Analyzing English Performance Trends Between Urban and Rural High School Graduates

An Interim Report of a Data-Driven Research Proposal for Education 6610: Research on Computers in the Curriculum, as part of the Master of Education (Information Technology) Program, Memorial University of Newfoundland.

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1. Executive Summary

This proposed study will perform a causal-comparative analysis of data from existing records of public exam scores from the Department of Education of the province of Newfoundland and Labrador, as well as records from the Office of the Registrar, Memorial University of Newfoundland, of the final grades for two mandatory first-year university-level English courses. The aim of the study is to determine if there is indeed a causal relationship between the geographic location of the high school from which first-year university students graduated, in either rural or urban settings, and students' preparation for, and success in first-year university-level English courses. The records that will be examined in this study will be of high school graduates, over a five-year period, from schools designated by the Department of Education as being located in either rural or urban settings. In order to introduce some measure of control, only schools meeting specified criteria for level of technological integration will be considered (Department of Education, 2002, *b*).

The study also proposes to examine existing records of comments and evaluations made by both high school English Language Arts teachers, and university English professors, to determine if any differences in the success rates of rural and urban high school graduates can be traced to trends in the types of individual strengths and weaknesses identified by English instructors.

Conclusions

The conclusions and potential implications of this study include:

- The research is expected to confirm that there is, in reality, no significant difference between the scores of high school graduates from urban schools compared to their counterparts from rural schools on provincial English Language Arts public examinations, and that graduates from urban schools do not score significantly higher on these examinations (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

- The research is expected to confirm that graduates of urban high schools do not score significantly higher in mandatory first-year university-level English courses than their peers who graduated from rural high schools do (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

- The research is expected to confirm that there is not a significant difference between the comments and observations concerning the individual strengths and weaknesses of the English skills of high school graduates made by high school English teachers and those made by university English professors, and that there is no significant difference between the comments concerning individual strengths and weaknesses for graduates of rural high schools, and those of urban high schools.

Recommendations:

The researcher expects to find no significant differences between the English Language Arts skill levels of high school graduates from rural and urban zones, or their preparation for, and success in mandatory first-year university-level English courses at Memorial University of Newfoundland. Considering these expectations, the researcher would like to offer the following recommendations:

- To conduct a comprehensive document analysis of the provincial English Arts public examination records, comparing the mean scores of students from designated rural and urban high schools, to determine if a pattern of varying skill levels and success rates in provincial secondary school English programs does exist between geographic zones.

- To conduct a comprehensive document analysis of the records of the Office of the Registrar, Memorial University of Newfoundland, for the results of mandatory first-year English courses, to determine if a pattern of varying skill levels and success rates exists between first-year students who graduated from high schools in designated rural or urban zones.

- To conduct a comprehensive document analysis of the records of high school English Language Arts teachers, and university English professors, to determine if these instructors have identified patterns of skill deficiencies between students who graduated from high schools in designated rural or urban zones.

- To develop a report on the patterns of skill mastery between high school graduates from schools in designated rural and urban zones, as well as the types of skill deficiencies most frequently identified by English instructors at the high school and university level, for students from each of the designated rural and urban zones, so that any discrepencies in the mastery of English Language Arts, by geographic zone, can effectively be identified and addressed in the planning of English Language Arts curriculum.

2. Terms of Reference

1. To examine the differences in the performances of graduates of rural and urban high schools on provincially mandated English Language Arts public examinations.

2. To examine the differences in the performances of graduates of rural and urban high schools in mandatory first-year university-level English courses at Memorial University of Newfoundland.

3. To examine the differences in the comments made by high school English Language Arts teachers, and university-level English professors, regarding the individual English skills strengths and weaknesses of high school graduates from rural and urban high schools.

4. To prepare a report on the differences between graduates of rural and urban high schools in their skill levels, preparation for, and success in university-level English courses.

Acknowledgements:

The researcher would like to acknowledge Dr. Bruce Mann of the Faculty of Education, Memorial University of Newfoundland, for his advice and direction in the areas of Data-Driven Research, educational computing research, and the data-sources available for establishing suitable criteria for the selection of students and high schools for inclusion in the scope of this study. The researcher would also like to acknowledge the Department of Education for the Province of Newfoundland and Labrador for providing access to records including the designation of provincial high schools, and the results of English Language Arts public examinations. The researcher would like to acknowledge the Office of the Registrar, Memorial University of Newfoundland, for providing access to records of final grades on mandatory first-year English courses. Finally, the researcher would like to acknowledge the students, high school teachers, and university English Instructors, for their participation in this study, and access to their records, including comments regarding students' individual English skills strengths and weaknesses.

3. Definitions of Terms and Concepts

Location of student's high school: location of the high school from which the student graduated in either an urban or rural setting.

Urban high school: an all-grade or senior high school, consisting solely of single-grade classrooms, with a potential multimedia capacity ratio of < 25.0, described by the *Newfoundland and Labrador Department of Education* as being located in an urban center (Department of Education, 1996, 2002, *a*, *b*)

Rural high school: an all-grade or senior high school, consisting solely of single-grade classrooms, with a potential multimedia capacity ratio of < 25.0, described by the *Newfoundland and Labrador Department of Education* as being located in a rural center (Department of Education, 1996, 2002, *a*, *b*)

Potential multimedia capacity ratio: the ratio of students to computers with multimedia and internet capability, as well as computers with the potential to be upgraded to multimedia and Internet capability (Department of Education, 2002, *b*) *(see Appendix B for a sample listing of potential multimedia capacity ratio by school district)*

Provincial English Language Arts public exam: provincially mandated standardized final examinations for high school Level III (Grade 12) English Language Arts courses accepted as entrance requirements for *Memorial University of Newfoundland* (2002 *a*)

Public exam scores: numerical grades on English Language Arts public exams, as listed in records provided by the *Department of Education, Province of Newfoundland and Labrador*.

