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Reengineering Postgraduate Curricula and its Mode of Delivery: Graduate Students' Views of Modular Course Delivery at Addis Ababa University

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Abstract

The purpose of this study was to examine the graduate students' views regarding the modular course delivery of the master's programme in Addis Ababa University. It attempted to answer four basic questions: what are the attitudes of the graduate students towards the modular curricula and block teaching mode of delivery? Is there any difference in students' preference for modular delivery across different colleges/subjects/disciplines? What are the major strengths and weaknesses of modular course delivery as perceived by graduate students? And what are the outstanding academic and administrative problems encountered by the modular course delivery? The study used the survey method supported by qualitative data collection procedures. Questionnaire was employed to collect data from 732 first year graduate students. However, analysis was made on properly completed and returned 724 questionnaires. Besides six focus group discussions were held. The quantitative data were analyzed by using percentages, means and composite scores, standard deviations and analysis of variance and Tukey HSD. The results showed that graduate students' overall attitude toward the modular programme is positive. The modular delivery was also perceived favorably. However, significant differences were observed between students of different colleges with regard to attitude towards the modular programme, modular delivery and availability and accessibility of module related materials.

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Résumé

Le but de cette étude était d'examiner les opinions des étudiants des cycles supérieurs au sujet de l'enseignement du programme de master par le système modulaire à l'Université d'Addis-Abeba. Elle a tenté de répondre à quatre questions fondamentales: quelles sont les attitudes des étudiants de cycles supérieurs envers l'enseignement par le système modulaire et le mode d'enseignement en bloc ? Existe-t-il une différence dans la préférence des étudiants en matière d'enseignement modulaire dans différents établissements/matières/disciplines ? Quelles sont les principales forces et faiblesses de l'enseignement modulaires perçues par les étudiants des cycles supérieurs ? Et quels sont les principaux problèmes académiques et administratifs relatifs à l'enseignement modulaire? L'étude a utilisé la méthode d'enquête basée des procédures de collecte de données qualitatives. Un questionnaire a permis de collecter les données auprès de 732 étudiants de première année de second cycle. Cependant, 724 questionnaires dument remplis et retournés ont fait l'objet d'une analyse. En outre, six discussions de groupes ont été organisées. Les données quantitatives ont été analysées à l'aide de pourcentages, des scores médians et composites, des écarts-types, et d'une analyse de la variance et du test HSD de Tukey. Les résultats ont montré que de façon générale les étudiants des cycles supérieurs ont une attitude positive envers le programme d'enseignement modulaire. L'enseignement par système modulaire a également été bien accueilli. Cependant, des différences significatives ont été observées entre les élèves de différents établissements en ce qui concerne leur attitude envers le programme modulaire, l'enseignement modulaire et la disponibilité et l'accessibilité des documentations relatives aux modules.

Introduction

As a component part of the Business Process Reengineering (BPR) programme, Addis Ababa University had embarked on a modular course delivery for its masters programmes as of 2010 academic year. The major objective of this delivery mode is to make an effective use of students and faculty time and enhance quality through intense, continuous and focused engagement of students.

The BPR document stipulates that the module shall be divided into three general parts to provide for interactive teaching and learning, self-learning by the student and collaborative learning among students. The interactive teaching and learning is accorded 40 percent of the time (6 days of block teaching 3 to 4 hours/day) and the instructor is expected to meet the students and introduce the module, its objectives, anticipated outcomes, approaches to the course, student and instructor responsibilities, available resources, etc. The instructor then sets up the major topics, identifies major issues, highlights major findings, arguments or theories and discusses the current state of knowledge on the subject matter. The instructor is further expected to encourage and provoke student involvement and inquisitiveness and provide them with topics and guidelines

for self-learning along with assignments and activities and any other appropriate tasks that can help students to meet their learning goals.

The independent–learning (self-learning) is given another 40 percent of the time (6 days of blocked teaching 3-4 hours/day). In this part, students are expected to learn independently, complete their assignments and tasks, submit their work and/or make presentations of their work in the classroom. At this stage the instructors are expected to assess the submissions of each student, identify where students have difficulties and provide feedback.

The third part, collaborative learning consists of 20 percent of the time (3 days blocked session 3-4 hours/day). In this part the expectations are that students meet the instructors in small groups to undertake group discussions based on the topics of the course and assignments, dialogues/debates, paper presentations or book reviews following a purposeful guideline provided. Instructors may pose relevant questions and problems for discussion that help students understand what they have learnt. Instructors also facilitate and moderate the discussion in ways that would clarify difficult concepts and lead towards the learning goals. At the end of delivery of all courses in a module; students meet their advisors and discuss the relevance and contribution of the modules to their learning goals.

This approach is a drastic change from what AAU had been practicing for decades. As such it contains opportunities as well as challenges and problems. Examining the strengths, weaknesses, misunderstandings, outstanding problems and areas of improvement is thus of utmost importance. The primary stake holders in this endeavor are instructors and students. An earlier article by the same authors (Solomon *et al.*:2011) has examined instructors' views. The current article ponders over students perspectives.

Statement of the Problem

Although there are a plethora of uses of the concept in literature, a module can be described as an independent educational unit of limited scope provided with a series of educational and learning activities, which lead to a well described final level (Klingstedt 1971). It is seen as a useful programming unit with a predetermined scope and duration. The implementation of modular instruction or modularization is a radical change in the existing educational setting, which has consequences for the educational programme, the study materials, the teachers, the students and the organization as a whole. A successful modularization requires intervention in all of these aspects.

A modular system of higher education curriculum is largely a response to the very fast growing sectors of business, industry and consumers choice in general. It emphasizes more elaborate outcomes in relation to each small part of the Degree, rather than the more broadly defined 'Course' in general. As

opposed to most traditional curriculum designs, modular design gives greater student autonomy in constructing the programmes and greater range of entry gates and exit points. Virtually a modular curriculum had its origin in the USA during the nineteenth century Theodossin (1996:5).

Modularization can have advantages or disadvantages to students. The advantages include that it allows everybody to proceed at his/her own pace, gives opportunity to choose one's own learning mode (Burns 1971) and allows students to identify their strengths and weaknesses (Kelingstedt 1971). Moreover in the modular approach students do not have to restudy large amount of subject content since they can be tested immediately after completion (Goldschmid and Goldschmid 1973).

The intensive teaching format (Block teaching) is known to have several advantages for the students. According to research results elsewhere, students tend to prepare better for intensive teaching if they get their materials early on (Burton et.al 2002); students' time management skills improve (Grant 2001), and students feel increased motivation, commitment, and engagement during programmes conducted in intensive formats. Scott, P.A. (1995) indicated that under favourable conditions (i.e., taught well by a competent, skilled instructor), intensive course learning experience can be a rewarding and powerful experience. He further argues that intensive format courses can create a more focused, collegial, relaxed, motivating, concentrated, memorable and continuous learning experience compared with semester length format courses. He however warns that under unfavourable conditions, intensive course learning experiences can be quite negative.

