

Differences in Student Writing Ability as a Function of Student Characteristics at One Texas 4-Year University

Jeff Roberts
Director of Assessment
Sam Houston State University

Presented at the 2016
Southwest Educational Research
Association Annual Meeting

Introduction

- ▶ Written communication remains a key learning objective for today's college students
 - Alan & Driscoll, 2014; Arnum & Roska, 2011; Hart Research Associates, 2013, 2015
- ▶ Employers report a strong desire for institutions to emphasis written communication
 - Hart Research Associates, 2013
- ▶ However, only 27% of employers believe that recent graduates are well-prepared with regard to written communication
 - Hart Research Associates, 2015

Introduction

- ▶ Some researchers also hold a negative perception of student writing ability
 - The Spellings Commission noted that students were graduating without necessary skills in written communication
 - Secretary of Education's Commission on the Future of Higher Education, 2006
 - These findings were echoed within the (in)famous book *Academically Adrift*
 - Arnum & Roska, 2011

Review of the Literature

- ▶ Historical/meta-analysis of literature regarding writing assessment
 - Anson, 2010, Anson & Lyles, 2011; Behizadeh & Englehard, 2011
- ▶ Studies of writing assessment theory and practice
 - Anson, 2006; Gallagher, 2010
- ▶ Studies in which student writing ability was examined
 - Alan & Driscoll, 2014; Good et al., 2012

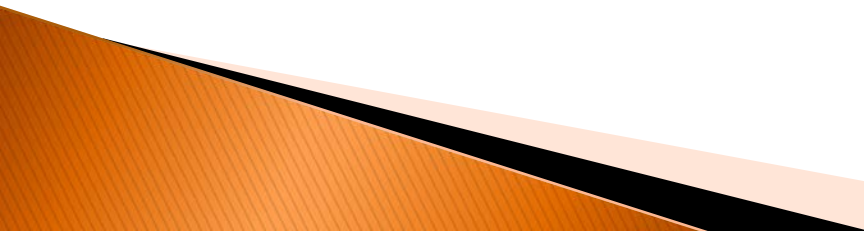
Statement of the Problem

- ▶ The first step to address critics and improve student writing is to assess student writing accurately.
- ▶ Written communication is of particular interest to Texas institutions
 - The Texas Higher Education Coordinating Board includes student written communication as a core learning objective
 - THECB, 2015

Purpose of the Study

- ▶ This study originated out of one university's efforts to assess student writing
 - Nardone et al., 2013; Roberts et al., 2014.
- ▶ The goals of the original writing assessment were two-fold:
 - Evaluate the effectiveness of writing-enhanced courses
 - Collect base-line data regarding student-writing ability
 - Nardone et al., 2013; Roberts et al., 2014.
- ▶ This study builds upon that work, utilizing archived data to answer additional questions regarding student writing
- ▶ Furthermore, it serves as a potential model for other writing assessments

Significance of the Study

- ▶ Results from this study will be used to help improve student writing ability within the studied institution
 - ▶ The results of this study may be used by other researchers to assess and improve student writing at their institutions
 - ▶ The results from this study may be helpful to other Texas institutions in their assessment of student writing as part of their State–mandated core curriculum assessment efforts
- 

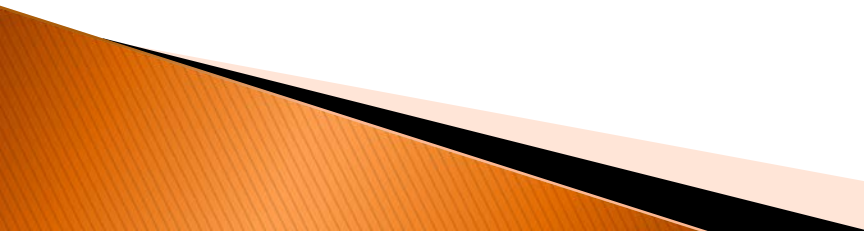
Research Questions

- ▶ What is the difference in the student performance on an end-of-experience student writing assessment as a function of student race?
- ▶ What is the difference in the student performance on an end-of-experience student writing assessment as a function of student gender?

