

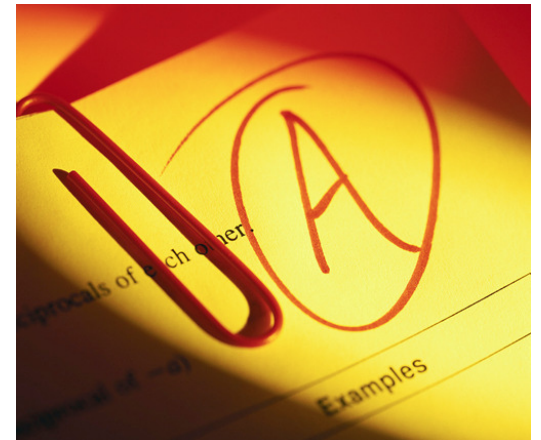


# OLA Super Conference 2007

## Building a better student: Using inquiry to improve learning

**Jeannie An**  
**Jennifer McKinnell (regrets)**  
**Andrea McLellan**  
**Olga Perkovic**

**Thursday, Feb. 1, 2007**





# OLA Super Conference 2007

## Building a better student: Using inquiry to improve learning

### Session Outline

- **Inquiry at McMaster**
- **Bachelor of Health Sciences (Hons.) Program**
- **Social Sciences Inquiry - Pilot Project**
- **Factors to Consider**



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# Inquiry at McMaster

Historical context:

- Inquiry has been active at McMaster for over 20 years
- Birthplace of Social Sciences Inquiry (Justice et al., 2007)

# Working Definition of Inquiry

Inquiry is “a self-directed, question-driven search for understanding.”

(Hudspith & Jenkins, 2001)

# What is Self Directed Learning?

## **Learners take the initiative to:**

- Determine what they need to learn
- Identify resources and determine how best to use them
- Present and persuade others of their research conclusions
- Self assess when they have learned enough and if they have done it effectively & efficiently

# Educational Goals of Inquiry

- Asking good questions
- Developing boundaries of the area of interest
- Ability to think critically about the substantive and methodological issues of the area of interest
- Ability to decide “what is known” and more importantly, “what is not known”

# Library Component of Inquiry

The library component is one of the keys to success in Inquiry

(Hudspith & Jenkins, 2001)

# Library Intervention

Varies across programs and is dependant upon the faculty member and the needs of the students

# Common elements across Inquiry

- small class sizes (20-25 students)
- supportive Deans
- meet with faculty concerning curriculum issues
- intervention is not prescribed
- often students will take the lead

# Inquiry programs at McMaster

- Biochemistry
- Business/ MBA
- Health Sciences
- History
- Humanities
- Science
- Social Sciences

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# Bachelor of Health Sciences

- 4 Year Inquiry-based program
- Inquiry is a mandatory 6 credit course in Year 1
- Dedicated Liaison Librarian
- Librarian / Faculty collaboration:
  - participate in curriculum meetings
  - collaborate with faculty members
  - contribute to development of skill set
- Liaison Librarian is Jennifer McKinnell

# BHSc Year 1 Inquiry – Skill Set

- Self-organization / Time Management
- Posing and refining a good question
- Information literacy skills
- Communication skills
- Working with another person and a group
- Evaluating your strengths and weaknesses in each area

# BHSc Inquiry – Skill Set

- Self-organization / Time Management
- Posing and refining a good question
- *Information literacy skills*
- Communication skills
- Working with another person and a group
- Evaluating your strengths and weaknesses in each area

# Information Literacy Skills

- Evaluation developed by Liaison Librarian:
- Identify sources of information
- Evaluate information content and context
- Use Information to answer a question
- Reflect on and evaluate the research process

# ACRL:

## An information literate individual is able to...

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

“Information Literacy Competency Standards for Higher Education.” American Library Association, 2005.  
<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm> (accessed Jan 29, 2007)

## Inquiry & the Library

# What Does it Look Like?

- Activities are incorporated as the need arises
- Focus on experiential activities
- Learning is considered a partnership
- Focus on asking good questions
- Librarian Liaison
- Role Modeling

