

# ***TEACHING DOSSIER***

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## ***PERSONAL BACKGROUND***

I have been a faculty member at Queen's University since 1995. My current clinical involvement is primarily in clinical genetics and inborn errors of metabolism. I attended medical school at the University of Toronto and trained in pediatrics and medical genetics at the Hospital for Sick Children in Toronto resulting in Royal College of Physicians and Surgeons certification in both of these specialties. Special interests have included the development of new educational programs in genetics and developmental disabilities as well as research in autism, metabolic disease and clinical genetics.

## ***TEACHING PHILOSOPHY***

I view my role as an educator as a facilitator for learning. The students are the centre of the learning process and I strive to provide diverse educational opportunities. This approach has evolved over the last several years as I have shifted from a primarily didactic form of teaching to a more multisensory and interactive one that has practical relevance for the students.

My primary goal is to educate students at various stages of training about human genetics and pediatrics. Because of the impact of human genetics in so many areas, I have had the opportunity to extend this education to students in the undergraduate, graduate and postgraduate programs in the Faculty of Arts and Science as well as to local schools. I usually discuss early human development and how this applies to normal and abnormal formation, growth and function complimented by material on the analysis of human congenital anomalies and followed up with information about specific conditions the students are expected to be knowledgeable about. Education includes diagnosis, management, and counseling of individuals and families around a genetic/pediatric condition. Issues surrounding health policy and advocacy as well as the social and ethical implications of the care of patients with genetic conditions are integrated into the curriculum.

An interactive learning environment that is supportive of new ideas as well discussion of basic concepts is a key component of my educational style. I view it as my responsibility to provide a continuum for the students with an increasing emphasis on self directed learning. I set the stage for learning by discussing goals for the sessions with the learners. The initial phase includes the provision of resources such as basic knowledge and tools to interpret information in a clinical or scientific context. Subsequently, I provide guidance to the students as they consolidate their ability to analyze and respond to new situations. This is particularly important in this era of rapidly expanding and changing knowledge. Further to this, my goal is to see the students become competent and compassionate professionals, with a lifelong love of learning.

I have developed this philosophy based on several years as a learner and educator. The educators that have stood out in my mind have demonstrated all or some of the above elements and most importantly, took a genuine interest in education and the students that they taught. My long term aim is to be an empathetic, committed and effective educator who students enjoy interacting with and will view as a role model. Ultimately, if students recall learning as a constructive experience and continue to pursue and disseminate knowledge I will have achieved this goal.

## 2. Teaching Methods:

In order for the students to be interested and motivated, I believe that the most effective approach includes a varied repertoire including lectures, seminars, web based cases, and practical clinical experiences with patients but most importantly active participation in the educational process. More specific information is provided for each method as follows.

*Lectures:* I often use lectures to introduce basic concepts in genetics, the building blocks for further education in the field, or for large-scale topic reviews. I usually approach lectures with a combination of slides and overheads to give a variety of media and a change of pace. Further to this, I include as many diagrams and pictures as possible to illustrate the concepts being discussed. During lectures I encourage student feedback and questions to determine the strengths and weaknesses of my presentation and reemphasize important concepts.

*Touch pad technology:* Since 2004 I have presented the Pediatric Review Course for final year residents across the country. The incorporation of touch pad technology has provided the opportunity to include questions throughout the presentation and to obtain immediate feedback from the participants.

*Short activities:* I have included some short activities in the sessions to illustrate key points. For example, a key concept in genetics is that of chance. Therefore, I divided one class into small groups of students; each group was to toss a coin 100 times and determine the average. The compilation of the information from all of the groups gave a very large number of coin tosses and illustrated the need for several events before information is statistically significant. This is clinically relevant to the counseling of families because of the relatively small number of children (events) per couple and is an important concept when designing a clinical trial.

*WebCT cases:* In the genetics course in year 1 medicine the students use the lectures as basic information to solve a clinical case presented on WebCT and then present their findings to others in the class. This provided the learners with the opportunity to actively think about their case while the concepts of basic genetics and clinical problem solving were being introduced.

