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FOREWARD

Teaching and research are complementary, one to the other. This maxim is historically based for basic and clinical science faculty with the acknowledgements that one who is on the cutting edge of their research is more fit for teaching and that one who is constantly teaching is more versed in conceptualizing clearly the scientific method and research findings of their discipline. More recent, at least in medical schools, is the acceptance that education itself is a discipline to be strengthened by research on learning, human development, psychological assessment, evaluation and the learning context, among other components.

There is a myth among many of our faculty that good teaching is not valued. I want to assure you that all of our promotions reviews consider carefully the teaching performance of those under consideration. In fact for all promotions to the level of associate professor the teaching performance is the primary determinant of success. As well, each year our undergraduate medical students consider seventy to eighty faculty worthy of a nomination for excellence in teaching. And the teaching challenge itself stimulates us to stay current. It is true that teaching cannot ever be expected to be remunerated at the levels of clinical services but the recognition of one’s peers and the recognition of one’s students combined with the immense sense of satisfaction from watching first hand the development of young clinicians and scientists (and yes, teachers in their own right) are surely indications of the value of good teaching.

This is a practical handbook developed for our own faculty by our own experts in medical education and based on evidence about what works best for us. Cheryl Kristjanson, Debra Radi and Angela Tittle have considered the input of sixteen of our own best educators and distilled it into a concise and understandable aid to faculty engaged in teaching. It should be read by all who find themselves teaching at any level.

INTRODUCTION

The intent of the “Teaching in the Medical School Handbook” is to provide a useful tool to assist physicians, residents and other medical school professionals who contribute to the important task of educating future physicians in understanding our curriculum. The handbook is designed to function as a reference manual for your teaching responsibilities. We have chosen a 5 x 7 inch format to function as a quick source of information. The handbook is a collection of “best practices”, helpful teaching tips and important information concerning the organization and delivery of our undergraduate medical education program. It is organized to focus on key teaching and learning points, with helpful realistic approaches.

ACKNOWLEDGEMENTS

The handbook would not have become a reality without the valuable contributions of our faculty and was supported by a grant from the University of Manitoba’s faculty development fund.
PREFACE

The Latin root for the word educate is educare, which means to lead out or bring up. Indeed, to teach medical students is to nurture their innate humanity and desire to learn medicine. But what makes a good teacher, medical or otherwise? Ask a few people to describe their favourite teachers and you’ll receive descriptors such as: excited about teaching, caring, interested that the students learn, passionate about their subject. Good teachers also teach both from and my example, balance information with application, and temper seriousness with humour. Moreover, good teachers also benefit from their students and reinforce their interest in the profession through students’ interest and enthusiasm.

Medical Education, has come into is to own as a specialized field of endeavour. Although the Royal College of Physicians and Surgeons of Canada lists Scholar as one of its CanMEDS 2000 roles, simply being a physician does not make on a good teacher. This teaching handbook is an important tool for the physician who truly wants to be a first-rate medical educator. In becoming such a teacher your students, not only will learn medical excellence, they might also come to see you as a favourite educator as they grow to become physicians.
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SECTION 1

GOALS, OBJECTIVES AND ORGANIZATION OF THE UNDERGRADUATE MEDICAL CURRICULUM

In the fall of 1997 a new curriculum was introduced at the University of Manitoba. The reorganization of the curriculum was a major revision, which involved rethinking the content and teaching methods utilized throughout the curriculum. In a review of the curriculum in 2000-2001 faculty members spoke about the challenges they faced in attempting to orientate themselves to their teaching roles and the curriculum itself as they are no longer responsible for only presenting information, but are also asked to take on other teaching roles such as facilitator or tutor to students who are directing their own problem solving and self-directed learning. This first section of the handbook will attempt to orientate you to the undergraduate mission statement, learning goals and objectives as well as the primary teaching methodologies we utilize.

MISSION STATEMENT

To provide a supportive environment which will assist our students to become confident, caring, ethical physicians with the ability to think critically and apply their knowledge and skills in the best interest of their patients. The educational experiences we provide will prepare students to enter their choice of training, to continue successfully in their lifelong education, and subsequently to meet their responsibilities to patients and society.

(cited from Pre-Clerkship Curriculum Guide, 2002, p. 31-33)

UNDERGRADUATE MEDICAL EDUCATION LEARNING GOALS AND OBJECTIVES

The learning goals and objectives of the undergraduate medical education program are based on our performance expectations. They are articulated as learning goals (why we teach this) and learning objectives (what the students will learn) and cover six major areas:

- Clinical Care
- Scientist and Scholar
- Communication
- Ethics and Accountability
- Professional and Personal
- Social Accountability and Responsibility

1. CLINICAL CARE

Learning Goal
The student will utilize a patient/family centered approach and best evidence, to formulate a diagnosis/differential diagnosis; develop, organize and implement prevention, investigation and management plans, and offer appropriate follow-up.

Program Objectives
The student will be able to:

- Apply the basic science principles that underlie the practice of evidence-based medicine.
- Elicit a complete, accurate, and focused history.
- Complete a thorough, accurate and focused physical examination.
• Formulate a differential diagnosis
• Order and use appropriate investigations.
• Make a diagnosis based on evidence
• Recognize the indications for basic medical procedures and perform them appropriately.
• Care for patients in a range of settings, in a cost effective and efficient manner and maintain foremost the interests of individual patients.
• Recognize the biological, psychosocial, economic, and spiritual influences on patients’ well-being.
• Incorporate health promotion and disease prevention strategies with their patients.

2. SCIENTIST AND SCHOLAR

Learning Goal
The student will utilize sound scientific and/or scholarly principles in all aspects of their professional lives including; interactions with patients and peers, educational endeavors and research activities.

Program Objectives
The student will be able to:
• Engage in ongoing self-assessment and structure their continuing medical education to address their specific needs.
• Apply principles of the scientific method within evidence-based medicine.
• Take responsibility for their educational experiences.
• Acquire basic skills that can be applied to teaching encounters such as presentation skills, giving feedback, patient education as well as design and dissemination of research knowledge.

3. COMMUNICATION

Learning Goal
Students will utilize the knowledge, skills and attitudes associated with a patient centered approach so that they can communicate effectively and sensitively with patients, families and other health care providers.

Program Objectives
The student will be able to:
• Explore and consider the influence of the patient’s ideas, beliefs and expectations along with factors such as age, ethnicity, culture and socioeconomic background during interactions with patients.
• Utilize effective communication skills during data gathering and information sharing including attentive listening, open-ended inquiry, empathy and clarification to ensure understanding.
• Clearly discuss with the patient their diagnosis and options, and sensitively negotiate appropriate treatment plans that are in the best interest of the patient and society.
• Develop efficient techniques for accurate and timely record keeping and other forms of written and verbal communication.
• Assess their own communication skills to develop self-awareness and improve their relationships with others.
• Possess skills in health promotion and counseling for lifestyle changes.

4. ETHICS AND ACCOUNTABILITY
Learning Goal
Students will comprehend the core concepts of clinical ethics and law and will apply both to their practice as physicians.

Program Objectives
The student will be able to:
- The student will be able to:
- Describe the basic concepts of clinical ethics and be able to apply them to actual cases and situations.
- Recognize the need to make health care resources available to patients in a manner which is fair and equitable, without bias, discrimination or undue influence.
- Demonstrate an understanding of basic legal concepts as they apply to the practice of medicine.
- Employ professional accountability to initiate, maintain and terminate patient-physician relationships.
- Demonstrate respect for the patient’s individual rights of autonomy, privacy, and confidentiality.

5. PROFESSIONAL AND PERSONAL

Learning Goal
Students will utilize the knowledge, skills and attitudes that will allow them to make professional decisions in all aspects of their medical activities.

Program Objectives
The student will be able to:
- Recognize and follow the codes of professionalism adopted by the Faculty of Medicine as well as those developed by their peers and supported by the Faculty.
- Engage in critical self-evaluation, self-directed learning and have the humility to seek assistance whenever necessary.
- Maintain perspective and balance in their professional and personal lives.

6. SOCIAL ACCOUNTABILITY AND RESPONSIBILITY

Learning Goal
The students will recognize the need for physicians to function as advocates within the health care system, to manage resources judiciously and to acknowledge their social accountability.

Program Objectives
The student will be able to:
- Recognize society’s role in their education and acknowledge that this is a privilege accompanied by responsibility and accountability to that society.
- Demonstrate knowledge of the determinants of health at local, national and global levels.
- Describe the structure of the Canadian health care system and demonstrate the knowledge, skills and attitudes to work within it for the betterment of patients and community.
- Manage health care errors in a responsible, sensitive and legally appropriate manner.
- Recognize the role physicians play within the public and environmental health system.

(cited from Pre-Clerkship Curriculum Guide, 2002, p. 31-33)

References:

Pre-Clerkship curriculum guide.
(August 2002). Winnipeg: University of Manitoba, Faculty of Medicine, Undergraduate Medical Education Office.
CODE OF PROFESSIONALISM

Medical students are considered to have joined the medical profession. As such, they must abide by the same code of behaviour expected of physicians. One code has been based on the Hippocratic Oath which has existed for over two thousand years. The Hippocratic Oath is taken by medical students at their inauguration to the faculty of medicine and is repeated at their graduation. During their undergraduate years the students learn and should practice professional behaviour - in their relationships with fellow students and faculty and with their patients. The development of respect, communication, responsibility and attitudes in the pre-clerkship years will be essential in the clinical years when the patient is the main focus of the student's work. In interpreting the standard for conduct for the profession the faculty and students should use the University of Manitoba Charter, Guidelines for Undergraduates, and Undergraduate Medical Education Performance Expectations. The following guidelines are not complete and cannot cover all aspects of professional behaviour, but they are examples of what is expected of a student who has entered the profession of Medicine.

Professional Respect
- The student considers and treats both genders equally.
- The student listens and is attentive when working with other people.
- The student uses appropriate facial and body expressions when working with other people.
- The student is not superior arrogant, patronizing or rude.
- The student accepts that other people have different opinions and beliefs.
- The student does not discriminate other people on the basis of sexual preference.
- The student is honest in the performance of work evaluations and duties.
- The student apologizes for mistakes or failings.
- The student maintains non-sexual behaviour with all patients and does not commit unwanted sexual advances with others.

Professional Communication
- The student speaks and listens directly to patients, staff and fellow students.
- The student speaks clearly and uses appropriate words which can be understood.
- The student allows time for others to express their views and give their information fully.
- The student provides full information when requested or volunteers it when it is felt to be helpful to others.
- The student, at a level appropriate to the students training and responsibility, informs patients on their problems and recommended course of action. The student must involve the patient in the decisions. The student does not have the authority nor the responsibility to obtain informed consent from patients.
- The student resolves misunderstandings
- The student is aware of other's facial and body expressions.
- The student accepts and discusses emotional matters.
- The student writes legibly and clearly so that written notes, orders and evaluations can be understood.
• The student confirms that the information has been understood by staff, fellow students and patients.
• The student maintains full confidentiality on all that is learned in confidence from fellow students, staff and patients.

Professional Responsibility
• The student is punctual and attends when expected.
• The student completes assigned tasks and duties.
• When the student cannot undertake tasks or duties, he/she will inform patients or appropriate authorities as soon as possible of the situation and will help find alternate arrangements.
• The student works to help fellow students and staff.
• The student realizes and seeks help when unable to perform a task or duty to the expected standard.
• The student does not allow the use of alcohol or drugs to interfere with the performance of his/her tasks or duties.