Mandatory first-year English courses at *Memorial University of Newfoundland*: English 1080 and one elective 1000-level English course offered by *Memorial University of Newfoundland*, considered mandatory for all degree programs offered by the university (2002 *b*)

Scores in mandatory first-year English courses at *Memorial University of Newfoundland*: numerical final grades for mandatory first-year university-level English courses, as listed in records provided by the *Office of the Registrar*, *Memorial University of Newfoundland*.

Institutional level of English instructor: whether the instructor is an English teacher in a provincial high school, or an English professor at *Memorial University of Newfoundland*.

English skills strengths and weaknesses: student's mastery of, or weakness in English Language Arts skills required for high school graduation, as described by the *Atlantic Provinces Education Foundation English Language Arts Curriculum Guide* (2000).

Instructors comments and assessments: textual and quantified records kept by high school English teachers, and English professors at *Memorial University of Newfoundland*, of observations made concerning strengths and weaknesses in terms of English skills displayed by high school graduates, and areas identified where students displayed a need for improvement in their level of mastery of English skills

4. Introduction

Having taught in both rural and urban high schools in the *Province of Newfoundland and Labrador*, I have observed an apparent difference in student's mastery of basic skills in English Language Arts.

I have also heard criticisms in recent years from university English professors that this province's high school graduates – especially those from rural schools – are ill prepared for success in university-level English courses. However, current data on student achievement levels do not show evidence of a trend of significant differences between students who graduated from urban and rural schools (Department of Education, 2002, *a*). *(see Appendix C for sample data of student achievement rates by zone)*

The discrepencies between the performances of students from urban and rural schools were recently highlighted in the CBC documentary *Learning Curves* (Petracek, 2002).

The Idea:

The idea for this data-driven research proposal is to use data from *Department of Education* public exam records, and records from the *Office of the Registrar* at *Memorial University of Newfoundland* of final marks on mandatory first-year university English courses, to confirm these observations. Existing teacher and professor comments and assessments of the strengths and weaknesses of students' English skills will also be codified, and compared to confirm the exact nature of these discrepancies.

The Need:

The results of this study would clarify whether there are indeed differences in the performances of high school students in rural and urban areas, and whether or not students from urban schools are indeed better prepared for university-level English courses than there rural peers (Department of Education, 2002, *a*; Petracek, 2002). Such findings could be useful in the ongoing process of English Language Arts curriculum reform for high schools throughout Atlantic Canada (APEF, 2000), by indicating a need to develop curriculum policy focussed on addressing the particular needs of smaller, rural based schools.

Although there have been several studies into achievement differences between students in urban and rural schools, there is currently a lack of information indicating whether these differences, if significant, translate into differences in achievement in university-level English courses.

5. Background

There have long been debates over whether students in urban high schools are priviledged compared to their peers in rural high schools. This debate has continued, especially in the realm of public opinion, ever since the period of educational reform in Newfoundland and Labrador, leading up to the Schools Act of 1997. In a recent segment as part of the CBC's documentary, Learning Curves, Heidi Petracek highlighted these public sentiments, pointing to the results of standardized tests, as compared on an international scale (Petracek, 2002). Available data, however, does not seem to support opinions that graduates of rural high schools are deficient in terms of English Language Arts skills, or their level of preparation for university-level English courses, compared to their urban peers (Department of Education, 1996, 2002, *a*, *b*).

Cursory examinations of data available from the Newfoundland and Labrador Department of Education seem to indicate that there are no significant differences between the abilities of rural and urban students in the English Language Arts. The Department's report, "Achievement Information." *Education Statistics, Elementary-Secondary, 2001-02,* available online through the provincial government website, shows that the achievement levels of rural and urban students at different grade levels are roughly the same (Department of Education, 2002, *a*).

Ex-post facto, or causal-comparative research designs (Bieger and Gerlach, 1996, pp. 36-37, 117, 123; Leedy and Ormrod, 2001, pp. 182, 239-242), provide excellent tools for determining whether there are indeed differences in the skills and performances of students, using such existing data as public exam records and records of final grades from university courses, and whether such differences, if any, can be traced to geographic factors, such as graduation from rural or urban high schools.

In an attempt to further isolate the cause of any differences in the skills and performances of rural and urban high school graduates, it is necessary to introduce some measure of control into the research study. In this case, the availability and use of specific educational resources makes a suitable control variable. The Department of Education's report, *Profile '96: Educational*

Indicators, provides indicators of the availability of technology resources in schools throughout the province (Department of Education, 1996). These indicators are broken down into categories such as individual school boards, and include statistics on the availability of Internet and multimedia ready computers in schools (Department of Education, 1996). Ratios are provided, indicating the number of computers available compared to the number of students in the school (Department of Education, 1996). Since integration of multimedia technology is a current requirement of the English Language Arts curriculum (APEF, 2000), the selection of schools for this study with similar ratios of students to computers is a reasonable way of limiting the selection of subjects for the study. Using such criteria ensures that all of the students examined come from schools with similar levels of available resources. In this way, we can be confident that any differences uncovered in the scores of rural and urban high school students are not attributable simply to a lack of resources, but, rather, to other factors peculiar to either rural or urban areas.

6. Problems Addressed in this Report

The purpose of this study was to determine the exact nature, if any, of differences in the preparedness and success of high school graduates from rural and urban high schools in mandatory first-year university-level English courses at Memorial University of Newfoundland. To conduct conduct this investigation, the research will undertake an ex-post facto design (Bieger and Gerlach, 1996, pp. 36-37, 117, 123; Leedy and Ormrod, 2001, pp. 182, 239-242), based around the following problem statements, and working hypothesis:

Problem Statements:

1. This study will determine whether existing data sources confirm a trend of lower rates of mastery of English Language Arts skills amongst high school graduates from rural schools compared to their peers from urban schools of equivalent classroom structure and potential multimedia capacity in Newfoundland and Labrador (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

2. This study will also determine whether existing data confirm a trend of higher success rates in mandatory English courses at *Memorial University of Newfoundland* amongst high school graduates from urban schools compared to their peers from rural schools of equivalent classroom structure and potential multimedia capacity (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

3. This study will determine whether existing data show discrepancies between the strengths and weaknesses of students' English skills identified by high school teachers and university professors.