Daniel, E.L. (2000) also dwells on the advantages of intensive teaching for students. He points out that better student concentration is achieved and students participate in a more in-depth manner. Concentration is fostered because programme is conducted on a few long but intense days. Scott, P.A. and Conrad, C. (1991) also assert that students perceive experience in intensive programmes as more real, more efficient, more integrated, more challenging, and certainly more enjoyable.

On the other hand self-discipline has to be demonstrated in pursuing independent study. The shift from the lecture method (passive) to modular instruction (active) might be difficult for some students. Moreover the block teaching can cause some fatigue, stress and nervousness among some students (Petrowsky 1996).Unless early access is given to material, students have to move on to new material without having time to review or reread old material (Henebry 1997). Scott and Conrad (1991) also found out that students complain that there is far too much work and material in intensive programmes. As a result of long stay in class, students may face difficulty in remaining attentive (Henebry 1997). Furthermore the same author also identifies key disadvantages

such as lack of opportunity for extensive coverage; too rapid assimilation; fatigue; lack of time to digest concepts all of which have an impact on student learning. Dochy and others (1989) also indicate that modular instruction requires greater administrative resources needed to track students and operate multiple modules.

Generally, Scott and Conrad (1991), in their critique of intensive courses make the following conclusions:

- Intensive courses have been found to yield equivalent and sometimes superior learning outcomes in comparison to traditional length courses.
- All courses, regardless of discipline, can use intensive course designs without diminishing educational outcomes.
- Students are generally supportive of intensive courses and appreciate their convenience and efficiency, but the price is student stress and fatigue.
- Faculty attitudes are the most significant obstacles to intensive courses. Faculty say they are labour intensive, but they want to accommodate student schedules as much as possible.

As briefly shown in the preceding paragraphs, the modular approach has its advantages and disadvantages. The purpose of this evaluative study is therefore to identify the strengths, weakness, and misunderstandings and outstanding problems in the modular course delivery as perceived by first year graduate students who are the primary stake holders. As such it tries to answer the following basic questions:

1) What are the attitudes of the graduate students towards the modular curricula and block teaching mode of delivery?
2) Is there any difference in students' preference for modular delivery across different colleges/subjects/disciplines?
3) What are the major strengths and weaknesses of modular course delivery as perceived by graduate students?
4) What are the outstanding academic and administrative problems encountered by the modular course delivery?

Methodology

The study is evaluative in its nature aimed at the determination of the merit/ worth or the demerits of the graduate programme with modular course delivery system. The study employed the survey method supported by qualitative data collection procedures. The study generated both quantitative and qualitative data.

Data Source

The data for this study was gathered after two years of the implementation of the modular curricula and block teaching mode of delivery in 2012 academic

year. The implementation of the programme has been going on since 2010 and has now expanded to all graduate programmes and even to some of the undergraduate programmes. Accordingly the data used for the current study potentially reflects the current context and reality as well. That is, nothing has been changed since then other than some ups and downs in the implementation process. Primary and secondary data sources were consulted. The primary data sources were first year graduate students. Relevant literature, university documents on modular delivery and selected modular syllabi prepared by the colleges served as secondary data sources.

Sampling Techniques

All colleges, faculties and institutions running masters programmes in all campuses of Addis Ababa University were covered in the study. An attempt was made to classify all colleges, faculties, institutes and school with graduate programmes in six categories only for the sake of convenience. The number of first year graduate students were obtained for each category to determine the number of individuals who would be included in the sample. Table 1 presents the categories created, the number of graduate students and the corresponding sample size determined for each category.

Table 1: The Size of the Students' Population in Each Category & the Determination of Sample Size

No.	Categories Created	N	n
1	College of Social Sciences and Humanities and College of Development Studies	584	89
2	Faculty of Management Information and Economic Sciences	145	83
3	College of Natural Sciences	444	120
4	College of Education and Behavioral Studies	698	212
5	College of Health Sciences	417	114
6	All Schools and Institutes	243	114
Total		**2941**	**732**

N = Size of the Population; n =Size of the sample.

This number was further broken down into different departments and programme units. Nearly 25 percent of first year graduate students were selected using systematic random sampling technique after the sampling frame has been prepared for each department and programme unit.

Data Collection Instruments

Two types of data collection instruments viz. quantitative and qualitative were prepared and used for the purpose. The instruments used were the following:

Focus Group Discussion Guide

The researchers prepared focus group discussion guide for collecting additional qualitative data from the perspective of students who participated in the focus group discussion.

Students' Questionnaire

A questionnaire consisting of 88 questions that deal with (i) background information about the first year master's students; (ii) the recently developed modular curriculum; (iii) modular delivery of graduate courses; (iv) materials, aids and resources made available for smoothly running graduate courses; (v) assessment of students' learning; and (vi) issues concerning the outcomes of the modular delivery of graduate courses was developed and used. The questionnaire was pretested for its appropriateness, readability and comprehensibility.

Data Collection Procedure

The questionnaire was administered to first year graduate students by selected research assistants. The researchers briefed the research assistants about the purpose of the study and asked them to go through the questionnaire for further clarification. .The collection of data from the students' sample was done solely by the research assistants. However, the focus group discussions with students was conducted by the researchers. A total of six focus group discussions, one each in all the college categories, were conducted with selected students. The qualitative data collected was used to triangulate the main findings of the quantitative survey and provided an additional angle to explain the results of the survey.

Data Analysis

The data obtained from the focus group discussions were analyzed based on the themes identified and used to elaborate the results of the survey. After collection, all the questionnaires were coded using SPSS. Then the survey data were analyzed and frequency distributions and percentages were used to describe the general information of the study participants and to discuss the meaning of individual items included in the survey tools. Means and Composite scores or indexes were determined for the various attitude and perceptions items. Standard deviations were calculated and proportions were used to explain the numbers of individuals who have favourable attitude toward various issues being explored. Analysis of variance and Tukey HSD were determined to see whether there is group difference in terms of the overall attitude toward the modular curricula among students of different colleges and schools. Analysis

of variance and Tukey HSD were also calculated to explore whether there is statistically significant difference among students of various colleges and schools in terms of attitude toward the curriculum, modular delivery of graduate courses and on other sub-scales.

Results and Discussion

The analysis of the data collected uncovered the following quantitative and qualitative findings.

Overall Attitude toward Modular Curricula

The attitude of students toward a modular approach has its bearing on the successful adoption of the approach to teaching – learning process. In line with this, an attempt was made to explore the way students view the modular approach. A single index that shows students' overall attitude toward the modular curriculum was determined. The minimum possible score was 19, which represents unfavourable perception of the curriculum, maximum possible score 95, which represents the most favourable reaction and 57 represents neutral reaction to the modular curriculum. The mean was found to be 61.53 with standard deviation of 13.51. The mean was greater than the score, which represents neutral position (57). Further analysis revealed that large proportion (53.21 %) of graduate students who participated in this study obtained a total score greater than 61.53. If 57 is taken as a mean, this proportion will raise to 63.06 percent. The results generally show that graduate students' overall attitude toward the modular programme is positive.