Professional Attitudes
• The student is prepared to admit to her/his deficiencies in knowledge, attitudes, understanding or skills.
• The student is prepared to ask for help to overcome deficiencies.
• The student is aware and uses his/her own strengths to general advantage.
• The student is aware of her/his own discomfort in dealing with emotionally charged issues.
• The student accepts fair and reliable criticism or adverse evaluations from staff, fellow students or patients.
• The student acts with honesty and integrity in all academic activities.
• The student keeps all evaluation material confidential and does not take unfair advantage over fellow students when being evaluated.
ORGANIZATION OF THE CURRICULUM

ORGANIZATION OF THE PRE-CLERKSHIP PROGRAM

Medicine I and Medicine II, referred to as pre-clerkship, consist of the following six components:
- Cognitive Program
- Problem Solving
- Laboratory Medicine
- Clinical Skills
- Longitudinal Program: Medical Humanities
- Rural Week

Cognitive Program
The Pre-Clerkship curriculum is organized on the establishment of a solid foundation in Block I called Introduction to Medicine followed by the creation of building blocks (Blocks II-VI). The foundation and building blocks are laid and secured using active cognitive learning, clinical problem solving and bedside communication and clinical skills, all meshed with confidential-ethical, medico-legal and health care organizational aspects. Our intent is to create a structure that provides students with the skills both to proceed to the next level and become independent problem solvers and critical thinkers.

Block I - Introduction to Medicine
In this 11 week block Population Health and Medicine introduces the main elements to the understanding of any disease or health problem including definitions of life, health, disease and death; burden of illness or size of the problem; causes or risk factors; the natural history and outcomes; prevention and control; all based on the principles of emphasizing the concept of evidence-based medicine. This block provides an overview of basic science concepts that are necessary to proceed to the Organ Systems Blocks (Blocks III-VI).

Block II - Human Development
This nine week block covers the stages of development from conception to geriatrics including embryology, child development, nutrition, adulthood, sexuality, palliative care and death. Community Health, Genetics, Pediatrics, Psychology and Psychiatry, and Geriatrics will be highlighted. In this block students will be introduced to the principles of physical, psychological, social and behavioural aspects of normal human development at the various life stages from conception to death within populations, families and as individuals. As well they will learn about the physical, psychological, social and behavioural challenges individuals face during the various development stages. Students will learn to appreciate health as a component of life cycle development and to identify principles of community development which impact on the well-being of individuals and families at various life stages.

System Blocks: Medicine I ends with the first of four Systems blocks. The system blocks are organized to build on the foundational concepts taught in the first two blocks as well as complement what is being taught in the problem solving and clinical skills programs.

Block III - Involves Cardiovascular (CV), Respiratory (RS), Ear, Nose & Throat (ET) and Dermatology (DM)

Block IV - Medicine II commences with the fourth block consisting of Reproduction (RP), Kidney (KD) and
Endocrinology & Metabolism (EM)

**Block V** - This block consists of the following systems: Neuroscience (NE), Musculoskeletal (MS) and Ophthalmology (OP)

**Block VI** - The Pre-Clerkship curriculum ends with Gastrointestinal/Liver and Blood & Lymph

**Problem-Based Learning**

Problem-based learning focuses on the process of resolving problems or creating alternative solutions (Barrows & Tamblyn, 1980). The problem-solving tutorials are a dynamic part of the Pre-Clerkship curriculum. They are designed to allow students to integrate material from lectures with developing Clinical Skills. The tutorials give students opportunities to practice problem solving as a team in a medical context as a prelude to life-long learning. The tutorials emphasize the role of self-directed learning in the life-long process of education while helping students evaluate their own progress through regular feedback. Tutorials are based on clinical case scenarios and the accompanying learning objectives which direct student learning before and during each tutorial. Tutors from both the clinical and basic sciences observe students as they identify and solve clinical problems, evaluate student participation, provide feedback and assist students in reaching the learning objectives.

In Med I, students are introduced to the problem solving program. Initially, students learn how to work and interact in a team format to solve problems. A variety of topics are covered using this approach. Some earlier sessions introduce new information that will not be covered in detail until later in the curriculum but will help with the integration of the earlier sections. The main purpose of these tutorials, however, is to reinforce and integrate information concurrently being covered in the curriculum.

Generally, the format of these sessions involves the students being divided into twelve groups of seven to eight students, being provided with a case summary, a list of specific objectives for the session(s), and a list of some of the available resources. The individual groups identify the specific tasks and decide how best to organize as a group to approach the objectives. During tutorials, the specific objectives are addressed as a group. Clinical updates are used to apply further issues, questions, objectives, and to practice problem solving on the basis of the initial case and learning materials. The tutorials not only involve round table discussion but may also include role playing, interviewing skills, presentation skills and group presentations. Student evaluation is two-pronged. A group project is developed where each group works as a team to design a problem solving tutorial that could be used to enhance future student learning, based on the students’ experiences in the Med I curriculum. The students are responsible for the presentation of their project to another group and a written assignment must be turned in outlining the objectives, resources, clinical updates and an answer key for Problem Solving tutors. In addition, the Problem Solving written exam involves the student’s assessment of a clinical situation that is presented in separate progressive stages.
The process of Problem Solving in Med II will take the format of a case presented over two PR sessions. The first session will focus on problem formulation while the second will synthesize and consolidate acquired information. Most Med II PR sessions will not provide information ahead of scheduled class time, simulating reality with students problem-solving together as the problems unfold. Students will be expected to bring reference texts and/or review articles and/or information technology to each PR session. Additional information pertinent to the case obtained by students during independent study time between sessions should also be brought to the second session.

Students are expected to approach the cases systematically on the basis of generic objectives in addition to case-specific objectives. Case-specific objectives will be revealed to students only after they have worked toward generic objectives 1 through 5, and should serve as a checklist and encourage students that they are on the right track. Key references for further reading will also be provided at the completion of a PR session.

Students are expected to participate actively in specific roles traditionally performed by the facilitator/tutor, including formulating appropriate questions, addressing case objectives, recording discussions, compiling information, time keeping, critiquing information, and leading the discussion. Faculty facilitators are encouraged to focus on observing and evaluating group interaction and individual contributions, with minimal direct input in the problem solving activity.

**Laboratory Medicine**

The laboratory medicine program offers students the opportunity to utilize diagnostic laboratory services cost-effectively in the care of patients. The disciplines of Diagnostic Microbiology, Hematology, Clinical Biochemistry, Pathology, Clinical Genetics and Transfusion Services contribute to this program. Student evaluation in the Lab Medicine program takes place formatively during mandatory sessions called “Mini-hospitals”, which are clinical case-based problem solving sessions.

**Clinical Skills**

Clinical Skills encompasses two main areas that are important for the education of physicians:
- Interviewing/Communication Skills
- Physical Examination. As much as possible, the Clinical Skills component of the curriculum has been scheduled to reflect what is being taught in the cognitive component.

The clinical skills course is introduced in Med I and II and is designed to assist students to develop skills in:
- patient interviewing including:
  - information sharing (process and content), and physical examination (knowledge and techniques).

Throughout the course, emphasis is placed on the patient-centred approach while bearing in mind medical ethics, cross-cultural sensitivity, and an awareness of patient diversity.

**WHAT COMMUNICATION SKILLS**
DO WE TEACH?
The clinical skills of communicating effectively with patients, families and other health care professionals which are acquired in the first year of medical school will assist students over a lifetime of medical practice. Communication skills learning involves:

- Acquiring relevant Knowledge
- Developing practical Skills
- Supporting appropriate Attitudes.

(typically the ordering is Knowledge, Skills, Attitudes – so re-ordered these points to reflect that normal progression)

Communication (oral and written) includes:

- communicating with patients and families
- communicating with other members of the health care team, including medical recording
- communicating with the public and the media.

The goal of the curriculum is to integrate the teaching of communication skills with the rest of what students are learning.

WHAT FORMATS ARE USED FOR LEARNING?
Clinical Skills is taught utilizing a variety of formats. The relevant knowledge can be acquired primarily through:

- assigned (and self-directed) readings
- lectures
- demonstrations
- group discussions

Appropriate Attitudes can also be reinforced through:

- readings and discussions

In addition, opportunities to listen to patients’ experiences with illness and health care and the experience of being a patient through role-plays assists with enhancing attitudes appropriate to caring for patients. Practical Skills can be developed through demonstrations, participation in role-plays, and interviews with standardized and actual patients. Feedback from patients, peers and teachers assists in the refinement of skills. Opportunities for video-taping and self-assessment encourage further development. Opportunities for Self-Directed Learning include further readings, viewing additional demonstration interviews (e.g. CD ROM in library), taking advantage of the Early Exposure Program, working through prepared case simulations (available on request) and seeking feedback from interview observers.

LEARNING EFFECTIVE COMMUNICATION SKILLS: A PROGRESSIVE AND ON-GOING PROCESS
Early in first year, students learn generic skills of data-gathering, rapport-building and information sharing. Later more specialized skills are introduced to support what is taught in the Cognitive stream. Development of these skills prepares students for patient encounters in the Systems Blocks, when effective communication skills are reinforced. In second year, communication skills are revisited and students are encouraged to develop further their skills of self-assessment. The Comprehensive Patient Assessment Program provides another opportunity to integrate effective communication skills with other clinical skills. Students are urged to seek feedback from preceptors about communication skills as well as other aspects of these encounters. In
Introduction to the Clerkship there are opportunities to learn teamwork skills and for observation and feedback. In Clerkship, students are encouraged to ask for feedback from preceptors about their communication skills as well as other clinical skills. The Performance Expectations of the Undergraduate Program outlines specific communication skills that are expected of graduates of our medical school. An Award for Excellence in Communication Skills is available for a graduating student. Enhancing and maintaining effective communication skills continues into practice as any practitioner will be quick to advise the beginner! Patients are often the most effective teachers, if we take advantage of opportunities to listen to them.

MED II CLINICAL SKILLS PROGRAM
The Med II Clinical Skills Program is a continuation of the Med I program. Every attempt is made to revisit, reinforce and integrate Med I knowledge and skills during the Med II curriculum. The major emphasis in Med II Clinical Skills is on extending student’s interviewing/communication skills and the detection and interpretation of abnormal physical findings. Hopefully in Med I, students will come to recognize the value of observation and feedback in assisting them in developing their clinical skills. As faculty it is very important to be actively engaged in observing student’s work and giving them direct feedback on it. Students should be encouraged to use “the tools of the trade” such as recommended readings and equipment. The objectives for each discipline state the knowledge and skills students will have acquired upon completion of the course.

In history taking faculty expect that students would at least ask questions concerning the following aspects of any presenting complaint: location, quality/nature, chronology, intensity/limitation of function, frequency, setting, associated phenomena and aggravating and alleviating factors.

In physical examination faculty expect that students will be able to detect abnormalities where they exist in most situations and to determine the correct method of examination in all.

It is also expected that students will demonstrate information-sharing skills by reflecting their findings back to patients in selected situations.

Longitudinal Program: Medical Humanities
Undergraduate medical students need to develop an understanding of non-biomedical issues that affect the quality of patient care. The Medical Humanities Program has three sections;

- Human Values
- Medical Ethics
- Medical History

HUMAN VALUES
Preserving and reinforcing the best of the idealistic notions with which most medical students begin their studies is key to the program. As medical science and human existence become ever more complex, it becomes increasingly important in medical education to encourage reflection and clarity on the central purpose of our vocation, to promote health and to care for people as individuals and as a society.
MEDICAL ETHICS
Ethical reflection is a clinical skill which is central to the practice of medicine. There are specific ethical principles which when applied to clinical situations allow physicians, (and physicians-in-training), to execute reliably their obligations to patients, society and themselves. Each of these principles will be explicitly outlined, followed by small group sessions where students will have the opportunity to apply these principles to patient-care situations.

