

**Office of Academic
Planning and Assessment**

A Report of the Assessment of Written Communication (AWC)

College of Science and Engineering Technology

Spring 2018

Description of Assessment of Written Communication (AWC)

Each academic year, approximately 500 student writing artifacts are collected and assessed using a locally-developed writing rubric. This rubric was developed by faculty with expertise in teaching and assessing student writing and is assumed to have content related validity (Banta & Palomba, 2015). Over a three-year period, each academic college at SHSU will participate in the Assessment of Written Communication (AWC) and submit artifacts for scoring. These student artifacts either come directly from courses within those colleges or from required capstone projects; therefore, the artifacts represent authentic student work (Banta & Palomba, 2015; Kuh et al. 2015).

The Student data presented within this report reflect student performance regarding the Texas Higher Education Coordinating Board's Core Learning Objective of Communication Skills (THECB, 2018). The THECB (2018) defines Communication Skills as "effective development, interpretation, and expression of ideas through written, oral and visual communication." Data from this assessment may therefore be used to address the written communication element of the broader concept of Communication Skills. These data should be used in conjunction with other data to fully understand student knowledge and ability regarding this Core Learning Objective.

Methodology

A total of 352 artifacts were submitted from upper division courses in the College of Science and Engineering Technology; although, some were not scored. A total of 313 artifacts from the college for 2017-2018 were scored as part of this writing assessment. Artifacts were submitted by Agricultural Sciences (64), Biological Sciences (39), Chemistry (154), Engineering Technology (43), and Mathematics and Statistics (13).

Student writing artifacts were scored by faculty and staff volunteers during a two-day scoring session using a locally-developed writing rubric. This rubric was divided into four separate domains: (1) Ideas/Critical Thinking/Synthesis; (2) Style; (3) Organization; and (4) Conventions. A copy of this rubric is provided in the Appendix. Each domain was scored individually from 1 to 4, with 1 being the lowest and 4 being the highest. Each artifact was reviewed by two raters, with a third rater introduced when the scores were too far out of agreement (i.e., a score of 1 and 4 for the same domain). The third rater would only score those domains that were not in agreement and the two closest scores would be kept. The individual domain scores for each student writing artifact were then averaged together to provide a total average score for the artifact.

Score Reliability

Intraclass correlational coefficients (ICCs) were calculated to determine the level of inter-rater agreement for each domain of student writing, as well as the overall average scores for all papers scored as part of this writing assessment (Fleiss, 2003; Shrout & Fleiss, 1979). According to Cicchetti (1994), ICC agreement values below .40 are to be interpreted as demonstrating poor agreement, from .40 to .59 as demonstrating fair agreement, .60 to .74 as demonstrating good agreement, and .75 and above as demonstrating excellent agreement. The agreement values for each of the individual writing domains were in the fair range, while the agreement value for the overall average score was .62 indicating good agreement. A complete breakdown of the ICC agreement values may be found in Table 1.

Table 1.

Breakdown of ICC Agreement by Domain Area

Domain Area	Intraclass Correlation for Average Measures
Ideas/Critical Thinking/Synthesis	.55
Style	.50
Organization	.57
Conventions	.52
Overall Average	.62

Results

Descriptive statistics are provided of the average student score for each domain, as well as the overall average, for the College of Science and Engineering Technology and its Departments participating within this assessment. A full break down of College-level data can be found in Table 2. A breakdown of Department-level data can be found in Table 3.

Table 2.

Descriptive Statistics for College-wide Student Writing Performance

College	<i>M</i>	<i>SD</i>
College of Science and Engineering Technology		
Ideas/Critical Thinking/Synthesis	2.87	0.69
Style	2.84	0.69
Organization	2.84	0.66
Conventions	2.88	0.70
Overall Average	2.86	0.58

Note. The number of student artifacts was 313.

Table 3.