An attempt was also made to see whether there is attitude difference among students of different colleges and schools. One-way analysis of variance ($F = 5.983$, $p < 000$) revealed statistically significant difference among students of different colleges and schools. Pair wise mean comparison was made after significant analysis of variance in order to identify which pairs of means are significantly different.

Table 2: Results of Tukey HSD

Colleges and Schools	Mean	SD	1	2	3	4	5	6
1. College of Social Sciences and Humanities	60.15	13.66						
2. College of Natural Sciences	56.95	13.79			*			*
3. College of Education and Behavioral Studies	64.60	13.21					*	
4. College of Management Information and Economic Sciences	61.39	13.55						
5. College of Health Sciences	60.08	12.61						
6. All Schools	63.53	13.02						

** Significant difference á = 0.05*

As Table 2 depicts a statistically significant differences were observed only between students of College of Natural Sciences and College of Educational and Behavioral Studies, College of Natural Sciences and All Schools, and College of Education and Behavioral Studies and College of Health Sciences. From the data, one can tell that, relatively speaking, students of College of Education and Behavioral Studies have more favourable reaction toward modular curricula than students from other schools. Actually this reform seems to have been more warmly accepted by students and the teaching staff of the college of education and behavioral studies than all the other five categories. One way to explain this is because modular curricula have been implemented without interruption in this college since 2010 as stipulated by the BPR document.

Further analyses of the responses by items also revealed similar results. As shown in Table 2, on the average more than 50 percent of the study participants indicated that they agreed to all items included in the questionnaire. The majority (69.61 %) of the respondents indicated that modular curriculum helps students to concentrate on one course at a time and get in-depth knowledge on the subject matter. The results of focus group discussions held with students also support this finding. For example, one of the participants in the focus group discussions said …*one of the strengths of the modular programme is that it enhances students' concentration and maximizes our effort to learn a specific module by minimizing wastage of learning time.* Another participant of the FGD supported this point and said: …*students are not supposed to take many courses at a time. Modular programming gives students the opportunity for a detailed treatment and understanding of a course for a blocked period without any other intervention.*

Table 3: The Responses of Students to Items Measuring the Perception of Modular Curricula

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	The current modular curriculum encourages a move away from task based and highly segmented arrangement of work to a process - based and integrated arrangement	356	50.14	175	24.65	179	25.21
2	The current masters programmes are more specialized and focused	358	49.72	160	22.22	202	28.06
3	Modular curricula facilitate a more coherent organization of content of the subject matter	355	49.93	182	25.60	174	24.47
4	Given the current national priority, the current masters programmes are preparing learners for a career of tertiary level teaching and research	421	58.31	160	22.16	141	19.53
5	Modular curriculum helps students get to concentrate on one course at a time so that in-depth learning of a course is possible	504	69.61	100	13.81	120	16.57

As shown in Table 3, only 28.06 percent of the study participants considered the current masters programmes as less specialized and focused. On the contrary, 49.72 percent of the students considered the current masters programmes as more specialized and focused.

Modules should be organized in such a way that they enhance independent, self-contained and collaborative learning. Well-organized modules provide systematically organized learning opportunities with clearly defined goals and purposes. Students were asked to indicate their agreement or disagreement to items that measure the organization of modular curricula in their respective departments or programmes units. As presented in Table 4, 53.87 percent of the students who participated in this study agreed that the modular programmes are more purposeful and more efficiently organized to produce more value with less time and resources.

Table 4: The Organization of Modular Curricula as Perceived by Students

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	Modular masters programmes are more purposeful and more efficiently organized to produce more value with less time and resources (less is more)	390	53.87	122	16.85	212	29.28
2	The organization of modular curriculum stimulates and engages students actively in the teaching learning process	440	61.20	133	18.50	146	20.31
3	There is logical and meaningful arrangement of different modular courses that will provide an invaluable student learning experience	296	41.23	178	24.79	244	33.98
4	The choice of contents for most of modular courses has been made carefully to provide an opportunity for application of course concepts through self-study and exploration	367	50.90	161	22.33	193	26.77
5	The organization of modular courses may negatively affect the continuity of learning and fails to integrate knowledge that can be obtained from various modular courses	323	43.59	190	25.64	228	30.77
6	The organization of modular programme enables you to have control over your own learning and accept greater responsibility for learning	473	65.60	128	17.75	120	16.64
7	The organization of modular curriculum makes the transition between different modular courses easy	317	44.84	211	29.84	179	25.32

Nearly 66 percent of the study participants have the belief that the organization of modular programme enabled them to have control over their own learning and encouraged them to accept greater responsibility for their learning. As the data in table 4 shows, it appears that students have concerns regarding the arrangement of different modular courses. For example, 41.23 percent of the study participants indicated that there is logical and meaningful arrangement of different modular courses whereas 33.98 percent of them disagreed with the notion. Related to this, the majority (43.59 %) of the student respondents indicated their agreement to the statement which says that the organization of

modular courses may negatively affect the continuity of learning and fails to integrate knowledge that can be obtained from various modular courses. These responses are indicators of the problem associated with the organization and arrangement of modular courses in a meaningful manner. Otherwise, the majority of the study participants consider modular masters programme as more purposeful and efficiently organized (53.87 %) and capable of stimulating and engaging students actively in the teaching-learning process (61.2 %).

With regard to the adequacy of time allotted for the graduate modular curricula, the findings of this study in general are affirmative. As depicted in Table 5, the majority of the study participants (58.95 %) reported that 18 months is adequate to produce quality graduates of the masters programme.

Table 5: The Adequacy of Time Allotted for Graduate Modular Curricula

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	A maximum period of 18 months is adequate to produce quality graduates of the masters programmes who fit for the purpose by way of modular curricula block teaching	428	58.95	123	16.94	175	24.10
2	The length of course work and time allocated for research has no clear bearing upon the capacity of graduates to teach or to conduct research	207	29.03	175	24.54	331	46.42

However, the qualitative data gathered through focus group discussions revealed different results. For example, one of the participants in the focus group discussions stated as follows:

> …since modules are virtually a collection of some courses or parts of different courses, they are bigger in size than individual courses in the semester based system. Accordingly, these modules need more time to complete. It is practically difficult to complete each of these modules within one-month time.

Another participant added to this point and said that:

> …the time allotted to complete the programme seems to be too short. I do not think 18 months will suffice to prepare competent veterinarian. Now we are forced to complete all of the courses in only six months and do our researches in the remaining one-year time. It is very difficult to complete a master's level course work in a period of six months.

Natural science students like their instructors are less comfortable to the modular curricula and its mode of delivery. Earlier study by the same authors (Solomon et al 2011) reveled that natural science teaching staff have strongly resisted the modular curricula and block teaching and argued that this approach does not work for natural science courses. Actually this programme is being implemented

in science programmes with many irregularities and even mixed with the previous non modular curricula.