HISTORY OF MEDICINE
The history of medicine enables us to reflect on how we got to where we are today. The course will focus on the evolution of science as the basis of our success in medicine and also examine the traditions of the physician who cares for the sick.

Rural Week
Goals
The goal of the rural week experience is to provide the first year medical student with exposure to the work and lifestyle of the rural family physician, and to experience some aspects of rural community life.

Objectives
At the end of the week the student will be able to:

1. Develop a basic understanding of the role of the rural family physician.
   - in the office
   - in the hospital, for inpatient care and emergency room coverage
   - for obstetrical care, if applicable
   - in the personal care home
   - in fulfilling other commitments to the community
2. Describe the importance of the rural physician as part of a multidisciplinary health care team
3. Describe the role of other members of the health care team
4. Understand a rural physician’s lifestyle, and will have participated in extracurricular activities when possible
5. Assess patients under the supervision of the family physician

Expectations
The student is expected to spend the majority of his/her time with their family medicine preceptor. The student will go with the preceptor on morning rounds, attend at the office, and be on call with their preceptor as well. The student will have the opportunity to do histories and physical assessments under the supervision of the family medicine preceptor. During this week the student will spend some time with other members of the health care team, such as the public health care nurse, mental health care worker, and pharmacist, depending on availability. The student will also attend the local high school and discuss a career in medicine during a planned career day.

Expectations of the student are outlined in the student evaluation. Students are also required to keep a logbook. The logbook will be reviewed with the preceptor at the end of the week. The preceptor will evaluate students using a modified fiter form

Please contact Undergraduate Rural Medical Education Coordinator, Dr. Anne Durcan for any additional information.
CLERKSHIP YEARS

Introduction to Clerkship
This five week program is a preparation for clerkship. It consists of clinical encounters with patients in the major disciplines, predominantly in the hospitals. Courses in clinically based laboratory medicine, clinical pharmacology and therapeutics and community health sciences are given.

Clerkship
The Cognitive material, Problem-Solving and Critical Thinking Skills, Medical Humanities, Lab Medicine and Clinical Skills learned in Pre-Clerkship will be applied to active patient care settings in order to prepare students for residency and clinical practice.

CLERKSHIP ROTATIONS
The primary responsibility of the clerks in each of the rotations is the care of patients under the supervision of postgraduate students and faculty. Rotation through all major clinical disciplines is provided and these are supplemented by elective periods of the students' choice. Periods are spent in family/community medicine, internal medicine, obstetrics/gynecology, pediatrics, psychiatry, surgery and in a mixed clerkship period of anesthesia, emergency, ophthalmology and otolaryngology. Setting for this experience includes wards and outpatient facilities of the hospitals or doctors' offices. Formal teaching of the pertinent knowledge, skills, attitudes and behaviour to the discipline is provided during the clerkships.

ELECTIVES
Three elective periods totaling 18 weeks are provided during the clerkship in which the student can pursue education in one or more disciplines in the setting of their own choice. The elective must be acceptable to the faculty elective coordinator.

ACLS
The Advanced Cardiac Life Support Course is a mandatory component of the Clerkship that is scheduled over a four day period in April of the graduating year. It is run by the Emergency Department (HSC) and is designed to provide students with advanced knowledge and experience on how to run a cardiac arrest. Most medical students find it invaluable regardless of what specialty they enter.

ATLS
The Advanced Trauma Life Support Course is an optional (but highly recommended) course that is offered to clerks over a four day period in January or April of their graduating year. This course provides students with the basic knowledge and skills necessary to effectively manage the trauma patient.

REFRESHER COURSE
The program ends with a 3-week course of half-day lectures and time for self-study in preparation for the Licensing Examination, Part 1, of the Medical Council of Canada.
SECTION 2

PHILOSOPHY OF THE CURRICULUM

ASSUMPTIONS

Many adult learning theorists have outlined a series of guiding principles specific to adult learning. In general, these principles emphasize that learning should be:

• Experiential
• Authentic
• Problem/case based
• Voluntary
• Student Centered

Our underlying assumptions for this medical education teaching handbook are:

• That adults learn in many different ways based on their perceived needs and experiences.
• That medical education requires an interchange of ideas between the instructor and the student.
• That medical education is delivered within a unique culture.
• That our curriculum should be structured around the needs of the learner combined with the strengths and capabilities of the existing faculty.
• That our curriculum should be congruent with our admissions process.

We have chosen to structure the first two years of our curriculum around the concept of stages of learning by Grow (1991) as illustrated in the following chart. This theory acknowledges that students move back and forth between learning stages throughout their adult lives. Sometimes students require structure and direction in their learning while at other times they benefit more from experiential or self-directed activities.

References:

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<thead>
<tr>
<th>Stage</th>
<th>Examples</th>
<th>Instructional Method</th>
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<td>Stage 1</td>
<td>Informational lecture, Foundational information, Introducing new concepts, Reviews</td>
<td>Lecture</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Inspiring lecture, Guided discussion</td>
<td>Tutorial</td>
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<tr>
<td>Stage 3</td>
<td>Discussion facilitated by teacher who participates as an equal or non expert</td>
<td>Problem Solving Session</td>
</tr>
<tr>
<td>Stage 4</td>
<td>Early exposure, Visits, Individual work or self-directed study</td>
<td>Self-directed study</td>
</tr>
</tbody>
</table>

(Grow, 1991)
**PHILOSOPHY OF WRITING GOALS AND OBJECTIVES**

When choosing the goals and objectives of your teaching session consider the following issues:

- What learning outcomes or performance expectations you want the students to achieve.
- Attempt to categorize these as:
  - Knowledge
  - Skills
  - Attitudes

Express these objectives in terms of learning and thinking rather than content coverage

- Think about what will be meaningful to your students
- Ask yourself: Why do I teach this?

Objectives are commonly written as a series of behaviors and/or performances. The purpose of behavioral objectives is to encourage you to be specific. Objectives state what you expect students to be able to do. Ensure that your objectives are reasonable. Ask yourself:

- Can students achieve this within the assigned period of time?
- Can I teach this given our resources?
- Do we have an assessment tool that will accurately reflect their achievement?

The writing of your objectives is critical because the learning objectives influence your:

- Teaching method
- Choice of learning materials
- Exam questions

- The objectives point you to what evidence you can look to that the students have achieved them.
- Consider how you will provide feedback to indicate the students are moving towards achieving the objectives.
- Students see your methods of assessing or testing the objectives as the most important operational definition of your goals.
- Answers the question: What will students have to do to demonstrate they have met the goal. (cited from Kern & Bass, 1998, p. 28-37)

**References:**


*Pre-Clerkship curriculum guide.* (August 2002). Winnipeg: University of Manitoba, Faculty of Medicine, Undergraduate Medical Education Office.

**PHILOSOPHY OF PROVIDING NOTES TO STUDENTS**

The undergraduate medical program regularly distributes “note packages” to the students. These note packages contain the information that individual instructors/course directors deem appropriate to “be given” to the students. Below is a summary of some of the research that you should consider prior to submitting your contributions to the note package.
STUDENT DRIVEN NOTES

Note taking is a strategy that many students utilize to retain information and to refer to at a later date. Several studies on note taking indicate that students who take their own notes do retain the information better than students who do not take notes. However the effectiveness of this strategy is influenced by many factors including:

- Individual learning style
- Ability to transfer information from short to long term memory
- Ability to discern the key points of the lecture.
- Comfort level with the content material.
- Familiarity with the jargon of the discipline.

(McKeachie, 1999, p. 72-75)

INSTRUCTOR DRIVEN NOTES

Hartley (1978) and Annis (1981) as well as Kiewra (1989) caution us that although outlines are useful to guide students’ learning more comprehensive notes promote passive learning.

- They suggest instructors utilize frameworks or concept maps to assist learning.
- These frameworks provide a structure whereby students can fill in the details that they require to retain the information.
- These details will vary from student to student dependant on their prior knowledge and/or interest.
- Requiring students to fill in information as the lecture precedes means you must pace your lectures allowing for pauses and questions.

(McKeachie, 1999, p. 72-75)

References:


ASSIGNED READINGS:

GUIDELINES FOR FACULTY

Teachers influence the ways in which students study by the types of teaching methods used, including (but not exclusively) lectures, tutorials, problem solving sessions, and assigned readings. The content of the curriculum, teaching methods, and the assessment methods (i.e., examinations) all send important messages to students about the learning that we value and reward. Students are especially interested in what will “pay off” when it comes to final examinations. It is our Faculty’s intention to encourage students to engage in a variety of learning activities. Assigned readings are one of several teaching methods used in the Undergraduate Medical Education curriculum at the U of M.
OVERALL AIMS OF ASSIGNED READINGS

- One of the primary goals of assigned readings should be to reinforce and integrate information concurrently being covered in the rest of the curriculum.
- Students are not expected to know everything that their teachers know. Students can easily become overwhelmed, feeling either lost or dependent, if too much is expected of them in a given teaching encounter. The expectation that 100 pages will be read and assimilated in a one-hour assigned reading session is unrealistic and unfair.
- The art of good teaching lies in understanding what students already know about a subject and judging what new information they can handle, in what manner they can access that information, and at what rate.
- An assigned reading session requires just as much preparation as a lecture or tutorial. A teacher has to carefully decide on the core objectives that need to be learned, and then decide on the reading, practical exposures, or audiovisual materials that will help accomplish those objectives, followed by relevant questions that can focus the students on the task at hand.
- Good assigned reading sessions will capture student interest and engage students in problem solving and analysis of new or old information.
- Assigned readings should not be designed to cover voluminous material that could not otherwise be included in the curriculum. Rather, assigned readings can be used to help students prepare for a lecture, problem solving session or tutorial, or may be used to consolidate or integrate material already covered in previous teaching sessions.
- Assigned readings that are based on clinical case scenarios can help students see the immediate applicability of material taught in the basic sciences.
- Ultimately, assigned readings may offer a good opportunity for students to practice problem solving on their own, as a model for life-long self-directed learning.

QUESTIONS TO ASK IN ASSIGNED READINGS

- Problem solving questions are at the deepest level of the questioning hierarchy, coming after basic knowledge (recall) and application level questions. Mental processes involved in answering problem solving questions include analysis, synthesis, and evaluation.
- When analysing, the student breaks down a topic or situation into its component parts for examination.
- When synthesizing, the student reorganizes component parts to create an alternative solution or statement.
- When evaluating, the student makes a judgment, chooses the best alternative or solution, and justifies or defends their choice.
- Problem solving questions are usually considered to be the hardest questions for teachers to formulate and the most challenging for learners to answer. Problem solving questions are vital in teaching how to use an evidence-based scientific, critical approach to clinical and laboratory situations. As a teaching
tool, these questions allow the teacher to guide student thinking through alternatives that a professional must consider before taking action.

- Benefits to the students of such questions are increased interest in the subject and motivation to learn, better retention of the material, greater involvement in the learning process, and guided practice in handling situations in a professional manner.

- Key words that often appear in problem-solving level questions are assess, challenge, choose, conclude, create, criticize, debate, decide, defend, design, formulate, judge, organize, plan, rank, recommend, suggest.

