Students’ Perception of Educational Environment
Using
Dundee Ready Educational Environment Measure
DREEM
Students of Faculty of Medicine
University of Gezira

By
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A dissertation
Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of Science
in
Health Professions Education
Education Development Center
Faculty of Medicine
University of Gezira

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May 2013
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Date of Examination: ……May 2013………………
Dedication

To my parents rahemahoma alla

To my children Alla, Hanna & her children

Asir and Sulma, Imad & Haifa
Acknowledgment

I present all my thanks and gratitude to the Almighty Alla to his great support in finalizing this thesis.

My great gratitude to Prof. Omer Ahmed Mirghani Professor of Obstetrics and Gynecology Faculty of Medicine University of Gezira, and Prof. Mohamed Elsanosi Mohamed Professor of Obstetrics and Gynecology Faculty of Medicine University of Gezira, for their great help, Ustaz Mowia Mohamed Ahmed lecturer in the Faculty of Applied Science University of Gezira department of basic sciences who helped me in statistical analysis. To the students who spent their time to fill the questionnaire.
Abstract

The educational environment is defined as the ethos or climate that affects all aspects of learning within an educational setting. It is one of the most important determining factors of an effective curriculum. Tools to assess learning environment have been recently described by Roff, the Dundee Ready Educational Environment Measure (Dreem). There is no study in Sudan done using this instrument to assess student environment. The aim of this study is to evaluate the educational environment as perceived by the undergraduate medical students in University of Gezira faculty of medicine to identify the problem areas and suggest remedial measures. The study is descriptive cross sectional study using the Dundee Ready Educational Environment Measure (DREEM). Questionnaire was done interviewing 389 undergraduate of the batches, 28, 29, 30, 31, 32. The DREEM contains 50 statements relating to a range of topics directly relevant to education climate. Students were asked to read each statement carefully and to respond using a 5 point likert-type scale ranging from strongly agrees to strongly disagree. As well as the total DREEM score there are five subscales: Students' perception of learning, students' perception of course organizer, students' academic self perceptions, students' perceptions of atmosphere, students' social self perception. The following is an approximate guide to interpreting the overall score: 0-50 Very poor, 51-100 Plenty of problems, 101-150 more positive than Negative, 151-200 Excellent, data processing using SPSS, data is expressed as means of scores; this was reversed for the negative statements. The result of the study showed a total achievement of 153/200 which means a more positive environment in the five areas studied. Large scale study taking each phase separately is needed, to differentiate between the weaknesses and strengthens of each phase. Translation and validation of the English questionnaire will make it easier for the students to answer it. Organization and coordination of the timetables at the beginning of the semester will help in the implementation of the teaching activities effectively. Effective use of the small group teaching in the PBL, and the seminars will improve the effectiveness of those methods.
ملخص الطرح

تعتبر البيئة التعليمية المناخ الذي تم فيه كل العمليات الدراسية. كذلك تعتبر أهم محدد لفعالية المنهج. وقد استحدثت بواسطة روف أداة لقياس مستوى البيئة التعليمية بكليات الطب سميت المقياس الجاهز للبيئة التعليمية بدندي (دري م). لا توجد بالسودان دراسة سابقة من هذا النوع مما حدا بنا لإجرائها بكلية الطب جامعة الجزيرة لتحديد نقاط الضعف والقوة بالبيئة التعليمية وإهدائها للقائمين على أطر الكلية لإجراء المعالجات المناسبة. الدراسة وصفية شارك فيها 389 طالب من الدفعات 28، 29، 30، 31، 32. يدرسون بالمقررات السريرية والجهازية، يحتوي الاستبيان على 50 سؤال عن مدى ادراك الطلاب للبيئة التعليمية مقسمة على خمسة محاور تمثل حلقات البيئة التعليمية وهي: إدراك الطلاب للتعليم، قدرة الطلاب على فهم منسق الكورس، قدرة الطلاب على فهم الذاتي للدراسة، قدرة الطلاب على فهم المناخ الدراسي، قدرة الطلاب على فهم الوضع الاجتماعي. تحديد النتائج يعتمد على درجات ليكرت وهو خمس درجات من أواقف بشده إلى لا أواقف بشده. النتيجة النهائية تحسب كما يلي: 0-50 مستوى ضعيف، 51-100 مشاكل كثيرة، 101-150 الاجابات تفوق السليبيات، 151-200 ممتاز. أحرزت كلية الطب جامعة الجزيرة 153/153 مما يعني أن هناك الكثير من الاجابات في جميع المحاور التي تم دراستها لذا لابد من قيام دراسة لكل مرحلة على حده لتحديد اجاباتها وسلبياتها منفردة بعد ترجمة الاستبيان للغة العربية وتحكيه. الاهتمام أكثر بالتدريب في المجموعات الصغيرة خاصة التعلم بحل المشاكل والسنوات. مع تسيق أكبر للجدول.
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CHAPTER ONE

1.1 Introduction

The educational environment is defined as the ethos or climate that affects all aspects of learning within an educational setting. Many researchers focused on the role of learning environment in undergraduate medical education and investigated perceptions of educational environment in the recent years. Educational environment is one of the most important determining factors of an effective curriculum (Bassaw et al., 2003). The quality of the educational environment reflects the quality of the curriculum (Genn, 2001).

The Dundee Ready Education Environment Measure (DREEM) is an instrument designed for measurement of educational climate specifically for undergraduate medical education (Roff, 1997).

DREEM questionnaire has also been used to compare different medical schools or faculty (Roff et al., 2001; Al-Hazimi et al., 2004).

Students’ perception of the educational environment has great effects on their responses to learning processes. Even changing the physical structure of a classroom is one way to alter the environment of a classroom and influence on students’ perception. There is growing consensus of the importance of educational environment in student’s learning. Students’ perception of the environment within which they study has been shown to have a significant impact on their behavior, academic progress and sense of well-being (Pimparyon, 2000; Genn, 2001; Audin, 2003). Various methodologies have been utilized to investigate educational climate. Studies about educational climate dated back to 1970s. In 1970, Arnold Rothman and colleagues from University of Toronto studied about Learning Environment Questionnaire (LEQ). It was a 65 item survey with scales for goal direction, academic enthusiasm, internal and external pressures on students, student interaction and authoritarianism in the
medical school. 8 years later from this research Marshall adapted over half of Rothman’s 55 items in the Medical School Learning Environment Survey (MSLES). And finally, DREEM questionnaire introduced in late 1990s. The DREEM questionnaire is more specific on medical and health care-related programs. This questionnaire applied to a number of undergraduate medical educational centers worldwide (Roff, 2005).

DREEM is valuable in pointing out areas of concern by students. They don’t give any details about the underlying reasons for pointed out problems. There are some ideologies that have proven helpful to learning. The setting in which the learning takes place is one often-overlooked aspect that can help students absorb information and ideas. This includes several aspects including educational climate. There have been many studies conducted about the learning process and how to best create an effective environment for the student.

The DREEM questionnaire is an ideal chance for exclaiming their opinions. DREEM has been widely used as a tool to collect information about the educational environment in many institutions (GMC, 1993; Genn, 2001, Bassaw, 2003). It was originally developed at Dundee and released as AMEE Medical Education Guide No.23 by Genn in 2001 and has been accepted as an international instrument for assessing the educational environment.