Hypothesis:

Null Hypothesis:

1. There will be no differences between the scores of high school graduates from rural schools and those of students who graduated from urban high schools of equivalent classroom structure and potential multimedia capacity on English Language Arts public exams (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

2. There will be no differences between the scores of high school graduates from rural schools and those of students who graduated from urban high schools of equivalent classroom structure and potential multimedia capacity in mandatory first-year English courses at *Memorial University of Newfoundland* (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

3. There will be no differences between the strengths and weaknesses of the English skills of high school graduates identified by high school English teachers, and those identified by university English professors at *Memorial University of Newfoundland*.

Alternate Hypothesis (Directional):

1. Students who graduated from urban high schools do score significantly higher on English Language Arts public exams than students who graduated from rural high schools of equivalent classroom structure and potential multimedia capacity (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

2. Students who graduated from urban high schools do score significantly higher in mandatory first-year English courses at *Memorial University of Newfoundland* than students who graduated from rural high schools of equivalent classroom structure and potential multimedia capacity (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

3. University English professors at *Memorial University of Newfoundland* will identify significantly more strengths and weaknesses amongst the English skills of high school graduates than will high school English teachers.

7. Methodology

The procedure for conducting this study would be broken down into seven major components.

1. Obtaining records of English Language Arts public exam scores for a five-year period from the provincial *Department of Education*, and final grades for mandatory first-year English courses from the *Office of the Registrar* at *Memorial University of Newfoundland*.

2. Stratified random selection of subjects.

3. Statistical analysis of the differences between the public exam scores of graduates from urban and rural high schools.

4. Statistical analysis of the differences between the final grades of graduates from urban and rural high schools in mandatory first-year university-level English courses.

5. Obtaining records of English instructors' comments and observations of students' individual strengths and weaknesses.

6. Codifying instructors' comments and observations, according to a rubric.

7. Statistical analysis of the differences between the comments and observations of high school and university English instructors.

Sample Selection:

A system of stratified random selection (Bieger and Gerlach, 1996, pp. 54, 92-98; Leedy and Ormrod, 2001, pp. 210-224) would be used for this proposed study. An equal number of graduates from both urban and rural high schools would be selected from the records of all high school graduates for a five year period who were accepted to undertake studies at *Memorial University of Newfoundland*. In addition, data selected for the study would be restricted to records of students who graduated from urban and rural high schools with single-grade classrooms only, and with a maximum potential multimedia capacity ratio of < 25 (Department of Education, 1996, 2002, *b*).

Stratified random sampling would be used to insure that an equal number of urban and rural high school graduates were considered when analyzing the relevant data, that the classroom structures under which students were educated were equivalent, and that all students had equivalent access to integration of multimedia technology into the curriculum (Bieger and Gerlach, 1996, pp. 54, 92-98; Leedy and Ormrod, 2001, pp. 210-224).

The sample selection would be limited to 100 graduates per year (50 from urban high schools, 50 from rural high schools). This limitation would be imposed for the purpose of manageability of obtaining and codifying records of English instructors' comments and observations regarding English skill strengths and weaknesses (Bieger and Gerlach, 1996, pp. 54, 92-98, 153-154; Leedy and Ormrod, 2001, pp. 210-224).

The Variables:

Independent Variables:

1. Location of student's high school.
2. Institutional level of English instructor.

Dependent Variables:

1. Student's scores on provincial English Language Arts public exams.
2. Student's scores in mandatory first-year English courses at *Memorial University of Newfoundland*.
3. Instructors comments and assessments of student's individual English skills strengths and weaknesses.

Research Design:

The research design for this proposed study would be ex post facto, or causal-comparative in nature (Bieger and Gerlach, 1996, pp. 36-37, 117, 123; Leedy and Ormrod, 2001, pp. 182, 239-242). The arrangement of variables and observations is depicted in Figures 1 and 2 below.

Figure 1: Analysis of Data for Course Logins, Messages Read, and Scores for Participation and Final Grades

$$R\{\ X_1 \rightarrow O_1 \rightarrow O_2$$
$$R\{\ X_2 \rightarrow O_1 \rightarrow O_2$$
$$R\{\ X_3 \rightarrow O_1 \rightarrow 0_2$$

Where:
R = random selection
X_1 = frequency of course logins
X2 = duration of course logins
X3 = number of messages opened and read
O_1 = scores on participation components of courses, as assigned by proffesors

The public exam scores of an equal number of randomly selected urban and rural high school graduates, over a five-year period, will be statistically compared, to determine whether there is a significant difference between the scores of students based on the independent variable of graduation from an urban or rural high school.

The final grades of the same high school graduates in the two mandatory first-year university level English courses will be statistically compared to confirm whether a significant difference exists between scores based on the independent variable of graduation from an urban or rural high school.

Figure 2: Analysis of Observations and Comments of High School and University English Instructors

$$R\{\ Y_1 \rightarrow O_5$$
$$R\{\ Y_2 \rightarrow O_6$$

Where:
R = random selection
Y_1 = high school English teacher
O_5 = codified observations and comments on students' strengths and weaknesses
Y_2 = university English professor
O_6 = codified observations and comments on students' strengths and weaknesses

Teachers' and professors' comments and observations of the strengths and weaknesses of the same high school graduates will be codified, according to a rubric, and statistically compared to determine whether there is a significant difference between the types of strengths and weaknesses identified by instructors, based on the independent variable of institutional level of English instructor.