The study also explored students' perception of the assessment procedures involved in the modular curricula. Table 6 presents the details of the responses. As clearly shown in Table 6, about 50.41 percent of the students think that modular curriculum creates opportunity for valid assessment and evaluation of students' performance and achievement. Furthermore, the majority (65.05 %) of the students who participated in the study suggested that completion of thesis or project work should be part of the requirement for the award of MA or MSC degree. On the contrary, 24.83 percent of them indicated that graduate students should not necessarily do theses or projects as requirement for graduation.

Table 6: Issues Related to Student Assessment in Modular Curriculum

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	Modular curriculum creates opportunity for valid assessment and evaluation of students' performance and achievement	366	50.41	170	23.42	190	26.17
2	Masters students should not necessarily do thesis or project as requirement for graduation	179	24.83	73	10.12	469	65.05
3	It is appropriate to leave the decision whether students should work on thesis or not to academic units, or programmes or departments	289	40.76	105	14.81	315	44.43
4	Passing comprehensive exam or preparing PhD proposal as a requirement for graduation is being practiced in some departments or academic units.	373	52.76	156	22.07	178	25.18
5	Students' assessment in the current modular masters programmes must include assessing their skills and knowledge necessary for teaching	504	69.71	110	15.21	109	15.08

Related to this, 44.43 percent of the study participants reported that it is not appropriate to leave the decision on whether students should work on theses or not to academic units, or programmes or departments. However, 40.76 percent of these students supported the idea that the decision should be left to academic units, or programmes or departments. There is also a view held by large percentage (69.71 %) of the study participants that the assessment procedure in the current modular graduate programme should include the assessment of skills and knowledge necessary for teaching.

Attitude toward Modular Delivery

The BPR recommended the introduction of modular curriculum with the intention of improving the quality of graduate education and thereby the quality of the graduates. Modular delivery minimizes or limits the role of a teacher and introduces student-centred style of teaching and learning. Since this method

deviates from the traditional semester based classroom situation, which students were familiar with, the proper organization and delivery of the modular programme has had an impact on the quality of the teaching – learning process.

This study assessed students' view toward the delivery of the modular curriculum in their respective institutions. The total score was determined to get an overall view of students toward the delivery of the modular programme. Higher scores indicate favourable reaction whereas lower scores indicate unfavourable reaction to the delivery of the modular programme. For this scale, the maximum possible score is 85 (if any student marks "strongly agree" to all items) and the minimum possible score is 17 (if any student marks "strongly disagree" to all items). The neutral score for this scale is 51. The mean for the total score was found to be 53.99 with standard deviation of 10.53. The mean is above the neutral score, which indicates that there is a tendency among students to perceive the delivery of the modular programme favourably. Nearly half of the study participants (50.9 %) scored higher than the mean score. This proportion increases to 57.95 percent if the neutral score has been considered as a cut of point for favourable and unfavourable reactions toward the delivery of modular courses.

The other line of investigation focused on the possibility of variation in the attitude toward modular delivery of courses across colleges and schools. One-way analysis of variance has proven that there is a statistically significant variation ($F = 12.195$, $p < 0.000$). A further test of multiple comparisons – Tukey HSD – singled out the directions of the variations as presented in Table 7 below.

Table 7: Results of Tukey HSD

Colleges and Schools	Mean	SD	1	2	3	4	5	6
1. College of Social Sciences and Humanities	52.17	9.825			*			*
2. College of Natural Sciences	48.64	9.141			*	*	*	*
3. College of Education and Behavioral Studies	56.22	9.915						
4. College of Management Information and Economic Sciences	54.74	9.469						
5. College of Health Sciences	52.86	11.384						*
6. All Schools	57.48	10.898						

* Significant difference á = 0.05

As can be read from Table 7, statistically significant difference was observed, for example, between students of College of Social Sciences and Humanities and College of Education and Behavioral Studies and students of College of Social Sciences and Humanities and that of all schools. Generally, the above data show that, relatively speaking, students of College of Natural Sciences tended to have unfavourable attitude toward the delivery of modular courses than students of other colleges and schools. There are good numbers of teaching staff as well who are in favor of modular curricula but against block teaching. On the other hand, there are more negative views and attitudes towards the

modularized curricula in general and block teaching in particular among students as well as teaching staff of the college of natural science than in all other colleges and schools (Ayalew *et al.* 2010).

An attempt was also made to analyze the scale by splitting it into four subscales viz. Advantages of modular delivery, planning and preparedness needed to deliver modular courses, the appropriateness of modular delivery and the disadvantages of modular delivery. The analysis of the data collected revealed similar results.

The Advantage of Modular Delivery

About eight items were used to assess students' perception of the advantages of modular delivery. In this sub-scale, the minimum and maximum possible scores are 8 and 40 respectively. The neutral score is 24. The mean for this sub-scale is found to be 27.53 with standard deviation of 6.45. The proportion of students who scored above the mean is 54.7 percent. When the neutral score is considered as a cut off point, the proportion of students who scored above the neutral scores increases to 70.17 percent. This data tell us that the majority of the study participants have positively perceived the advantages of the modular delivery. The analysis of individual items also supports the above finding. Table 8 deals with the advantages of modular delivery.

Table 8: Students' Perception of the Advantages of Modular Delivery

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	The delivery of the modular curriculum enhances interactive teaching – learning, self-learning and collaborative learning among students	497	68.46	113	15.56	116	15.98
2	The involvement of a team of instructors in delivering a single modular course is one of the changes introduced with modular curricula	392	54.44	150	20.83	178	24.72
3	The delivery of current modular curriculum has moved away from task-based and highly segmented arrangement of work to process-based and integrated arrangement	332	46.96	209	29.56	166	23.48
4	The delivery of modular curriculum enhances an efficient use of time and resources	466	65.36	123	17.25	124	17.39
5	Modular delivery has introduced a mechanism to check whether courses are properly delivered or not.	296	41.40	195	27.27	224	31.33
6	Block teaching yields equivalent and sometimes superior learning outcomes in comparison to semester based delivery of courses.	289	40.65	211	29.68	211	29.68
7	Modular course delivery promotes self-learning through seminars, discussions, and presentations	515	71.63	101	14.05	103	14.33
8	The delivery of modular courses facilitates face-to-face and blended learning	452	63.22	157	21.96	106	14.83

A large percentage (68.46 %) of the study participants believe that "the delivery of the modular curriculum enhances interactive teaching – learning, self-learning and collaborative learning among students." While the remaining 15.56 percent

and 15.98 percent of the students hold neutral position and negative attitude toward the delivery of the modular curriculum, respectively. Related to this, 71.63 percent of the study participants agreed that modular course delivery promotes self-learning through seminars, discussions, and presentations. In addition, 65.36 percent of students expressed the view that the delivery of modular curriculum enhances an efficient use of time and resources.

In addition, 63.22 percent of the respondents indicate that the delivery of modular courses facilitates face-to-face and blended learning. Still, a relatively large percentage (40.65 %) of these students agreed that block teaching yields equivalent and sometimes superior learning outcomes in comparison to semester-based delivery of courses. On the other hand, 29.68 percent of the study participants disagreed with the statement that block teaching is superior to the traditional classroom-based instruction.