Providing students access to answers to these questions is also critical. Providing written answers is not the solution if one’s goal is to promote active self-directed learning. Hence, alternatives need to be considered, including:

- Use of email discussion groups between faculty and students.
- Use of assigned reading material in a tutorial session, reference to a publication (i.e. peer-reviewed research paper) where the question is answered, etc.
- In addition, assigned readings will become more relevant to students when their content becomes the basis for questions that are asked on their examinations.

OTHER HELPFUL HINTS

- When planning an assigned reading, focus the reading and questions carefully. If students are presented with excessively long reading lists, they will be overwhelmed and may not start at all. It would be important to support the philosophy that “Less is More”.

- One way to determine the adequacy of the assigned reading task is to perform the exercise yourself and then double the amount of time you would expect a student to perform the same reading assignment. On average, one should aim for no more than 10 pages of reading material per hour of assigned reading. The number of pages is, however, completely dependent on the complexity of the subject matter.

- Just as lectures and tutorials are designed to cover “core objectives” only, assigned readings should also focus on core material. And remember that the average adult learner can at best assimilate 3 to 4 objectives for every hour of learning activity. Assigned readings can therefore make use of the “repetition” principle of teaching by reinforcing, consolidating, and integrating objectives that may have already been covered in other teaching sessions.

References:


SECTION 3
TEACHING/LEARNING METHODOLOGIES

STAGE 1 LEARNING: LECTURE/DIDACTIC

The brain is wired to deal with many situations simultaneously but too much stimulation can adversely affect the students’ ability to comprehend information (Csikszentmihalyi, 1991). A common mistake lecturers often make is overloading their lectures with too much information. Instructors who structure their lectures to cover a few key concepts that attempt to engage the students in the learning process will find more enthusiastic motivated students who learn more easily and retain the information for longer periods of time. Below are some teaching tips you can use to engage students in the lecture process.

- Cover less, learn more. Student attention starts to wane after the first 15-20 minutes of a lecture and they will recall information primarily from the first 10 minutes.
- Limit the number of objectives to fit with the time period for the lecture.
- Divide your time into smaller pieces of 15-20 minutes.
- Most students are visual learners. If possible provide them with visual frameworks and/or contexts of what you are teaching. These images will give the students something to hang the individual facts/concepts on and assists with later recall. For example, start with a problem, case, or situation. Structure your lecture around the key concepts of the case or the situation.

- Be alert to the feedback that you are getting from the students. This includes facial expressions and non verbal behaviour.
- Medical students tend to become anxious about what they need to know. Provide opportunities for students to verify their learning during the lecture.
- Utilize questioning techniques to clarify where students are in the process. For example, create a partial mind map of the lecture and ask students to complete it individually or in groups.
- Break the class into groups and have the students brainstorm ideas about the lecture. Then ask some of the groups to present a one minute presentation outlining what they think are the key concepts, applications etc.

References:

STAGE 2 LEARNING: TUTORIALS/LAB DEMONSTRATIONS

There are many advantages to using small groups:

- Facilitates communication and critical observation. By creating opportunities for learners to experience and observe the learning of others.
- It permits them to expand their own repertoire of learning strategies.
- Provides peer support for their learning.
• Makes available a wide range of collective resources.
• Eases distinction between teachers/tutors and learners; and is more cooperative, participative, and less hierarchical.

TIPS FOR TUTORIAL TEACHING

The 9 roles of a small group tutorial leader
The purpose of a small group tutorial is to cultivate an active learning experience. The tutorials are designed to accomplish learning objectives that can not be achieved in a large classroom setting. It offers students a unique opportunity to develop a higher level of intellectual skills that involves both reasoning and problem-solving. The tutorial leader guides students’ through problem sets and discussions, actively defining and being alert to the changing needs of the group. As a result, the tutorial leader must shift between different roles, for example:

As the Director, you are charting the map for the students. You set the direction the tutorial will proceed in and provide the necessary tools to accomplish this.

As the Instructor, you are teaching students in the ‘ways of thinking’. You are demonstrating to them how to develop problem-solving strategies through critical thinking and careful analysis of the evidence and data, and by looking for new relationships.

As the Facilitator, you assist students in the process of finding solutions to the problem-set. You help students to make connections between classroom-based instruction and the students’ own knowledge and experiences.

As the Debater, you engage students in discussions on the subject matter and challenge their assumptions. You provide a forum in which students can freely express their opinions and understanding of the tutorial. In turn, this gives you an excellent opportunity to assess any difficulties with the subject matter.

As the Moderator, you preside over the discussion encouraging students to share their knowledge, to express their opinions and to synthesize possible solutions to the problems.

As the Prober, you challenge the students’ process of thinking. Through questions and discussion, you embark on a journey with the students to explore the various angles of the problem, essentially leaving ‘no stone unturned’.

As the Commentator, you describe and discuss the subject matter drawing on both the students’ observations and conclusions as well as your own personal expertise. You offer a summary of the important concepts covered as they relate to the learning objectives.

As the Motivator, you are working to create an active learning environment by organizing tasks and activities that will help students to achieve the tutorial goals. Lastly, as the Visionary, you help the students’ comprehend the greater context in which the tutorial fits. You impress upon them not only the importance but also the relevance of the tutorial material to their chosen field of study.
Thus, by shifting roles in a tutorial setting, the students are immersed in an active learning environment. One in which they feel challenged, motivated and comfortable to ask questions and explore new ideas. Both the tutorial leader and the students are learners in a small group tutorial. However, as the tutor, you can share your enthusiasm and expertise by offering students an opportunity to learn and not simply survive yet another tutorial session!!!

Tutorial Learning: A Practical Approach to Enhance Small Group Participations

Non-clinical lecturers teach basic science to medical students in the pre-clerkship program. The study of the basic sciences, which deals with the components of bodies, is vital in understanding and analyzing clinical problems. This teaching is based on both lectures and tutorials. The basic science material covered during the lecture is usually presented in a passive manner. The clinical relevance of the presented material is emphasized by a case study during a tutorial. The students invariably expect to learn about clinical outcomes irrespective of the background expertise of a tutor or course content. They perceive that basic science “concepts” do not provide direct explanations to medical problems encountered in patients. This perception can lead to a casual attitude towards the basic science curriculum. The tutorial sessions provide the students with an opportunity for active learning and encourage them to be more enthusiastic about biochemistry. The tutorial session is considered to be a partial problem-based learning opportunity, where the tutor facilitates a discussion by asking questions and encouraging the students to provide plausible solutions to problems related to the case. The role of the facilitator is not to help the class to get the “correct answer”, but to enhance participation within the group. The group will then function effectively to apply the basic science concepts highlighted by the lectures to understand clinical cases, in order to fully accomplish the learning tasks. The facilitator should ensure that all students engage in the process of analyzing the case.

SETTING THE STAGE FOR FRIENDLY INTERACTIONS
In the first tutorial session, the tutor should

- Inform the students of his/her area of research interests or academic work that relate specifically to clinical or medical problems.
- Urge the students to introduce themselves to the students sitting next to them.
- Ask about their expectations and the goals they would like to achieve at the end of the tutorial.

MANAGING THE GROUP
The tutor should

- Request that students sit in close proximity to maximize visual contact.
- Depending on the group size of the class, subdivide the students into manageable groups
- Review the rules of conduct for the tutorial session
- Emphasize the importance of participation in the discussions, as well as respect and sensitivity towards the opinions and remarks of others, should be emphasized
- Encourage students who are quiet or non-committal to actively participate
in discussions, by giving them the chance to express their opinion on the case, while students who tend to dominate the discussion may be asked to be patient until the next time.

- Persuade students to refrain from being completely engaged in scribbling down notes and reassure them that the answers provided by the class will be summarized at the end of the session as a “take home” message.
- Avoid at all times providing answers or clues to the problems from the case study.

CLARIFYING THE OBJECTIVES
Case studies that do not directly deal with clinical problems are more likely to be considered by medical students as uninteresting and irrelevant. Therefore, the tutor:

- Should always present case studies with concepts that apply to medical problems, even if they are not encountered in patients.
- Should explain to the students what goals the tutorial session are designed to accomplish. This will stimulate them to grasp the aims of the course. Students must clearly understand what is expected of them beyond the facts of the case.
- Should define expectations in terms of what concepts, applications and synthesis of knowledge are required to be studied. It is also helpful to reinstate that the ideas generated from a specific case may be applicable to other cases or a novel situation.

FACILITATING SESSION ACTIVITY
In order to engage more students in discussion during the session:

- Each group could be allocated questions from the case study at random.
- Each student could be asked to address a particular question or issue for a specified time.
- After a review of the case, participants are given a minimum time (pre-determined) to comment on the case and then provide solutions to their assigned question/s.
- Students should be allowed to generate new learning ideas or discuss how this may affect future medical assessments or problems.
- A technique to achieve this is to ask each subgroup/participant to make a critique or to comment on the explanations or answers provided by other groups.
- These suggestions should act as motivators to further participation and self-assessment or reflection among the subgroups or individuals.
- The participants should also be directed to ask open-ended questions, which will continuously challenge their thinking process after the session.

GENERALIZATION
After facilitating the discussions, the tutor should:

- Ask any subgroup or participant to give a synopsis of the concepts that were covered in the case. This will provide an opportunity to:
- Review what learning tasks have been completed
- Address important issues that were not surfaced
- Redirect the application of these concepts to other cases that may
follow in the next session.

Provide students with the opportunity to give feedback on how the sessions went to assist you to reflect on the format of the session and to assess if the tutorial session may need to be restructured to favor effective participation.

References:


STAGE 3 LEARNING: PROBLEM SOLVING

TIPS FOR FACILITATORS WORKING WITH THEIR PR GROUPS

- Problem Solving emphasizes collaboration rather than competition but each student in the end must “own” all the information.
- Act as facilitator rather than expert.
- Come prepared with a set of questions that relate to the case and the process the students will be following. For example:
  - Why is that study valid?
  - How could you structure your information gathering to be more efficient?
  - Can you summarize the important points?
  - How can you best utilize this information?
  - Challenge students to provide evidence for their statements.
  - Participate with the students in the process.
  - Provide clear and specific feedback to the group about group process.

References:


STAGE 4 LEARNING: SELF-DIRECTED LEARNING

Students are expected to engage in ongoing self-directed learning throughout the undergraduate program. This occurs most frequently by participating in:

- Additional reading
- Early exposure to clinical practice
- Computer based learning
- Student initiated projects

LEARNING PORTFOLIOS AS A SELF-DIRECTED LEARNING STRATEGY

Learning portfolios offer the opportunity of bringing together the personal and the shared – part of a “professional conversation” between the learner and themselves and, in some cases, an external advisor. In medicine, portfolios are an excellent learning strategy that promotes adult self directed, learner-
centered ideas and reflective learning. The goal of portfolios is to stimulate “deep” learning that impacts on the behaviour, intuition, and performance of the learner thereby encouraging personal and professional growth. The learner’s assessment provides an opportunity to look at their own performance and how that relates to the practical application of theory.