Materials Needed:

The materials needed to conduct this proposed research would include:

1. Records of English Language Arts public exam scores for high school graduates from the *Department of Education, Province of Newfoundland and Labrador*, for high school graduates who applied for admission to *Memorial University of Newfoundland* over a five-year period.

2. Records of final grades on mandatory first-year university English courses from the *Office of the Registrar*, *Memorial University of Newfoundland*, for high school graduates accepted to undertake studies at the university over the same five-year period.

3. A listing of provincial high schools in Newfoundland and Labrador, including the locations of the schools, the population of the largest community centers served by the schools, the student populations of the schools, and the potential multimedia capacity ratios of the schools..

4. Copies of the textual and quantified observations of high school English teachers concerning the individual strengths and weaknesses of English skills of high school graduates accepted to undertake studies at *Memorial University of Newfoundland* over a five-year period.

5. Copies of textual and quantified observations of university English professors of the individual strengths and weaknesses of English skills, observed during mandatory first-year English courses, of high school graduates accepted to undertake studies at *Memorial University of Newfoundland*.

6. Statistical analysis software, such as the *Statistics Package for the Social Sciences* (SPSS).

Criteria for Analysis:

Analyzing Data on Frequency of Course Logins and Numerical Scores for Online Participation and Final Course Grades:

The data on frequency of course logins, numerical scores for online participation as assigned by professors, and final course grades would be entered, in numerical values, into a statistical analysis software package, such as SPSS. The software package would be used to calculate mean scores, standard deviations, and variances of all variables (Gravetter and Wallnau, 1999, pp. 240-261).

Using the software, incidences of extreme scores could be eliminated from the analysis, to avoid threats imposed by statistical regression (Bieger and Gerlach, 1996, pp. 79-81). The statistics obtained by the software package would then be compared to determine the level of correlation between the variables (Gravetter and Wallnau, 1999, pp. 388-430).

A similar procedure would be used for entering data on duration of course logins, and determining the levels of correlation with scores for participation and final grades.

Entering numerical scores using SPSS software, and the feedback from the statistical analysis of the data using SPSS, are illustrated in Figures 2 and 3 below.

Figure 3
Entering Numerical Score Data Using SPSS

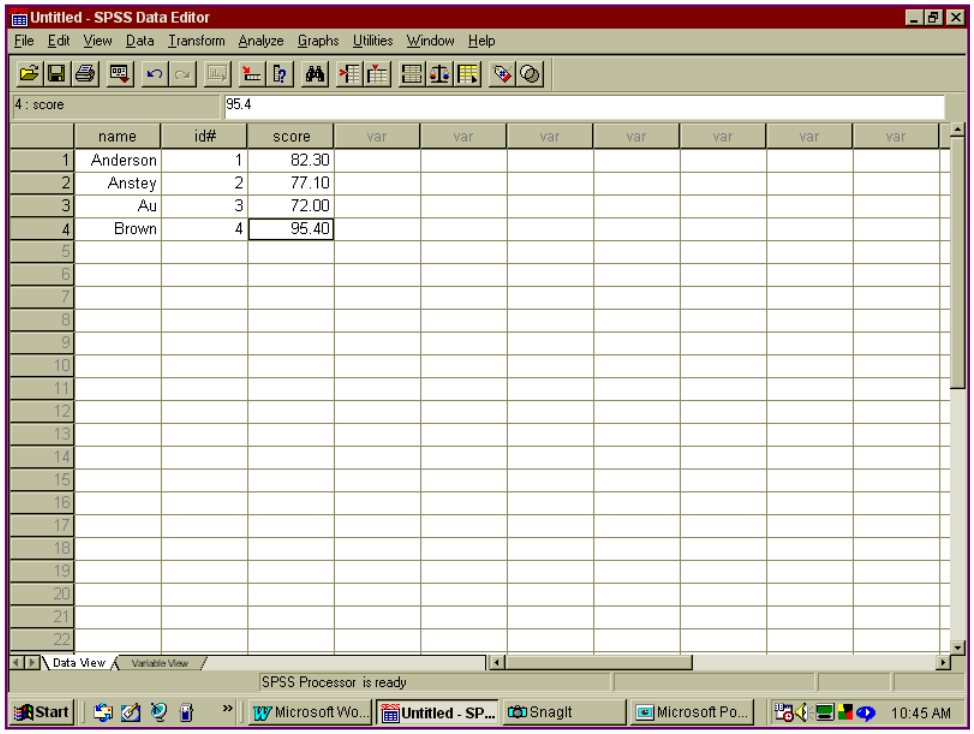
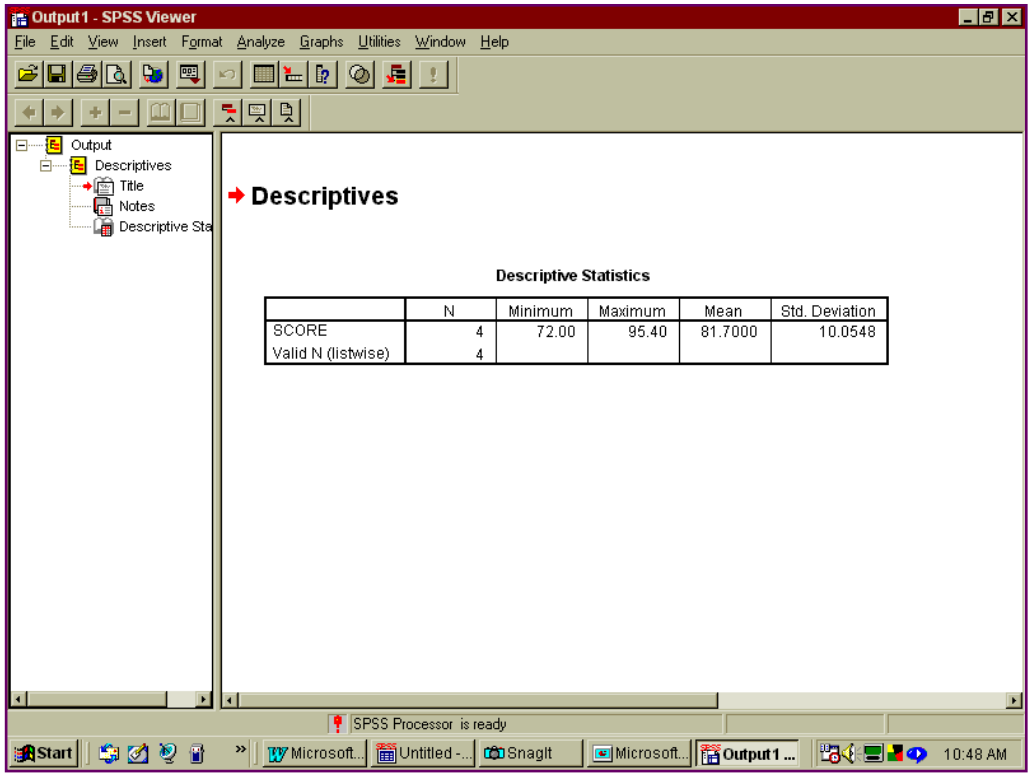


