Winona State University 2014 ETS Proficiency Profile *Preliminary* Results

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Office of Institutional Planning, Assessment & Research

Background:

In Spring 2014 Winona State University administered the ETS Proficiency Profile as an ongoing effort to assess students' General Education learning outcomes in MnSCU Transfer Curriculum Goal Area 1 (communication), 2 (critical thinking), and 4 (mathematical/logical reasoning).

The ETS Proficiency Profile (the abbreviated version) is a nationally normed instrument to assess college level general education skills in reading, critical thinking, writing, and mathematics. This instrument employs 36 multiple-choice test items and each student is given 40 minutes to complete them. When administered to incoming first-year students and graduating seniors, it provides a measure of students' learning in college.

IPAR recruited first-year and senior students in Spring 2014. 318 students in total participated, 218 voluntarily on the Assessment Day and 89 in classroom contexts. By the definition provided by the ETS, we consider 153 of them as first-year students (with less than 30 credits) and 118 as seniors (with more than 90 credits).

Results

The preliminary analyses are provided in two tables below. Further analysis requires a purchase of a special reporting service from the ETS.

Two quick observations:

- There appears to be a learning gain. For all proficiency categories, seniors consistently scored higher than first-year students at WSU. (See Table 1.)
- WSU students (both first-year and senior) achieved the level 1 of proficiency in all proficiency categories at a higher rate than the national average. However, their achievement in critical thinking (i.e., level 3 in reading) was at slightly lower rates than the national average. (See Table 2.)

Table 1. Winona State University ETS Proficiency Profile - Average Scores by Student Level (Spring 2014)

	First Year Students			Seniors			Difference between FYS and SR	
	WSU (n=153)	National Mean	WSU Percentile Rank	WSU (n=118)	National Mean	WSU Percentile Rank	WSU	National
Total	443.09	439.11	64%	449.66	447.89	55%	6.57	8.78
Critical Thinking	111.12	110.35	59%	113.4	112.8	52%	2.28	2.45
Reading	117.02	116.2	55%	119.12	119	44%	2.1	2.8
Writing	114.57	113.26	63%	116.3	114.9	56%	1.73	1.64
Mathematics	113.36	112.35	52%	113.91	114.2	50%	0.55	1.85

Table 2. Winona State University ETS Proficiency Profile – Achievement of Proficiency Levels (Spring 2014)

Note: "The Proficiency Classification" appended after this table provides the explanation of levels in each proficiency category.

WSU							
		WSU First Year Students (n=153)			**WSU Seniors (n=118)**		
		Proficient	**Marginal**	**Not Proficient**	**Proficient**	**Marginal**	**Not Proficient**
Reading	**Level 1**	64%	17%	19%	68%	22%	10%
	Level 2	31%	24%	46%	41%	24%	34%
	Critical Thinking	1%	18%	80%	7%	24%	69%
Writing	**Level 1**	65%	27%	9%	76%	16%	8%
	Level 2	18%	37%	45%	28%	45%	27%
	Level 3	7%	28%	65%	13%	34%	53%
Mathematics	**Level 1**	56%	31%	14%	54%	31%	15%
	Level 2	25%	29%	45%	35%	20%	45%
	Level 3	4%	16%	80%	9%	19%	72%
National Average (for comparison)							
		First-Year Students National Average			**Seniors National Average**		
		Proficient	**Marginal**	**Not Proficient**	**Proficient**	**Marginal**	**Not Proficient**
Reading	**Level 1**	53%	23%	25%	71%	17%	13%
	Level 2	25%	18%	57%	42%	20%	38%
	Critical Thinking	3%	12%	85%	8%	21%	71%
Writing	**Level 1**	52%	23%	17%	67%	24%	9%
	Level 2	14%	31%	56%	23%	37%	40%
	Level 3	6%	19%	75%	10%	28%	62%
Mathematics	**Level 1**	45%	26%	29%	60%	23%	17%
	Level 2	22%	23%	55%	34%	26%	41%
	Level 3	5%	12%	82%	10%	19%	72%

Appendix: Proficiency Classifications (provided by the ETS)

Proficiency Levels

The skills measured by the ETS Proficiency Profile test are grouped into three skill areas:

- Reading and critical thinking
- Writing
- Mathematics

Within each of these three skill areas, the specific skills tested by the ETS Proficiency Profile test are classified into three *proficiency levels*, identified simply as **Level 1**, **Level 2**, and **Level 3**. Each proficiency level is defined in terms of a set of specific competencies expected of students.