**Portfolio defined**

A portfolio is a purposeful collection of student work that exhibits the student’s efforts, progress, and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit and evidence of self reflection. Portfolios contain critical reflections on practice which challenges the learners’ performance and learning. There are many types of portfolios which a learner can use dependant upon their own learning needs. Tomkinson (1997) describes a characteristic at either end of a continuum. Through discussion between the learner and the advisor an agreement as to which portfolio suits the needs of the learner is determined keeping in mind that the content and the format is owned by the learner.
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<thead>
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<th>Dimension of portfolio design</th>
<th>Possible characteristics</th>
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<td><strong>Style</strong></td>
<td>Descriptive</td>
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<tr>
<td><strong>Structure</strong></td>
<td>Informal</td>
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<tr>
<td><strong>Scope</strong></td>
<td>Narrow (e.g. teaching activity)</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td>Developmental (formative)</td>
</tr>
<tr>
<td><strong>Confidentiality</strong></td>
<td>Personal (closed)</td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td>Focused (e.g. critical incidents)</td>
</tr>
<tr>
<td><strong>Timing</strong></td>
<td>Discrete</td>
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(Tomkinson, 1997)
Use of portfolios
Portfolios can be used in a number of different ways:

- as a method of personal professional development and a way of tracking progress
- formatively as a learning tool to stimulate discussions and to plan future learning
- as a formal summative assessment tool

Collecting evidence
In a portfolio the emphasis is on collecting evidence that learning has taken place. It is essential for reflection and growth that the portfolio is not a mere collection of events seen or experienced but rather contains critical reflections on these events and the learning that has been made from them. The following details some areas that medical students may want to include as demonstrations of learning in their portfolios as they articulate the learning that has occurred:

- critical incidents of events with patients – those incidents in a working day that are memorable for going well or going badly
- a reflective journal or diary – committing thoughts to paper through reflecting on what they are doing, what they are finding difficult and what they are trying to plan for.
- tutorials and learning plans, and reflection on them - descriptions of tutorials that have happened and the follow up of learning needs (i.e. brief reflective notes about strengths and which areas were problem areas) for the learner
- routine clinical experiences – the focus on routine incidents may allow for the emergence of areas in the learner’s experience which she or he feels comfortable with but also areas in which there are learning gaps
- exam preparation material – examination appropriate material could be included as part of the portfolio to resolve the tension between a portfolio for tracking professional development and growth and passing compulsory medical knowledge assessments
- video recordings of consultations and other relevant materials – videos of simulated and genuine clinical consultations allows the learner to track his/her progress and demonstrate his/her competence over a period of time
- audits and project work – evidence of work carried out coupled with reflective comments on the process of carrying out the audit or project and what has been learned from it
- critical reviews of articles – collection of a critical appraisal of articles and books provides evidence of the ability to do this
- feedback and management material – a reservoir for ideas and material about other issues for use in the future

Reflective Process
In a portfolio, personal written reflective accounts of the events documented in the form of a journal or diary have been proven to be of most value to the learner in the reflection process. Documented reflections could include the following:

- reflections on problem areas
- what has been learned
- what still has to be learned
- plans for how new learning will be tackled
This system of record keeping tends to work well through the interaction of the advisor and the learner using the material as a catalyst to guide further learning.

**Conclusion**

Portfolios are an effective tool to support and facilitate personal learning and growth through the recording of critical incidents and for keeping track of professional opportunities. Learning portfolios provide an opportunity for the learner to reflect on what they have accomplished as well as to prepare and plan for where they want to go. The learner derives personal benefit in adapting the system as they feel they need to in order to meet their own learning needs through a process of documentation, reflection, evaluation, justification and decision making about what to include in the portfolio. Portfolios explore performance in practice which provide a challenging and confidence building learning mechanism for both the learner and the advisor. A well completed portfolio will give a young doctor or learner and his/her advisor a written record of what has been accomplished in a specific period of time while providing an opportunity to think ahead to what he/she would like to accomplish in the future.

**References:**


COGNITIVE, MOTIVATION AND ACTIVE LEARNING

Regardless of which teaching methodology you employ, being able to motivate or engage students in the learning process is a critical factor. Cognition, as used in the educational context, refers to the process of learning and the acquisition of information (Wittrock & Lumsdaine, 1977). Since cognition is recognized as a dynamic quality that can grow and develop, many methods can be used to improve the cognitive abilities of students. Activities that are higher along Bloom’s taxonomy (1956) tend to promote the development and application of advanced cognitive strategies. Furthermore, McKeachie (1999) and Svinicki (1991) suggest that educators can aid the development of cognitive structures of the students by:

- Organizing and presenting knowledge in a meaningful manner
- Developing learning tasks that are more compatible with the individual cognitive styles of the students.
- Utilizing pre-existing knowledge frameworks, for example through concept mapping.
- Promoting questioning and critical thinking by student participation, encouragement, and peer-to-peer interactions.
- Encouraging intrinsic motivations, avoiding extrinsic motivators, and creating a mastery orientation that fosters the sense of self-control.
- Encouraging optimism and minimizing fear of failure

Educational activities that facilitate active student involvement, increase motivation, and encourage higher order cognitive skills such as:

- Discussions
- Applications
- Writing
- Questioning
- Problem solving

References:


SECTION 4

TEACHING ROLES

DEALING WITH DIFFICULT TEACHING SITUATIONS

In general, medical students accord instructors respect for two reasons:
• The instructor has some degree of power or status.
• The instructor has established a rapport with the students.

Because the medical school uses multiple instructors within one course we create a situation where many instructors are “parachuted” into a class. In essence, setting them up for a “substitute teacher” experience. Below are some teaching tips for instructors who are facing difficulties connecting with the students:
• Know the course/rotation expectations
• Orientate the students well to your session by linking your material to what came before and what to expect in future lectures
• Set clear expectations and objectives
• Stimulate the limbic lobe of the brain by engaging the students in the learning process.
• Attempt to assess where they are and what they already know.
• Use questioning.
• Connect material to clinical applications
• Be organized and efficient
• Be realistic about what you can cover in the time allotment.

MENTORSHIP

Medical practitioners must balance multiple roles in their professional lives as instructors, facilitators, coaches, mentors, advisors, and supervisors with their clinical responsibilities. Mentoring is an important means for providing personal, professional, and educational support for doctors in balancing the multiple expectations of the profession.

A mentor is a more experienced person who seeks to further the development of competence and character in a less experienced person by guiding the mentee in acquiring mastery of progressively more complex skills and tasks in which the mentor is already proficient. The guidance can be accomplished through demonstration, instruction, challenge, and encouragement on a more or less regular basis over an extended period of time. The mentor supports the mentee by encouraging them to define goals and to develop action plans to achieve their own goals. The mentor acts as a “guide on the side” encouraging the independence and autonomy of the learning in the discovery and actualization of their learning journey. In the course of this learning process, the mentor and the mentee develop a special bond of mutual commitment. In addition, the mentee’s relationship to the mentor takes on an emotional character of respect, loyalty, and identification.

BENEFITS OF MENTORING

Mentoring provides an opportunity to fulfill a personal need in the lives of professionals to give back to their chosen profession. The need to be mentored and the opportunity to mentor
is part of the developmental stage in the life of all professionals. Mentors emphasize teaching, professional and personal guidance, sponsorship, role modeling, and socialization into the professional field. Through mentorship, students can learn about balancing priorities in their public and private life. With effective mentoring, students feel supported, enthusiastic, clear on their goals, and acquire appropriate professional values finishing their medical school experience with confidence reflecting on the mentors who were there and made a difference in their learning journey. Opportunities for mentor/mentee relationships need to be created by the faculty to support newcomers to the profession.

**CHARACTERISTICS OF A POSITIVE MENTORING EXPERIENCE**

Mentoring is the professional relationship between a faculty member and a learner that assists in the growth and development of both the mentor and the mentee. To be an effective mentor certain individual characteristics have been demonstrated as being valuable in building a trusting relationship:

- **Clinical excellence** - knowledgeable about the discipline
- **Personality** - developer of talent

- **Comfortable with Ignorance**
  - one needs to be comfortable with their own ignorance in order to create an atmosphere of lifelong learning
  - mentees need to see the mentor struggling with the unknown and seeking to find answers

- **Exhibits Patience**
  - by supporting the learner in their own individual work or self-directed study

- **Teaching Ability**
  - skilled in questioning
  - focused on higher level thinking
  - poses questions that call for comparison, analysis, & reasoning
  - provoking students’ critical thinking to aid the student in coming upon the discovery on their own

- **Creates a Supportive Environment for Learning**
  - creating an atmosphere of trust where the mentee feels comfortable asking questions

- **Consistently Assess Learning Needs**
  - assists in defining goals
  - assesses knowledge by asking questions
  - assesses skills by observation during visits
  - assesses attitudes by professional intimacy
  - shares constructive feedback that will assist the mentee in exploring underdeveloped areas of focus

- **Exemplary Role Model**
  - can shape professional identify
  - demonstrates a standard of excellence to pursue
  - shares social and professional values

- **Recognizes Students as Individuals with Private Lives**
  - easier to understand why students respond as they do, perform as they do, and interact with others as they do if you understand them as individuals, their backgrounds, their motivations and their future goals
Mentoring is just like thinking about one’s own research…the mentor needs to find an opportunity to do such planning for their student interactions. The only thing that we have to offer our students is ourselves.

**References:**


**TEACHING IN THE GROSS ANATOMY LAB**

Typically, teachers of Gross Anatomy have prior experience with dissection and have met the personal challenges of interacting physically and emotionally with human remains. Through experience, they have found a manner of balancing a high level of respect for those who donate their body to medical education and research, with thorough and open inquiry through dissection. This balance allowed them to develop a relaxed approach to handling and speaking about the human body that works for them, is informative, respectful and inclusive of students’ concerns. While the challenges to teaching gross anatomy are many and unique, there are significant rewards to the privilege of interacting so closely with students during a period of such active learning. Students will remember their experience in the gross anatomy laboratory, and hopefully also their knowledge of the human body! These are life-defining experiences for a student of human anatomy. Teaching in the gross anatomy laboratory puts teachers directly in the context of the process of learning, and is well worth the challenge! Below are some issues for you to consider when teaching in the lab.

- It is important to recall personal first-time experiences as a student of dissection. Think of the challenges you faced: the first pass of a scalpel in a dissection, of revealing the face or hand or adjusting the body position, of seeing young hands juxtaposed with lifeless hands, and
the physical work and sensations of a dissection. These are life-defining experiences for a student of human anatomy.

- Typically there will be a film and presentation to orient students to the anatomy laboratory, but the teacher in the laboratory needs to oversee the transition from passive lectures to active learning by dissection and discussion that occurs uniquely for each student.
- Individual students may recall some event or mental picture in relation to a particular part of the body under study, or in perspective of a personal bereavement or family illness.
- The teacher of human anatomy is positioned in the small group setting to interact directly with students as those recollections occur. Teachers need to be attuned to the need for students to take brief ‘time-outs’—it’s a long and physically challenging learning session.
- Teachers can also anticipate the need to be highly sensitive to students’ emotional connections to a dissection in progress. This anticipation often takes shape as an open approach to teaching, a teacher showing his or her own humanity. That ‘face’ of teaching adds to the need for students to foster timely achievement of learning objectives that involve physical tasks quite unusual outside the setting of clinical teaching, apart from the important acquisition of information.
- The questions and excitement about anatomy can fly thick and fast during a dissection or review. These questions and requests for assistance can provide additional challenges to even the most prepared and experienced teachers.

- Ultimately, thorough grounding in the many dimensions of human anatomy, keen observation of more experienced teachers, talking often with students about their learning needs and progress, and anticipating the important human side of teaching anatomy will prepare the new teacher well.

**TIPS FOR CLINICAL TEACHING**

**Traditional Approach**
- See one
- Do one
- Teach one

**New Principles**
- **Demonstrate** skill while learner observes.
- **Supervise** learner performing the skill.
- **Monitor** the learner with little interference.
- **Assess** learner, give opportunity to practice skill alone.
- **Debrief** learner to determine if further training is needed.