Delimitations

- ▶ Sample encompassed only Junior- and Senior-level students enrolled within 4000-level Writing Enhanced courses at one university in south-east Texas
- ▶ Data were only gathered from the Spring 2013 academic semester
 - Therefore only represent a snap-shot of student writing ability

Limitations

- ▶ The nature of the sample pool means that the results may not be generalizable to different student populations, different institutions, and different locations.
 - ▶ As these data were only gathered from one academic semester, any relationships or differences identified may represent anomalies, and not be reflective of actual trends over time.
- 

Assumptions

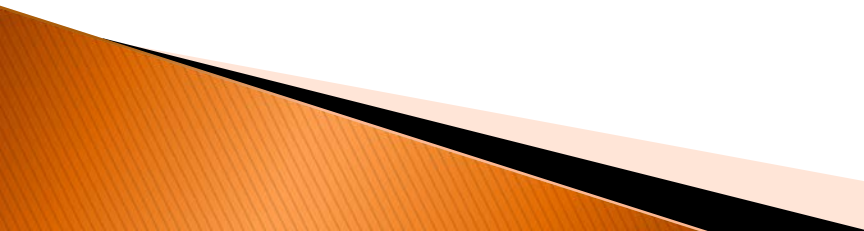
- ▶ It is assumed that any errors within the dataset are random and not specific to any one group or variable
 - Data were previously collected and verified by the author of the study; therefore, minimal errors are anticipated
 - Authentic student writing artifacts were used and are assumed to represent the best possible examples of student work
 - The rubric was developed by interdisciplinary group of faculty with expertise in student writing, and is therefore assumed to have content-related validity
 - Banta & Palomba, 2015; Bridges et al., 2013

Method


Research Design

- ▶ Nonexperimental, causal comparative research design
 - Design allows for the use of existing data
 - Does not allow for the manipulation of the examined variables

Participants

- ▶ Junior– and senior–level students enrolled in 4000–level writing enhanced courses during the Spring 2013 semester
 - ▶ A stratified random sampling process was used to select student artifacts for analysis
 - 395 student artifacts were used for scoring
 - ▶ Sample was representative of the size and diversity of the university’s student population
- 

Instrumentation

- ▶ Locally developed writing rubric with four domains:
 - Ideas/Critical Thinking/Synthesis
 - Style
 - Organization
 - Conventions
 - ▶ Each artifact received a separate score for each of the four domains using a 4-point scale
 - ▶ Two raters evaluated each artifact independently
 - ▶ Third rater introduced when scores were out of agreement
- 

Score Reliability

ICC's were calculated to determine the level of inter-rater agreement

Category Area	Intraclass Correlation for Average Measures
Ideas/Critical Thinking/Synthesis	.69 – Good
Style	.65 – Good
Organization	.64 – Good
Conventions	.58 – Fair
Overall Total	.80 – Excellent
Overall Average	.80 – Excellent

According to Cicchetti (1994), ICC agreement:

> .40 = poor agreement

.40-.59 = fair agreement

.60-.74 = good agreement

.75 < = excellent agreement

Specificity of Variables

- ▶ Student writing scores that were derived from locally-developed writing rubric unique to that institution were used in this study.
- ▶ Therefore, no attempt is made to generalize the findings of this study beyond its circumstances

Results

- ▶ Parametric Multivariate Analysis of Variance (MANOVA) procedures were used to determine whether any differences could be observed in student writing scores as a function of student race and student ethnicity.
 - The use of a parametric procedure was justified as the majority of assumptions were met (Field, 2009) for both research questions.
 - Skewness and kurtosis coefficients were within the ranges of normality ($+/-3$; Onwuegbuzie & Daniel, 2001).
 - Box's Test's of Equality of Covariance were violated.
 - Levene's Test of Equality of Error Variances were met.

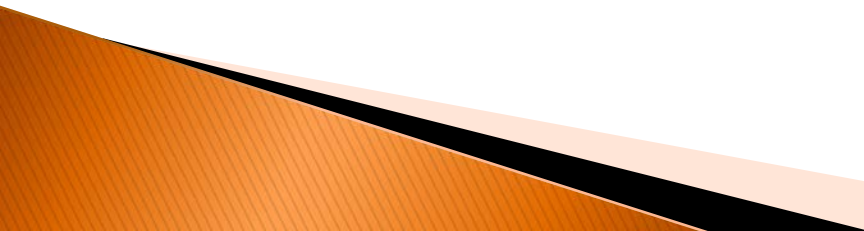
Differences in Student Writing by Race and Gender

- ▶ No statistically significant differences were observed in student writing as a function of either student race or of student gender.
- ▶ Student Writing as a function of race
 - Wilks' $\Lambda = .97, p = .56$
- ▶ Student Writing as a function of gender
 - Wilks' $\Lambda = .99, p = .65$

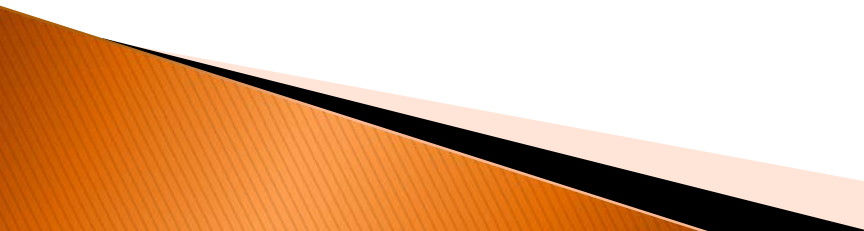
Descriptive Statistics for Student Overall Writing Scores by Student Demographic Characteristic