*Seminars:* I have had the opportunity to present seminars to all levels of learners including elementary school students, medical residents, graduate students, colleagues and members of the general public. Because of the setting, I am able to take advantage of the opportunity to establish the level and interest of the participants in order to better teach to their identified needs. I enjoy the opportunity to provide more hands on activities for students to do in small groups and present to the others. This allows participants to try out new concepts and to receive feedback as part of the session. It also provides me with feedback about the effectiveness of my teaching in that particular area.

*Clinical teaching:* The formal clinical skills sessions involve teaching medical students the ability to elicit an accurate history and physical examination from a patient and to synthesize the information to come up with diagnostic possibilities and a plan for investigation and management. The pediatric clinical skills sessions have evolved over the last 10 years and currently are focused in third year for four half days. These sessions are largely taught by example with the students developing the ability to perform independently by the fourth session. I have taken the students to see specific patients, with findings I would like to demonstrate. This has provided additional educational opportunities about focused history taking and physical examination as well as education about specific medical conditions.

I supervise medical trainees at all levels on the general pediatric ward and in my genetics outpatient clinics. I attempt to set up a learning contract with the students with some specific goals that we agree to work on for the duration. This will usually involve enhancement of history taking, physical examination

techniques, approach to clinical problems, utilization of various diagnostic methodologies and therapy. To achieve this, I observe the students performing the tasks, listen to their oral case presentations, review their patient records and obtain feedback from other members of the health care team. A crucial area is that of communication with children and families and all of the cases involve the development of this skill. As a team, we discuss patient cases and use this as an educational experience.

### **3. Teaching Responsibilities**

#### **3.1 Lectures and Seminars:**

##### **Faculty of Arts and Science – undergraduate (400) and graduate (800) courses**

Mammalian Embryologic Development, Anatomy 417/817 (2001-present)

Human Genetics, Pathology 425/825 (1995-present)

Developmental Disabilities, Neurosciences 801, (2005)

BSc. Year 4 thesis course – P. Williams (1995-1996)

S. Vander Pol (2003-2004)

Genetics journal club (1995-2003, 1/yr)

The Human Genetics Course consists is a combination of a 2 hour seminar that I present and a second session during which two students review papers on given topics (often of their choosing) and present them to the class. This allows an interactive session regarding their findings on the topics. I assist them with the development and presentation of the material and provide feedback as well as an evaluation after their presentation. In 2005, I gave my first session for the Neuroscience 801 course and modeled it after the Pathology 425/825 course. The student's presentations were excellent. Anatomy 417/817 session is mainly a 2 hour didactic session but the group is small enough that we often are able to have interesting discussions. I have also co-supervised a couple of fourth year thesis students which involved a review of their projects and support for presentations that they have to do. One (SVP) presented at an international genetics meeting and interacted well with experts in the field.

##### **Faculty of Health Sciences**

###### **Medicine – preclerkship**

Human Genetics Course - year 1 Medicine (1995-present, 4-6 sessions/yr)

Inborn Errors of Metabolism – (2002 – present, 2 hours/year)

Genethics (1995-1999, 3hrs/yr)

Neurosciences (1996-1998, 4hrs/yr)

Reproduction (1997-present, 2-3 lectures/yr)

Clinical Skills 2A (1996,2000)

Clinical Skills 2BC (taught 1995-present, coordinated 1997-1999)

Clinical Skills 2E (1999-present, coordinated 1999-2002)

(20-30 hours/year)

###### **Medicine –clerkship and postgraduate**

Pediatric rotation (1997-present, 1 month/year)

Genetics rotation (1995-present, 4-8 months/year)

MCCQE Genetics Review (2001)

MCCQE Pediatric Review (1998)

Pediatric Residents (1995-present, 3-6 seminars/yr)

Obstetric residents (1998-2001, 1 seminar/yr)

Ethics seminar for residents of all specialties (1997)

### **National Courses**

Pediatric Review Course – for final year residents (2004 – present)

### **Continuing Medical Education**

Invited lectures – see CV for details

Grand rounds in pediatrics, obstetrics and genetics (1995-present, 2-3/yr)

CME events for health care providers (1993-present, 1-2 events/yr)

Genetics Education Project (2004-present) - development of educational materials for primary care providers, train the trainer sessions

### **Outreach**

Elementary school students (1999, 2004)

Secondary School Enrichment Program - Care of the Newborn (2000)

Lay persons (1995-present)

### **3.2 Graduate and Undergraduate Student supervision:**

(See Appendix 8.1 for a list of previous students supervised)

My role in supervision of undergraduate and graduate students (including residents) depends on the level of the students and the goals of the rotation. I have participated as part of a students' supervisory committee. Other students have done placements for variable amounts of time and in various formats such as attending clinics and seminars. I also provide individual tutoring for exam preparation and have met with students weekly for a few months before an exam to review essential information, exam techniques and practice questions. The relatively small size of the pediatric department and division of genetics allows a close relationship with the residents and fellows. Therefore, in addition to the previously described responsibilities, an informal mentoring process is an integral part of my role.

