also included in the study .Thus, a total of 402 characters were used. Instructors, leaders, education officers and students were also the main sources of respondents. Frequency, percentages, and a series of tables were used to analyze, summarize and clarify the research data.

The analysis of the responses of the questionnaires and the interviews from JJU's (instructors, leaders and students) makes it possible to reach the following summary.

- The majority of instructors from table 3, above is 10(47.6%) and leaders 15(24.5%) have more than six years of service and 11(52.3%) of leaders, 37(60.6%) of instructors were M.Ed/M.A/M.Sc holders. Thus, it indicates that most of them have ample work experience and second degree holders. From a total of 320 students, most of the student respondents were exist at the age range of (21-30) that means (53.2%) in both sex and the rest were exist at the age range of (11-20) which means (46.2%). In addition to this, most of the respondents (64.8%) were in natural science stream and the rest (35.3%) were social

science stream but the female student respondents were low (12.1%) in natural and (7.5%) in social science streams.

- As we all knows modularized way of teaching learning process has been started since 2012/2013 academic year. Now the department of Animal and range science has a first, second and third year students who are attending their education with this curriculum. On August 2013 the process of developing the curriculum was total completed. The newly developed curriculum has its own positive side for teaching and learning process and challenges so the status of the curriculum in teaching and learning process and the challenges encountered indicated as follows:-

  The data analysis revealed the following major findings.

  1, The perception is the need and experience of the University leaders, instructors and students need to run the program, need to stay in the University environment, assessment of students' and teachers' need, interest to use available of resources, willingness of University leaders to support instructors and needs of reviewing the training program are implemented in medium and average condition. It is obvious that JJU based modularization program requires a joint responsibility. Thus, motivated leaders could play a significant and unreserved role in the process of implementing the modularization program. Hence, willingness of JJU leadership should not be underestimated but rather is better given high consideration.

  2. Status of the curriculum**,** the curriculum has fully developed, The curriculum allows the students to work hard**,** Student understand as they are computing with the competence set and fixed grade which allow the student to work together, Since each course has well developed course content there is no variation to occur between different instructors for the same course at different time. For the leaders' contribution to the implementation of modularization program, selects an appropriate facilitator for the group and Leaders contribution respectively was at moderate condition. Most students' respondents stated that leaders sometimes used discussion method, rarely used interview and analysis of documents, did not apply systematic follow up instrument. On the other hand, leaders pointed out that they used portfolio checking, observation, taking attendance and analyze minutes to follow up instructors' performance in modularization implementation. Officers only described checklist and observation as instrument for monitoring modularization program

3. Leaders respondents were aware of their roles and responsibilities in the implementation of modularization program and they mentioned the following; preparing schedules, deciding the place where modularization participants meet, follow up modularization session, checking portfolio, and taking participant's attendance, make sure the availability of stationary materials. Furthermore, they stated that having good knowledge of modularization program, assigning an appropriate facilitator and giving orientation on the course to the participants were further roles and responsibilities of JJU leader in modularization implementation. Significant number of student's respondents expressed that leaders evaluate modularization program in the JJU only some time. Besides, most of them stated that there is inconsistency in providing modularization evaluation feedback to modularization participants. Most leaders respondents also confirmed that they gave feedback to instructors only once in two months. This indicates inconsistency in providing modularization evaluation feedback to instructors.

4. Challenge in modularized curriculum requires high resources like books, laboratories, different livestock production farms and demonstration site which the university still can't fulfilled, For some courses the time allocated is not sufficient to cover the all content**,** It make the instructor and the students so busy and The amount of ECTS allocated for the curriculum that makes it different based on the location of the university is so less. Most instructors, students and leaders respondents agreed that the factors that have negative influence on instructors' and student's modularization are medium level in JJU management system, absence of motivation among leaders and lack of knowledge concerning program. In addition, absence of necessary materials, lack of acceptance for modularization program, and lack of administrative support were also contributing factors.