Curriculum is a holistic and comprehensive entity in education which extends beyond classroom teaching to all interactions in the medical school. Educational environment is one of the most important determinants of an effective curriculum. (Genn JM, 2001)

With a shift in the teaching pattern from teacher-centered to student-centered teaching, (Bassaw B, 2003) wherein the teacher is now more of a facilitator in the learning process than an imposed teacher, the educational environment and the students’ perceptions about the teaching pattern, the
quality of teaching, the teachers, and their own assessment about their performance becomes imperative so as to ensure and maintain high-quality educational environments and optimum teaching to the students. Educational environment studies have shown that there is a high price to be paid for dysfunctional and malfunctioning learning environments because the educational environment is an indispensable part of the curriculum, affecting the interaction between student, methods of teaching, assessment, and educational outcomes. Several research groups have attempted to identify and quantify the presence and impact of somewhat ethereal features of an educational environment using a variety of methodologies: qualitative, quantitative, and mixed methods. The Dundee Ready Education Environment (DREEM) inventory is a robust instrument, quantitatively measuring students' perception of the educational environment in relation to different domains, and has proven to have high content and construct validity. It has shown consistently high reliability in a diversity of surroundings. Thus, the instrument is useful, versatile, and “culture free” and has been used in a range of settings. It has proven to be a useful diagnostic tool to measure the quality of the educational environment as perceived by students. (Per J.Palmgren, et al, 2011).

There is no study in Sudan done using this instrument to assesses student environment, some studies were done in the region published in conference book (Al-Hamzi, 2010), but there are some published international work (Al-Hamzi, et al, 2010; Riquelme, et al, 2004; Bassaw, et al, 2009 and Fidolma, 2006).
1.2 Rational

Monitoring the educational environment will help in diagnosing existing problems and predicting possible outcomes. Enriching the experience of the educational environment is the key to enhance student learning. There is no study done in Sudan using this instrument to assess student environment.

1.3 Objectives

1.3.1 General Objective

The aim of this study is to evaluate the educational environment as perceived by the undergraduate medical students in university of Gezira faculty of medicine to identify the problem areas and suggest remedial measures using (DREEM) model.

1.3.2 Specific objectives

Is to determine the:-

- Students’ perception of learning
- Students’ perception of course organizers
- Students’ academic self-perception
- Students’ perceptions of atmosphere
- Students’ social self-perceptions
CHAPTER TWO

Literature Review

2.1 Definitions

Education is a process, the chief goal of which is to bring about change in human behavior. This behavior will be explicitly defined in the form of educational objectives which describe the expected performance the functions required by the profession. The objective is what the learner should be able to do at the end of a learning period that they could not do beforehand. Performance is a group of behaviors from which it may be concluded that the learner has the requisite knowledge, skills, and attitudes.

Learning is a process resulting in some modification relatively permanent of the behavior in the way of thinking (cognitive), feeling (affection), doing (psychomotor) of the learner.

2.2 Learning strategies SPICES

Student-centered, Problem-based/Task-based learning. Integration, Community-based, Elective, Systematic. (Harden, 1986)

Teaching is the interactions between teacher and learner in order to bring expected change in behavior. That is, help learner acquire, retain, be able to use knowledge, understand, analyze, synthesize and evaluate.

Curriculum is a holistic and comprehensive entity in education which extends beyond classroom teaching to all interactions in the medical school. Educational environment is one of the most important determinants of an effective curriculum, involving both the actual and hidden curricula.
It is now accepted and mandatory that careful planning and structuring is necessary for any programme of adult teaching and learning, whether at the undergraduate's level or the postgraduate. At any moment the teachers and learners should know where they are at that moment and where they will be going next. They should also know whether they are going in the right direction to meet and fulfill the set outcomes. Harden and his group has put forward ten general and practical steps in the planning of any curriculum (Harden, 1986)

2.3 **The ten steps of curriculum planning**

1- Needs assessment

2- Establishing learning outcomes

3- Deciding the content

4- Organizing the content

5- Deciding on the educational strategy

6- Indicate the teaching method

7- Agree on method of assessment

8- Insure curriculum publication

9- Create appropriate educational environment

10- Manage, evaluate and feedback on ongoing basis

A student might find a particular question threatening and intimidating in one context yet stimulating and challenging in a different context. What makes one learning context unpleasant and another pleasant? Many factors influence learning.
Learning depends on several factors, but a crucial step is the engagement of the learner. This is affected by their motivation and perception of relevance. These, in turn, can be affected by learners' previous experiences and preferred learning styles and by the context and environment in which the learning is taking place. In adult learning theories, teaching is as much about setting the context or climate for learning as it is about imparting knowledge or sharing expertise. (Driscoll, 1999)

Motivation can be intrinsic (from the student) and extrinsic (from external factors). Assessments are usually a strong extrinsic motivator for learners. Individual learners' intrinsic motivation can be affected by previous experiences, by their desire to achieve, and the relevance of the learning to their future.

A teacher's role in motivation should not be underestimated. Enthusiasm for the subject, interest in the students' experiences, and clear direction (among other things) all help to keep students' attention and improve assimilation of information and understanding. Even with good intrinsic motivation, however, external factors can demotivate. Distractions, unhelpful attitudes of teachers, and physical discomfort will prompt learners to disengage. Maslow (Maslow, 1970) described a model to illustrate the building blocks of motivation. Each layer needs to be in place before the pinnacle of “self actualization” is reached.

2.4 Maslow's Pyramid
2.4.1. Physiological needs

Although the need to be fed, watered, and comfortable seems trite, many teachers will have experienced, for example, the difficulties of
running sessions in cold or overheated rooms, in long sessions without refreshments, in noisy rooms, in facilities with uncomfortable seating.

Physical factors can make it difficult for learners and teachers to relax and pay attention. Ensuring adequate breaks and being mindful of the physical environment are part of the teacher's role.

Since the foundation of the first three universities in Sudan, Khartoum, Gezira and Juba the ministry of Higher Education and Scientific Research caters about the physiological needs by availing hostels, feeding, water and even it offer per series to some students.

By the year 1990 the start of high education revolution the (foundation of university in each state) the intake of students increased by 903%, and it became difficult for the government to avail such physical needs for every student, so they developed the National Fund for Student's Welfare. This is a community participation fund where two Sudanese pounds from each governmental laborers basic salary is taken, participation of Zaka and other governmental and non governmental donations. This fund is used for building university campuses, which offer a lot of services for the students, shops, reading rooms, play areas, theaters for cultural activities, and to help some needy students with money bailing. But to what degree it achieves the student's needs, it needs to be evaluated. (2005, صندوق رعاية الطالب)

2.4.2 Safety

A teacher should aim to provide an environment in which learners feel safe to experiment, voice their concerns, identify their lack of knowledge, and stretch their limits. Safety can be compromised, for
example, through humiliation, harassment, and threat of forced disclosure of personal details.

Teachers can create an atmosphere of respect by endorsing the learners' level of knowledge and gaps in knowledge as essential triggers to learning rather than reasons for ridicule. Remembering names and involving the learners in setting ground rules are other examples of building mutual trust. Feedback on performance, a vital part of teaching, should be done constructively and with respect for the learner.

University of Gezira, faculty of medicine as part of it, is pioneer in developing the student advisory system (قانون جامعة الجزيرة, 1975), which started early at the university foundation, for maintenance of the advisory process the teachers are motivated by being paid six credit hours extra load. This system keep a good relation, and build a mutual trust between teachers and their students. Early involvement of the students in the curriculum development and evaluation and participation of the students in courses organization together with the teachers break some of the barriers and keep a respectful warm and parental relationship between students and the teachers.

2.4.3 Belonging

Many factors help to give a student a sense of belonging in a group or team—for example, being a respected member, having one's voice heard and attended to, being given a useful role, and having colleagues with similar backgrounds, experiences, and goals. Learners are motivated through inclusion and consultation. Their input to a course's objectives and structure should be sought, valued, and acted on. On clinical placements, staff help to prevent medical
students from feeling ignored, marginalized, or “in the way.” Students should instead be valued as assets to a clinical unit or team.

2.4.4 Self esteem

Several of the points mentioned above feed directly into self esteem through making the learner feel valued. Praise, words of appreciation and constructive rather than destructive criticism are important. It can take many positive moments to build self esteem, but just one unkind and thoughtless comment to destroy it. Doctors are well used to their role in the doctor-patient relationship. Some find it hard to translate the same skills and attitudes to the teacher-student relationship. Their own experience of education or their own distractions, time pressures, and other stresses may be factors.