### **3.3 Evaluation of learners:**

#### **OSCE style examination**

I have written questions, revised previous questions and examined students at OSCE stations over the last 6 years. At least one or two stations are developed per year for the examinations for all years of medical students. One year an approach of immediate feedback after each station was piloted. This allowed the student to learn from the examination process.

#### **Multiple-choice questions**

I have provided questions and revised others for the courses that I teach in genetics as well as the Royal College of Physicians and Surgeons and the Medical Council of Canada.

### **Short answer oral examinations**

I have provided a case with questions and answers and I participate about twice yearly in the formal pediatric clinical clerk examination. The process involves the student taking a card from a box and discussing the case for 15-20 minutes. The cases are representative of general pediatric patient encounters and the students are expected to provide a reasonable approach to these. Two examiners are present for each group of students. Feedback is provided immediately to the students.

### **Clinical evaluations**

I provide a great deal of evaluation in this manner in formal and informal settings. On regular ward rounds or when doing consults I often observe medical trainees reviewing cases and performing physical examinations. This allows the opportunity to provide specific input on a number of different occasions. In addition, after each rotation on the genetics service and on the ward when I am the attending ward staff I provide all of the clinical trainees with an in- training evaluation. At that time, I also ask the trainees for feedback about their experiences and adjust my future teaching to this. After attending the Bayer communication skills workshop I have incorporated learning goals into the clinical education process and provide feedback based on these goals.

### **Rounds and seminars given by trainees**

I often observe presentations by trainees during sit-down or ward rounds and provide feedback to them about the content and presentation style.

## **4. Committee/Administrative Responsibilities**

### **4.1 Department of Pediatrics:**

**Director of Clinical Skills 2BC (1997-1999)**

**Director of Undergraduate Pediatric Education (1998-2005)**

**Chair, Pediatric Undergraduate Education Committee (1998-2005)**

Over the last several years, I have coordinated the clinical skills part of the curriculum and in 1998 administered the undergraduate pediatric program. My responsibilities include organization of some of the pediatric lectures as a contact person in pediatrics for other faculty and overseeing the pediatric content of the curriculum. I also organized selectives/electives for medical students after meeting with them to help them define learning objectives. Areas addressed included a review of the pediatric content of the undergraduate program with respect to the MCCQE objectives and improved delineation of pediatric education within the School of Medicine. This was presented to the Assistant Dean of Undergraduate Education and progress is being made with respect to the development of a defined pediatric course. Regular meetings of staff involved in undergraduate education were organized and activities conveyed to department members at monthly meetings.

I organized the undergraduate year 1 to year 3 Clinical Skills program in pediatrics from 1997 - 2002. The responsibilities include organization of the sessions, review and updating of objectives and recruiting faculty to teach the students. In spite of reduced time available for teaching, due to a reduction in program length and increased enrollment, we have increased the pediatric exposure. This has been due to the commitment of all involved to ensure that the medical students acquire adequate pediatric skills.

### **4.2 University:**

**Chair, Advisory Committee of the Glaxo Wellcome Clinical Education Centre (2004-present)**

**Member, Governing Council, Glaxo Wellcome Clinical Education Centre (2003-2004)**

**Member, Medical Education Advisory Committee (2004 – present)**

The Clinical Education Centre is situated in the Faculty of Health Sciences and provides a state of the art resource for clinical education. The Advisory Committee oversees the activities of the centre which is primarily involved in the education of preclinical trainees but hosts other trainees and examinations. My role as Chair of the committee is to provide leadership for the Centre and ensure that the center is fulfilling its mandate including the integration of the centre as a resource for educational programs in nursing, rehabilitation therapy and medicine. A major highlight is the recent addition of the Standardized Patient Program into the activities of the centre and the hiring of a Coordinator for that program. The Medical Education Advisory committee has allowed me to stay abreast of new developments in medical education particularly as these are integrated into the curriculum. This has provided the opportunity to interact with other individuals in medical education and bring new and current initiatives to the Advisory Committee for consideration.

