Florida SouthWestern State College's Quality Enhancement Plan goal is to permit first-time-in-college students to become independent learners proficient in critical thinking. Through course completion, students will be able to demonstrate their analytical and evaluation skills. The Conley Readiness Index (CRI) provides information on the attitudes and nature of students, areas of strengths and weaknesses that can be used for targeting learning strategies. The CRI also allows for the ability to track changes in student perceptions of ideas and thinking approaches over the term of the course[1]. The results of the CRI are expected to statistically significantly improve over the progression of the SLS 1515 Cornerstone Experience course.

The index evaluates three key areas to college and critical thinking. One of the three, 'Key Cognitive Strategies', focuses on specific critical thinking aptitudes which has changed from fall 2016 to spring 2017. Previously, the aptitudes were broken down into 10 components representing 5 aptitudes. For example, the 'Communication' aptitude was further divided into 'Construct' (creating academic works) and 'Organize' (idea organization). Moving forward, the CRI has been adapted such that only the aptitudes for 'Key Cognitive Strategies' are scored, not the individual components (Conley 2014). The remaining two areas focus on content knowledge (e.g. skillsets, technology knowledge) and learning strategies (e.g. note-taking, test-taking). A complete review of the aptitudes included in the CRI are shown below[1]:

- ❖ Key Cognitive Strategies
    - o Communication: The ability to organize your work, support positions, and construct the work product.
    - o Interpretation – The ability to analyze competing and conflicting descriptions of an event or issue.
    - o Precision/Accuracy - The ability to know what type of precision (level of detail) is appropriate to a task or subject area and increase accuracy (truthfulness) through successive tasks.
    - o Problem Formulation – The ability to develop and apply multiple strategies to formulate routine and non-routine problems.
    - o Research - The ability to identify appropriate resources to help answer a question or solve a problem.
- ❖ Key Content Knowledge
    - o Attribution - knowing that hard work determines how well you do, not whether you are "good" or "bad" at something.
    - o Value - seeing the value in coursework and understanding that what you learn in class will be useful later in life.
    - o Challenge Level - how you rise to meet a difficult task and do not choose the easiest option.
    - o Student Effort - being motivated to work hard and knowing that hard work produces satisfying results.
    - o Structure of Knowledge - understanding the "big ideas" of what you're learning, and how what you're learning now fits into your overall education.
- ❖ Learning Skills

- Collaborative Learning Strategies - working well in groups by listening to the ideas of others and staying on task.
- Memorization / Recall - for remembering important information.
- Note Taking Strategies - using different methods to take notes, reviewing notes before class, and using notes to prepare for tests and complete assignments.
- Strategic Reading Strategies - changing the way you read depending on what you are reading.
- Test Taking Strategies - using a variety of strategies to do well on a test.
- Time Management Strategies - the process of estimating how much time it takes to finish work and then planning enough time to do so.
- Goal Setting Strategies - setting reasonable goals for school, work, and personal life.
- Persistence Strategies - not giving up on difficult tasks, assignments, or projects.
- Self-Awareness Strategies - reflecting on your personal strengths and weaknesses.
- Motivation (new component not yet described in CRI literature)
- Help-seeking (new component not yet described in CRI literature)
- Progress Monitoring (new component not yet described in CRI literature)
- Self-efficacy (new component not yet described in CRI literature)

Results of both pre-test and post-test are shown in Figure 1. From pre-test to post-test, all 23 aptitudes exhibit increases in positive responses ("A lot like me" or "Very much like me") ranging from 0.8% at the lowest ('Student Effort') to 16.8% at the highest ('Memorization / Recall'). Eight of the 23 aptitudes exhibit improvement greater than 10% (see Table 1).
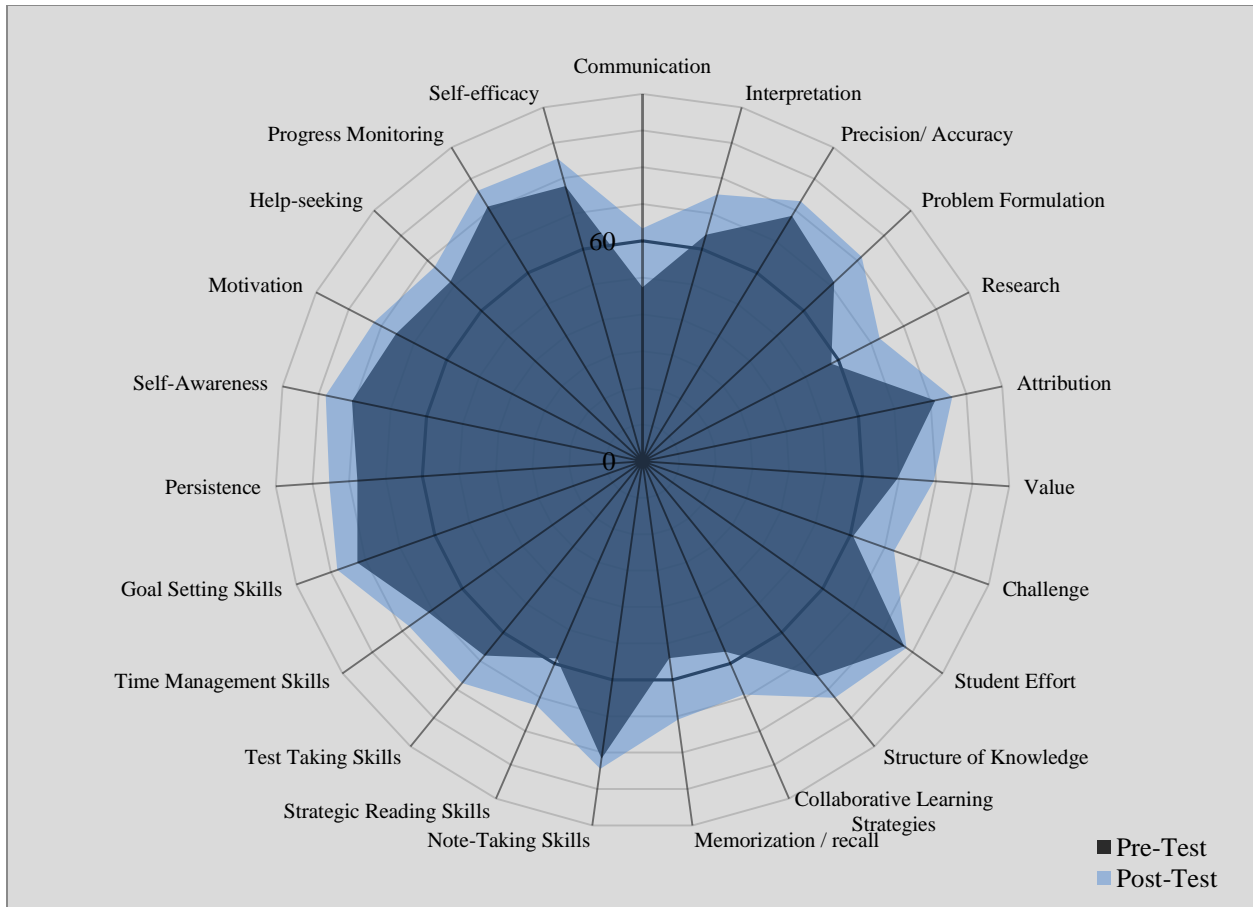
Figure 1. Percentage of respondents answering 'A lot like me' or 'Very much like me' for pre-test (black) and post-test (light blue). *60% line is delineated in figure to serve as a reference point of change from pre-test to post-test.