Planning and Preparedness Needed to Deliver Modular Courses

Three items were used to assess the degree of preparation and planning needed in the delivery of modular courses. The minimum and maximum scores are 3 and 15, respectively. The neutral score for the sub-scale is nine. The mean and standard deviation for this sub-scale are 9.77 and 2.37, respectively. The proportion of students who scored above the mean and the neutral score is 54.92 percent. The proportion indicates that more than half of the study participants favorably assessed the planning and preparedness that went into the delivery of modular courses.

Table 9 contains items that measure the degree of planning, preparation needed on the part of instructors to deliver modular courses and the level of planning, and preparations involved in the delivery of modular curriculum. In general, the data show that the students' perception of the level of planning involved in delivering modular courses is favourable. For instance, 85.51 percent of the study participants against 8.44 percent indicated their level of agreement to the item that the delivery of modular curriculum requires careful planning and strong commitment from the part of instructors.

Table 9: Planning and Preparations Needed for Delivering Modular Courses

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	While delivering modular courses instructors in your department, school or institute are well prepared to use various methods of course delivery	319	43.88	161	22.15	247	33.98
2	The delivery of modular curriculum requires careful planning and strong commitment from the part of instructors	608	85.51	43	6.05	60	8.44
3	The delivery of modular curriculum seems to lack careful planning and preparation	188	26.37	97	13.60	428	60.03

Similarly, 60.03 percent of the same respondents favorably perceived the level of careful planning and preparation involved in the delivery of modular curriculum. On the other hand, 26.37 percent of the students reported that the delivery of modular curriculum seems to lack careful planning and preparation. The data obtained from qualitative approach seem to be different from what the quantitative data revealed. Participants of the FGDs held with students for example said:

> …the problem observed in relation to the delivery of modular courses is not related to the idea of modularization, but rather to lack of preparation for the programme as well as shortage of resources. Most problems are related to implementation of the modular programme than to the inherent characteristics of modularization.

With regard to instructors' preparedness to deliver modular courses, the quantitative data have revealed both positive and negative reactions in almost similar manner. That is, 43.88 percent of the study participants said that instructors are well prepared to use various methods of course delivery whereas 33.98 percent of the study participants suggested to the contrary. Instructors are not prepared adequately to use various methods to deliver modular courses. Focus group discussions held with students revealed qualitative data, which argue that there is lack of preparedness and commitment from the part of instructors in delivering modular courses. Some of the points raised in relation to lack of preparation and commitment on the part of instructors during the FGDs held include the following:

> The negative attitude of some of the teaching staff seems to be one of the challenges that the delivery of modular courses encounters. The staff should have been convinced to accept the change. There are some staff in some departments who are extremely hostile and blindly resist the reform. I think some teachers are not clear with the concept of modularization and mode of delivery. They are not willing even to learn about modular programme and adjust themselves to the changes taking place in the delivery of graduate courses. For instance, one of our instructors uses his old lecture notes and materials he prepared for the semester-based course. … I think there is a clear gap between some instructors' perceptions of modular delivery of courses and the intent of the actual modularized programmes. …the big problem I observed is the lack of proper awareness on the part of our instructors. A series of orientation programmes should have been organized to sensitize the instructors about the mode of delivery of modular courses. … Our instructors seem to lack clear understanding of modular approach. I am sure if teachers are willing and committed to develop a sense of ownership to do their level best, this programme will have a very high chance of success.

From the above interview one can safely and logically deduce that students have more positive perception and readiness than their instructors to implement the modular curricula and block teaching.

The Appropriateness of Modular Approach to all Courses

Another area of investigation was assessing the appropriateness of using modular delivery of courses for various fields of study. Three items were used in this sub-scale. The minimum and maximum possible scores that indicate unfavourable and favourable perceptions of students are 3 and 15, respectively. The neutral score for this sub-scale is nine. The mean score of the sub-scale is found to be 8.24 with standard deviation of 2.62. The proportion of students who scored above the mean is 44.44 percent. This proportion decreases to 30.97 percent if we take the neutral score as a cut of point. Compared to the above sub-scales, the proportion of students who scored above the mean in this sub-scale is much lower. In general, these results show relatively speaking unfavourable reactions of students to items included in the sub-scale. This means most graduate students who participated in this study believe that modular curricula and block teaching mode of delivery are not equally appropriate to all field of studies and courses. They believe that this approach is more appropriate to social sciences and humanities and education courses than for any other.

The analysis of individual items also revealed similar results. For example, 41.22 percent of the study participants agreed to the statement that, the division of the delivery of the modular curriculum in terms of interactive teaching-learning, self-learning and collaborative learning does not take into account the nature of the course. On the other hand, 34.16 percent of the study participants argued to the contrary indicating that the division of the curriculum has taken into account the nature of the course. Only 41.98 percent of the students who participated in this study positively reacted to the item "block teaching is not appropriate for quantitative courses like quantitative analysis and courses in natural sciences." According to these respondents, block teaching is appropriate for numerical courses. On the contrary, 23.64 percent of the study participants said that block teaching is not appropriate for courses that involve numerals. Similarly, 24.96 percent of the study participants against 51.06 percent of the sample included in the study said that time allotted for interactive teaching has failed to take into account the nature of the course.

Furthermore, the qualitative data gathered also supported the findings that modular curriculum failed to take into account the nature of the course. For example, one of the participants of the FGDs held with science students pronounced that:

> I do not think that modular approach is suitable for science fields. Although the modular approach in general is good, it seems unrealistic to deliver science courses through block teaching. It is difficult to develop critical thinking and skills of problem solving in advanced and highly scientific and mathematical courses in only a month.

This view held by most science students concur with the views of their instructors. Most academic staff at the Addis Ababa University did not believe that modular curricula in general and block teaching in particular should be applied to all courses of graduate programmes across the board (Solomon et al 2011).

Table 10: The Appropriateness of Modular Delivery of Courses to Various Fields of Study

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	The division of the delivery of the modular curriculum in terms of interactive teaching – learning, self-learning and collaborative learning does not take into account the nature of the course	298	41.22	178	24.62	247	34.16
2	Block teaching is not appropriate for quantitative courses like quantitative analysis and courses in natural sciences	165	23.64	240	34.38	293	41.98
3	The time allotted for interactive teaching has failed to take into account the nature of the course	177	24.96	170	23.98	362	51.06

The Disadvantages of Modular Delivery of Courses

Like the above three sub-scales, three items were used to assess the weaknesses of modular delivery of courses. The mean score for the sub-scale is found to be 8.48 with standard deviation of 3.17. The proportion of students who scored above the mean is 47.16 percent. This proportion decreases to 35.96 percent if we take the neutral score as a cut of point. In general, these results show relatively speaking unfavourable reactions of students to items that measure students' perception of the weaknesses of modular delivery of graduate courses. The table below presents the responses of study participants to items that elicit information on the weaknesses of the modular delivery of graduate courses.