**Canadian College of Medical Genetics Standing Fellowship Committee**

The South Eastern Ontario Health Science Centre is one of six centres in Canada that are accredited for training postdoctoral fellows for examination and certification by the Canadian College of Medical Genetics. This committee is involved in the selection of fellows, scheduling of rotations and evaluation of the candidates. I have developed clinical objectives and experiences for the fellows' clinical rotation as well as creating review materials and questions for the fellow to prepare for the CCMG examinations. In 2001, the CCMG accreditation package was prepared and I coordinated and wrote the majority of the clinical genetics information and responded to questions from the accreditation committee prior to and during the site visit.

**Clinical Skills Standing Committee (2000-2003)**

**Clinical Skills Review Committee (2000-2001)**

**Clinical Skills Search Committee (2001-2002)**

The Clinical Skills committees are an important part of the organizational structure of the program. In addition to the standing committee, a Review Committee was organized by the Dean of the Faculty of Health Sciences to provide a recommendation about the future direction of the program and a report was generated.

4.3 Provincial:

**Preparation of guidelines for clinical practice (2000-present)**

I am a member of the 8-person MOHLTC committee that generates guidelines for referral to a genetics centre, genetic counseling and predictive genetic testing for breast and colon cancer. Based on the identified need to educate primary care providers about this information, the group drafted the current guidelines after a careful analysis of all of the literature. They have been accepted by the MOHLTC and published as the current standard in Ontario. These have been updated regularly as new information becomes available and feedback is received from individuals and groups using the information.



### **Education with respect to the development of health policy (2000-present)**

Advisory Committee on Newborn and Childhood screening Task Force on Inborn Metabolic Disorders and Special Diets (2006-present)

Newborn Screening Taskforce (OCHN) (2006)

Newborn Screening Subcommittee of the Ontario Genetics Advisory Committee (2005)

Metabolic Disease Advisory Committee (2000-2004),

Consultative Committee for Maternal Serum Screening, (2000-2004)

Clinical Subcommittee for Predictive Cancer Genetic Testing (2000-present)

focus sessions gene patenting, and newborn screening

I feel it is an important part of my role to educate health policy makers to ensure that they have accurate information to address many of the genetics concerns presently facing the population. To this end, I sit on committees that are requested by the MOHLTC to advise health policy professionals about a number of issues relevant to the health of the general population. These issues range from advice about whether to cover specific medical services and therapies to how to approach the controversial area of predictive genetic testing.

#### 4.4 National:

**Pediatrics Test Committee, The Royal College of Physician and Surgeons (2005 - present,corresponding member)**

**The Royal College of Physicians and Surgeons Specialty Committee for Medical Genetics (1997-1998,nucleus member)**

My role as part of the test committee is to develop questions for the examination. This role of the Specialty Committee was to develop and update the objectives for the Royal College of Physician and Surgeons training program in Medical Genetics. The group also reviews a number of accreditation applications, as the committee was responsible to assess and make recommendations on the accreditation status of genetics centers across the country.

### **5. Innovations**

Highlights of my involvement in innovation in education include the revision of the human genetics program including a complete review of the goals of the course and the development of a web CT site to facilitate student learning. This was based on the Ideas, Concepts and Extensions learning model. As a result, students are taking a more active role in their own learning of both the material at hand and in developing problem solving techniques that can be applied in their future endeavors. More recently the opportunity has arisen to create a day for students in developmental disabilities. My involvement has been in the creation of a program of standardized patients with developmental disabilities for the students to interview to improve their communication skills while learning about issues common to this population. These projects have allowed an observation of students involved in problem solving that required a demonstration of competence. In both situations the students have performed well and have provided positive feedback both verbally and on formal assessments. Other endeavors include a project funded by the Women's Health Council to educate primary care health providers about genetics which involved the development of CME modules and "train the trainer" workshops.

