

Critical Reasoning Competency

ASSESSMENT BRIEF UPDATE

2015 TO 2018

How is Critical Reasoning Characterized?

**The General Education
Program Governance &
Policies document**

specifies

**CRITICAL THINKING ACROSS
THE LIBERAL ARTS**

as one of its objectives.

Students will demonstrate foundational knowledge of the important ideas and methods of different ways of knowing as follows:

- i. Courses in the ***arts and humanities (G1 category)*** challenge students to examine, analyze and critically evaluate artifacts of the human intellect and imagination to illuminate the complexity of the human experience. Through exposure to multiple voices, insights, objects, and other creative works, students explore and interpret questions of meaning, fact and value. Ultimately, this engagement expands knowledge, deepens empathy and encourages collaboration between diverse individuals and communities.
- ii. Courses in the ***sciences and mathematics (G2 category)*** develop students' understanding and knowledge of scientific and mathematical reasoning and of strategies for logical problem solving. Students are challenged to recognize that scientific explanations offer falsifiable predictions, that claims must be supported by evidence and logical reasoning, and that the nature of scientific discovery and knowledge is fluid.
- iii. Courses in the ***social sciences (G3 category)*** focus on the intricate relationship between Academic Program: Undergraduate Studies General Education Program Page 4 of 13 human behavior and social institutions. Through qualitative and/or quantitative methods of inquiry, students discover and ascertain how human beings behave and are expected to behave, within certain contexts. This interaction allows students to comprehend and articulate the relationship between behavior and context across people, cultures, time, and place.

How is Critical Reasoning Assessed?

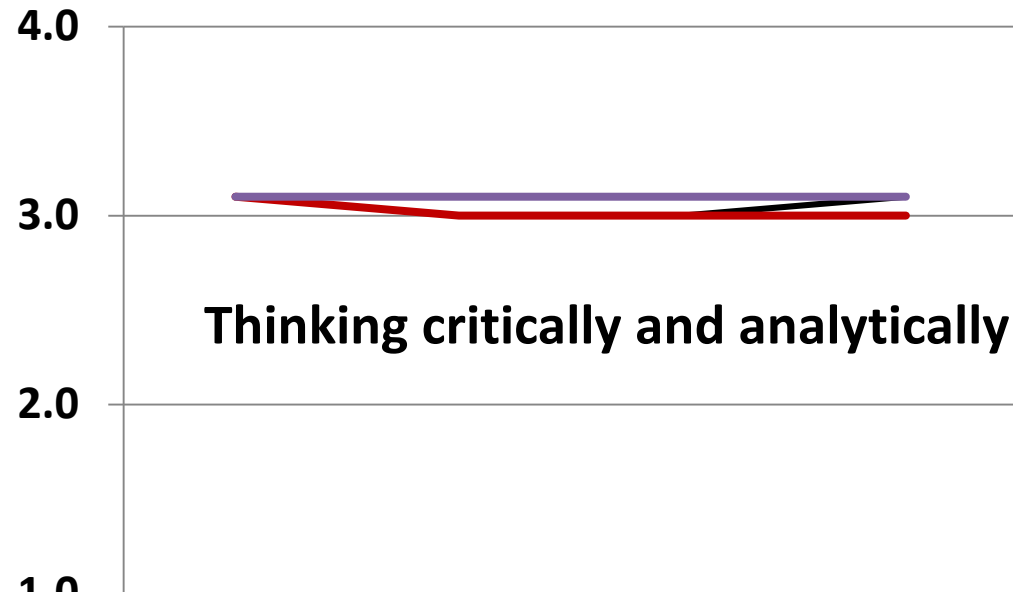
In the general education program, Critical Reasoning is assessed by both direct and indirect evidence.

Measures	2015-16	2016-17	2017-18	2018-19
Critical Reasoning Rubric	165 student artifacts scored			109 student artifacts scored ENGL 110, UNIV 103
Lower division courses	ESCI 222, HIST 105, SOWK 102, UNIV 103			
Upper division courses	BIOL 462, BIOL 467, ESCI 328, ESCI 443, HIST 406, HUMN 380, PSYC 311, SOWK 322, SOWK 431			Being collected
National Survey of Student Engagement	not collected	305 First-Years 395 Seniors	not collected	Being collected
Senior Exit Survey	917 seniors	930 seniors	847 seniors	Being collected
Alumni Job Placement Survey (~1 yr out)	747 alumni	620 alumni	689 alumni	To be collected fall 2019
Internship Field Supervisor Feedback	340 students	336 students	338 students	Being collected