2.4.5 Self actualization

If a teacher has attended to the above motivational factors, then they have sought to provide the ideal environment in which a learner can flourish.

An ethos that encourages intrinsic motivation without anxiety is conducive to a “deep” learning approach. However, there may be some who remain unable to respond to the education on offer. Teachers may need to consider whether the course (or that particular piece of study) is suitable for that student.

2.5 Relevance

The relevance of learning is closely linked to motivation: relevance for immediate needs, for future work, of getting a certificate or degree regardless of content. Learning for learning's sake is back in vogue in higher education after a move towards vocational or industrial preparation.
Certain courses in medical degrees have been notoriously poorly received by students. Faculty members need to explain to students why these courses are necessary and how they link to future practice. Allowing them to see for themselves, through early clinical exposure and experience, is likely to be helpful. Similarly, learning the basic medical sciences in the context of clinical situation is the basis for problem based learning. If a teacher is asked to do a one-off session with learners they don't know, he or she should prepare both before and at the start of the session-by determining what the learner know, want to know, and expected to learn. This involves and shows respect for the learners and encourages them to invest in the session. Student's perception of the relevance of what they are being taught is vital motivator for learning.

A challenging problem is the trainee who is in a post because he or she needs to do it for certification, although it is of no perceived value to the trainee's future career direction. A balance needs to be negotiated between respect for the individual's needs and the expectation of a level of professional conduct.

2.6 Teacher as role model
The teacher or facilitator is one of the most powerful variables in the educational environment. The teacher's actions, attitudes (as evidenced by tone of voice, comments made) enthusiasm, and interest in the subject will affect learners indirectly. The capacity for subliminal messages is enormous. Inappropriate behavior or expression by a staff member will be noticed; at worst the learners will want to emulate that behavior, at best they will have been given tacit permission to do so.
It is easy to learn attitudes-including poor attitude. Attitudes are learnt through observation of those in relative power or seniority. Teachers must therefore be aware of providing good role modeling in the presence of students

2.7 Maximizing educational environment
Classroom, tutorials, seminars, lectures, room temperature, comfort of seating, background noise, and visual distractors are all factors of the environment that can affect concentration and motivation. Some are within the teacher’s control, others not. Respect for the learners and their needs, praise, encouragement of participation can all lead to a positive learning experience. Lack of threat to personal integrity and self esteem is essential, although challenges can be rewarding and enjoyable.
Small group teaching facilitates individual feedback, but the seating arrangement used will have an important effect on student participation. If, for example, students sit in traditional classroom rows, those on the edges will feel excluded. A circular format encourages interaction. It allows the teacher to sit alongside a talkative person, thus keeping them out of eye contact and reducing their input. A quiet student can be placed opposite to encourage participation through non-verbal means. Students can also work in unaffiliated groups on a topic, enabling them to work in teams and share the learning tasks. (Norman and Schmidt, 1992)

2.7.1 Checklist to ensure good physical environment
- Is the room the right size?
- Is the temperature comfortable?
- Are there distracters (noise, visual distracters inside or outside)
• Is the seating adequate, and how should it be arranged
• Does the audiovisual equipment work?

2.7.2 Clinical settings
In real life settings, the dual role of teacher and clinician can be complicated. The students will be closely observing the clinician, picking up hidden messages about clinical practice. They need to feel that there is no danger that they will unnecessarily distress or harm patients or their families. They also need to feel safe from humiliation. Making them feel welcomed and of value when they arrive at a new placement or post will aid their learning throughout.

2.7.3 Checklist for teaching in clinical settings
• Have patients and families given consent for students to be present?
• Do the staff know that teaching is planned and understand what their roles will be?
• Is there adequate space for all participants?
• How much time is available for teaching?
• How may the students be made to feel useful (for example, pre-clerking and presenting)?

2.8 Course and curriculum design
The designers of short and long courses should consider the relevance of the learning environment to the potential learners. Student representation on curriculum committees is one means of ensuring a more student centered course.

The aims, objectives, and assessments should be signposted well in advance of a course and should be demonstrably fair. The teaching methods should build on learners' experience, creating a collaborative
environment. Disseminating the findings of course evaluations, followed by staff training, helps to identify and correct undesirable behavior among faculty members. Evaluations should also include a means for reviewing the course's aims and objectives with the students.

In longer courses, student support systems and informal activities that build collective identity must be considered. Students who are having difficulties need to be identified early and given additional support. The Faculty had adopted the student-centered community oriented, community based, integrated and problem based program (F.of M curriculum document, 2002). The major objective of the medical school is to prepare its students to solve the problems of their communities at the level of individuals, families and the community. Hence the Faculty adopted an innovative way of teaching and to be a community based medical school to comply with the university philosophy to address the main community problems mainly at rural areas.

It was stated that "The University shall pursue the study of the Sudanese environment and in particular the rural areas in order to identify their problems and/or conduct research thereon" The Faculty of Medicine was started with the establishment of the university of Gezira.

The curriculum is monitored through the student's feedback, teachers regular meetings and discussion, regular comprehensive program evaluation, specific studies, external examiner reports and students assessment results.
Workshops were held by the faculty and attended by national and international participants to look into the curriculum; the most notable were the first in 1985 Barakat workshop, the second was 1987, during these workshops, an evaluation by staff and students was carried out aiming at making decisions concerning program involvement. The evaluation was carried out in the honor of the 10 years anniversary of the Faculty of Medicine by the help of the WHO, the Faculty besides identifying strengths and weaknesses of the program, came out with a tremendous wealth of data and develop evaluative acumen of the faculty. (Curriculum Document, 2002)

**The Faculty objectives:**

1. To train and graduate doctors with sound scientific knowledge and skills to meet the health needs of individuals and communities in the Sudan.

2. To participate actively in the provision and promotion of health services at all levels.

3. To initiate and promote research in priority health problems, particularly those facing rural communities.

The undergraduate program is completed into 5 calendar years which are divided into 10 semesters, two semesters each year. Each semester is sixteen to eighteen weeks. Four weeks for summer vacation spent in rural residency.

The total number of weeks is 105. The curriculum is divided into three phases:

**Phase I:** This is an introductory phase during which the students learn about the basic biological functions, growth and development, the normal human behavior, nutrition, the effect of the internal and
external environment and introduction to the abnormal changes in human body.

**Phase II:** Integrated study modules of the organ system of the body and certain themes through Problem Based Learning and other teaching/learning methods with practical, clinical and community-based application.

**Phase III clerkship phase:** The students learn how to care for patients in the different disciplines.

This problem based curriculum help students to develop the teamwork and problem solving ability and hence enables graduates to utilize the knowledge gained in basic and clinical sciences in solving health problems of patients, families and the community. With respect to PBL in Gezira, it stands unique among other similar schools by ensuring that students see real patients simultaneously with simulation very early in the program from year one.

Integrated curriculum, the basic sciences, clinical and behavioral sciences are integrated in the same modules that are applying a biosych-socio-cultural approach.

Community-based activities included in the whole curriculum but they are more explicit in some modules.

All school activities are done by team of faculty:

1/ Curriculum design
2/ Implementation of integrated courses
3/ Evaluation of student and program
2.8.1 Characteristic of the curriculum:

Regarding the definition of education and training, where the former refers to context in which we cannot predict with any specificity or certainty people will use what they learn, while the later refers to context in which we can predict with some confidence people will use what they learn. This curriculum use a holistic approach to health problems affecting the individual or the society, by integrating a sound scientific knowledge and clinical, administrative, organizational, teamwork, and leadership skills that are addressed continuously through the curriculum, facilitated by the strategies which the school use to implement the curriculum. These strategies are Student-centered, Problem-based, Integration, Community-based, and Elective.