Table 11: Students' Perception of the Weaknesses of Modular Curriculum

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	Block teaching results in too much information overloading within short period of time and lead to lesser learning	207	28.87	127	17.71	383	53.42
2	Block teaching causes greater amounts of pressure and stress among students and hence not useful	266	36.94	142	19.72	312	43.33
3	The number of modular courses students are expected to take per semester is too much	279	38.86	171	23.82	268	37.33

As depicted in table 11, 28.87 percent of the study participants have agreed with the statement that block-teaching results in too much overloading with short period of time and lead to lesser learning. However, 53.42 percent of them maintained that it does not cause too much overload or stress among students. On the other hand, 36.94 percent of the study participants said that block teaching causes greater amount of pressure and stress among student and hence not useful. About 43.33 percent of the study participants reported that block teaching does not cause greater amount of pressure and stress on the part of students. In line with this participants of the FGDs held with students stated:

> …well the implementation of the modular approach is really going smoothly except the fact that we are highly overloaded and we have time constraints to finish what is expected from us on time. We are too much busy and overloaded. We feel that there is shortage of time for students as well as for teachers.

About 38.86 percent of the study participants have indicated that the number of modular courses students are expected to take per semester is too much. Nearly the same percent (37.33 %) of the study participants indicated that the number of modular courses they take per semester is not that much high. Hence, it could be asserted that there are some students who feel that they are overloaded and perhaps prefer the traditional semester based programme.

Materials, Aids and Resources

The success of modular delivery depends much on the availability of modular materials, aids and other resources. In this study, an attempt was made to explore students' perception of the availability and use of resources to deliver modular courses. Seven items were included in the scale to measure the views of students toward the accessibility of materials and educational resources. The scale used is a three-point scale where study participants were asked to respond by marking Yes, or Undecided or No to items included in the scale. The minimum and maximum possible scores are 7 and 21, respectively. The score that represents the neutral position is fourteen. The average score for students' reactions to the availability and accessibility of materials, aids and resources is found to be 14.49 with a standard deviation of 2.30. The mean score is almost the same as the neutral score. The proportion of students who scored above the mean is 45.24 percent.

An attempt was also made to investigate whether there is variation in the attitude toward the availability and accessibility of module related materials and other resources across colleges and schools. One-way analysis of variance has proven that there is a statistically significant difference ($F = 4.264$, $\acute{a} = 0.05$) among students of the various colleges and schools. A further test of multiple comparisons – Tukey HSD – singled out the directions of the variations as presented below in a matrix.

Table 12: Results of Tukey HSD

Colleges and Schools	Mean	SD	1	2	3	4	5	6
1. College of Social Sciences and Humanities	14.38	2.405						*
2. College of Natural Sciences	14.09	2.326						*
3. College of Education and Behavioral Studies	14.44	2.094						*
4. College of Management Information and Economic Sciences	14.41	2.093						
5. College of Health Sciences	14.24	1.978						*
6. All Schools	15.37	2.771						

* Significant difference á = 0.05

As Table 12 shows significant difference was observed between students of all schools as a category with students of all colleges except College of Management Information and Economic Sciences. The result shows that the mean score of '*All Schools'* is greater than that of other colleges. The implication of this result is that students in this category have evaluated the efforts exerted to make module – related materials available and accessible in a positive manner than that of other colleges. One of the reasons could be most of the schools included in this category, e.g., School of Journalism and Institute of Peace and Security Studies, make reading materials and other facilities ready for their students.

At this point, it is not difficult to understand that the implementation of modular curricula and block teaching started without adequate preparation. The BPR document stipulates that module instructors should develop content materials for the modules and upload the materials on the webpage of the department a month before starting the course. However, none of the colleges other than few schools had the opportunity and ability to carry out such preparations. Actually the status of such absence of preparation remained unchanged even after three years of the implementation of modular curricula.

The responses of students to individual items were also analyzed by splitting the scale into two viz. items that focus on the availability and accessibility of modular materials and items that deal with the organization, availability and accessibility of other supportive resources.

Attitude toward the Availability and Accessibility of Module-Related Materials

Three items were used to assess the attitude of students toward the availability and accessibility of module-related materials. The minimum and maximum scores for the scale are three and nine, respectively. The mean score for this sub-scale is determined to be 6.23 with standard deviation of 1.25. The proportion of students who scored above the mean is 35.43 percent. The result implies that only about 35 percent of the students who participated in the study tended to have favourable attitude toward the availability and accessibility

of module related materials. The responses given to individual items were analyzed. Table 13 presents the responses of students who participated in the study to individual items.

Table 13: Attitude toward the Availability and Accessibility of Module-Related Materials

No	Item	Response Categories					
		Yes		Undecided		No	
		N	%	N	%	N	%
1	Module-related reading materials are available and easily accessible	155	22.96	438	64.89	82	12.15
2	Modular material is prepared for every course so that students can use in the learning process	115	17.04	494	73.19	66	9.78
3	Modular material is produced in such a way that it provides opportunities for efficient use of time	200	29.59	363	53.70	113	16.72

Consistent with the results discussed earlier, most of the study participants maintained a neutral position with regard to the availability and accessibility of module related materials. For example, only 22.96 percent of the study participants responded favorably to the item which states that module-related reading materials are available and easily accessible. On the other hand, 64.89 percent and 12.15 percent of the study participants responded to the same item by marking undecided and no, respectively. With regard to the preparation of modular material for every course, only 17.04 percent of the study participants reacted positively. The majority (73.19 %) of the study participants were undecided.

Radical changes such as modular approach to course delivery require a major transformation. Institutions need to be provided with commensurate resources and appropriate guideline for operationalizing the newly introduced activities. Such absence of preparation and resource for implementing radical reforms could be connected with what Teferra and Altbach (2004:21) mentioned about the African continent at large. They said "The fact that African universities currently function in very difficult circumstances, both in terms of the social, economic, and political problems facing the continent and in the context of globalization, and the road to future success will not be an easy one". The case of Ethiopian public universities in general and that of the Addis Ababa university under discussion in particular is not immune from this continent wide problem Teffera and Altbach (2004) mentioned.

Students' Perceptions of the Availability and Accessibility of Instructional Resources and Facilities

Another variable studied in this research was students' reactions toward the accessibility of instructional facilities, teaching aids, and other resources. Four items were used in this scale. The minimum and maximum scores for the

scale are 4 and 12, respectively. The mean score for the scale was found to be 8.28 with standard deviation 1.49. Since, the standard deviation is small; it is possible to say that the mean score is almost the same as the neutral score (8) for the sub-scale. The proportion of the study participants who scored above the mean score is 40.88 percent. Like the sub-scale for the Availability and Accessibility of Module-Related Materials, the perception of the study participants tended to incline toward the neutral position.