The successful implementation of active and multidimensional learning by multidisciplinary teams is a wonderful incentive to further develop this approach to include more unique learning opportunities,

utilizing new technology as well as other educational resources. Further to these initiatives the TEAM approach to learning has been reviewed with the idea of incorporating some of these ideas into the undergraduate genetics curriculum.

### 3.1 Phase 1 genetics:

One of the major challenges in educating first year medical students is the vast difference in the background they bring to the course. In the 2000 the genetics group applied to the Learning Technology Unit program because we were interested in using technology to enhance our program. This included external feedback from representatives of the Learning Technology group (Elaine van Melle and Mark Flemming) so that we could improve our teaching capability. The ICE model (ideas, connections, extensions) was used to develop new objectives and the lectures were reorganized to improve flow. A webCT site (Appendix 7.2) was developed where all course materials and schedules are posted. The students were organized into small groups and given a clinical case to work on using webCT. The students were able to request laboratory tests and sent the justification to an instructor. The test result was then made available on the webCT site. The student groups all presented their cases to the class and discussion was focused around the cases. The students demonstrated an excellent appreciation for the material and all presented their cases in a thorough and conscientious manner. Informal and formal feedback from the students has been positive. A formal evaluation was devised and positive feedback obtained. The group is now looking towards further refining the course incorporating some ideas from the TEAM teaching model.

### 3.2 Developmental Disabilities Program:

A day of community based training in Intellectual Disabilities was developed by a multidisciplinary team at Queen's University. Goals for the program included: 1) the enhancement of students' awareness and empathy about ID 2) the development of transferable communication skills and 3) education about the role of advocate for vulnerable populations. The day consisted of: multi-media presentations, case presentations, tours of a day program, a communication skills seminar, participation in a Psychiatry clinic, an interview with a family raising a child with Down Syndrome, and standardized patient interviews. My major involvement was in the development of the standardized patient script for the individuals with developmental disabilities and teaching the students communication skills specific to this population. This was done by an introduction to communication with a speech pathologist and observation and feedback to the students about their interviews. The students rated this part of their day highly and data was obtained regarding common communication issues which will allow us to modify the program to address these issues.

### 3.3 Clinical Skills:

In 1995, I was involved in the development of the first year clinical skills program. A literature review and some prior research I have done in this area suggests that health care providers have difficulty speaking to children at an appropriate cognitive level. Therefore, the course included education about children's perceptions of health and illness at different developmental stages as well as a chance for the students to interview age groups of children.

The objectives for the Clinical Skills program have been regularly revised and in 2001 two major changes were initiated. The first was the refocusing of the second year course (Phase 2BC) to provide an observed history and system based physical examination sessions. The second major change was the move towards ambulatory education. Originally, the students were placed in the outpatient clinic with an attending pediatric staff person. In 2000, I initiated addition of a second faculty member to these sessions to teach the students. I have solicited feedback about this change from the students and faculty and this has been

consistently positive. In 2004, the 2E (third year) sessions were changed to have one faculty member supervising each group for all four sessions providing continuity and thus the opportunity to provide formative feedback to the students.

### 3.4 Undergraduate Pediatric Education:

Feedback from students, faculty and other members of the Undergraduate Medical Education Committee at Queen's University has raised the concern that pediatric medical education is currently not an identifiable course and the material is not distinct to the students. The current organization is that of systems based teaching blocks. Initially I identified strengths and weaknesses of the current program by obtaining more specific feedback from a number of stakeholders. Further to this, the parts of the medical school curriculum that are pediatric in content were identified by a review of the curriculum over the last several years, and by contacting the faculty providing pediatric health care education. Lecture notes were obtained and compared to the objectives set by the Medical Council of Canada identifying areas of duplication and omission. This data was presented to the Assistant Dean of Undergraduate Education and discussions are currently ongoing with respect to the development of a distinct pediatric curriculum.

### 3.5 Genetics Education Project:

The Genetics Education Project has been undertaken by the Education Committee of the Genetics Advisory Committee to the MOHLTC. Funding was received from the Women's Health Council of the MOHLTC to develop materials to educate primary health care providers about genetics. Further to this, the group developed self study modules for a number of genetic conditions for primary care providers published by the Foundation for Medical Education. In addition, new brochures were developed for prenatal diagnosis both for providers and consumers. Five seminars were developed for primary care providers to use for education of their colleagues. Influential members of communities across Ontario were invited to a Primary Care Genetics Peer Resource Workshop to learn how to present the information in their local communities. My involvement in addition to work on the modules and planning sessions included a plenary session on ethical, legal and social issues in genetics as well as demonstration of one of the learning modules.