The basic sciences and clinical instruction occurs in block courses to help to bring the immediate relevance of education and training, and to eliminate the unnecessary details of information that is of little or no importance or relevance.

Societal goals are not primarily educational goals, because they do not refer to outcomes achievable through learning, however, almost any societal goal has some educational dimension. The curriculum by being community-oriented, assumed an increasing responsibility for achieving societal goals, thus making societal and educational goals more congruent and mutually supportive. This is one of the characteristics of this curriculum.

Schools and colleges are organizations and, as such, are concerned not just with the education of their students, but also with the maintenance and improvement of the organization. Accomplishing
goals such as limiting budget, equipping a physiology laboratory, improving the lecture rooms' environment, may indirectly improve the quality of education but are not educational objectives themselves. So this is one of the areas of the students environments which we need to assess from the perspective of the students.

The curriculum purpose is stated early since the establishment of the school. Being community-oriented, community-based, so it responds to the priority needs of the individuals, families, and community.

The educational aim usually is broad, long term and ill-Inclusive, based on some value schema, many other factors may contribute to its achievement, the aim of this curriculum is to address the main community problems mainly at rural areas.

The curriculum objective is graduation of a highly qualified medical practitioner, who provides health services in the community and conduct relevant research.

Learning objectives are statements describing the expected results of learning experience as they manifest themselves in student's behavior. So these are the decided destination to be reached by the implementation of the learning strategies-the means-they are relevant, logical, unequivocal, feasible, observable and measurable. Divided into three domains of intellectual processes; affective denotes attitude, psychomotor = skills and cognitive = knowledge. In this curriculum the leaning objective in the field of education are to:

- Diagnose and treat endemic and epidemic diseases and all the health problems at the level of the individual family and the community.
• Solve health problems through community orientation and problem-based approach and play a role in prevention and treatment.
• Consider the code of ethics when dealing with patients, colleagues and the community as whole.
• Supervise, train and work with the members of the health team and delegate responsibilities to team members through his / her knowledge of the administration on methods and ability to communicate with others.
• Conduct research, propose and implement health programme and be able to report on these activities.
• Continue learning after graduation.

In the field of research, is to conduct research in priority health problems in Gazira area and the Sudan.

In the field of services, is to provide health and related services to the community.

These learning objectives are arranged into two levels, level one and two, where all level one objectives are the competences which student must acquire at graduation. These are the common, diagnosable, preventable and treatable problems. Level two are the learning objectives which are not emphasized because they are very rare problems e.g. Cystic fibrosis, or at the time of the production they are not prevailing, or because of the environmental changes their prevalence increased e.g. HIV/AIDS.

In addition to behavioral and social sciences, medical ethics are included in all learning activities involving human beings, however, some courses contribute more e.g. Doctor and his Society, Doctors
Figh, Mental Health, Field training Research and Rural Development program. These sciences are emphasized whenever a learning activity involves human beings.

The specific learning objectives are emphasized in the different courses in a way that satisfying the four elements of writting a learning objectives; activity, content, condition, and criteria. The subject matter is presented in a way where all the basic, clinical, behavioral and community sciences are fully integrated through out the curriculum. Sciences are integrated around clinical problems and systems of the body.

Sciences are integrated horizontally in the course itself, and vertically, a sequence of courses is rigid and designed in such a way that most courses have pre-requisite courses. Each course has a detailed time-table which include all the learning activities, the school strictly conforms to the time-table, tutors, teacher coordinators, student-coordinators, course committee, and Dean.

The basic sciences include Anatomy, Physiology, Biochemistry, Microbiology, Parasitology, Pharmacology, Genetics, Molecular Biology, Cell biology, Immunology, Medical entomology. Their weight in the curriculum is 58 credit hours. The part of the curriculum which is taught in the community settings: Introduction to medicine, Medical statistics, Field training research and rural development, Doctor and society, Primary health care practice and family medicine, Primary health care clerkship, rural residency. Their weight is 52 credit hours.
The clerkship courses, Medicine, Surgery, Obstetrics and gynecology, Pediatrics, Psychiatry are mainly clinical, the credit hours of it is 117.

The effects of socioeconomic, demographic and cultural objectives are included in system courses e.g. tuberculosis in cardiopulmonary, female circumcision in genitourinary course. The contents also include the effect of individual and society health behavior, nutritional habits and taboos, disposal of human and animal waste, harmful habits like smoking and alcohol consumption. Throughout the curriculum the student learns about medical ethics particularly in learning activities involving human beings.

The assessment of the students includes assessment of the competencies; Knowledge, skills, and attitude.

Knowledge in anatomy, physiology, biochemistry and pathology. Clinical sciences, history taking, clinical examination, investigations and management. Community and behavioral sciences.

Skills; basic laboratory skills, clinical skills, community diagnosis skills and research skills.

Attitude; respect of patient's culture and values, demonstrating sympathy and concern about patient's problems, conforming to code of ethics.

The assessment is both formative and summative, the former is to help individual student monitor his/her progress. It is intended primarily to foster learning, promote self-evaluation skills, and improve the quality of learning. Each assessment should be preceded by a clear expression of the standard of performance, and
accompanied by a feedback with constructive comments and suggestion in relation to student's performance. And the summative needed to determine fitness to progress or to be certified to practice.

The cumulative evaluation is all student achievement which expressed in the Cumulative Grade Points Average CGPA that range between (2-4). This depends primarily on the time spent in learning/teaching and hence results in courses are related to the credit hours.

The assessors are teachers of the school, external examiners from other schools, to validate the internal assessment. Students themselves as peer assessment mainly in community courses.

There are different tools for assessment of the different competencies, e.g. essays, multiple choice questions, clinical, report writing, log book. Objective structured clinical exam (OSCE), objective structured practical exam (OSPE), attendance and performance. There is no oral examination in the school, emphases on continuous assessment, measure attendance/performance, and reports.

There are 48 courses and each course is evaluated by an end of course examination. Each examination is composed of a number of evaluation tools ranging between (3-5). The balance between written/practical/clinical depend on the nature and objectives of the course e.g. the weight of the clinical in the clerkship is 40% and 20% in system courses. OSCE/OSPE used in 36 courses. The minimum pass level is used for passing level at examination as criteria reference-absolute criteria-minimal competence level.
The learning objectives were written in a behavioral perspective, because the assumed behavioral change is determined initially, so the objective is stated appropriately for their primary function of guiding evaluation, this preoccupation with evaluation had led to objectives expressed as know-how "the learner will be able to", are presented in lists of succinct sentences, employ verbs expressing only observable and measurable behaviors, and include objects describing highly specific content.

Teachers attempt to influence behavior, i.e. cause learning, with various stimuli. They demonstrate or model behavior or provide other opportunities for students to observe the desired response. They also try to influence learning by managing the consequences of behavior. There may be an attempt to guide student with various signals or cues as they attempt to demonstrate the behavior. They reinforce behaviors selectively and as immediately as possible using grades and praise. All these will help students acquire proficiency in performance.

Constructive perspective, can be seen as a response to a behavioral perspective. Constructivist claimed that people may be born with certain capacities or "structure" for acquiring language, concepts, and skills, these structure develop as individual develops. The most active and influential view of them is that. First, leaner construct understanding, they don’t just mirror what they read or what they told. Learners look for meaning and they will try to find regularity and order in the events of the world, even in the absences of complete information. Second, to understand something is to know relationships. Human knowledge is stored in clusters and organized into schemata that people use both to interpret familiar situations and
reasons about new ones. Bits of information isolated from this structure are forgotten or become inaccessible to memory. Third; all learning depends on prior knowledge. The curriculum make use of these constructivists approach to objectives focuses on internal thought processes and cognitive structures in the learning strategies that solve problems, engage in thinking, cooperative working,namly problem solving strategies and community based learning (Posner,2004).

