

2006-2007
Junior-Intermediate Curriculum Studies

Integrated Project Using E-Stat for Mathematics and Health & Physical Education

Instructors:

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Project Aim: To explore the utility of E-Stat (Statistics Canada Website) as a teaching and learning tool in the Junior-Intermediate grades, and to gain practical experience with interdisciplinary learning.

Timeline:

	Sections 9-12	Sections 13-17
Week 1 (Sept. 11-15)	Mathematics Introduction to E-STAT graphing (D. Franks)	Overview of Health Curriculum Choose Topic, partner (B. Olmsted)
Week 2 (Sept. 18-22)	Overview of Health Curriculum Choose Topic, partner (B. Olmsted)	Mathematics introduction to E-STAT graphing (D. Franks)
Week 3 (Sept. 25-29)	Class time for project	No Health Class
Week 4 (Oct. 2-6)	PROJECT DUE by Friday, October 6th	Class time for project Tuesday, Oct. 3 PROJECT DUE by Friday, October 6th

Project Format:

- Powerpoint presentation
- MS Word document

Submission Format: **Electronic submission: estat@student.nipissingu.ca
(in the subject line, include section # and last names)
Hard Copy: ONE slide per page (PP); MS Word document;
please include GRADING RUBRIC.**

Project Topics:

Health Behaviour in School-Aged Children

NOTE: Topics can be used only ONCE within your section!

1. Personal Feelings (body image, relationships)

- Self-esteem in school-aged children
- Body image in school-aged children

2. Home Life (socioeconomic status)

- Family structure for school-aged children

3. Friends

- Peer pressure/peer relationships in school-aged children

4. Risk Behaviour

- Alcohol use in school-aged children
- Marijuana use in school-aged children
- Other drug use in school-aged children
- Sexual behaviour in school-aged children
- Tobacco smoking in school-aged children
- Second-hand smoke in school-aged children

5. School

- School safety (physical, emotional)

6. Healthy Living (eating habits, dental hygiene, exercise)

- Physical Activity levels in school-aged children
- Eating Habits of school-aged children
- Dieting/eating disorders in school-aged children

7. Bullying and Fighting

- Bullying in school-aged children
- Fighting/conflict resolution in school-aged children

8. Injuries and Injury Prevention

- Personal injuries in school-aged children
- Personal safety practices of school-aged children

9. Health and Illness

- Asthma in school-aged children
- Prescription drugs versus over-the-counter drugs

10. Leisure Time

- Media use in school-aged children

Overview: You and your partner must select one Health Expectation in the Junior-Intermediate Curriculum document (4-10), and design a Powerpoint presentation that you might make to your students in your practice teaching regarding the utilizing E-STAT data. This presentation should demonstrate how E-STAT can be used as an activity to integrate two subject areas (Health and Math). You do not have to make this presentation, simply prepare it from the point of view of reflecting on how you might incorporate E-STAT into your teaching skills repertoire.

Extension/Bonus Activity: Create a “ready-to-use” lesson plan for your students using these data that you could use in the classroom during practicum. Use the Single Activity lesson plan format. Additionally, if you wish to compete for a \$500.00 prize through Statistics Canada, please visit www.statcan.ca/english/liaison/cacs.htm (submission deadline March 31, 2007).

Detailed Explanation of Expectations:

(Note: Please refer to the attached rubric throughout your planning)

1. Choose a health topic from the list provided. Investigate the information provided on the Statscan website as per guidance provided in HPE and Math class. Complete the HEALTH AND MATHEMATICS E-STAT GUIDE SHEET provided to you.

E-STAT home page <http://estat.statcan.ca/>

Scroll to bottom of page and click on:

Health Behaviour in School-Aged Children

Complete the guide sheet provided to help direct you to begin the assignment. From your investigation of the data from the Statscan website (E-STAT, CANSIM), you are responsible for each of the following:

2. The creation of a presentation of the information you have discovered. This presentation must take the form of a Powerpoint presentation directed toward the students in your chosen grade/division. Your presentation should include:
 - a. An introduction (a teaching HOOK) to the topic highlighting its importance and relevance to students. This may include background (historical) information, current events pertinent to the topic, guest speakers, video clips, scenarios...
 - b. A list of the related math and health specific expectations from the grade of your choice.
 - c. A graphic representation of the data. This must include two different types of graphs (bar, pie, line,...) using E-STAT or Excel graphing functions.
 - d. Three (3) questions you would ask students related to the specific expectations listed in (b.) above. These questions should have a mathematical basis and provide the students an opportunity to interpret the data as it relates to their lives. In addition, the questions should require some high level thinking on behalf of the students and relate to their understanding of the social impact/consequences of the data.