Table 14: Perceptions toward the Availability and Accessibility of Instructional Resources and Facilities

No	Item	Response Categories					
		Yes		Undecided		No	
		N	%	N	%	N	%
1	Instructional resources and aids are available to enrich the provision of the module(s)	148	21.93	427	63.26	100	14.81
2	Guest lecturers and other experts are invited to share their experiences on specialized topics	196	29.04	408	60.44	71	10.52
3	Field visits, student practical and other teaching strategies are integrated into the modular course	194	28.53	378	55.59	108	15.88
4	All the necessary technical and didactic infrastructures are prepared for delivering modular courses	86	12.72	474	70.12	116	17.16

As Table 14 shows, only 21.93 percent of the study participants said that there are instructional resources and aids that enrich the provision of modular courses. On the other hand, the majority (63.26 %) of the study participants were not certain about the availability of instructional resources. In addition, only 12.72 percent of the study participants said that all the necessary technical and didactic infrastructures are made ready for delivering modular courses. The study also uncovered that 28.53 percent of the study participants reported the integration of field visits, students' practical and other teaching strategies into the modular courses. Likewise, 29.04 percent of the respondents said that guest lecturers and other experts are invited to share their experiences on specialized topics. In general, the above data revealed that the effort that has been exerted to support the delivery of modular courses with the use of technical and didactic facilities is less visible to the majority of the study participants. This again indicates implementation without preparation. As Solomon (2010) mentioned there has been a growing mismatch between the expansion of higher education and availability of resources and facilities, leading to declining standards in quality teaching and learning in Ethiopian public universities at large.

Assessment of Students' Learning

Assessment is a central element in the overall quality of teaching and learning in higher education. Well-designed assessment procedures set clear expectations,

establish a reasonable workload, and provide opportunities for students to self-monitor, rehearse, practice and receive feedback. Learning outcomes that have been indicated in the modules should be assessed using applicable and appropriate assessment procedures so that the outcomes provide evidence of mastery of the desired learning outcomes. The assessment procedures employed with modular programmes should contribute to the overall quality of teaching and learning. Generally, a modular curriculum design encourages revolutionary methods of assessment directly linked to the learning outcomes identified within the module (Betts and Smith 1998).

The study assessed students' perception of the assessment procedures employed with modular delivery of graduate courses. Ten questions were included in the scale to get the views of students about the nature of the assessment procedures and other issues related to the assessment of students' learning through modular delivery of graduate courses. Total score was determined to get students' general view or perception of the assessment procedures. The minimum and maximum possible scores were 10 and 50 respectively. The lower score indicates unfavourable views whereas the higher score indicates favourable views about the procedures employed. The neutral score for this scale is 30.

Table 15: The Mean and Standard Deviation of the Total Scores by Groups

No.	Groups	N	Mean	SD
1	College of Social Sciences and Humanities	80	28.20	7.136
2	College of Natural Sciences	109	27.08	6.856
3	College of Education and Behavioral Studies	203	29.10	7.450
4	College of Management Information and Economic Sciences	75	30.56	7.675
5	College of Health Sciences	102	27.68	7.012
6	All Schools	108	29.04	7.885

The total scores obtained for each study participant were analyzed and the average score was found to be 28.61 with standard deviation of 7.398. The average score is a little bit lower than the neutral score 30. This shows that the total perception of the assessment procedures employed in the delivery of modular programme is found to be neither positive nor negative. The overall view of the students about assessment of students learning is something between the two. The proportion of students who scored above the mean is 49.04 percent. This proportion decreases to 45.94 percent if the neutral score is considered as a cut of point to indicate either of the two views (favourable and unfavourable). That is, nearly 46 percent of the students who participated in

this study have a total score greater than the neutral score. Further analysis of the data by categories revealed the following results.

One-way analysis of variance revealed a statistically significant difference (F = 2. 629, á = 0.05) among groups. Pair wise mean comparison (Tukey HSD) revealed that statistically significant difference was observed only between students of College of Natural Sciences and College of Management Information and Economic Sciences. No statistically significant difference was observed in any other pairs of means.

In addition, individual items included in the scale were analyzed. For the sake of maintaining homogeneity, the items included in the scale were grouped into two. The results of the analysis are presented in the following tables.

Table 16: Students Perception of the Nature of the Assessment Procedures

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	The evaluative process simultaneously assesses knowledge, attitudes, and skills	346	51.34	130	19.29	198	29.38
2	The assessment period becomes too short to provide opportunity for instructors to know the students	174	26.01	104	15.55	391	58.44
3	Students have a stake in the evaluation process	228	35.35	190	29.46	227	35.19
4	The evaluation process helps learners to develop better understanding about their learning progress	287	42.64	136	20.21	250	37.15
5	Teacher-student conflicts are minimal particularly relating to grading	295	44.43	171	25.75	198	29.82

The assessment procedures are expected to assess what students should know or accomplish based on the contents of the curriculum. Participants of the study were asked if the assessment procedure employed assessed knowledge, attitudes and skills in an integrated manner. About 51.34 percent of the study participants responded affirmatively whereas 29.38 percent of them reacted negatively. According to the latter group, the assessment procedures employed did not address the measurement of these behaviors in an integrated fashion. Approximately equal percentages (35.35 % and 35.19 %) of the study participants expressed their level of agreement and disagreement, respectively to the statement that states students have a stake in the evaluation process.

With regard to the benefit of the evaluative process, 42.64 percent of the respondents agreed that the evaluation process helps learners to develop better understanding about their learning progress. On the other hand, 37.15 percent of the same study participants expressed their disagreement about the benefit of the evaluation procedure employed in the delivery of modular curriculum. About 44.43 percent of the study participants against 29.82 percent indicated that teacher-student conflicts related to the assessment results are minimal.

Table 17: Students Perception of the Psychometric Qualities of the Assessment Procedures Employed

No	Item	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	The evaluative process suffers from lack of validity because no mechanism has been introduced for assessing collaborative learning	203	30.53	147	22.11	315	47.37
2	Students get proper feedback about their learning	210	32.0	109	16.62	337	51.3
3	Evaluation process employed by instructors involved in modular curriculum is objective	242	36.17	167	24.96	260	38.86
4	The evaluation process is transparent	252	38.3	150	22.83	255	38.8
5	Better accountability in grading is the characteristics of modular curriculum	256	37.67	208	31.09	205	30.64

As shown in Table 17, it appears that the assessment procedures employed during the delivery of modular programmes have a number of limitations. For example, 51.37 percent of the study participants have indicated that students do not get proper feedback about their learning. Knowledge of result plays significant role in motivating and maintaining students actively into the teaching-learning process. However, the data tell us that the majority of students are not getting proper feedback about their learning accomplishment. Besides, 36.17 percent of the study participants agreed that the assessment procedures employed by instructors are objective whereas 38.86 percent of them argued to the contrary. For the latter group of students, the evaluation procedures employed by instructors involved in modular curriculum suffer from lack of objectivity. Similarly, 38.81 percent of the study participants considered the evaluation process as less transparent. On the other hand, 38.36 percent of these respondents agreed that the evaluation process is transparent. Although Addis Ababa University is struggling to transform its mode of assessment towards continuous assessment, there is still a lot to be done to the satisfaction of the beneficiaries.