5.2. Conclusion

Based on the findings of the study, it is possible to arrive at the following conclusion:

1., Love for the approach: The students did not much adore the modular approach as much as one may like to have, which is essentially reflected in such a way that the vast majority of the students (95%) did not select the "very high" tally. Likewise, the intention on the instructors' side is very visible when a very huge proportion, As instructors involved in the

study preferred to tick on the "No Response" tally. A very good proportion of instructors selected the high and medium tally though. This is encouraging in such a way that if good lobbying on the system and tremendous consultation are made with instructors stay in the university environment, assessment of students' and teachers' need, interest to use available of resources, willingness of the university leaders to support instructors and needs of reviewing the training program were implemented in a good condition

2. The JJU's modularization program reports (from the colleges of agriculture and veterinary medicine) states that leaders tried to handle their responsibilities properly in the implementation of modularization program, one of the crucial findings of the study indicates that all leaders (before,2007E.C) themselves, officers and the majority of instructors and student respondents confirmed that leaders were a little providing support to instructors who participate in the program due to the lack of basic knowledge on how to manage modularization program. In addition, shortage of necessary materials, shortage of motivation among leaders and lack of convenient time have also played significant role.

3. On issues related on the importance of significant resources/ inputs for the approach, all parties had the insight that, this approach is very resource taking (book, internet, labs) facilities, and all had responded that too little too early that this approach is implemented in the face of very rudimentary resources at JJU. On training need, all parties involved in the study agreed that a very subsequent inductive are a must do stuff. This study shows again leaders did not practice consistent evaluation system. Furthermore, they did not provide an immediate feedback to staffs regarding evaluation of modularization.

4. Most instructors, students and leaders respondents agreed that the factors that have negative influence on instructors' modularization are medium level in JJU management system, absence of motivation among leaders and lack of knowledge concerning program. In addition, absence of necessary materials, lack of acceptance for modularization program, and lack of administrative support were also contributing factors. Most teachers and students respondents believed that lack of support from the University leaders had a moderate negative effect on modularization program implementation where as absence of appropriate resources has high negative influence on the implementation..

5.3. Recommendations

Based on the findings, the following recommendations are forwarded:

1. For the modularization program to be successful, the Institutional Transformation Office in collaboration with other stakeholders should organize the necessary training to leaders. The same should be done for education officers, instructors and key modularization leaders. Furthermore, it is recommended that there should be relatively highly qualified and experienced experts who are responsible for coordinating overall practice of the program and provides the required support as needed.

2. It is essential to develop an incentive mechanism for leaders, instructors, and facilitators which may range from a simple recognition (certificate) for what is achieved to promotion through career structure and scholarship. Moreover, the reward should be clearly known to instructors and leaders.

3. All the three parties should do their at most to use the different instruments available to them. Their effort should also be strengthened and other stakeholders should participate through organizing seminars, trainings and workshops.

4. Evaluation is important should be done continuously, i.e., it should not be a one time job and there should be continuous follow up and an immediate feedback system to synchronize efforts for an effective modularization program. The effort may be effective on the bases of planning which might be useful in indicating when and how to conduct an effective follow up and feedback system.

5. This study focuses on assessing the contribution of JJU leaders to the implementation of modularization program. This entail , among other things, that its findings, conclusions and recommendations should be taken with its limitations in mind. However, the research will have its contribution in understanding the issue taking into account, the very limited number of researches conducted in this area. For this issue it is not well researched, interested educators, policy makers and researchers are encouraged to enrich these findings by further investigating the practices of other Universities of the country.

6.It is a bare fact that modular teaching is resource-demanding approach of teaching philosophy. The College AC that did thorough discussion on the issue concluded very little problem are there in our curriculum. It is very well articulated, and when important a couple of courses that deal with pastoral settings have been incorporated to make it a little different from other universities. On the other hand, the AC concluded that we need to work tirelessly to fulfill all relevant teaching resources, text books, audiovisual aids, graphical pictures, laboratory facilities and above all better internet access for instructors as well as students. The classroom chairs (especially fixed chairs) should be made more convenient for modular teaching that demands too much student discussion.

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7. APPENDIX

7.1. Appendix I. Questionnaire Distributed to Instructors and heads

POST GRADUATE PROGRAM DIRECTORATE

HARAMAYA UNIVERSITY

Questionnaire Distributed to instructors and department heads

Dear Sir or Madam,

The main objective of this questionnaire is to collect primary data for the study on the practice of school/colleges Modularization Approach, the case of JJU. The questionnaire to be useful and accurate, If it is important that you answer each question as thoroughly and frankly as possible. The confidentiality of your response will be secured and only be used for research purpose.