The hidden curriculum is not generally acknowledge by a school officials but may have a deeper and more durable impact on students. Schools are institutions and as such embody a set of norms and values. The messages of the hidden curriculum concern issues of gender, class and race, authority and school knowledge among others.

The lessons that the hidden curriculum teaches include implicit messages to students about their roles as students; how they learn, how they appropriately behave, the distinction between work and play, and the necessity to do busy work neatly, promptly, and willingly. Their capacity to create or discover new knowledge. The value of cooperation and competition with fellow students. Teachers as model reference in the knowledge they have, the way they behave. These messages are sent implicitly through the dominant types of teaching methods, like small group discussion, problem-based learning, case study, and seminars. This hidden aspect of the curriculum forms a large part of the student experience. It can be much more powerful in determining what students actually do than many teachers and curriculum planners imagine. These hidden
messages determine the student's perception of their task (Posner, 2004). The curriculum does not play hegemonic role, because it is intended for all student. It is designed in such a way that every student is likely to succeed. It does not delegitimize the culture of certain students. However, in its null curriculum it excludes certain aspect of the subject matter.

The term curriculum organization denotes a systematic arrangement of curriculum. It is used at different levels of specificity. However, typically when we talk about "micro" level we refer to organization of a course or unite. Likewise we typically reserve the term" macro "level to the organization of courses to form program. At least two dimensions of organization are significant. If we think of educational events as occurring along a time line, then we describe them as occurring either within the same time frame or subsequent to one another. The former dimension concerns what is taught in conjunction with a particular topic or course? The latter dimension concerns what follows a particular topic or course. It is conventional in curricular to place the time line arbitrary on a vertical axis. And that describes the correlation or integration of content taught concurrently horizontal organization.

Our curriculum integrating all the basic, clinical, behavioral, and community sciences fully throughout the curriculum. Sciences are integrated horizontally (in the course itself) and vertically (sequence of courses) is rigid and designed in such a way that most courses have pre-requisite courses.
The curriculum linked with the prior education, where the students are admitted directly from higher secondary school with a pre-exquisite of biology background; that; they have studied biology, physics, chemistry, and mathmatics. This applies the constructive approach to learning, where student are encouraged to build and elaborate on the knowledge. This is the starting of the spiral of the curriculum that link directly the levels of learning, as student progresses to each new level in the spiral new learning is introduced that links back directly from previous level.

Students are introduced to the outcomes early in the first week at medical school and progress towards the exit learning outcomes during the five years of the undergraduate programme. He/she takes responsibility of his /her learning and is able to assess his /her performance, so he/she can take own personal and professional,

Depending upon the degree of vertical and horizontal organization, content can assume different configuration. Our curriculum shows a "hierarchical "structure where some concepts and skills are necessary for learning subsequent concepts or skills. Also there are some concepts that taught in different ways at different educational levels this is" spiral" structure. When integrating sciences it shows double pyramid.

Media structure refers to the method used in the teaching of a set of educational objectives. A "parallel" structure used when a text and laboratory guide designed to parallel and reinforces each other, but not in an integrated sequence, the teacher was left with considerable freedom to be back and forth as he or she saw fit.
A" convergent" structure is based on the assumption that there is no one way to achieve the objective and that students differ in their ability to learn from any one medium. Therefore, overlapping instructional activities and methods are used for achieving significant objectives.

A "divergent" structure is based on the assumption that any activity leads to a diverse set of learning outcomes.

A "mixed" structure that capitalized on the strengths of each method to teach certain content, but regularly focuses all the methods on a common objective, it also employs a method that teach multiple objectives whenever possible.

Media structure also denotes the various technologies employed to deliver the curriculum, in our school we use blackboard, overhead projector, videos and multimedia projector.

Technology help students more, because data become available, at any time, any where, and students are having the abilities to access these knowledge.

An organizational principle states the basis or reason for organizing a curriculum in a particular way. Like presenting a family as a triad includes a mother-child, a father-child, and a father-mother relationship. Organizational principle, like other aspects of curriculum organization, applies to both the vertical and the horizontal dimensions. Principle of vertical organization describes the reason for ordering or sequencing curriculum elements in particular manner. Principle of horizontal organization describes why the curriculum presents certain element in conjunction, or why the curriculum is organized around a particular element.
A simple basis for categorizing organization principles is Schwab's four commonplaces "the subject matter, the learner and the learning process, the teacher and the teaching process, the milieu in which education takes place".

Most curricula are organized on the basis of principle related to only one of the four commonplaces. At the macro level that commonplace has tended to be the subject matter, resulting in what we might call the "separate subject" organization, even at the micro level the separate subject dominates.

Our curriculum organizational principle is based on the subject matter, taking into account both the world-related, and inquiry-related, being sequencing the content as it presents in the real world, as well as been consistent with the way ideas themselves relate to one another. It is also presents some contents by a problem solving methods.

Characteristics of learner relevant to curriculum organization include their interest, needs, abilities, and previous experiences. All these characteristics were used, because one of the curriculum strategies is student-centered, where students are the central figure in the learning process, thier participation in the program, the feedback in courses and teaching methods.

Many organizational decisions are based on factors related to teacher's characteristics and the tasks teachers face, though they are rarely made explicit.Teacher's interest and strength determine curricular focuses and emphases.

The social, political, economic, physical, and organizational context in which education occurs may all affect curriculum organization,
although they tend to function more like influences on, rather than principles of organization (Posner, 2004).

In relation to our curriculum its philosophy is community oriented, so it is socially responding to community needs, politically the curriculum organization was adapted in response to political decision that lead to increase in the number of the students admitted to the school. The departmental organization of the school increases the compartmentalization of knowledge, the stronger the department, the stronger the compartmentalization. The assignment of specific course coordination to specific department, can affect scheduling, and coordination of instruction of different topics, e.g. genitourinary course. Availability or absence of teaching facilities, and or the material also affect curriculum organization, e.g. the absence of a physiology laboratory material will affect organization of certain practical activities in cardiopulmonary course for instance. The presence of an actively functioning health centre, may affect scheduling of certain activities.

What we need to help us understand the political and sociological dimensions of curriculum organization is a set of concepts intended specifically for this purpose. These concepts are specialization, openness, stratification and status; they are introduced by sociologist as social organization of knowledge. Specialization of a subject is the degree to which the scope of the curriculum is restricted, more over not only the subjects as bodies of knowledge, but also identities of the teachers, for example in social setting a person might be introduced as a pediatrician rather than a doctor. Thus, integration of subjects threatens to change a person's
identity. Specialization and stratification describes the degree to which value is assigned differentially to different kinds of knowledge. When knowledge is highly stratified, it is quite clear what counts as legitimate knowledge, what doesn't, and what the basis is for selecting and excluding curriculum content. It defines the sharpness of selection of topics to the degree that different subjects are assigned different social value; hence they will be accorded different levels of status. Status is difficult to determine in a definitive way, however, generally speaking, indicators of status include whether or not academic credit is assigned to the subject, whether a subject is required or an elective, and the numbers of years of it required; the numbers of days per week each student attends class in the subject; and the academic standing of the students who take the subject. Accordingly subjects are classified as high or low status (Posner, 2004).

These concepts are important for analyzing the social and political dimensions of the curriculum. Because a curriculum which is designed to prepare people for occupation here the concept is proved useful for anticipating changes in occupation and their preparation programs. Members of the occupation may strive to increase their prestige, an increase that typically leads to increase in pay, power, and influence, by increasing the status of their curricula, example they may want to increase the use of written test, selectivity for entrance, and specialization of their knowledge. In our curriculum the stratification used positively strengthens the curriculum by the integration, strategy which is clearly stated.
The concept of stratification and status are also useful for understanding tracking in school, as a response to diversity in learning, but our curriculum based on the strengths of students from different ethnic and social background. (Posner, 2004).