## **6. Evaluation of Teaching**

I have actively sought feedback for my educational sessions from students and colleagues. Therefore I have had the opportunity to reflect on my teaching and make changes based on input.

Formal feedback is always a challenge to obtain in an unbiased manner because I often present one to two hour sessions in different courses, including bedside teaching, seminars and lectures separated by months or years for medical students. I have found that inviting a colleague to attend has been helpful as is informal discussion with students. I make a practice of discussing clinical rotations with all of the trainees after we have completed their evaluation to review my own strengths and weaknesses as an educator. I have received other unsolicited comments and notes of appreciation for teaching and have always valued the thoughtfulness of the students who go out of their way to provide this information. (Appendix 8.3)

I enjoy teaching and am *enthusiastic* about the material that I present while attempting to understand the learners needs. Although subjective, comments reflecting my own enthusiasm such as "wow, cool stuff-thanks for the info" and "amazing gene chip!" are very encouraging as are those such as "Excellent, really enjoyed the focus on preventions!", "Thanks and good clinical relevance". More objective measures of

enthusiasm and *empathy* have been obtained from the Phase 1 genetics class and the majority of my scores were 4/5 and 5/5. I was pleased that four to five students also asked me about careers in genetics and the potential for observorships in the clinic.

Teaching *effectiveness (level, pace, explanation)* has been an area that remains difficult to assess. For phase 1 genetics, I was encouraged with the positive response by the students and the course coordinator who wrote “the evaluations and comments received are highly complementary of your teaching”. My scores were consistently ranked with the majority of the students responding with 4 out of a scale of 5 on different parameters of effective teaching including the level, pace, and explanation of the presentation. I, personally, was impressed by the students’ level of knowledge as illustrated by their class presentations (Appendix 8.4) as it reflects their understanding of the course material. Further to this, I enjoy meeting with medical students on clinical rotations after I have taught the basic science material. Reviewing information with them a couple of years after the sessions is helpful in assessing their retention of information.

Pediatric staff must complete an evaluation form to receive credit for attendance at grand rounds towards renewal of certification (which improves ascertainment). I have consistently had good reviews in the areas of content, clarity of learning and overall assessment with at least half of the scores in the 5/5 category and the majority of the remainder in the 4/5 category. Continuing Medical Education (CME) events are an opportunity for me to share genetics knowledge with other health care providers, often family physicians. Comments such as “complex subject, well presented” and “well done, concise” were greatly appreciated. My CME scores for usefulness of information overall were 64/77 (83%) with a score of 4/5 or 5/5. The scores for effectiveness of presentation were 63/76 (83%) with a score of 4/5 or 5/5. These evaluations were all handled by the organizing body and in the case of Phase 1 genetics by an educator who was assisting us by gathering this information. (Appendix 8.5)

The graduates of Queen’s medical school and pediatric residency program are well regarded nationally and internationally. A number of pediatric residents are accepted into specialty training programs every year and many of the faculty did some of their training at Queen’s which reflects positively on the program. There have been 4 genetics trainees over the last 10 years who are currently in positions of leadership across the country.

## **5. Publications, Funding and Awards in Education**

### **5.1 Presentations/Publications:**

-- Martin C\*, Elliott D, Ouellette-Kuntz H, **MacKenzie JJ**. Enhancing education in intellectual disabilities. *OMEN Educational Research Symposium 2005, London ON, May 2005*(poster)

-- **MacKenzie JJ\***, Harrison K, Sumargo I, Flemming M, van Melle E, Taylor S. Enhancing genetics education in medical school: a web-based course program. *OMEN Educational Research Symposium 2005, London ON, May 2005*(poster)

-- Elliott D\*, Ouellette-Kuntz H, **MacKenzie J**, Freeman C, Steiner Bell K. Enhancing education in intellectual disabilities. *Canadian Psychiatric Association Annual Meeting, Montreal, QC October 2004*(platform)