Descriptive Statistics for Student Writing Performance by Department for Science and Engineering Technology

Department	n	M	SD
Agricultural Sciences			
Ideas/Critical Thinking/Synthesis	64	2.66	0.69
Style	64	2.82	0.66
Organization	64	2.72	0.65
Conventions	64	2.69	0.69
Overall Average	64	2.72	0.56
Biological Sciences			
Ideas/Critical Thinking/Synthesis	39	2.73	0.58
Style	39	2.40	0.64
Organization	39	2.73	0.60
Conventions	39	2.63	0.62
Overall Average	39	2.62	0.50
Chemistry			
Ideas/Critical Thinking/Synthesis	154	3.03	0.69
Style	154	3.02	0.66
Organization	154	2.95	0.67
Conventions	154	3.09	0.65
Overall Average	154	3.02	0.58
Engineering Technology			
Ideas/Critical Thinking/Synthesis	43	2.74	0.66
Style	43	2.59	0.64
Organization	43	2.78	0.58
Conventions	43	2.64	0.73
Overall Average	43	2.69	0.53
Mathematics and Statistics			
Ideas/Critical Thinking/Synthesis	13	2.96	0.66
Style	13	3.00	0.82
Organization	13	2.69	0.83
Conventions	13	3.00	0.57
Overall Average	13	2.91	0.62

References

- Banta, T. W., & Palomba, C. A. (2015). *Assessment essentials: Planning implementing, and improving assessment in higher education* (2nd ed.). San Francisco, CA: Jossey-Bass.
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- Fleiss, J. L. (2003). *Statistical methods for rates and proportions* (3rd ed.). New York, NY: Wiley. doi:10.1002/0471445428
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- Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychology Bulletin*, 86, 420-428. doi:10.1037/0033-2909.86.2.420
- Texas Higher Education Coordinating Board. (2018). Texas Core Curriculum. Retrieved from: <http://www.theccb.state.tx.us/reports/PDF/10751.PDF?CFID=81516145&CFTOKEN=65705134>

Appendix
Writing Assessment Rubric

Writing Assessment Rubric

This rubric asks you to identify features of the writing present in the sample. You should *apply the numerical score based on degree of presence* of the characteristic features. The writing features selected for the rubric are those most likely present in any disciplinary writing sample and represent a writing level expected of a senior-level college student.

Legend: N/A = Not Applicable
 1 = few features are present
 2 = features are not often present
 3 = features are often present
 4 = features are most always present

CATEGORY

CHARACTERISTIC FEATURES

<p>Ideas/Critical Thinking/Synthesis <i>The depth of sophistication of thoughts and ideas.</i> Features may include research, reasoning, evidence, detail, and development (appropriate to the field and genre)</p>	<ul style="list-style-type: none"> • Central subject or argument of the assignment is easily identified, clearly emphasized, consistent with the evidence, and intriguing • Reasoning is fully developed throughout the assignment with logical examples, details, and evidence where and as appropriate • Assignment contains information that addresses counterarguments, biases, or reader's expectations as appropriate
<p>Style <i>The choices the writer makes for specific audiences.</i> Features may include word choice, tone, and sentence length and structure</p>	<ul style="list-style-type: none"> • Sustained awareness of audience throughout the assignment • Writing tone suits the audience and enhances the assignment's purpose • Sentence structure varies according to the content, purpose, and audience • Sentences are consistently clear and logical • Word choice is appropriate to the writing task
<p>Organization <i>The coherence of the writing.</i> Features may include balance and ordering of ideas, flow, transition, and appropriate format (as defined in assignment)</p>	<ul style="list-style-type: none"> • Text is purposefully organized and substantially developed in a way that clarifies the argument and enhances style • Arrangement of ideas (overall structure) is clear, logical, and compelling as appropriate to the assignment; the reader moves through the text easily • Internal structure is cohesive and coherent; text flows and ideas are clearly and logically connected • Transitions used appropriately
<p>Conventions <i>Adherence to standard American edited English.</i> Features include grammar, punctuation, capitalization, spelling, and documentation.</p>	<ul style="list-style-type: none"> • Grammar and mechanics support the reader's understanding of the writer's purpose without distracting errors • Documentation style is consistent, if appropriate to assignment • Sources, when appropriate, are effectively integrated into the body of the assignment • Minor errors do not interfere with readability or damage the writer's credibility (as appropriate to the assignment parameters)