## Inquiry & the Library

# What Does it Look Like?

- Meet & Greet
- Library Tour
- Benchmarking
- Library Orientation
- Journal Discussion
- Search Strategy Discussion
- Web Searching Activity
- Evaluating Information Discussion
- Subject vs. Keyword Searching - Demonstration & Discussion
- Plagiarism Discussion
- Small group consultations
- Individual Consultations
- Research Journal

## Inquiry & the Library: What Does it Look Like?

# Benchmarking

- Students provided with a trigger
- Work in small groups
- Develop a question
- Develop a strategy to address the question
- Gather information
- Write & submit a paragraph addressing the question
- Complete a self reflection
- 3 hours to complete the entire activity

Inquiry & the Library: What Does it Look Like?

## Library Orientation

- Delivered “*inquiry style*”
- Work in small groups
- Each group is assigned 1 or 2 tasks
- After 10 minutes, groups present what they learned (or didn’t learn)
- Librarian facilitates the discussion
- Everyone learns something – but they don’t all learn the same things

Inquiry & the Library: What Does it Look Like?

## Journal Discussion

- Paper journals (of varying qualities) brought to class
- Students work in small groups
- Each group spends 10 minutes examining one of the titles
- Class discussion follows

## Inquiry & the Library: What Does it Look Like?

# Evaluating Information Discussion

- Students bring resources to class
- Facilitate a discussion about evaluating the content
  - Readability/Understandability
  - Peer Review
  - Review Articles vs. Original Research
  - Author Credentials
  - Errata
  - Wikis
  - Electronic vs. Paper
  - Evaluating Research Methods

## Large Group Sessions

# Lecture-based with a Twist

### BHSc Critical Appraisal : Year 3 (100-150 students)

- At the end of every 7-10 minute segment, build in 5 minutes for questions
- If questions are more complex than the 5 minute window allows, they are answered at the end of class or on LearnLink / WebCT
- If there are not enough questions to fill the space, *leave a few minutes of uncomfortable silence*. Usually someone (even the instructor) will pipe in and ask for clarification.

## Large Group Sessions

# Think-Pair-Share Model

Smaller **Biochemistry** classes (40-80 students)

- Pair students and have them attempt a database search
- Someone from the class comes to the front and demonstrates a search strategy that works for them
- Also fun to get someone to demonstrate something that didn't work for them
- Many students bring laptops to class and often have time to play around with their search strategies before coming up to the front
- Even if you can't get volunteers to the front you can still talk about successful or unsuccessful search strategies



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# Social Sciences Inquiry History at McMaster

- Social Sciences Inquiry course introduced Fall 1998
- 7 instructors/6 different disciplines
- 1 common theme: Social identities
- Librarians and one instructor designed 2 library sessions and exercises (checked by instructors but not graded)
- Spring 2000, Inquiry 1SS3 won the award for Excellence in Course/Resource Design

# Instructor Observations, Jan.-Apr. 2005

- New instructor teaching 2 Inquiry sections
- Observations:
  - Poor quality of the final written paper
  - Poor critical assessment of sources
  - Sense of aversion to Library resources and services
  - Overall sense of frustration

## SOLUTION?

- Instructor sought the help of librarians!

## Pilot Project Planning, Apr.-Aug. 2005

- Librarians and instructor planned new library components for his section; provided an opportunity to review and adjust ways sessions were taught
- Library support for other sections would remain unchanged
- Pilot project approved by Associate Dean, Faculty of Social Sciences
- Pilot project involved 2 library sessions and 2 assignments (10%) to be graded by librarians

# Pilot Project, Sept.-Dec. 2005

- Library sessions increased from 50 to 90 min
  - Increased direct, hands-on training
  - Increased personalized training
- Session one: Locating books
- Session two: Locating journal articles

## Pilot Project Experience, Sept.-Dec. 2005

- Close and regular contact with instructor required especially during the grading of assignments
- Developing the marking grids and grading assignments VERY time consuming; consistency essential
- Marks for both library assignments high and fairly consistent
- Instructor identified continued problem with selecting and citing sources used in final papers

# Pilot Project Evaluation, Sept.-Dec. 2005

- Librarians and instructor agreed that improvements were needed for next term
- Librarians clarified wording of assignments
- Added third session (60 min.) and third assignment
- Made library sessions less directed, more interactive
- Created student feedback forms, to be completed and attached to each assignment upon submission