No need to write your name.

Thank you in advance for your cooperation.

Introduction

Please, complete this part of the questionnaire by putting an 'x' sign against your response. For items that require extended response, write it in the blank space corresponding to the questions.

PART I

General Information

1. Type of the school/colleges

Natural science steam ↑ social science stream ↑

2.Gender Male↑ Female↑

3.Acadamic qualification B.Ed /B.A /B.Sc ↑ M.Ed /M.A /M.Sc ↑

PH.D ↑ MD/ DVM ↑

4. Total years of service 0-5 ↑ 6-10 ↑ 11-15 ↑ 16-20 ↑

21-25 ↑ above 25 ↑

5, Years of teaching experience in this university 0-5 ↑ 6-10 ↑

11-15 ↑

6. Present post _____

PART II

Please read each item carefully and indicate to what extent the Modularization is practical in your school/college/department by making an '√' in the box against the choice. N.B. SA= Strongly Agree, A= Agree, N= Neutral, D=Disagree, SD= Strongly Disagree and VH= Very high, H=High, M=moderate, L=Low, VL=very low

i	**Perception of Instructors and heads for Modular Implementation**	**VH**	**H**	**M**	**L**	**V**
1	Acceptance of the program					
2	Like to stay to the campus environment					
3	Needs of instructors' training and workshop					
4	Students' interest.					
5	Interest to use Available of resources					
6	Willingness of administration staff to Support teachers					
7	Love to Run Modularization Program					
8	Motivated to Cover the courses within allocated time					
9	Interested to give enough skill for students in practical work					
10	Give solution for old curriculum readmission students					

N.B. SA= Strongly Agree, A= Agree, N= Neutral, D=Disagree, SD= Strongly Disagree and VH= Very high, H=High, M=moderate, L=Low, VL=very low

ii.	**Status of Implementing Modularization on Teaching-Learning Achievement**	**VH**	**H**	**M**	**L**	**VL**
1	Module development					
2	Control over factors affecting					

	campus environment					
3	Module development needs of each instructor					
4	Decides on the appropriate duration and timing for the course					
5	Decides on the formation of the groups and which teacher will be participants					
6	Selects an appropriate facilitator for the group					
7	Contact a near by school/college to act as partner college (to share experience)					
8	Give orientations on the course to the participants					
9	School /college leaders' contribution to the implementation of modular					
iii.	**Challenges on Implementation of University Based Modularization**	**HE**	**ME**	**LE**	**NE**	**UD**
1	Absence of appropriate resource					
2	Unfavorable school environment					
3	lack of support from college leaders					

4	shortage of time to effectively implement the program					
5	lack of budget to implement the program					
6	Absence of knowledge on the program					
	AS= Always, ST=Sometimes, RA=Rarely,	NA= not ,stated				
IV	**The Role of leadership in order to follow up the Modularization program.**	**AS**	**ST**	**RA**	**NA**	**UD**
1	Questioners					
2	Observations					
3	Discussion					
4	Interviews					
5	Systematic follow up					
6	Analysis of document					
7	Taking portfolio					

N.B. AL=Always, ST=Some times RA=Rarely UD=Undecided DK=Do not known and HE=High effect ME=Medium effect LE=Least effect, NE=Normal effect UD=Undecided,

V	**University Leaders role in evaluating modularization program**	**AL**	**ST**	**RA**	**NA**	**UD**
1	How often your leaders conduct modularization program evaluation					
2	How often your University leaders provide feedback					

3.Please state your comment about the overall problems and possible solutions of the implementation of modularization approach in your University/college/department.

_____

_____

_____

7.2. Appendix II. Interview Guide for the leaders

POST GRADUATE PROGRAM DIRECTORATE

HARAMAYA UNIVERSITY

Interview Guide for the university leadership

PART I

General Information

1. Type of the school/colleges

Natural science stream ↑ social science stream ↑

2. Gender

Male ↑ Female ↑

3. Academic qualification _____

4. Total years of service _____

5. Years of teaching experience in this university _____

6. Present post _____

PART II

i. Organizational Arrangement/ perception on modularization

1. What are the existing organizational arrangements for modular approach?

2. How does your institution prioritize and implement modularization activities?

3. Is there organizational unit responsible for modularization approach in your institution?

4. If yes, what are its duties and responsibilities?

5. If there is no organizational unit responsible for it, who is running modular program?

ii. Status of modularization implementation on Teaching and Learning achievement

5. What is the levels of implementation modular on teaching-learning achievement?

6. What benefits do instructors obtain in their professional competence due to modular practice?

7. What are the effects of modularization practice on students' learning achievements?

8. What do you think the effect of modularization on the general quality of education?

iii. Major problems and challenges on the implementation of modularization and the proposed measures to mitigate