Student Demographic Characteristic	n	M %	SD %
Race			
White	259	2.69	0.64
Black	51	2.53	0.65
Hispanic	56	2.54	0.56
Other	28	2.48	0.53
Gender			
Male	143	2.59	0.65
Female	251	2.66	0.61

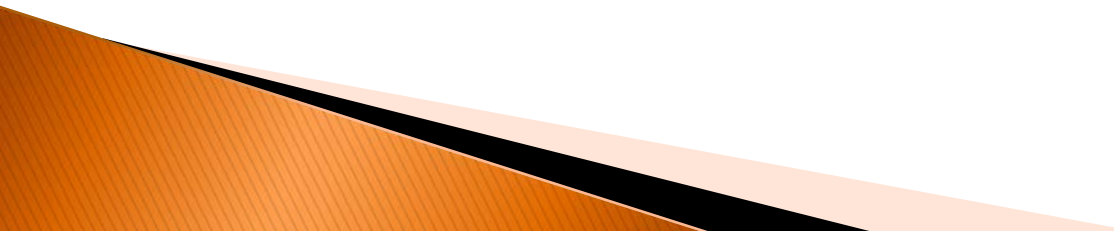
Discussion

- ▶ If an institution is doing an adequate job of preparing its students, one would expect to see equitable results regardless of student type.
 - ▶ Therefore, the lack of statistically significant differences in writing scores as a function of race or gender may be interpreted as a positive result.
 - ▶ To confirm these results, more study is needed:
 - Eliminate competing theories
 - Eliminate the possibility of error
- 

Discussion

- ▶ Flaws could exist with the rubric or assessment methodology.
 - ▶ Findings could be the result of an inadequate sample size, thus limiting the observed differences between the groups.
 - ▶ Weaker students, regardless of race or gender, may not persist to the junior and senior years, thus limiting the observed differences between the groups.
- 

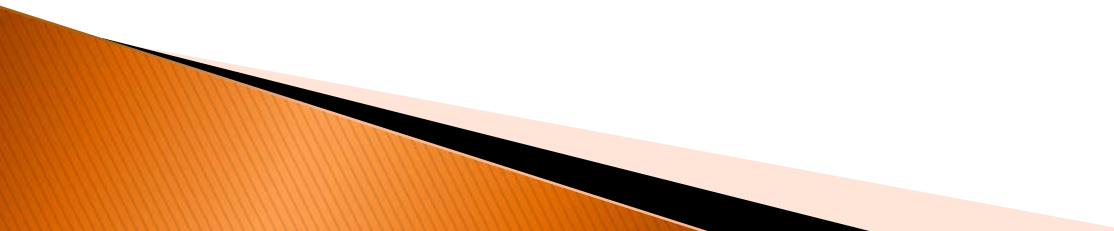
Discussion

- ▶ Sample size could be increased.
 - ▶ Rubric could be validated through cross-type and cross-institutional scoring.
 - Use the Rubric to score artifacts from entry-level students
 - Use the rubric to score artifacts from another institution
- 

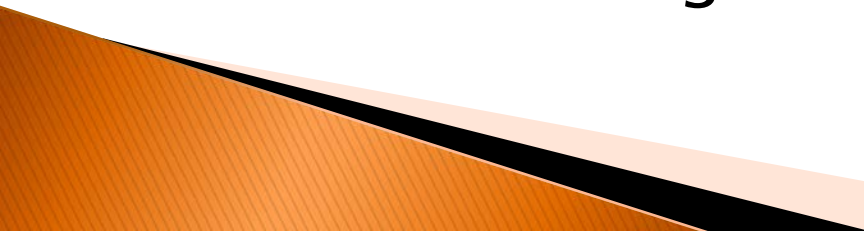
Discussion

- ▶ Finally, equity does not mean quality...
- ▶ More information is needed to determine whether the level of student performance observed within this study was sufficient for end-of-experience students.

Conclusion

- ▶ No magic bullet exists for assessing student learning. No one test, measure, or rubric will ever provide all the answers needed by faculty, staff, and administrators to improve student learning.
 - ▶ Additionally, improvements do not occur overnight, but take time and intentionality.
- 

Conclusion

- ▶ To improve student writing institutions must ultimately have assessments that provide reliable and valid data that are meaningful to them.
 - ▶ This study represents one such attempt by a Texas 4-year university.
 - ▶ It is hoped that it will inspire others to assess student writing at their own institutions
- 

Questions?

Jeff Roberts
Director of Assessment
Sam Houston State University

jeff.roberts@shsu.edu

936-294-1859