The questions below should be submitted as a separate Word document (both as hard copy and as a separate attachment electronically.):

3. Comment on your experience while creating an interdisciplinary assignment for your grade level. Consider:
 - How you might use interdisciplinary teaching in the future.
 - What challenges you faced or may face in the future.
 - How might math complement other subject areas (or vice versa)

4. Comment on your perception of the value of E-STAT health data on meeting Health, Mathematics expectations.

J/I Health and Mathematics Interdisciplinary Assignment- Assessment

You will be assessed on the basis of three subject- and content-specific areas: health and physical education; mathematics; and interdisciplinary development. You should consider the following subject- and content- specific criteria when reviewing the assessment rubric below, developed using the Ministry-based categories of (1) knowledge and understanding (KU), (2) thinking (T), (3) communication (Com), and (4) application (App).

Health and Physical Education (HPE):

- choice of grade and curriculum expectations for topic (KU);
- description/explanation of health topic (KU, Com);
- health-related language, accuracy (KU, Com);
- health interpretation of mathematical representations (App, T, Com);
- development of topic relevance for selected grade (T, Com)

Mathematics (M):

- choice of curriculum expectations for topic (KU);
- choice and display of mathematical representations of data (KU, App, Com);
- mathematical content, conventions and terminology (KU, Com);
- grade-appropriateness of mathematics (KU, T)
- mathematical interpretation of representations (T, Com);

Interdisciplinary development (ID):

- identification of inter-subject links between health and mathematics (and others) without reference to technology (KU, T, Com);
- use of technology (all forms) to facilitate information access, inter-subject connections, in-depth analysis and interpretation of data (KU, App, T);
- communication of the HPE-M investigation itself, and the pedagogical significance of the investigation for intended audiences (peers and school students) (T, Com)

NOTES:

- (1) The grade you receive for this assignment applies equally to both your HPE and Mathematics courses.
- (2) Your overall 'level of achievement' for this assignment is based on the equal weighting of all sections: HPE, mathematics, and Interdisciplinary development. The following conversion guide will be used to obtain a percentage, and a mark out of 20 for the subject--and a mark out of 7 for the course. Level 1: 55% (11/20), Level 2: 70% (14/20); Level 3: 80% (16/20); Level 4: 95% (19/20).
- (3) Failure to submit the assignment will result in an assignment grade of zero in both courses.
- (4) Incomplete assignments may receive a grade of less than Level 1

Grading Rubric

NAMES: _____

SECTION: _____

GRADE: _____

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Categories	50-59% Level 1	60-69% Level 2	70-79% Level 3	80-100% Level 4
Communication	The student:			
communication of information and ideas (e.g., through logical organization)	communicates information and ideas with limited clarity	communicates information and ideas with some clarity	communicates information and ideas with considerable clarity	communicates information and ideas with a high degree of clarity, and with confidence
communication for different audiences and purposes (e.g., choice of language and style)	communicates with a limited sense of audience and purpose	communicates with some sense of audience and purpose	communicates with a considerable sense of audience and purpose	communicates with a strong sense of audience and purpose
use of mathematical conventions, vocabulary, and terminology (e.g., terms and symbols) in oral, visual, and written forms	uses the required mathematical conventions with limited effectiveness	uses the required mathematical conventions with some degree of effectiveness	uses the required mathematical conventions with considerable effectiveness	uses the required mathematical conventions with a high degree of effectiveness
Application	The student:			
application of language conventions (e.g., grammar, usage, spelling, punctuation)	uses the required language conventions with limited accuracy and effectiveness	uses the required language conventions with some accuracy and effectiveness	uses the required language conventions with considerable accuracy and effectiveness	uses the required language conventions accurately and effectively all or almost all of the time
making connections (e.g., between personal experiences and the subject, between subjects, and between subjects and the world outside the school)	makes connections with limited effectiveness	makes connections with moderate effectiveness	makes connections with considerable effectiveness	makes connections with a high degree of effectiveness
Use of technology (creativity, sense of audience, competence)	Uses technology with limited effectiveness	Uses technology with moderate effectiveness	Uses technology with considerable effectiveness	Uses technology with a high degree of effectiveness
Knowledge/ Understanding	The student:			
Knowledge of content (e.g., facts, terms, procedural skills, use of tools)	Demonstrates limited knowledge of content	Demonstrates some knowledge of content	Demonstrates considerable knowledge of content	Demonstrates thorough knowledge of content
understanding of information, ideas, concepts, and themes	demonstrates limited understanding of information, ideas, concepts, and themes	demonstrates some understanding of information, ideas, concepts, and themes	demonstrates considerable understanding of information, ideas, concepts, and themes	demonstrates thorough and insightful understanding of information, ideas, concepts, and themes
understanding of relationships among facts, ideas, concepts, and themes	demonstrates limited understanding of relationships among facts, ideas, concepts, and themes	demonstrates some understanding of relationships among facts, ideas, concepts, and themes	demonstrates considerable understanding of relationships among facts, ideas, concepts, and themes	demonstrates thorough and insightful understanding of relationships among facts, ideas, concepts, and themes
Thinking/ Inquiry	The student:			
critical and creative thinking skills (e.g., reflecting, analysing, hypothesizing, explaining)	uses critical and creative thinking skills with limited effectiveness	uses critical and creative thinking skills with moderate effectiveness	uses critical and creative thinking skills with considerable effectiveness	uses critical and creative thinking skills with a high degree of effectiveness