**CLINICAL SMALL GROUP TEACHING**

Clinical small group teaching generally focuses on areas based on:
- diagnostic issues
- management issues
- case presentation
- observed history
- observed physical

**Why Use Small Groups in Clinical Teaching?**

**ADVANTAGES**
- Facilitates communication and
critical observation

• Creates opportunities for learners to experience and observe the learning of others, while permitting them to expand their own repertoire of learning strategies
• Provides peer support for their learning
• Makes available a wide range of collective resources
• Eases distinction between teachers/tutors and learners; more cooperative, participative, less hierarchical

DISADVANTAGES

Requires:

• Accommodating a wide range of needs, abilities, and rates of learning
• Balancing the needs of the individual with the needs of the group
• Negotiating a learner-centered approach
• More preparation time
• Some participants to adjust their preferred learning style to be comfortable in groups
• Teachers to demonstrate group leadership skills as well as teaching skills

When Teaching Small Groups

Remember To:

• Set goals and expectations
• Engage students in the process.
• Probe students’ understanding through questioning techniques
• Provide constructive feedback
• Focus on teaching a principle or concept.
• Have a student who does not know the patient or their history take a full history.
• Use this information to explore their thinking process.

References:

CLERKSHIP EXPECTATIONS CHECKLIST

Below is an example of a clerkship expectations checklist that faculty can utilize to guide their teaching encounters with the undergraduate students.

### Setting Expectations Checklist

**General Orientation**
- **Introduction to practice**
  - Learner work space, reference materials *
  - Dress code: name tag, lab coat? *
  - Hours/ days patient care provided *
  - Parking, phone system, and mail *
  - Staff introductions and roles *
  - Unique learning opportunities (clinical activities, patient population, provider interests)

- **Introduction to community**
  - Community characteristics
  - Community resources, how to arrange visits
  - Where to buy groceries, do laundry, etc. *

- **Overview of rotation**
  - Relate rotation to learner's career plans

- **Introduction to learner**
  - Rotations completed *
  - Experience and skills mastered
  - Areas needing work

**Clarifying Expectations**

- **Expectations of School or Residency**
  - Course objectives
  - Criteria included in evaluation form

- **Learner Objectives**
  - Specific knowledge, skills, and attitudes to develop
  - Grade expectations

*Topics that can be covered by office staff. Staff can initial boxes as they go over these topics with the learner.*

**Preceptor Expectations**

- **Daily routine**
  - Hours/ days learner in the office
  - Learner's level of responsibility and autonomy in providing patient care
  - Hospital rounds and night/weekend call
  - Times preceptor is off; what to do then
  - Amount of reading expected

- **Office policies**
  - Directions for writing chart notes, dictating, writingRx, making referrals
  - How patients selected for learner to see
  - Length of time to spend with each patient
  - Hospital policies

- **Values**
  - How respect to patients and staff -- how?
  - How to know patients beyond clinical problems?
  - Other:

- **Preceptor/learner interaction**
  - Format for case presentations
  - Regular time and process for feedback
  - Integrating teaching and learning styles
  - Learner responsibility to explain needs
  - Criteria to evaluate learner performance ("what it takes to get an honors grade")
  - Learner self-evaluation before discussing preceptor's evaluation

- **If a problem arises**
  - Absentee policy, how to notify office
  - A contact for questions or problems
  - How to reach preceptor in an emergency

- **Rotation Objectives**
  - Required activities based on practice's unique learning opportunities (i.e. learn management of chronic back pain, learn workers' comp system, attend hospital management meetings, etc.)
  - Specific knowledge, skills, and/or attitudes you notice learner needs to work on
TEACHING/LEARNING IN THE SURGICAL CLERKSHIP

Surgery is “controlled” trauma which repetitively demonstrates the stages of healing.

The learning experience in the surgical clerkships is multifaceted with complementary components occurring in several different settings. The experience relative to specific organ systems will be somewhat different in each surgical specialty but there is considerable overlap in the applied concepts of surgical management of the affected organ(s) and the whole patient.

Each clerkship learning situation is centered around the following components.

Clinic/Office
- confirmation or determining the diagnosis
- discussion/explanation of treatment options
- explanation and achieving informed consent
- investigation and preparation for planned surgery
- monitoring recovery post operatively
- assisting patient with altered anatomy/function as a result of the surgery

Hospital Ward
- preparation of patient for the operating room
- acute pre and post op management e.g.: pharmacological, pain control etc.

Emergency Room/ward consultations
- diagnosis and resuscitation of acute problems e.g.: trauma, infections, etc.

Operating Room (O.R.)
- review of living anatomy and pathology both visual and tactile
- the technical discipline/techniques of surgery e.g.: sterile fields, tissue handling, excision/repair/replacement of organs

HEALTH PROMOTION IN THE CLINICAL AREA

Student morale can be profoundly influenced by their experience in the clinical area. Poor morale influences readiness to learn, self care habits, anxiety and depression. Educators have a responsibility to assist students to deal with their stress and help them to develop effective problem-solving strategies. Some suggestions to accomplish this are:

- Talk to students about stress in the clinical area once a rotation (simply acknowledging stress helps students to feel less stressed).
- Be a role model for a balanced life
- Recognize that students have responsibilities outside of medical school.
- Challenge students to maintain interest in a health promoting activity (a regular walk or work-out, getting together with peers or family etc.)
- Expect student stress to decrease over time. Students who do not follow this pattern may need professional assistance to deal with their stressors
- Encourage students to enroll in a
course to help them develop effective problem-solving strategies such as time management and prioritizing (offered on campus or online through the Canadian Institute of Stress –Workplace Stress Control Program).
SECTION 5

EVALUATION OF STUDENTS

PLANNING FOR ASSESSMENT

“The consequences of an assessment influence how people respond to its results and can rebound to influence the validity of the results themselves. This overarching criteria requires that we plan from the outset to appraise the actual use and consequences of assessment” (Herman, 1992, p. 74).

Planning for assessment should begin at the same time you consider your curriculum content and instructional methods. Several important steps are involved in this process. The first step is to ask what the overall purpose of the assessment is. In situations other than summative assessments like licensing or qualifying exams, the assessment process should be part of the learning experience for the student. In other words, it should provide information to both instructor and student about how well the student is progressing. For example, diagnostic assessments can be used to assess the basic science knowledge of a first year medical class or assessing their individual learning styles while formative assessments are used to determine how well the students are learning the knowledge, skills, and attitudes that you are teaching. Once you have determined the overall purpose of your assessment, you need to consider the following steps for your specific assessment choice.

STEPS IN ASSESSMENT PLANNING

Step 1: Ask yourself what do I want to specifically measure
This involves a process of asking what have you expected that the students will learn?

Step 2: Consider what you will do with the results of the assessment
Ideally, you are gathering the information to assist you in your decision making about the student learning and/or your teaching.

Step 3: Choose the format that is most appropriate to measure the identified learning outcomes.
If you are assessing knowledge base, a short answer or multiple choice exams may be appropriate. If you are looking for the application of that knowledge, then a performance assessment like an OSCE exam may be the best choice.

Step 4: Assess the overall strengths and weakness of your choice.
Does the faculty have the necessary resources to carry out this type of assessment? Do you know the validity and reliability factors? Does this type of assessment have any gender and/or cultural bias inherent in the process? Is it a meaningful assessment worthy of the time and effort required to conduct it?

Step 5: Choose the specific questions and/or performances that will be part of the assessment procedure.
Ensure that these choices adequately reflect what has been taught in the curriculum.
Step 6: Select the method of scoring results.
Is there an absolute answer (i.e. true or false), multiple answers or does this assessment require subjective analysis of how well the student does? If there is subjectivity involved, how will you deal with rater reliability and test validity?

Step 7: Decide how you will set the pass/fail rate.
Will you determine pass/fail by the student’s ranking within the class (norm referenced) or will you rate the student in relation to how well they do on the assessment itself (criterion referenced)?

Step 8: Test the test.

Step 9: Ensure the students are informed of the assessment procedures early on in the learning process.
Ideally, the students will know the expectations, pass/fail rates, methods, etc. at the start of the course.

COMMON ASSESSMENT TERMS

The following definitions of common assessment terms may assist you in your planning process:

Performance Assessment: an assessment that requires students to demonstrate their skill by completing a task. This is sometimes referred to as an authentic assessment. (Fourth year clinical Comprehensive Exam)

Formative Assessment: assessments that occur while students are being instructed. They measure how well the students are progressing. The intent is to indicate to the instructor and students how well they are doing. A mid-rotation evaluation or instructional test would be an example of this type of assessment.

Summative Assessment: Assessments used at the end of a block or rotation to assess mastery or achievement (Block or FITER).

Norm-referenced Assessment: assessments used to indicate the relative standing of a student within the group (percentile scores).

Criterion-referenced Assessment: assessments that measure whether students can perform a set of learning tasks (the student can perform a physical examination competently).

Norm referenced and criterion-referenced apply to the method of interpreting results. Thus both types of interpretation could be applied to the same assessment. (Dr. Jones surpassed 90% of the other students by answering 20 out of 25 questions correctly.) Norm referenced tests are typically, but not exclusively, used for surveying achievement over a broad range of learning outcomes. Criterion-referenced tests are typically, but not exclusively, used for mastery testing (Gronlund, 1998, p. 27).

Validity: an assessment method is considered to be valid if it accurately measures what it intends to measure. We should be confident that the assumptions we make about a student’s ability are valid. (If the OSCE is a valid test, then we should be confident that the students would be able to perform those clinical skills in the real world.)

Reliability: relates to the consistency of the results. We should expect to
reproduce similar results given the same set of circumstances? Reliability also means two instructors should give the same students a similar score on the same assessment. The results do not have to be identical to be reliable.

**References:**


**DESIGNING MULTIPLE CHOICE QUESTIONS**

**PROS AND CONS OF MULTIPLE CHOICE**

**Pros**

- Emphasizes application or higher processes
- Assesses skills across a range of cognitive processes
  - Bloom’s (1956): knowledge, comprehension, application
- Allows objective scoring
- Requires students to know what is correct & incorrect
- Plausible distracters allow you to diagnose students’ problems in mastering material

**Cons**

- Creating unambiguous stems (unclear)
- Doesn’t reveal quality of students’ thinking vs. essay
- Creating plausible distracters takes time.

**TIPS FOR DESIGNING MULTIPLE CHOICE QUESTIONS**

- Use novel material in formulating problems to measure understanding or ability to apply principles
- Provide most of the information in the stem and keep options short
- Stem should present problem clearly & concisely
- Keep alternatives consistent in length, grammar, content, use of articles “a”, “an”
- Utilize one and only one correct or clearly best answer
- Insure that wrong answers are plausible
Avoid unintentional cues.

**ARE YOUR QUESTIONS FAIR?**

Carleton University instructors' handbook: Evaluating students (2000, Choosing a Method of Evaluation section, para 4-5), advises that in addition to validity and reliability, examination questions should have the following characteristics:

**Discernability**
Will each question be able to differentiate students who have mastered the material from those who have not?

**Triviality**
Are the items being evaluated tangential to the central points of the course? If trivia is tested, it encourages students to learn trivia over and above the broader process.