Figure 4
Sample SPSS Output for Statistical Analysis of Numerical Scores



Criteria for Codifying and Analyzing Data on Messages Opened and Read, Scores for Online Participation, and Final Course Grades:

A rubric would be developed for codifying data on number of messages opened and marked as read by WebCT, in order to determine the number of messages genuinely read, or downloaded to be read at a later time, as opposed to messages simply selected and marked as read, or messages opened but not genuinely read by students. An example of a rubric for codifying message data is presented in Figure 5 and 6, below.

Figure 5
Sample Rubric for Codifying Observations of Grammatical Skills
(*APEF*, 2000)

	Sample Code		
	1 *(Weak Skills)*	**2** *(Moderate Skills)*	**3** *(Strong Skills)*
Sample Comments / Observations	"Does not respect the conventions of grammar…" "Frequently makes mistakes relating to basic rules of grammar."	"Application of grammatical rules is inconsistent…" "Needs to work on rules for use of commas…"	"Very few grammatical errors…" "Shows a strong grasp on the conventions of grammar…"

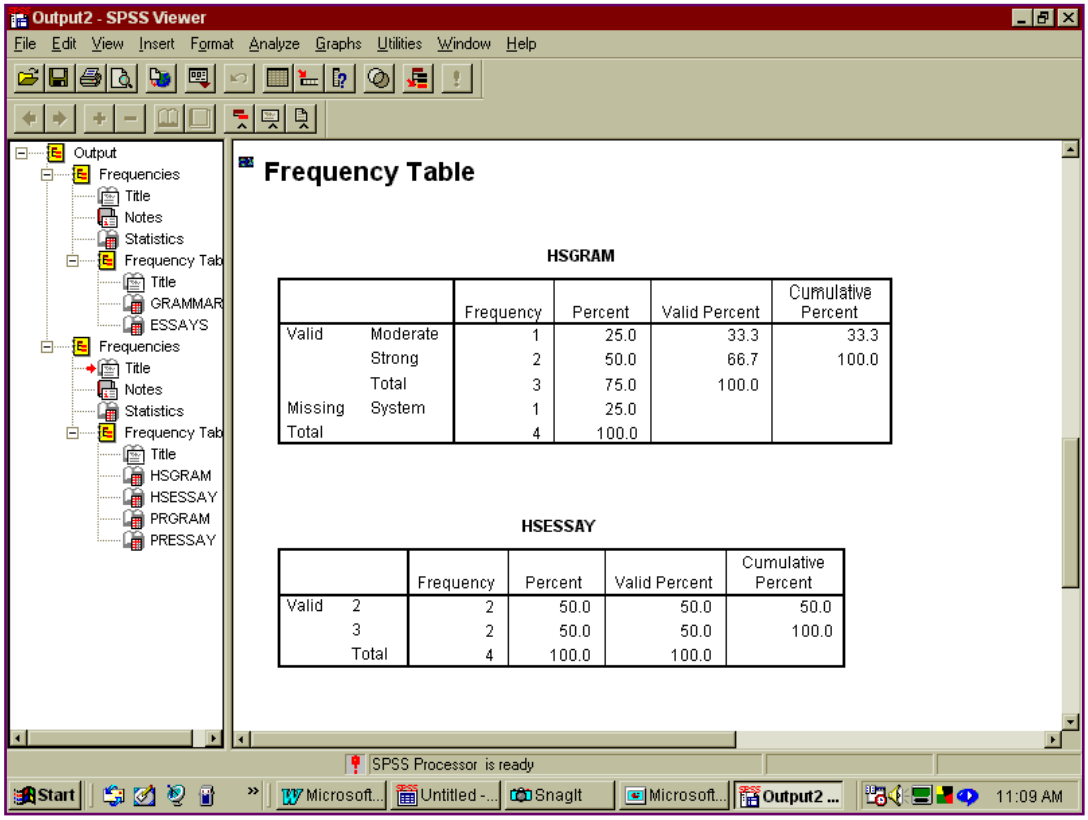
Figure 6
Sample Rubric for Codifying Observations of Essay Writing Skills
(*APEF*, 2000)

	Sample Code		
	7 *(Weak Skills)*	**8** *(Moderate Skills)*	**9** *(Strong Skills)*
Sample Comments / Observations	"Shows poor organization…" "Does not include thesis, arguments, or conclusion…" "Shows no evidence of use of sources…"	"Thesis not clearly worded…" "Does not present arguments in most logical order…"	"Well organized writing…" "Presents strong arguments in effective order…"