# Pilot Project Experience, Jan.-Apr. 2006

- Library sessions 1 and 2 involved group-based, active learning exercises
- Divided class in to 6 groups of 3 or 4 students
- Each group was required to complete a specific task (15 min.) and then one student from each group shared the groups' experience with the class
- Communicating to others what was learned

# Pilot Project Evaluation, Jan.-Apr. 2006

- Close and regular contact with instructor required
- Flexibility important; may need to make changes along the way
- Library assignments were reviewed and wording changed as required
- Marking assignments less time-consuming and onerous than the first time; consistency essential

# Pilot Project Evaluation, Jan.-Apr. 2006

- Group-based, active learning exercises helped to engage students, apply skills learned; experience increases understanding
- Exercises improved librarian-to-student and student-to-student interaction

# Pilot Project Evaluation, Jan.-Apr. 2006

- Greater curriculum integration; required more time and recognized greater need for assessment
- Student feedback forms helped to identify specific skills learned from the sessions and assignments
- The project experience and feedback (formal and informal) all helped to provide some indication of how important the library is as a learning component of inquiry

## Pilot Project Follow Up, June 2006 to present

- Librarians invited to attend Inquiry meetings from Fall 2005
- Librarians presented the Pilot Project to instructors
- Librarians invited to attend Inquiry planning meeting in June 2006
- Decision made for all sections to devote class time for 2 library sessions and 2 assignments (graded)
- Librarians currently attending Inquiry meetings



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# Constraints/Challenges

- Need champions who value what the library and librarians have to offer to students and course
- Need buy-in from faculty and library & university administration
- Need resources for smaller classes & facilities (more instructors, technology, flexible furniture, room size)

# Constraints/Challenges

- Librarians need time to spend with faculty and keep up with Inquiry and associated literature (IL, curriculum and instruction)
- Time commitment; SSI regular meetings with instructors; marking marathons
- Be prepared; student driven and instructor guided

# Suggestions

- Use your campus experts/resources
  - CLL (Centre for Leadership in Learning)
  - LTRC (Learning Technologies Resource Centre)
  - CSD (Centre for Student Development)
- Make connections with other librarians
  - Learn from each other to find out what works and doesn't work

# Building Campus Wide Acceptance

- Importance of linking Inquiry and Information Literacy
  - Inquiry process includes building research and critical thinking skills
- Information Literacy is a set of abilities that enables individuals to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information”

“Information Literacy Competency Standards for Higher Education.” American Library Association, 2005. <http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm> (accessed Jan 10, 2007)

# Promoting Information Literacy

*“Incorporating information literacy across curricula in all programs and services, and throughout the administrative life of the university, requires the collaborative efforts of faculty, librarians, and administrators.”*

“Information Literacy Competency Standards for Higher Education.” American Library Association, 2005. <http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm> (accessed Jan 10, 2007)

# Future Directions

- Believe we are building a better student but need to improve assessment activities
- Need to use assessment tools to determine if Inquiry based instruction (including library component) help support or promote information literacy
- Currently a lot of informal, anecdotal evidence (from faculty, students, librarians) but need to formalize the evidence

# SAILS (Standardized Assessment of Information Literacy Skills)

- SAILS is a knowledge test with multiple-choice questions targeting a variety of information literacy skills. The test items are based on the ACRL Information Literacy Competency Standards for Higher Education
- During the three-year research & development ended in Fall 2005, more than 80 institutions and 42,000 students participated in SAILS

# SAILS @ McMaster

- Pilot to participate in SAILS with funding from CLL
- 1<sup>st</sup> and 2<sup>nd</sup> year commerce students recently participated in SAILS
- Voluntary but very successful (over 450 students participated over four days)
- Now want to expand to other departments/faculties on campus

# SAILS @ McMaster

- SAILS is one way to measure student IL skills (at an aggregate level) and compare results to students at other participating universities
- Easy to administer (once approved by Ethics Board)
- Future research: Do students who take Inquiry become more information literate than those who do not?
- SAILS may help us answer this question



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## Questions?

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