In a χ^2 test for independence, 20 of 23 results exhibiting improvement are statistically significant. Table 1 depicts results of χ^2 tests for each aptitude. The 'Key Cognitive Strategies' aptitudes of 'Communication', 'Interpretation', 'Precision/Accuracy', 'Problem Formulation', and 'Research' all exhibit statistically significant improvement. Additionally, the 'Key Content Knowledge' aptitudes of 'Attribution', 'Challenge', and 'Structure of Knowledge' exhibit statistically significant improvement. And finally, from the 'Learning Skills' aptitudes, all but 'Memorization/Recall' and 'Note-taking Skills' exhibit statistically significant improvement.

Aptitude	% Responding "A lot like me' or 'Very much like me'		Δ	X^2 p-value
	Pre-test	Post-test		
Communication	47.3%	63.4%	16.0%	6.35×10^{-11}
Interpretation	64.0%	75.4%	11.4%	5.94×10^{-7}
Precision/ Accuracy	78.2%	82.9%	4.7%	0.018
Problem Formulation	71.4%	81.6%	10.2%	1.62×10^{-6}
Research	57.8%	72.7%	14.8%	3.84×10^{-10}
Attribution	81.3%	86.1%	4.8%	0.009
Value	69.5%	79.4%	10.0%	4.68×10^{-6}
Challenge	60.8%	72.7%	11.8%	4.44×10^{-7}
Student Effort	87.2%	87.9%	0.8%	0.635
Structure of Knowledge	75.4%	82.9%	7.5%	2.14×10^{-4}
Collaborative Learning Strategies	56.5%	69.2%	12.7%	1.24×10^{-7}
Memorization / recall	54.0%	70.9%	16.8%	2.48E-12
Note-Taking Skills	81.6%	84.4%	2.8%	0.135
Strategic Reading Skills	58.5%	72.4%	13.9%	4.23×10^{-9}
Test Taking Skills	68.2%	77.8%	9.6%	1.45×10^{-5}
Time Management Skills	71.3%	77.8%	6.5%	0.003
Goal Setting Skills	82.3%	88.1%	5.8%	0.001
Persistence	77.8%	85.4%	7.6%	8.66×10^{-5}
Self-Awareness	80.8%	88.0%	7.3%	7.21×10^{-5}
Motivation	75.5%	82.3%	6.8%	0.001
Help-seeking	71.6%	77.5%	5.9%	0.007
Progress Monitoring	81.2%	86.2%	5.1%	0.006
Self-efficacy	77.8%	85.6%	7.8%	6.16×10^{-5}
Communication	47.3%	63.4%	16.0%	6.35×10^{-11}
Interpretation	64.0%	75.4%	11.4%	5.94×10^{-7}
Precision/ Accuracy	78.2%	82.9%	4.7%	1.77×10^{-2}
Problem Formulation	71.4%	81.6%	10.2%	1.62×10^{-6}
Research	57.8%	72.7%	14.8%	3.84×10^{-10}

Table 1. Percentage of respondents answering 'A lot like me' or 'Very much like me' for pre-test and post-test. Grayed cells indicate statistically significant results.

A comparison of results over time will be included beginning spring 2018. Because the changes in the CRI from fall 2016 to spring 2017 were so widespread, any longitudinal study at this point would make interpretation cumbersome.

[1] Conley, David. T. 2014. Preliminary Report of Results from the Conley Readiness Index [Powerpoint Slides]. Presented at Southern Illinois University.