**EXAM QUESTION TEMPLATE**

- Identify the content or theme
- Create an objective for the question
- Select the cognitive level to test
- Use the appropriate verb to guide the development of the question
- Follow the guidelines in creating valid and reliable multiple choice questions

**SUMMARY**

A valid and reliable exam question relies on:
- Concise, objective, specific cognitive level
- Parallel between question, objective and cognitive level
- Clearly articulated stem and alternatives
- Avoidance of “clues”

Creating exam questions takes effort, but the effort pays dividends - students value the process as fair and consistent

**References:**


CLERKSHIP EVALUATION

Kausebaum & Eaglen (1999) contend that despite progress over the last few years, medical schools still “fail to employ evaluation methods that specifically assess students’ achievement of the skills and behaviors they need to learn to practice medicine” They admit to a bias for OSCE’s (Objective Structured Clinical Examination) and standardized patients. Pangaro (1999) states “ongoing description of a trainee’s performance by teachers should be the core of evaluation and feedback” (p.1206). There is a need for uniform terminology in descriptive rating so that:

• consistency in rating forms is increased
• objectivity is also increased.

Our new FITER (Final In-Training Evaluation Report) form attempts to address these issues by:

• Aligning the evaluation tool with our performance expectations
• Defining the overall learning goals
• Establishing consistent criteria for each expectation
• Standardizing the form and process across rotations
• Encouraging early feedback

• Requiring the student to engage in self assessment

References:


For each of the following roles, circle the level of expectation that the student currently meets on the Core Criteria. Please add totals.

1. **CLINICAL EXPERTISE:** The student can independently gather the necessary information through history taking, physical examination and laboratory investigations to make an accurate diagnosis and treatment plan. Specifically:

<table>
<thead>
<tr>
<th>CORE CRITERIA</th>
<th>Does not meet expectation</th>
<th>Inconsistently meets expectation</th>
<th>Consistently meets expectation</th>
<th>Exceeds expectation of a clerk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Can elicit a focused and accurate medical history.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Can complete a focused and accurate physical exam.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Demonstrates understanding of relevant investigations needed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Comes to a reasonable differential diagnosis.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Develops appropriate management plan.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Can identify strategies for the prevention of injury/illness.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Recognizes the psychosocial, economic and biological factors influencing the patient’s health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Clinical Expertise Subtotal Score: _____/28

2. **COMMUNICATOR:** The student utilizes a patient centred approach in their medical interviews. Communicates effectively with other members of the health care team and demonstrates a self awareness of their communication skills. Specifically:

<table>
<thead>
<tr>
<th>CORE CRITERIA</th>
<th>Does not meet expectation</th>
<th>Inconsistently meets expectation</th>
<th>Consistently meets expectation</th>
<th>Exceeds expectation of a clerk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acknowledges patients’ concerns in a sensitive manner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Listens attentively and verifies for understanding.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Keeps accurate notes and/or records.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Actively involves the patient in the treatment plan.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Utilizes feedback to improve their skills.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Communicates well with other health care professionals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Communicator Subtotal Score: _____/24

**DISCIPLINE SPECIFIC CRITERIA:** Please check the box that reflects my current performance. No scores required.
3. PROFESSIONAL: The student behaves in an ethical and professional manner at all times. Specifically:

<table>
<thead>
<tr>
<th>CORE CRITERIA</th>
<th>ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrates integrity, honesty and respect for others.</td>
<td>Does not meet expectation</td>
</tr>
<tr>
<td>2. Demonstrates reliability and commitment.</td>
<td>1</td>
</tr>
<tr>
<td>3. Understands their own limitations and asks for appropriate assistance.</td>
<td>1</td>
</tr>
<tr>
<td>4. Demonstrates awareness of their current abilities.</td>
<td>1</td>
</tr>
</tbody>
</table>

Professional Subtotal Score: _____/16

DISCIPLINE SPECIFIC CRITERIA: Please check the box that reflects my current performance. No scores required.

| 1. ________________________________________ | 2. ________________________________________ | 3. ________________________________________ | 4. ________________________________________ |

4. SCIENTIST/SCHOLAR: The student utilizes sound scientific and/or scholarly principles in their studies and interactions with patients. Specifically:

<table>
<thead>
<tr>
<th>CORE CRITERIA</th>
<th>ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Engages in ongoing learning.</td>
<td>Does not meet expectation</td>
</tr>
<tr>
<td>2. Can find reliable/accurate information relevant to the clinical question.</td>
<td>1</td>
</tr>
<tr>
<td>3. Can critically appraise information, formulate questions.</td>
<td>1</td>
</tr>
</tbody>
</table>

Scientist/Scholar Subtotal Score: _____/12

DISCIPLINE SPECIFIC CRITERIA: Please check the box that reflects my current performance. No scores required.

| 1. ________________________________________ | 2. ________________________________________ | 3. ________________________________________ | 4. ________________________________________ |

CORE CRITERIA ASSESSMENT TOTALS

1. Clinical Expertise Subtotal Score: _____/28
2. Communicator Subtotal Score: _____/24
3. Professional Subtotal Score: _____/16
4. Scientist/Scholar Subtotal Score: _____/12
Total Score _____/80
5. PROCEDURES/TECHNICAL SKILLS: Students, please check appropriate boxes.

<table>
<thead>
<tr>
<th>Performance of Procedure</th>
<th>I have performed this skill often enough to feel confident in my ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Only (Indicate how often)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

1. ______________________________________
2. ______________________________________
3. ______________________________________
4. ______________________________________
5. ______________________________________
6. ______________________________________
7. ______________________________________
8. ______________________________________
9. ______________________________________

6. CORE CRITERIA GUIDELINES: To assist you in determining whether your overall assessment of the student constitutes a pass or a fail please consider these guidelines for the core criteria items.

1. A score of 1 on any of the bolded items could be considered a failure.
2. A score of 1 on two or more items should be considered a failure.
3. To receive a pass on the core criteria, the student should receive a minimum of 56 points out of 80 (70%).
4. To fail the core criteria, the student should have a score of less than 56, or see items #1 and #2 of the guidelines.
5. To receive an incomplete, the student is performing satisfactorily, but has failed to complete all the components of the rotation.

7. OVERALL EVALUATION:

My overall assessment is this student should:

☐ Pass (score of 56-80 on core criteria items), plus has satisfactorily met the global assessment expectations on discipline specific criteria items.

☐ Fail (score of < 56 on core items or see guidelines items #1 and #2), plus has not satisfactorily met the global assessment expectations on discipline specific criteria items and requires remediation in:

_________________________________________________________________________________________________________

☐ Receive an incomplete and must:

COMMENTS: Please comment on the student’s overall strengths and areas for improvement. Please provide a rationale for your ratings.

STRENGTHS: ____________________________________________________________

AREAS FOR IMPROVEMENT (Please address areas with a score of 2 or less): ____________________________________________________________
8. ADDITIONAL COMMENTS FOR THE DEAN’S LETTER

Please provide additional anecdotal comments. These comments are an integral component of the Dean’s Letter which is used by students to support their application to a residency program.

____________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________

EVALUATOR NAME: _______________________________ EVALUATOR SIGNATURE: _______________________________

EVALUATOR POSITION: _____________________________________ DATE: _________________________________________

UGME/CLERKSHIP or ED SITE DIRECTOR SIGNATURE: _________________________________________________________

ROTATION: ___________________________________________ EDUCATION SITE: HSC – WH _____ SBGH _____

I HAVE REVIEWED THIS EVALUATION: I ACCEPT this evaluation ☐ I DO NOT ACCEPT this evaluation ☐

MY COMMENTS: ____________________________________________________________

____________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________________

STUDENT SIGNATURE: _______________________________ DATE: ________________________________
SECTION 6
RESOURCES FOR FACULTY

The office of Educational Development offers a series of faculty development programs to instructors who are interested in enhancing their teaching skills. Following are a list of programs currently being provided.

NEW FACULTY SERIES

The Faculty of Medicine offers a series of teaching workshops to new faculty members. The purpose of these workshops is to:
- Orientate instructors to the undergraduate curriculum
- Provide instructors with effective teaching strategies
- Assist instructors with dealing with difficult teaching situations.
- Educate instructors on the importance of teaching dossiers for the tenure promotion process.

TIPS

The basis for this workshop is the Teaching Improvement Project Systems (TIPS) developed by the Center for Learning Resources, University of Kentucky through grants from the W.K. Kellogg Foundation.

Since its inception in 1975, TIPS programs have reached several thousand educators in Canada and the United States.

The University of Manitoba’s Faculty of Medicine became a TIPS site in 1993. Skills taught are generic and are not confined to health sciences or any discipline. Although the content is grounded in educational theory, a practical approach is taken and participants leave with information they can immediately apply to their teaching.

TIPS is an intensive workshop which includes presentations, discussions and individual work. Workshop objectives are achieved through experience in defining instructional objectives and planning instructional sessions. Following completion of this course, the participants will be able to:
- Plan and organize an instructional session in any setting.
- Formulate instructional objectives appropriate to their own setting.
- Apply presentation techniques in their own setting.
- Formulate questions that promote thinking.
- Use methods that help students become active participants.

CERTIFICATION IN HIGHER EDUCATION

In collaboration with the Faculty of Graduate Studies and University Teaching Services (UTS), The Educational Development Office, Faculty of Medicine has designed a Certification Program in Higher Education Teaching (CHET). The goal is to help academic/clinical departments prepare Ph.D. students and residents for the full range of faculty responsibilities and other careers where presentation and communication skills are needed. The CHET program requirements are flexible.
and should not extend the time to completion or add unreasonable content to existing graduate or residency programs.

CHET OBJECTIVES
The CHET program has the following objectives:

- To introduce graduate students/residents to the theory, accumulated experience and knowledge of higher education pedagogy
- To give program participants the opportunity to develop their teaching and presentation skills in a supervised and collegial atmosphere
- To prepare graduate students/residents to integrate the demands of research, teaching, and service in an academic career as well as develop presentation skills needed for a wide range of non-academic careers
- To provide certified recognition for individuals who have worked to prepare themselves for all aspects of future career responsibilities covered by the CHET program

CHET REQUIREMENTS

CHET Passport
The passport contains a learning contract and records progress through the program. Bring your passport to all workshops you attend and obtain the facilitator’s signature.

CHET Core Alternatives
- Credit Course, 129.745: Seminar in Post-Secondary Education (3 credit hours)
  - This course will explore theoretical concepts behind teaching and learning in post-secondary education. It will also have a practical focus. Teaching techniques will be evaluated, and strategies for enhancing student motivation will be discussed.
    - The Postsecondary Studies Division of the Faculty of Education offers this three credit hour course once a year. This course can be added to most programs of study at no additional cost. Please consult the registration guide under the Faculty of Graduate Studies for course scheduling.
  - or
    - Two workshops: TIPS, and Teaching in the Medical School (15 hours each),
    - Medical education project
      - two papers (one on the role, history, purpose of philosophy of higher education, and one on how students learn, teaching adult learners or evaluation of learning)
      - or participation in a medical education research project.

Teaching Practicum Alternative
- Mentor Supervised Teaching
  - At least three hours of mentor observation and four hours of mentor-supervised teaching.
- or
- Teaching Assistantship
  - Six hours of mentor supervised laboratory or classroom teaching.

Both teaching practicum alternatives also requires the student to submit a teaching plan, a student learning assessment, self-, student- and faculty-
mentor evaluations, and a statement of
the individual’s philosophy of education.

**Workshop Requirements**
Attend and participate in at least 20
hours of medical education, UTS,
departments, conference and/or
discipline-related workshops related to
teaching, research, and/or service,
- At least eight hours must involve
topics related to understanding the
academic environment and faculty
research responsibilities.
- Up to 10 hours of core curriculum
topics can be used towards the 20
hours.