Once codified, the numerical values could then be entered into statistical software such as SPSS. The software package could then be used to produce frequency distributions for the types of comments and observations made by high school and university English instructors (Gravetter

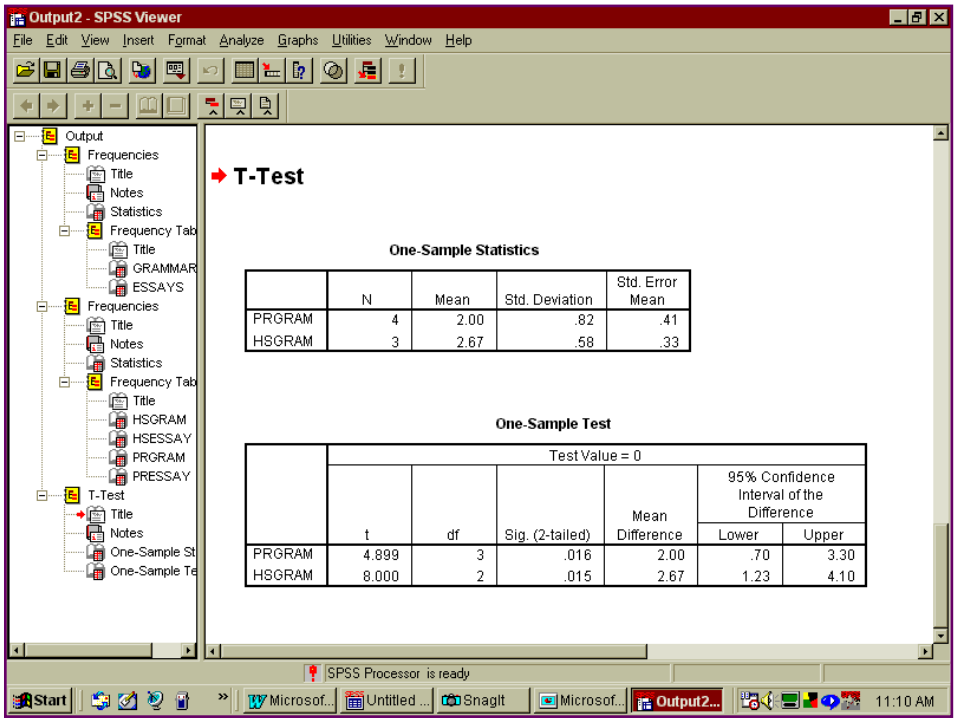
and Wallnau, 1999, pp. 39-45). Figure 7, below, shows the output from SPSS of the frequency distributions of instructors' observations.

Figure 7
SPSS Output of Frequency Distributions



The software could also be used to determine if there are statistically significant differences in the frequencies of the observations made based on the institutional level of the English instructor (Gravetter and Wallnau, 1999, pp. 39-45, 240-261). An example of the output for this analysis is presented in Figure 8 below.

Figure 8
SPSS Output of Analysis of Frequency Distributions



Avoiding Potential Threats to Internal Validity:

The following measures will be taken to maximize the internal validity of this study, and to minimize recognized potential threats to internal validity (Bieger and Gerlach, 1996, pp. 77-85; Leedy and Ormrod, 2001, pp. 103-105, 230-236):

History: Random selection of equal numbers of students who graduated from both urban and rural high schools could help to reduce potential threats posed by the previous experiences, and concurrent history of students involved in the study.

Maturation: Selecting graduates from each of five consecutive years, and analyzing data only for their performance in mandatory first-year university-level courses, could help to reduce the impact of maturation upon the study results.

Instrumentation: The use of data from standardized tests such as provincially mandated public exams for Level 3 (Grade 12) English Language Arts courses, data from records of final grades on standardized, mandatory first-year university courses, and carefully crafted rubrics for the codification of instructors comments and observations, should reduce the potential impacts of instrumentation upon the study results. Researchers involved in codifying instructors comments and observations would require training to insure standardized application of the rubrics.

Statistical Regression: The threats imposed by statistical regression could be minimized by eliminating graduates with extreme scores on the provincial public exams during the sample selection stage of the study, or by ensuring that the study sample is of sufficient size.

Mortality: Mortality should not pose a significant threat to the internal validity of this study, if the study sample is of sufficient size. Follow-ups with students withdrawing from the study would be recommended to help further reduce this risk.

Selection: The use of stratified random sampling poses some threat to internal validity, but is necessitated for logistical reasons. The threats posed by selection could be minimized through the use of a sufficiently large sample size.

Avoiding Threats to External Validity:

The following measures will be taken to maximize the external validity of this study, and to minimize recognized potential threats to external validity (Bieger and Gerlach, 1996, pp. 77-85; Leedy and Ormrod, 2001, pp. 105-106, 174, 210):

Effects of Experimental Arrangement: Experimental arrangement poses little threat to the external validity of this study, in that no participants are actually participating in experimental or control groups. The data being studied is pre-existing, so awareness of participation in the study will not affect the observed results.

Experimenter Effects: "Blind" data collection and analysis are possible, given that data are pre-existing, and the identities of participating high school graduates can easily be removed from the actual data sources.

Specificity of Variables: The operational definitions of the variables involved in this study are generalizable to educational settings and, thus, do not pose a significant threat to external validity.