2.9 Student advisory system Gezira medical school experience

Student support is a process that aims at helping the student to achieve adjustment between his capabilities and academic requirements as well as with his surrounding environment.

Since the foundation of Gazira University in 1978, it approved the Student advisory system as part of the teacher academic load, weighing six credit hours per semester.

Three studies were done evaluating the efficacy of the students’ advisory system in 1995, 2001, 2005 (Noor, 1995. Magda, 2001. Dia, et al, 2005) Students and teachers were questioned about whether they are convinced about the importance of the student advisory system? They agreed that it was weak, in 2001; 5.2% of the students of the faculty of medicine received help from their advisor. In 2005 the number reached 45.6%. This progressive improvement in the system was the result of systematic work which lead to improvement in the structure and the process of the advisory system.

The objective of the students’ advisory system is promotive, diagnostic and therapeutic for the student problems.

The mechanism of application of the strategy involved a well planed structure; with hierarchy from the university student advisory council, whose responsibility is planning, training, supervision, to the health sciences sector council. The sector council is responsible of co-ordination of activities between the health sciences faculties,
down to the faculty student advisory council which implements the activities. Each committee has its clear mandate, meetings, and the mechanism to co-ordinate with each other.

The process involved many activities; training of staff on the supervisory process, filling of the student formats about the student socioeconomic, health status, and academic performance, in Addison to his hopes or any extra curricular activities, every student has three forms in his file.

Every semester there are two official meetings; there is a day of supervision planed for the whole students every semester. There are other meetings planed between student and his supervisor on demand.

2.9.1 Academic Advisory Activities:-

2.9.1.1 Staff training

A two days course planned regularly by the Education Development Centre for the staff, the training areas involve orientation about the credit hours system, academic rules, rules that monitor student's attitude in the university, the academic advisory system and counseling skills.

2.9.1.2 Role of the Staff.

- Every staff member will have a list of the group he will supervise, their academic and socioeconomic forms and the physical fitness form from the health service.
- At the beginning of each semester the second Wednesday is the academic advisory day, where every staff will meet his group.
- Individual meetings will be arranged with students who are having certain problems.
• Follow up of student's registration at the beginning of each semester.
• Advice them about their academic situation if he is improving, static or deteriorating.
• Report about students with academic, social or economic problems to the faculty advisory council which will discusses such situation with the advisor and a decision will be made about them.
• Evaluation of the objectives of the advisory system will be measured by activities and outcomes indicators:-
  • Activities indicators
  • The percentage of staff training courses held from the total number of courses planned per semester.
  • The number of the staff trained on student's advising course from the total number planned per semester.
  • The number of the meetings of faculty advisory committee from the total number of meetings planned per semester.
  • The number of advisory meetings between students and their academic advisor from the total number planned
  • The percentage of student's the faculty advisory committees make decision about them from the total number.

2.9.2 Division of the students
• The students will be divided randomly to the staff; the group consists of 15-20 students

2.9.3 Outcome indicators
• The number of trained staff who actually did academic supervision to their groups of students.
• The percentage of students who make use of academic advisory system.
• The reduction in the percentage of student's who have first or second probation.
• The reduction in the number of student's who have social or economic problems (Huda, et al, 2006).

Looking at the nice curriculum of the Faculty of Medicine University Gezira in the papers. Was this curriculum implemented in the proper way that let the students perceive it positively? The answer of this question is the result of this study

2.10 Health services

The health services in the University of Gezira started since its foundation 1977, its main objective is a provision of preventive and curative services for both students and workers. It is rapidly developing, and it achieved its objective through the vaccination programmes offered regularly to health science faculties (hepatitis B), and during epidemics (e.g. meningitis) to whole student. The university of Gezira health services centre now offering services for 24 hours for emergency and elective cases. All students have health insurance valid for the study years.

2.11 Extracurricular activities

Students are having extracurricular activities, which administratively managed by the student's associations under the patronage of the deanship of the student's affair.
CHAPTER THREE
Materials and Methods

3.1 Type of study

Descriptive cross sectional study using the Dundee Ready Educational Environment Measure (DREEM) Questionnaire.

3.2 Study population.

Undergraduate medical students of the batches, 28, 29, 30, 31, 32. of the University of Gezira.

The age of the student is within a narrow range so we take it as homogenous group. The students” admission following the regulation of the Department of Admission and Certificate Authentication and Accreditation Ministry of Higher Education and Scientific Research, there is no admission for mature students and no sex difference in application of the admission regulation.

3.3 The sample size

Is calculated according to the standard formula

\[ N = \frac{z^2pq}{d^2} \]

Where:

- \( Q = 1 - p \)
- \( d = \) assumed marginal error (5%)
- \( Z = \) is the critical value of (1-a %) (95% confidence level)
- \( p = \) is proportion of student who represent the proposed sample from those who register for the semester (50%)

\[ N = \frac{(1.96)^2(0.5)(0.5)}{0.05^2} = 389. \]

3.4 Study area

Faculty of Medicine University of Gezira. It is the only public medical school in Gezira State. The school was established in 1975
as part of the University of Gezira. Its main objective is to study and serve the rural areas of the Gezira State. The intake of the first batch took place 1978. During this period the curriculum was reviewed twice.

3.5 Data collection
A written consent was approved from the faculty dean, Orientation meeting with students about the study and how to fill the questionnaire was done by the researcher and verbal consent was taken from them. Students were randomly selected from each patch; the questionnaire was handed to the students at the end of the last lecture of the last course at the end of the semester June 2010

The DREEM
The DREEM contains 50 statements relating to a range of topics directly relevant to education climate. The inventory can be administered as face to face in the teaching session's room. Student's are asked to read each statement carefully and to respond using a 5 point likert-type scale ranging from strongly agree to strongly disagree. It is important that each student applies the items to their own current learning situation and response to all 50 questions.

Scoring the DREEM
Items should be scored: 4 for Strongly Agree (S A), 3 for Agree (A), 2 for Uncertain (U), 1 for Disagree (D) and 0 for Strongly Disagree (SD)
However, 9 of the 50 items (numbers 4, 8, 9, 17, 25, 35, 39, 48 and 50) are negative statements and should be scored 0 for SA, 1 for A, 2 for U, 3 for D, and 4 for SD. The 50-item DREEM has maximum
score of 200 indicating the ideal educational environment as perceived by the student. A score of 0 is the minimum and would be a very worrying result for any medical educator.
The following is an approximate guide to interpreting the overall score:
0-50 Very poor
51-100 Plenty of problems
101-150 more positive than Negative
151-200 Excellent
Interpret a score of 100 as an environment which is viewed with considerable ambivalence by the students as such needs to be improved. As well as the total DREEM score there are five subscales: Student's Perception of learning, student's Perception of course organizer, student's academic self perceptions, student's perceptions of atmosphere, student's social self perception. Shows the item within each subscale.