**Teaching Dossier and Curriculum
Vitae (CV)**
Complete a teaching dossier and
curriculum vitae. (We offer a CHET
workshop on how to write both of these
documents.)

**Possible Additional Requirements**
In the case of graduate students/residents
who do not have sufficiently high scores
on oral TOEFL or similar tests,
additional preparation for English as a
foreign language oral tests or Accent
Modification workshops may be
required.

**CHET APPLICATION
INFORMATION**

**Who is eligible for CHET?**
Any doctoral students or residents
registered at the University of Manitoba.
(The program is designed for PhD
students, but many masters students are
enrolled as well and are welcome to
register.)

**The Certificate**
CHET participants will receive a formal
certificate upon completion of all
program requirements. If students
complete the CHET program prior to
graduating, the credential will be
indicated on their official transcript.
Participants will also receive a Letter of
Accomplishment from UTS, the Faculty
of Graduate Studies and the President of
the University indicating participation in
the program.

**Advantages of a CHET Certificate**
The U of M’s CHET program is
modeled on similar programs at the
University of New Brunswick (UNB)
and York University. Both UNB and
York report that graduates of their
programs have found it easier to find
jobs as a result of the certificates.
Graduates also report feeling better
prepared for the full range of
responsibilities as a new faculty
member.

**How to sign up for CHET**
If you have questions about the CHET
program and how it would fit into your
doctoral or residency program, please
contact your Department Head, and one
of the following in the Educational
Development:

**GRADUATE STUDENTS**
Ms. Angela Tittle, 789-3693
tittleam@ms.umanitoba.ca

**RESIDENTS**
Ms. Debra Radi, 977-5629
radidl@ms.umanitoba.ca

**GENERAL INQUIRIES**
Ms. Valentina Tautkus, 977-5614
tautkusv@ms.umanitoba.ca
MASTERS OF EDUCATION IN POST-SECONDARY STUDIES

Division of Post-Secondary Studies,
Faculty of Education

PROGRAM INFORMATION

Program Objectives
The Masters of Education (M.Ed.) program in Post-secondary studies is designed to prepare students for teaching, leadership, and research roles in a range of post-secondary settings. Reflecting the complex nature of contemporary post-secondary education, the program is designed to develop understanding of the role of culture, organization, and teaching and learning processes in post-secondary education, and to prepare candidates to apply their knowledge effectively in the varied teaching and administrative settings within that sector.

Admission Requirements
The applicant for admission must possess:
- Four years of full-time university study (or equivalent), including an undergraduate degree from an accredited institution.
- A minimum Grade Point Average (GPA) of 3.0 in the last 60 credit hours of coursework
- Two or more years of appropriate work experience

Transfer of Credit
Candidates may be allowed to transfer up to 12 credit hours of graduate-level coursework from other universities, provided the coursework is suitable in content and level to the candidate’s program, and is approved by the Advisor and Program Director.

Performance and Time Requirements
The candidate registered in the M.Ed. program:
- Must complete all program requirements within a six-year time limit. Under special circumstances, extensions to this limit may be granted with the approval of the Division of Post-secondary Studies and the Faculty of Graduate Studies.
- Is required to maintain an overall GPA of at least 3.0 (B), with no individual course grade below 2.5 (C+).
- Is required to maintain an active registration in the program for the duration of his/her studies.
- Is required to meet with his/her Advisor at least once a year, and to participate in the completion of an annual progress report.

Additional Program/Course Information
Courses in specialized areas are offered on rotation, and not all courses are offered every year. The graduate course offering rotation schedule is posted on the Faculty’s website: www.umanitoba.ca/education. Applicants wishing to pursue full-time study should consult with the Department Head.

In addition to offering the Master of Education Program in Higher Education, the Division of Post-Secondary Studies...
also provides the opportunity for
doctoral study in the field, through the
faculty of Graduate Studies Individual
Interdisciplinary Program (IIP).
<table>
<thead>
<tr>
<th>Thesis-Based Route</th>
<th>Course-Based Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>A minimum of 18 credit hours plus thesis</td>
<td>A minimum of 30 credit hours including capstone course - 129.744 Seminar in Post-secondary Education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Core Courses (12 credit hours)</th>
<th>Core Courses (12 credit hours)</th>
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</thead>
<tbody>
<tr>
<td>129.540 Development of Higher Education (3)</td>
<td>129.540 Development of Higher Education (3)</td>
</tr>
<tr>
<td>129.708 The Principles of Curriculum Organization and Implementation (3)</td>
<td>129.708 The Principles of Curriculum Organization and Implementation (3)</td>
</tr>
<tr>
<td>129.709 Seminar in Administrative Problems in Education (3)*</td>
<td>129.709 Seminar in Administrative Problems in Education (3)*</td>
</tr>
<tr>
<td>129.745 Seminar in Post-Secondary Instruction (3)*</td>
<td>129.745 Seminar in Post-Secondary Instruction (3)*</td>
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</table>

<table>
<thead>
<tr>
<th>Research Courses (6 credit hours)</th>
<th>Research Courses (3 credit hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>129.580 Introduction to Educational Research (3) plus any additional 3 credit hours of research methodology at the 700 level in Education or 300 or above in other faculties</td>
<td>129.580 Introduction to Educational Research (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Concentration (3 credit hours)</th>
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</thead>
<tbody>
<tr>
<td>The thesis is a focus of the concentration</td>
<td>129.744 Seminar in Post-secondary Education (3)*</td>
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</table>

<table>
<thead>
<tr>
<th>Electives</th>
<th>Electives (12 credit hours)</th>
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</thead>
<tbody>
<tr>
<td>None</td>
<td>Courses may be chosen from other faculties and from those universities, in particular, those within the Western Dean’s Agreement and Distance Education Courses.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Level Restrictions</th>
<th>Course Level Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 credit hours must be at 700 level: the remaining 6 credit hours may be at the 500 level or above in the Faculty of Education and/or at the 300 level or above for other faculties</td>
<td>18 credit hours must be at 700 level: the remaining 12 credit hours may be at the 500 level or above in the Faculty of Education and/or at the 300 level or above for other faculties</td>
</tr>
</tbody>
</table>

* 129.709 and 129.745 are offered as dedicated sections focusing on medical education
APPLICATION INFORMATION

Application Deadlines

<table>
<thead>
<tr>
<th>For session starting</th>
<th>Canadian/US</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>May/July</td>
<td>February 1</td>
<td>November 1</td>
</tr>
<tr>
<td>September</td>
<td>June 1</td>
<td>March 1</td>
</tr>
<tr>
<td>January</td>
<td>October 1</td>
<td>July 2</td>
</tr>
</tbody>
</table>

For Further Information

On possible faculty advisors:
www.umanitoba.ca/education/directory/eafp/index.shtml

On courses in EAF&P specializations:
www.umanitoba.ca/education/med/admin.shtml

On research courses in education:
www.umanitoba.ca/education/med/admin.shtml

On the course rotation schedule of 700-level courses:
www.umanitoba.ca/education/rotation

On fees:
www.umanitoba.ca/student/records/fees/grad_fees.shtml

For Students From the Bannatyne Campus Please Contact
Cheryl Kristjanson, 789-3827
Director, Educational Development
Faculty of Medicine
cheryl_kristjanson@umanitoba.ca

Please note
This information reflects the current program. Course/requirements may change in the future.

UTILIZING TECHNOLOGY

DIGITAL COPYRIGHT CLEARANCE

The University of Manitoba has established a one-year pilot project to assist faculty in obtaining digital copyright clearance for materials to be used online (refer to Digital Copyright Clearance Pilot Project Brochure). As the Copyright Act is currently under review and without specific reference to digital copyright, the Project is developing guidelines for digital copyright clearance based upon policies established for print materials.

In brief
- In Canada, most material created is automatically and immediately copyright-protected.
- Permission must be acquired to copy a substantial portion of a work. This is roughly interpreted as more than a paragraph of textual material. Graphs, diagrams, tables, etc. are considered to be substantial portions and, therefore, permission must be obtained to digitally reproduce them.
- Material in the public domain is not bound by copyright. However, the vast majority of material published in print or on the Web is not considered to reside in the public domain. For example, documents issued by the federal or provincial governments in Canada are not in the public domain. Material on the Web is not considered public domain. You may, however, wish to create links to Web pages and send your students directly to material. Linking deeper than the home page of a website (deep-linking) is a murky area. You
are advised to check the home page of the website to which you plan to place a deep link in order to establish that the site does not prohibit deep-linking.

- In general, once the author has been deceased for 50 years, the work becomes public domain. Works created by more than one author become public property 50 years after the death of the last surviving author. If the material has been revised after the author’s death, it is once again copyright-protected until 50 years after the death of the revising author. Be advised, however, that although a work may be in the public domain (e.g., Hamlet), the form in which that work has been published (font, annotations, notes, etc.) remains copyright to the publisher, and clearance must be obtained.

- Many journals require that the copyright to articles published be assigned to the journal, not remain with the author. The author, therefore, must obtain copyright clearance.

- When uncleared materials are placed on a University of Manitoba server, the institution incurs a potential liability for copyright infringement.

**Process**

- Faculty members may seek, via the Project, digital copyright clearances for materials to be uploaded in password-protected course websites. Alternatively faculty members may seek and obtain the clearances themselves. Sample request letters are available from the Project staff.

- In seeking digital copyright clearance, keep the following in mind:
  - As the clearance process is often lengthy, begin at least 8-10 weeks before you plan to upload the material.
  - Anticipate that publishers may:
    - need to investigate whether or not they actually own the digital rights to a work
    - require royalty payments/clearance fees;
    - grant clearances for limited time periods only (e.g., one term or session)
    - have specific guidelines regarding the manner in which copyright owner is credited on the digital material

It is also possible to request copyright clearances yourself. To do this, keep the following in mind:

- You have two options: to request clearance directly from the rights holder (publisher, organization or association), or to use Access Copyright's Digital Rights Management Service. Often, obtaining clearance directly from publishers is faster and less costly the using Access Copyright's services. However, once you have approached a publisher for clearance and have received a response, you cannot then make the clearance request using the services of Access Copyright.

- If an author holds the copyright, he/she must be contacted for permission. This route may also be slow as it can be difficult to locate and contact authors.
• The Government of Canada is very slow to respond to clearance requests. Allow 8-10 weeks for a response.
• If you cannot locate the rights holder to a work, you may contact the Copyright Board of Canada for clearance. Allow 8-10 weeks for a response.
• Publishers have to establish whether or not they hold the digital rights to published works.
• In requesting permission, indicate that UM is an educational institution, whether or not the cleared work will be sold to students, in what form and for what purpose the work will be copied, and the course number and title, expected enrolment, academic year and session.
• You will be more likely to obtain permission if your site is password-protected, e.g., Web CT or electronic reserve.
• Expect that you will be required to give the rights holder credit on the copied documents and include a permission statement provider by the rights holder. Permission will likely be granted for a limited time only (although some will give a blanket permission), that you may be asked to pay royalties, and that there may be other stipulations asked.
• The project’s experience has been that 80% of their requests have been approved, it takes about 2 weeks for approval and most requests do not require payment.

Contacts
For further information on the Digital Copyright Clearance Project, please contact:

Lillian MacKenzie, 474-7258
lillian_macKenzie@umanitoba.ca

Shirley Cannon, 474-8004
shirley_cannon@umanitoba.ca

Lori Wallace, 474-8042
l_wallace@umanitoba.ca