Skills Tested at Each Level

Reading and Critical Thinking

To be considered proficient at **Level 1 (Reading)**, a student should be able to:

- Recognize factual material explicitly presented in a reading passage
- Understand the meaning of particular words or phrases in the context of a reading passage

To be considered proficient at **Level 2 (Reading)**, a student should be able to:

- Synthesize material from different sections of a passage
- Recognize valid inferences derived from material in the passage
- Identify accurate summaries of a passage or of significant sections of the passage
- Understand and interpret figurative language
- Discern the main idea, purpose, or focus of a passage or a significant portion of the passage

To be considered proficient at **Level 3 (Critical Thinking)**, a student should be able to:

- Evaluate competing causal explanations
- Evaluate hypotheses for consistency with known facts
- Determine the relevance of information for evaluating an argument or conclusion
- Determine whether an artistic interpretation is supported by evidence contained in a work
- Recognize the salient features or themes in a work of art
- Evaluate the appropriateness of procedures for investigating a question of causation
- Evaluate data for consistency with known facts, hypotheses or methods

Writing

To be considered proficient at **Level 1**, a student should be able to:

- Recognize agreement among basic grammatical elements (e.g., nouns, verbs, pronouns and conjunctions)
- Recognize appropriate transition words
- Recognize incorrect word choice
- Order sentences in a paragraph
- Order elements in an outline

To be considered proficient at **Level 2**, a student should be able to:

- Incorporate new material into a passage
- Recognize agreement among basic grammatical elements (e.g., nouns, verbs, pronouns and conjunctions) when these elements are complicated by intervening words or phrases
- Combine simple clauses into single, more complex combinations
- Recast existing sentences into new syntactic combinations

To be considered proficient at **Level 3**, a student should be able to:

- Discriminate between appropriate and inappropriate use of parallelism
- Discriminate between appropriate and inappropriate use of idiomatic language
- Recognize redundancy
- Discriminate between correct and incorrect constructions
- Recognize the most effective revision of a sentence

Mathematics

To be considered proficient at **Level 1**, a student should be able to:

- Solve word problems that would most likely be solved by arithmetic and do not involve conversion of units or proportionality (These problems can be multi-step if the steps are repeated rather than embedded.)
- Solve problems involving the informal properties of numbers and operations, often involving the Number Line, including positive and negative numbers, whole numbers and fractions (including conversions of common fractions to percents, such as converting ¼ to 25%)
- Solve problems requiring a general understanding of square roots and the squares of numbers
- Solve a simple equation or substitute numbers into an algebraic expression
- Find information from a graph (This task may involve finding a specified piece of information in a graph that also contains other information.)

To be considered proficient at **Level 2**, a student should be able to:

- Solve arithmetic problems with some complications, such as complex wording, maximizing or minimizing, and embedded ratios. (These problems include algebra problems that can be solved by arithmetic [the answer choices are numeric].)
- Simplify algebraic expressions, perform basic translations, and draw conclusions from algebraic equations and inequalities (These tasks are more complicated than solving a simple equation, though they may be approached arithmetically by substituting numbers.)
- Interpret a trend represented in a graph, or choose a graph that reflects a trend
- Solve problems involving sets (The problems would have numeric answer choices.)

To be considered proficient at **Level 3**, a student should be able to:

- Solve word problems that would be unlikely to be solved by arithmetic; the answer choices are either algebraic expressions or are numbers that do not lend themselves to back-solving
- Solve problems involving difficult arithmetic concepts such as exponents and roots other than squares and square roots and percent of increase or decrease
- Generalize about numbers, e.g., identify the values of (x) for which an expression increases as (x) increases
- Solve problems requiring an understanding of the properties of integers, rational numbers, etc.
- Interpret a graph in which the trends are to be expressed algebraically or in which one of the following is involved: exponents and roots other than squares and square roots, percent of increase or decrease
- Solve problems requiring insight or logical reasoning