1  Students' perception of learning
   1  I am encouraged to participate in teaching sessions
   7  The teaching is often stimulating
   13 The teaching is student centered
   16 The teaching helps to develop my competence
   20 The teaching is well focused
   21 The teaching helps to develop my confidence
   24 The teaching times is put to good use
   25 The teaching over emphasizes factual learning
   38 I am clear about the learning objective of the course
   44 The teaching encourages me to be an active learner
Long term learning is emphasized over short term learning

The teaching is too teacher centered

i.e. 12 items / max score 48 for this subscale

Students' perception of Course organizers:

The course organizers are knowledgeable

The course organizers espouse a patient centered approach
to consulting

The course organizers ridicule their student

The course organizers are authoritarian

The course organizers appear to have effective
communication skills with patients

The course organizers are good at providing feedback
students

The course organizers provide constructive criticism here

The course organizers give clear examples

The course organizers get angry in teaching sessions

The course organizers are well prepared for their
teaching sessions

The student irritate the course organizers

i.e. 11 items / max score 44 for this subscale

Students' Academic Self-Perception

Learning strategies which worked for me before continue
to work for me now

I am confident about passing this year

I feel I am being well prepared for my profession

Last year's work has been a good preparation for this years
work
I am able to memorize all need
I have learned a lot about empathy in my profession
My problem solving skills are being well developed here
Much of what I have to learn seems relevant to a career

In healthcare i.e. 8 items / max score 32 for this subscale

4 Students' Perceptions of Atmosphere

The atmosphere is relaxed during consultation teaching
The course is well timetabled
Cheating is problem in this course
The atmosphere is relaxed during lectures
There are opportunities for me to develop interpersonal skills
I feel comfortable in teaching sessions socially
The atmosphere is relaxed during seminars / tutorials
I find the experience disappointing
I am able to concentrate well
The enjoyment outweighs the stress of studying medicine
The atmosphere motivates me as a learner
I feel able to ask the questions I want

i.e. 12 times/ max score 48 for this subscale.

5 Students' Social Self Perceptions

There is a good support system for student who get stressed
I am too tired to enjoy this course
I rarely bored on this course
I have good friends in this course
My social life is good
I seldom feel lonely
My accommodation is pleasant
i. e. 7 items / max score 28 for this subscale

An approximate guide to interpreting the subscales is shown below

Students' Perception of Learning
0 – 12 Very poor
13 – 24 teaching is viewed negatively
25 – 36 A more positive perception
37 – 48 teaching highly thought of

Students' Perception of Course Organizers
0 – 11 Abysmal
12 – 22 In need of some retraining
23 – 33 Moving in the right direction
34 – 44 Model course organizers

Students' Academic Self Perceptions
0 – 8 Feelings of total failure
9 – 16 Many negative aspects
17 – 24 Feeling more on the positive side
25 – 32 Confident

Students' Perception of Atmosphere
0 – 12 A terrible environment
13 – 24 There are many issues which need changing
25 – 36 A more positive attitude
37 – 48 A good feeling overall

Students' Social Self Perceptions
0 – 7 Miserable
8 – 14 Not a nice place
15 – 21 Not too bad
22 – 28 Very good socially

48
The DREEM can also be used to pinpoint more specific strengths and weaknesses within the educational climate. To do this one needs to look at the responses to individual items. Items that have a mean score of 3.5 or over are real positive points. Any item with a mean of 2 or less should be examined more closely as indicate problem areas. Items with a mean between 2 and 3 are aspects of the climate that could be enhanced.

**2.6 Data analysis:**
Data processing using SPSS, data is expressed as means of scores; this was reversed for the negative statements.
CHAPTER FOUR

Results and Discussion

4.1 Results:
The data was expressed as means of scores for each statement; this was reversed for the negative statements. The result was presented in tables according to the five subscales: Students' perception of learning, students' perception of course organizer, students' academic self perceptions, students' perceptions of atmosphere, students' social self perception. With an approximate guide to interpreting the subscale

Table -1 Students’ Perception of Learning

<table>
<thead>
<tr>
<th>Statement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am encouraged to participate during teaching sessions</td>
<td>3.52</td>
</tr>
<tr>
<td>7. The teaching is often stimulating</td>
<td>3.24</td>
</tr>
<tr>
<td>13. The teaching is student centered</td>
<td>3.36</td>
</tr>
<tr>
<td>16. The teaching helps to develop my competence</td>
<td>2.96</td>
</tr>
<tr>
<td>20. The teaching is well focused</td>
<td>3.32</td>
</tr>
<tr>
<td>21. The teaching helps to develop my confidence</td>
<td>3.35</td>
</tr>
<tr>
<td>24. The teaching time is put to good use</td>
<td>3.33</td>
</tr>
<tr>
<td>25. The teaching over emphasizes factual learning</td>
<td>2.87</td>
</tr>
<tr>
<td>38. I am clear about the learning objectives of the course</td>
<td>3.22</td>
</tr>
<tr>
<td>44. The teaching encourages me to be an active learner</td>
<td>3.16</td>
</tr>
<tr>
<td>47. Long term learning is emphasized over short term learning</td>
<td>3.24</td>
</tr>
<tr>
<td>48. The teaching is too teacher centered</td>
<td>2.41</td>
</tr>
</tbody>
</table>

Negative statements in italics (Nos: 25,48) with reversed likert scoring
An approximate guide to interpreting the subscale

Students Perception of Learning

0 – 12  Very poor
13 – 24  teaching is viewed negatively
25 – 36  A more positive perception
37 – 48  teaching highly thought of

**Total score (37.98/48) Teaching highly thought of**

The result showed that most of the student viewing the teaching positively
Table -2 Students’ Perception of Course Organizers

<table>
<thead>
<tr>
<th></th>
<th>Perception of Course Organizers</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>The course organizers are knowledgeable</td>
<td>3.55</td>
</tr>
<tr>
<td>6</td>
<td>The course organizers espouse a patient centered approach to consulting</td>
<td>3.24</td>
</tr>
<tr>
<td>8</td>
<td><em>The course organizers ridicule the student</em></td>
<td>2.26</td>
</tr>
<tr>
<td>9</td>
<td><em>The course organizers are authoritarian</em></td>
<td>2.17</td>
</tr>
<tr>
<td>18</td>
<td>The course organizers appear to have effective communication skills with patients</td>
<td>3.46</td>
</tr>
<tr>
<td>29</td>
<td>The course organizers are good at providing feedback to students</td>
<td>3.00</td>
</tr>
<tr>
<td>32</td>
<td>The course organizers provide constructive criticism here</td>
<td>3.32</td>
</tr>
<tr>
<td>37</td>
<td>The course organizers give clear examples</td>
<td>3.00</td>
</tr>
<tr>
<td>39</td>
<td><em>The course organizers get angry in teaching sessions</em></td>
<td>2.47</td>
</tr>
<tr>
<td>40</td>
<td>The course organizers are well prepared for their teaching sessions</td>
<td>3.31</td>
</tr>
<tr>
<td>49</td>
<td>The students irritate the course organizers.</td>
<td>3.22</td>
</tr>
</tbody>
</table>

Negative statements in italic (Nos 8,9,39,49) with reversed likert scoring

An approximate guide to interpreting the subscale

Students, Perception of Course Organizers

1-11 Abysmal
13 - 22 In need of some retraining
24 - 33 Moving in the right direction
35 - 44 Model course organizers

**(33.00/44) Model course organizers**

Students viewed the Course Organizers as model organizers
Table -3 Students’ Academic Self Perceptions

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>learning strategies which worked for me before continue to work for me now</td>
<td>3.23</td>
</tr>
<tr>
<td>10.</td>
<td>I am confident about my passing this year</td>
<td>3.36</td>
</tr>
<tr>
<td>22.</td>
<td>I feel am being well prepared for my profession</td>
<td>3.28</td>
</tr>
<tr>
<td>26.</td>
<td>Last year's work has been a good preparation for this year's work</td>
<td>3.02</td>
</tr>
<tr>
<td>27.</td>
<td>I am able to memorize all I need.</td>
<td>3.19</td>
</tr>
<tr>
<td>31.</td>
<td>I have learned a lot about empathy in my profession</td>
<td>3.17</td>
</tr>
<tr>
<td>41.</td>
<td>My problem solving skills are being well developed here</td>
<td>3.31</td>
</tr>
<tr>
<td>45.</td>
<td>Much of what I have to learn seems relevant to a career in healthcare</td>
<td>3.14</td>
</tr>
</tbody>
</table>

An approximate guide to interpreting the subscale

Students, Academic Self Perceptions

0 - 8 Feelings of total failure
9 - 16 Many negative aspects
17 – 24 Feeling more on the positive side
25 – 32 Confident