1. What kind of constraints did you observe in modularization implementation here?
2. What logistic, infrastructure & resource constraints do exist in modularization implementation?
3. Are there manuals or guidelines for modularization program?
4. What kind of motivational problems exist that hinder the practice of modular implementation?
5. Have the responsible unit try to identify the problems and develop an action to tackle the problems?
6. If yes, what kinds of action have been taken?
7. What do you suggest for the smooth running of modular approach implementation at your school/colleges?
8. Any other suggestions, ideas, comments?
9. Do you think that, modularization gives solution for old curriculum readmission students?
10. If yes, how it would coincide with the modularization approach?

7.3. Appendix .III. Interview Check List

1. Is there modularization center or office in the school/colleges/university?

Yes ↑ No ↑

2. Are there structural or initiative displays on the walls/LCD regarding modularization?

Yes ↑ No ↑

3. Are there Guideline, manual or practical tool kit regarding modular approach?

Yes ↑ No ↑

4. Is there modular annual plan for the school/colleges?

Yes ↑ No ↑

5. Is there modularization plan in each department?

Yes ↑ No ↑

6. Are there modularization activity documents which are already accomplished?

Yes ↑ No ↑

7. Are there meeting, workshop or seminar schedules regarding modular?

Yes ↑ No ↑

8. is there modularization minute book regarding meetings, workshops or seminars?

Yes ↑ No ↑

9. Is there fixed time allocation of modular activity for every instructor?

Yes ↑ No ↑

10. If there is more information _____

THANK YOU VERY MUCH!!!!

7.4. Appendix IV. Questionnaire Distributed to Students

POST GRADUATE PROGRAM DIRECTORATE

HARAMAYA UNIVERSITY

Questionnaire Distributed to Students

Dear Sir or Madam,

The main objective of this questionnaire is to collect primary data for the study on the practice of school/colleges Modularization Approach, the case of JJU. This questionnaire to be useful and accurate, it is important that you answer each question as thoroughly and frankly as possible. The confidentiality of your response will be secured and only be used for research purpose.

No need to write your name.

Thank you in advance for your cooperation.

Introduction

Please, complete this part of the questionnaire by putting an '√' sign against your response. For items that require extended response, write it in the blank space corresponding to the questions.

PART I

General Information

1. Type of the school/colleges

Natural science steam ↑ social science stream ↑

2.Gender

Male ↑ Female ↑

3. Departments----------

4. your recommendation about modularization & leadership of the University ----------
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PART I

Please read each item carefully and indicate toe what extent the Modularization is practical in your school/college/department by making an '√' in the box against the choice.

N.B. SA= strongly agree, A= agree, N= Neutral, D =disagree, SD= strongly disagree and VH= Very high, H=High, M=moderate, L=Low, VL=very low

I	**Perception of student for modular implementation**	**VH**	**H**	**M**	**L**	**VL**
1	Needs of taking Orientations to modular program					
2	Like to learn in modular approach					
3	Interest to use available of manuals and guidelines regarding modular curricula					
4	Training needs on modularization					
5	Motivation of students with regards to modularization					

II	**Status of implementation on modularization program**	**VH**	**H**	**M**	**L**	**VL**
1	Evaluation of instructors' practice in classrooms					
2	Instructors' engagement in co curricular activities					
3	Interrelationship between instructors and students					
4	Active learning participation of students in					

	the classroom					
5	Availability of reference books, internet					

III	**Challenges on implementation of modularization**	**SA**	**A**	**N**	**D**	**SD**
1	Shortage of library, in softcopy and hardcopy of courses materials					
2	Shortage of internet and network					
3	Unable to get enough skill from practical work, as expected					
4	Unable to finish the course within allocated period of time					
5	Unable to give solution for old curriculum readmission student					

Thank you very much!!