Students' Perceptions of the Outcomes of Modular Programme

As explained in the introductory part of this paper, modular approach of delivering graduate courses has a number of benefits. Students tend to develop the ability of independent learning and gain knowledge and skills in line with their interests and abilities in uninterrupted form. The study explored how graduate students perceive the outcomes of the modular delivery of graduate courses. Eight items were used to explore such perception. Students who participated in the study responded to a five point scale that ranges between strongly agree to strongly disagree. The aggregate score was determined for every participant of the study to get an idea about an overall perception of each study participant about the outcomes of the modular programme. The minimum and maximum scores for this scale were eight and forty, respectively. The

neutral score, which represents neither a positive nor a negative view, is 24. The average of the aggregate scores was determined to be 26.4 with standard deviation 7.39. The mean score is found to be greater than the neutral score. This indicates that the overall perception of students about the outcomes of modular programme is favourable. The proportion of study participants who scored above the mean is 51.04 percent. If the neutral score is taken as a cut of point for favourable and unfavourable views of the study participants, the proportion of study participants with favourable view will increase to 60.15 percent. These proportions indicate that large numbers of study participants have favorably perceived the outcomes of modular programme. Students' perception of the outcome of the modular programme is different from their instructors' perceptions. In the earlier study by the same authors (Ayalew et al. 2010) it was found that the majority of the teaching staffs teaching in the graduate programmes were not sure whether or not the implementation of the modular system will be successful. In fact good numbers of them are not convinced still after three years of the implementation of the programme that the modular system could really achieve the aspired learning outcomes.

Further analysis of data by groups also revealed significant difference (F = 4.967, á = 0.000) among groups. Pair wise mean comparison (Tukey HSD) was computed to see the direction of variation.

Table 18: Results of Tukey HSD

Colleges and Schools	Mean	SD	1	2	3	4	5	6
1. College of Social Sciences and Humanities	25.60	8.057						
2. College of Natural Sciences	24.26	7.128			*			*
3. College of Education and Behavioral Studies	27.57	7.047						
4. College of Management Information and Economic Sciences	26.25	7.688						
5. College of Health Sciences	25.25	6.929						*
6. All Schools	28.32	7.865						

As depicted in Table 18, significant difference was observed between students of College of Natural Sciences and College of Education and Behavioral Studies; between College of Natural Sciences and All Schools, and between College of Health Sciences and All Schools. Again, consistent with the previous findings students of College of Natural Sciences obtained mean score that appears to be very close to the neutral score. The analysis of the responses of study participants to individual items also revealed results that support the above findings. The details of the responses are given in Table 19.

Table 19: Students Perception of the Outcomes of Modular Delivery of Courses

No	Item Modular approach :	Response Categories					
		Agree		Uncertain		Disagree	
		N	%	N	%	N	%
1	Helps to meet the intended learning outcomes	306	45.8	188	28.19	173	25.9
2	Promotes concomitant learning	304	47.5	209	32.66	127	19.8
3	Improves student's academic performance	357	54.0	125	18.91	179	27.0
4	Enables efficient use of aids, resources, & time	319	47.9	132	19.85	214	32.1
5	Improves quality and student performance	322	48.5	145	21.87	196	29.5
6	Encourages life-long learning	309	46.8	164	24.89	186	28.2
7	Fosters more in-depth discussions and classroom participation	382	57.4	128	19.25	155	23.3
8	Improves students' class attendance	463	69.5	96	14.41	107	16.0

The data in Table 19 show that modular approach to graduate education has a number of positive outcomes. For example, 57.44 percent of the study participants said that modular learning fosters more in-depth discussions and classroom participation and 69.52 percent of the study participants argued that modular approach improves student' class attendance. About 54 percent of these respondents also said that modular approach to graduate education improves students' academic performance. In general, participants of this evaluative study (post graduate students) favorably perceived the outcomes of modular programme.

Conclusion

The quality of teaching and learning is directly related to institutional autonomy, academic freedom and resource. This is particularly so for an institution that focuses on expansion without at the expense of quality (Radhakrishan 2008; Solomon 2011). African higher learning institutions should not operate under too many waves of politically driven top down reforms in general and without creating the necessary human as well as material resources in particular. Higher learning institutions in Africa may benefit from modular curricula if programmes are born within the felt needs and interest of the specific institution. Any radical reform like reengineering post graduate curricula should not be prescribed from top like a vaccine to all programmes and courses evenly. Any such reform need to be contextualized prior to its implementation.

To this end, Graduate students' overall attitude toward the modular programme *is positive*. The modular delivery was also perceived favorably. However, significant differences were observed between students of different colleges with regard to attitude towards the modular programme, modular delivery and availability and accessibility of module related materials. Relatively

higher favourable attitudes among students of the *College of Education and Behavioral Studies* followed by *Students of all Schools* were observed.

The majority of the students indicated that the modular curriculum helps students to concentrate on one course at a time and get in-depth knowledge on the subject matter. The modular programmes was also seen as more purposeful and more efficiently organized to produce more value with less time and resources. The study participants have the belief that the organization of modular programme enabled them to have control over their own learning and encouraged them to accept greater responsibility for their learning. The majority of the study participants consider modular masters programme as an approach that enhances interactive teaching-learning, augments efficient use of time and other resources, promotes self-learning and facilitates face to face blended learning.

As opposed to the teaching staff, the overall perception of students about the outcomes of modular programme is also favourable. The majority of the study participants said that modular learning fosters more in-depth discussions, encourages classroom participation, improves student' class attendance and ultimately helps improve students' academic performance. In general, participants of this evaluative study favorably perceived the outcomes of modular programme.

On the negative said, whereas a modular curriculum requires careful planning and commitment on the part of the instructors, most of the respondents observed reluctance on the part of their instructors. A good proportion of the study participants also reflected that the division of the delivery of the modular curriculum in terms of interactive teaching-learning, self-learning and collaborative learning does not take into account the nature of the course. The qualitative data gathered also supported the findings that modular curriculum failed to take into account the nature of the course. There is a big variation among colleges and schools in the implementation of the modular curricle and block teaching to the extent that the reform is relinquishing in the fields of natural sciences.

It appears that the assessment procedures employed during the delivery of modular programmes have a number of limitations. The majority of the study participants have indicated that they do not get proper feedback about their learning. Knowledge of result plays significant role in motivating and maintaining students actively into the teaching-learning process. However, the data tell us that the majority of students are not getting proper feedback about their learning accomplishment. Another weakness observed was with regard to provision of resources. Availability of materials, aids and other resources is decisive to the success of modular delivery. The student reactions on this point are not pleasing. The exceptions are students in the category of "all schools" (i.e. School of Journalism, Institute of Peace and Security, Federalism) where resources seem relatively abundant and materials are available and accessible before commencement of class.

Currently tension has been created between the university's top officials' political desire to modularize all curricula and sustain their implementation on one hand and the desire of the postgraduate teaching staff tending towards course base and semester mode of delivery on the other hand. Accordingly, it can safely and logically be asserted that the quality of teaching and learning is at risk.

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