Ethical Considerations:

A number of ethical issues must be taken into account in any research study. Because this data needed for this study would relate, in some cases, to students under the age of 18-years, there are some considerations that would be of particular note (Bieger and Gerlach, 1996, pp. 227-233; Leedy and Ormrod, 2001, pp. 107-111). These are:

1. Obtaining the informed written consent of the students' parents or guardians, as well as that of the students, to collect and analyze any data on their public exam and university course scores, as well as comments and observations about their English skills from high school teachers and university professors.
2. Allowing students to withdraw from the study at any time, and insuring the destruction of research materials related to any student who does withdraw from the study.
3. Informing students and their parents of any potential risks associated with participation in the study.
4. Ensuring that the results of participation in the study do not impact upon the academic records of the students involved.
5. Maintaining the confidentiality of data and anonymity students participating in the study.
6. Providing study participants with access to any treatments that prove beneficial, once the study is completed, is also a concern in research situations. In the case of this study, however, no treatment conditions would be applied to the participants.

Expected Outcomes:

It is expected that the results of this study will confirm the null hypothesis, as stated above. That is:

1. The research will confirm that there is no significant difference in the scores of high school graduates from urban schools compared to their counterparts from rural schools on provincial English Language Arts public exams, and that graduates from urban schools do not score significantly higher on these exams (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

2. The research will confirm that graduates of urban high schools do not score significantly higher in mandatory first-year university-level English courses than their peers who graduated from rural high schools do (Department of Education, 1996, 2002, *a*, *b*; Petracek, 2002).

3. The research will confirm that there is not a significant difference between the comments and observations concerning the individual strengths and weaknesses of the English skills of high school graduates made by high school English teachers and those made by university English professors.

Limitations of the Study:

The scope of this research would be limited to a causal-comparative analysis of the results of high school graduates from rural and urban areas in the Province of Newfoundland and Labrador, over a five-year period, who have been accepted to undertake studies at Memorial University of Newfoundland. Considering such, the following limitations should be noted when attempting to draw conclusions from the data and study results:

- It would be difficult, from the results of this study, to draw conclusions regarding overall differences between the English skill levels and performances of high school graduates from rural and urban high schools. The study is limited only to students who have met the entrance requirements, and who have been accepted for study at Memorial University of Newfoundland.

- It would be difficult to draw conclusions, from the results of this study, on the overall differences in the abilities of rural and urban high schools in Newfoundland and Labrador to adequately prepare high school graduates to undertake studies at the university level. The schools selected for inclusion in this study were restricted to only those that met specific criteria for the integration or potential integration of technology into the curriculum.

- It would be difficult to draw conclusions, from the results of this study, regarding the overall differences in English skills, preparation for, and success in university-level English courses, between rural and urban high school graduates in general. The study is limited to high school graduates from rural and urban zones within the province of Newfoundland and Labrador, and the results may not reflect conditions that may be unique to rural and urban zones in other parts of Canada, or the world.

Considering these limitations, the results of this study should be generalized only to comparisons of the English skills, preparedness, and success of graduates of rural and urban high schools in university-level English courses within the Province of Newfoundland and Labrador.

Recommendations for Expansion and Future Research:

There are several relevant research directions not addressed by this proposal. Future researchers may wish to expand upon this research by examining the extent of changes in students' performances in high school and university level English courses, or even the correlation between the type of feedback (observations / comments) given by English instructors, and the subsequent performances of students on provincial public exams, and in university-level English courses.

8. Summary

The idea for this causal-comparative research study grew out of concern over trends in public opinion, as highlighted in major media reports, such as Heidi Petracek's segment in the CBC's recent Learning Curves documentary, that graduates of rural high schools in Newfoundland and Labrador have a deficiency of English Language Arts skills, and that they are less prepared for success in university-level English courses, compared to their peers who graduated from urban high schools. A cursory examination of the data available, such as provincial public examination records, final course grades from the Office of the Registrar at Memorial University of Newfoundland, and other student achievement indicators compiled by the Newfoundland and Labrador Department of Education, does not indicate that such a deficiency actually exists. It is expected that this study would confirm the null hypothesis, as stated above, that no significant difference actually exist between the public examination and first-year university English course grades of students who graduated from high schools designated as rural or urban. It is hoped that a study of this nature would disprove negative public opinion that seems to be directed towards schools, and students from rural parts of the province.

In addition, this study proposes to examine such existing records as the comments of high school English Language Arts Teachers and university English instructors concerning the individual strengths and weaknesses of high school graduates in the English Language Arts. It may be the case that students from different rural and urban areas display strengths and weaknesses in different English skills. The results of this segment of the study could be useful in helping to identify areas where students in both rural and urban areas need extra attention and effort to help them strengthen specific skill sets in the English Language Arts.

9. Recommendations

The researcher expects to find no significant differences between the English Language Arts skill levels of high school graduates from rural and urban zones, or their preparation for, and success in mandatory first-year university-level English courses at Memorial University of Newfoundland. Considering these expectations, the researcher would like to offer the following recommendations:

- To conduct a comprehensive document analysis of the provincial English Arts public examination records, comparing the mean scores of students from designated rural and urban high schools, to determine if a pattern of varying skill levels and success rates in provincial secondary school English programs does exist between geographic zones.

- To conduct a comprehensive document analysis of the records of the Office of the Registrar, Memorial University of Newfoundland, for the results of mandatory first-year English courses, to determine if a pattern of varying skill levels and success rates exists between first-year students who graduated from high schools in designated rural or urban zones.

- To conduct a comprehensive document analysis of the records of high school English Language Arts teachers, and university English professors, to determine if these instructors

have identified patterns of skill deficiencies between students who graduated from high schools in designated rural or urban zones.

To develop a report on the patterns of skill mastery between high school graduates from schools in designated rural and urban zones, as well as the types of skill deficiencies most frequently identified by English instructors at the high school and university level, for students from each of the designated rural and urban zones, so that any discrepencies in the mastery of English Language Arts, by geographic zone, can effectively be identified and addressed in the planning of English Language Arts curriculum.