**(25.70/32) Confident**

The students perceived academic environments positively
Table -4 Students’ Perception of Atmosphere

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11. The atmosphere is relaxed during consultation teaching</td>
<td>3.22</td>
<td></td>
</tr>
<tr>
<td>12. This course is well timetabled</td>
<td>3.16</td>
<td></td>
</tr>
<tr>
<td>17. <em>Cheating is a problem on this course</em></td>
<td>2.51</td>
<td></td>
</tr>
<tr>
<td>23. The atmosphere is relaxed during lectures</td>
<td>3.24</td>
<td></td>
</tr>
<tr>
<td>30. There are opportunities for me to develop interpersonal skills</td>
<td>2.92</td>
<td></td>
</tr>
<tr>
<td>33. I feel comfortable in teaching sessions socially</td>
<td>3.34</td>
<td></td>
</tr>
<tr>
<td>34. The atmosphere is relaxed during seminars\ tutorials</td>
<td>2.80</td>
<td></td>
</tr>
<tr>
<td>35. <em>I find the experience disappointing</em></td>
<td>2.20</td>
<td></td>
</tr>
<tr>
<td>36. I am able to concentrate well</td>
<td>3.05</td>
<td></td>
</tr>
<tr>
<td>42. The enjoyment outweighs the stress of studying medicine</td>
<td>3.31</td>
<td></td>
</tr>
<tr>
<td>43. The atmosphere motivates me as a learner</td>
<td>3.24</td>
<td></td>
</tr>
<tr>
<td>50. I feel able to ask the question I want</td>
<td>3.27</td>
<td></td>
</tr>
</tbody>
</table>

Negative statement (statements 17,35) in italics with reversed likert scoring

An approximate guide to interpreting the subscale

Students, Perception of Atmosphere

1 - 12  A terrible environment
13 - 24  there are many issues which need changing
25 - 36  A more positive attitudes
37 - 48  A good feeling overall

**(36.27/48) A good feeling overall**

The table showed that the students perceive the teaching atmosphere with good feeling overall
An approximate guide to interpreting the subscale
Students, Social Self Perceptions

1 - 7    Miserable
9 - 14   Not a nice place
15 - 21  not too bad
22 - 28  Very good socially

(20.74/28) Very good socially

The table showed that the social life is very good

Total score of faculty of medicine university of Gezira is (153.69/200)
4.2 Discussion

As it was mentioned before the DREEM is a method for assessing the student environment as it is perceived by the students. The total achieved by the students of faculty of Medicine University of Gezira is 153/200 which is comparable with the Saudian, British and Indian and Turkey studies respectively, 119/200, 124/200, 117/200, 104/200, 115/200

The first question which is composed of 12 items about the learning process and how it is perceived by the students. It investigates the application of learning strategies, and teaching approaches that bring about learning. These depend on the theory of adult learning that needs the teacher awareness of those principles which stimulate students' motivation, gaining and sustaining attention, enhancing relevance, building confidence and generating satisfaction. Confidence and satisfaction, for example, you first gain the attention of the learner, and then provide relevance of what you are teaching to their personal goals and needs. The learner gains confidence as the learning process unfolds. The satisfaction of the new knowledge provides motivation to continue learning.

This was viewed positively by the students where they feel that teachers motivate them and building confidence on them. This can be explained by the innovative educational strategies and teaching methods adopted by the faculty. The opposite result was obtained by traditional schools, the new Saudi, Indian and British and some traditional Turkey medical schools (AL-Hamzi, 2010; Abraham, 2008; Fidalma, 2006 and Ömer T, 2010,).
The second question is composed of eleven items analyzing the teacher performance during the courses, these courses which are taken during the semester when the questionnaire was delivered to the students, were systems courses and, clerkship courses where many faculty staff is involved. The student's responses to the courses organizers positively, the teachers don't ridicule their students, and they are not authoritarian. In contradistinction to the Indian study (Abraham, 2008) where the student felt that teachers have authoritative attitude, they get irritated in classes which demotivate the students and lessen their interest in the subject.

The third question is concerned about self assessment of the students to the outcome of the learning process, to see if students recognize any change in his performance in the knowledge, skills and attitude that is required by the profession which prepare him to his career? The answers show many positive aspects in their academic self perception, possibly due to the small group teaching like PBL, clinical teaching in small group and that is why they are confident on assessing themselves. They are retaining what they learn, because, essential components of PBL, such as context similarity, memory, or the acquisition of factual knowledge, may be improved when information is learned in the context in which it will be used. This matching of context has been shown to improve recall and transfer of learning to new situations that are similar to the way the information was originally learned (Norman G and Schmidit,1992). Other research suggests that the information-processing theory is a stronger argument for the superiority of PBL than the contextual learning argument. This theory suggests that activation of prior knowledge
and elaboration of knowledge at the time of learning may facilitate processing of new information, enhance subsequent retrieval, and improve recall. Activation of prior knowledge, elaboration, and collaboration through group discussion, has the potential to improve learning. Collaborative learning is another instructional method that provides support for PBL. In collaborative learning, students work together towards a common goal and share the same findings in the responsibility for learning. Collaborative learning encourages the constructing of knowledge that can lead to deeper learning or understanding than pedagogies that focus on content, memorization of facts, and passing of exams. (Tricia et al, 2007) All what mentioned make them confident on their knowledge and skills In Indian and Saudian studies students were not confident on their knowledge and skills.

Students perceiving the atmosphere with many positive issues. They feel relax during lectures and clinical sessions where the atmosphere motivate them as learners, and they are able to ask questions. But they don't feel relax during seminars, this is possibly because they should participate in the preparation and presentation of the seminars, which is implemented in the school as a large group teaching, although, it is a small group teaching. Usually there are only few of them who did the job so this may explain why they get distress during the seminars.

They said that the course is not well time tabled, which agreed with study done in Birmingham medical school (Fidolma, 2006), this is due to problems encountered during the coordination of the courses in the semesters where there is a lot of overlap.
Students Social Self Perceptions, students claim that it was a good place, they agreed that they can find support when get distressed, rarely bored on some courses, have good friends, seldom feel lonely and social life is good. In contradistinction to the Saudian, Indian, and British students where they felt strong need for a support system for students who are stressed.
CHAPTER FIVE

Conclusion and Recommendations

5.1 Conclusion

The DREEM provides useful diagnostic information about medical schools. The results are the first data of curriculum reform obtained from the students about the Educational Environment and give important feedback to curriculum planner and change manager. A large study may need to be undertaken to verify the above results and conclusions and recommendations has to be delivered to the faculty for necessary improvement.

Following analysis of the data we concluded that the students perceived the teaching environment positively. The strengths are

- There is a good support system for students who get stressed.
- The enjoyment outweighs the stress of studying medicine.
- The students feel comfortable in teaching sessions and have good friends in the course, and they seldom feel lonely.
- The learning objective of the course is clear and the atmosphere is relaxed during lectures.
- The atmosphere motivates them as a learner and much of what they have to learn seems relevant to a career in healthcare and they find the experience not disappointing.
- The students do not irritate the course organizers and they feel able to ask the questions they want.
- The course organizers are knowledgeable, not authoritarian and they have effective communication skills with patients.
• The course organizers do not get angry in teaching sessions and they do not ridicule the students

The weaknesses:

• The course is not well timetabled
• The atmosphere is not relaxed during seminars / tutorials.
• They are in need to developed interpersonal skills.
5.2 Recommendations:

1- Large scale study taking each phase separately is needed, to differentiate between the weaknesses and strengths of each phase.

2- Translation and validation of the English questionnaire will make it easier for the students to answer it.

3- Organization and coordination of the timetables at the beginning of the semester will help in the implementation of the teaching activities effectively.

4- Effective use of the small group teaching in the PBL, and the seminars.

5- Study of education environment among achiever and non-achiever and among male and female students.
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