Numeracy at Guelph

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What is Numeracy?

- Can be described as the knowledge, skills and appreciations needed for students to understand and utilize mathematical ideas, techniques and applications

What is Numeracy?

- Other commonly used terms:
  - Statistical Literacy
  - Quantitative Reasoning
  - Quantitative Literacy

Why is Numeracy important?

- "…the ability to use mathematics at a level and in a manner appropriate to good citizenship and to vocational fitness. Mathematics deals with quantity and form, with measurement, structures, and relations, and encompasses a richer intellectual domain than just the utilitarian skills of numerical computation. It is as a mode of thinking, no less than as a collection of useful techniques, that it justifies its place in any well-rounded curriculum."

University of Guelph's Learning Objectives 1987

Why is Numeracy important?

- …. "numeracy and the ability to communicate are essential to intellectual development, and lack of those skills hampers efforts in all directions."

The Lighting of a Fire: Re-imagining the Undergraduate Learning Experience
UG Provosts' White Paper 2006

New funding initiatives at Guelph

- Learning Enhancement Fund (LEF)

- "The LEF has been created to support initiatives arising from the Integrated Planning process and the White Paper consultation and curriculum renewal process that are designed to strengthen undergraduates' intellectual engagement and academic success."

Who is involved?

- Multidisciplinary group

  Computing and Communications Services
  Data Resource Centre
  Learning Commons
  Library
  Mathematics and Statistics Department
  Teaching Support Services

Purpose of NumQR Initiative

- Build new opportunities for students to improve their numeracy and quantitative reasoning skills, and overcome their insecurities over dealing with numbers

Purpose of NumQR Initiative

- Enrich programs with high competencies in numeric and quantitative reasoning skills as well as reach out to those programs that are traditionally weak

How are we going to accomplish this?

1. Develop a repository
   - to collect learning objects
   - disseminate learning objects

2. Create learning objects

3. Bring together various initiatives on campus

1. Repository

- Include a variety of learning object types – range from streaming video, Flash objects, flat text files,

- Dynamic to match growing needs on campus

- Access will be restricted to University of Guelph students in the beginning

- Will be open across disciplines – Humanities, Social Sciences, Math, Biology…

2. Create Learning Objects

- Project divided into 3 main components

  - **Component 1**: Basic Math – fractions, ratios, algebra

  - **Component 2**: Quantitative Reasoning – how to read tables, graphs in public press as an example

  - **Component 3**: Statistical procedures – how to interpret the standard statistical test.

3. Initiatives on Campus

- Goal is to develop a repository to be used by all faculty members on campus.

- Departments currently incorporating data into their courses – bring them on board

- Investigate other initiatives on campus and collaborate in future

Where are we now?

- Web presence – advertising the initiative
http://www.uoguelph.ca/numeracy

- 6 students in total working on project this summer.
  - Developing content
  - Developing learning objects based on content
  - Developing repository (database)

Where are we now?

- Starting to advertise to faculty - discussions

- Similar talk happening in Guelph today at out Teaching and Learning Innovations Conference

The first BIG question…..

Will it get used?
- A lot of interest on campus
- Three Faculty members are anxiously awaiting:
  - History / Economics
  - Family Relations and Nutrition
  - Mathematics / Statistics

The second BIG question…..

Will it help?

- Create a user-friendly environment
- Easy to use in courses
- Easy to use at home

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Numeracy & Quantitative Reasoning