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11. Appendices

Appendix A:
Sample Data on Student Achievement Rates by Zone
(Department of Education, 2002, *a*)

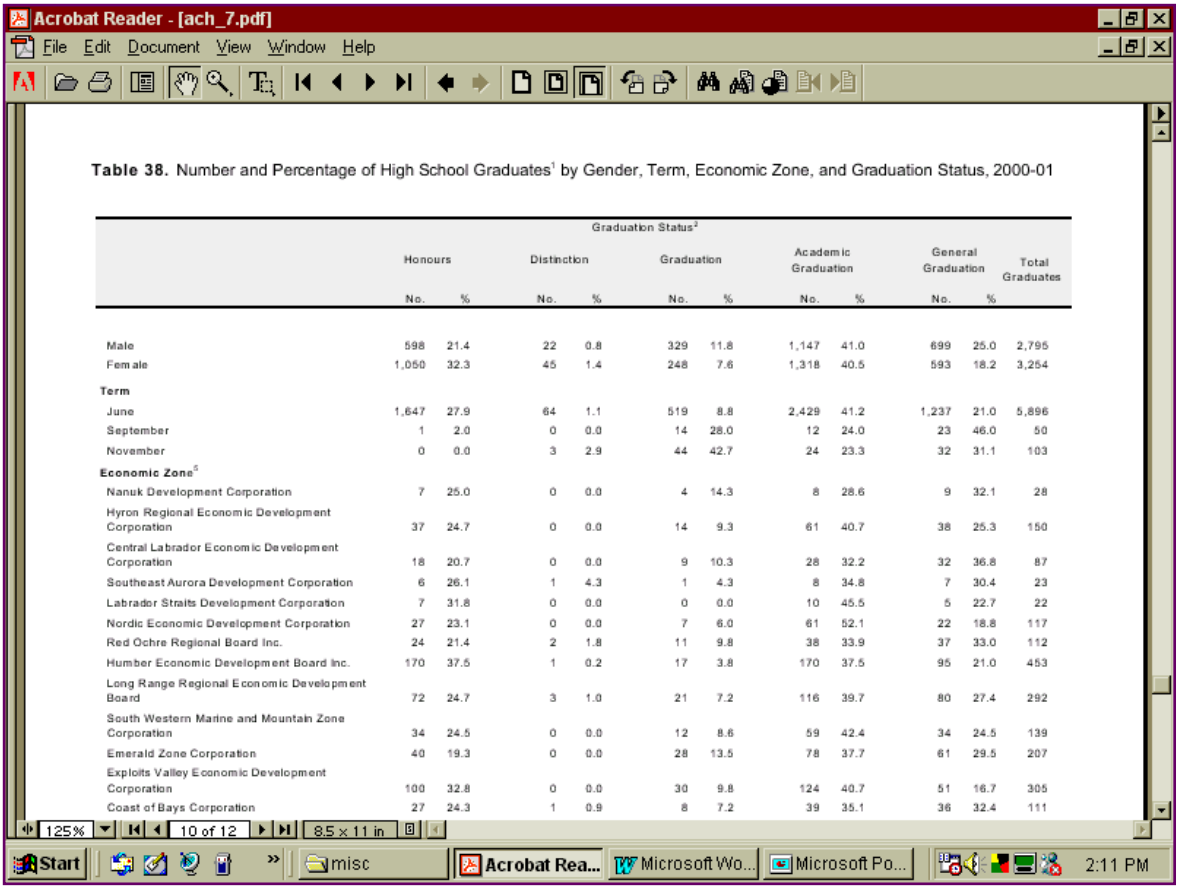

Table 38. Number and Percentage of High School Graduates[1] by Gender, Term, Economic Zone, and Graduation Status, 2000-01

	Graduation Status[2]										
	Honours		Distinction		Graduation		Academic Graduation		General Graduation		Total Graduates
	No.	%	No.	%	No.	%	No.	%	No.	%	
Male	598	21.4	22	0.8	329	11.8	1,147	41.0	699	25.0	2,795
Female	1,050	32.3	45	1.4	248	7.6	1,318	40.5	593	18.2	3,254
Term											
June	1,647	27.9	64	1.1	519	8.8	2,429	41.2	1,237	21.0	5,896
September	1	2.0	0	0.0	14	28.0	12	24.0	23	46.0	50
November	0	0.0	3	2.9	44	42.7	24	23.3	32	31.1	103
Economic Zone[5]											
Nanuk Development Corporation	7	25.0	0	0.0	4	14.3	8	28.6	9	32.1	28
Hyron Regional Economic Development Corporation	37	24.7	0	0.0	14	9.3	61	40.7	38	25.3	150
Central Labrador Economic Development Corporation	18	20.7	0	0.0	9	10.3	28	32.2	32	36.8	87
Southeast Aurora Development Corporation	6	26.1	1	4.3	1	4.3	8	34.8	7	30.4	23
Labrador Straits Development Corporation	7	31.8	0	0.0	0	0.0	10	45.5	5	22.7	22
Nordic Economic Development Corporation	27	23.1	0	0.0	7	6.0	61	52.1	22	18.8	117
Red Ochre Regional Board Inc.	24	21.4	2	1.8	11	9.8	38	33.9	37	33.0	112
Humber Economic Development Board Inc.	170	37.5	1	0.2	17	3.8	170	37.5	95	21.0	453
Long Range Regional Economic Development Board	72	24.7	3	1.0	21	7.2	116	39.7	80	27.4	292
South Western Marine and Mountain Zone Corporation	34	24.5	0	0.0	12	8.6	59	42.4	34	24.5	139
Emerald Zone Corporation	40	19.3	0	0.0	28	13.5	78	37.7	61	29.5	207
Exploits Valley Economic Development Corporation	100	32.8	0	0.0	30	9.8	124	40.7	51	16.7	305
Coast of Bays Corporation	27	24.3	1	0.9	8	7.2	39	35.1	36	32.4	111

Appendix B:
Sample Listing of Potential Multimedia Capacity by School District (Department of Education, 1996)