-- Taylor S, **MacKenzie J\***, Harrison K, Sumargo I, Fleming M, Van Melle E. Enhancing genetics education in medical school: An approach using a web-based course program. *Am J Hum Genet* 2002; 785(4):A1019(poster)

-- Van Melle E\*, Taylor S, **MacKenzie J**. Using a team approach to enhance student learning through the use of technology in a first year genetics course. *Society for Teaching and Learning in Higher Education, Hamilton, ON, Canada, June 2002(platform)*

-- The clinical subcommittee of the steering committee for predictive genetic testing. Ontario physicians' guide to referral of patients with family history of cancer to a familial cancer genetics clinic or genetics clinic. *Ontario Medical Review* 2001 Nov; 68(10):24-27(publication)

## 5.2 Funding:

2005-2006 Co-investigator. Queen's Developmental Disabilities Program - \$4,815  
"Training in Intellectual Disabilities – Perceptions of Medical Clerks"  
- *A tool has been developed in collaboration with the University of Toronto to evaluate the effect of education in developmental disabilities on perceptions of medical clerks. I provided feedback on the tool and participate in the education process of the clerks.*

2004 -2006 Participant "The Genetics Education Project"  
Women's Health Council – Ministry of Health and Long Term Care  
\$ 500,000.00 / 2 yrs

*- I participated in the discussions about the focus of the project, the revisions of the educational modules, organization of the train the trainer workshop and presented at the workshop to primary health care providers.*

2003-present Co-investigator. "Enhancing undergraduate education in intellectual disabilities"  
Rideau Regional Centre Trust  
\$ 12,300

*- I participated in review of the current curriculum, design of new initiatives , wrote the new problem based learning case, interviewed individuals with developmental disabilities for positions as standardized patients, designed the standardized patient case and feedback forms, and supervised the student encounters with this group.*

## 5.3 Awards:

2006 Award of Merit - *Canadian Association of Medical Education*

2002 Honorable Mention with highest commendation. *Alan Blizzard Competition, Society for Teaching and Learning in Higher Education.* Van Melle E, Taylor S, MacKenzie J. "Using a team approach to enhance student learning through the use of technology in a first year genetics course."

## 7. Professional Development in Education

**Seminar on the development of Multiple Choice Questions (2006)**  
**Ontario Medical Education Rounds (2005 – present)**  
**Queen’s University Education Rounds (2005-present)**  
**Ontario Medical Education Network Conference (2005)**  
**The Bayer Intensive Course on Teaching Clinician-Patient Communication (2000)**  
**The new OSCE for Pediatric Certification (2000)**  
**Breaking Bad News (1999)**  
**Taking the Mystery Out of Grading (1997)**  
**TIPS course (1996)**  
**Advanced PowerPoint, (2000)**  
**Using Web CT to Present Course Material (2000)**

With the advent of new technology I am hoping to continue to develop my teaching techniques to ensure that they continue to be interactive and interesting to the students. My goal is for the learners to enjoy learning and to develop enthusiasm about the material presented as well as achieving competency. The course that I found most beneficial in learning new techniques for teaching was the Bayer Communication Course. The Bayer course was a 4 day; small group interactive course focused on learning and teaching communication skills using peers as well as standardized patients. How to coach students and provide constructive feedback and the opportunity to practice these skills were important elements of the sessions. On the final day a discussion was held about how to incorporate formal communication skills into the curriculum at Queen’s University.

An interesting aspect that highlights the diversity of the first year medical student body are the comments from some that the material is too straightforward and others that it was presented too quickly and should be explained in more detail. We have added supplemental material to the webCT site to help address this issue. In addition, we are currently developing a project to assess the level of knowledge first year medical students have in genetics at entry into medical school and are planning interventions based on this data. One of my goals in education is to provide interactive learning. While I scored well (the majority 4/5) on the percentage of time allocated, this has been an area that I personally would like to enhance in future sessions.

Subsequently, I have incorporated many of the ideas into my educational approach, consciously attempted to provide information in a variety of ways (visual, auditory etc.) and to make my sessions as interactive as possible. I have also obtained some ideas from medical education rounds and literature and from the OMEN conference that I plan to incorporate into my teaching. I have done reading around the TEAM approach to learning and plan to investigate this further in order to incorporate some of these aspects into the genetics program and the developmental disabilities day.