Comparison of Freshmen and Senior *Perceptions* of Critical Reasoning

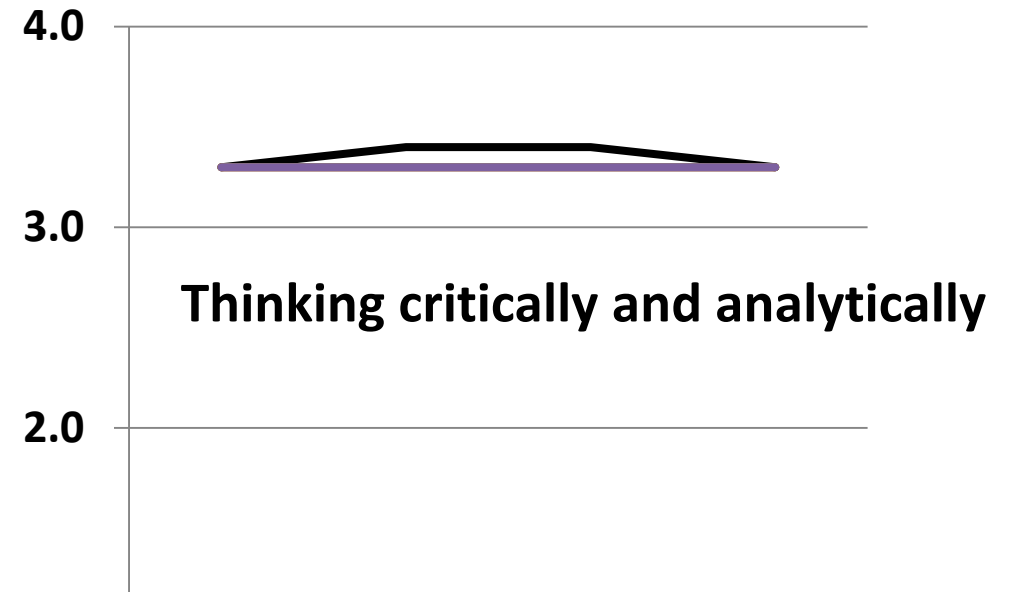
[Experience contributed to your knowledge, skills, and personal development where 1=Very little, 2=Some, 3=Quite a bit, 4=Very much]

FIRST-YEAR STUDENTS



	2013 (n=326)	2014 (n=378)	2015 (n=325)	2017 (n=305)
— MU	3.1	3.0	3.0	3.1
— PASSHE	3.1	3.0	3.0	3.0
— Master's	3.1	3.1	3.1	3.1
— NSSE All	3.1	3.1	3.1	3.1

SENIORS



	2013 (n=462)	2014 (n=525)	2015 (n=471)	2017 (n=395)
— MU	3.3	3.4	3.4	3.3
— PASSHE	3.3	3.3	3.3	3.3
— Master's	3.3	3.3	3.3	3.3
— NSSE All	3.3	3.3	3.3	3.3

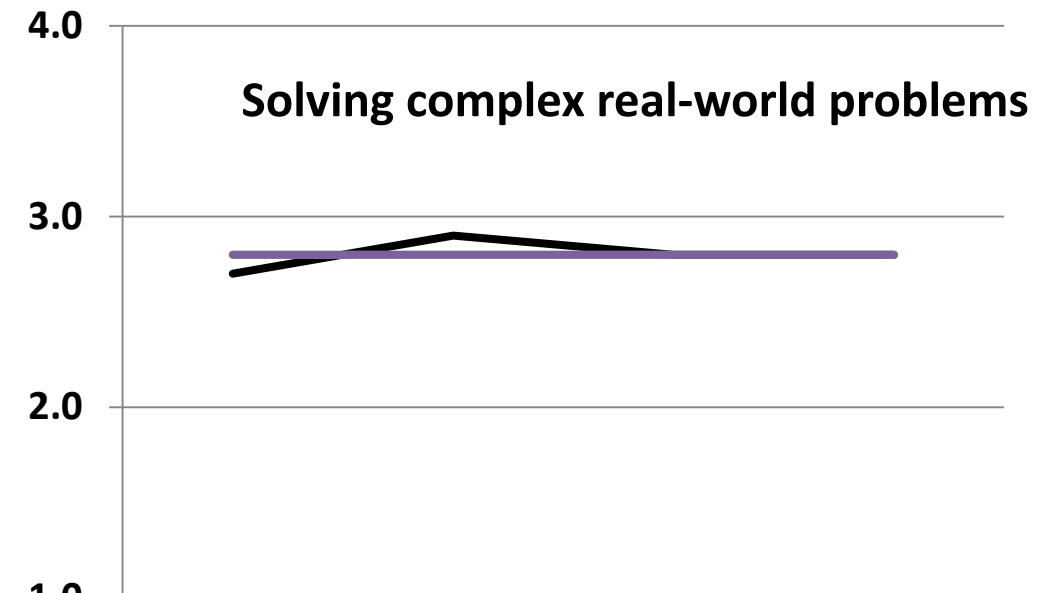
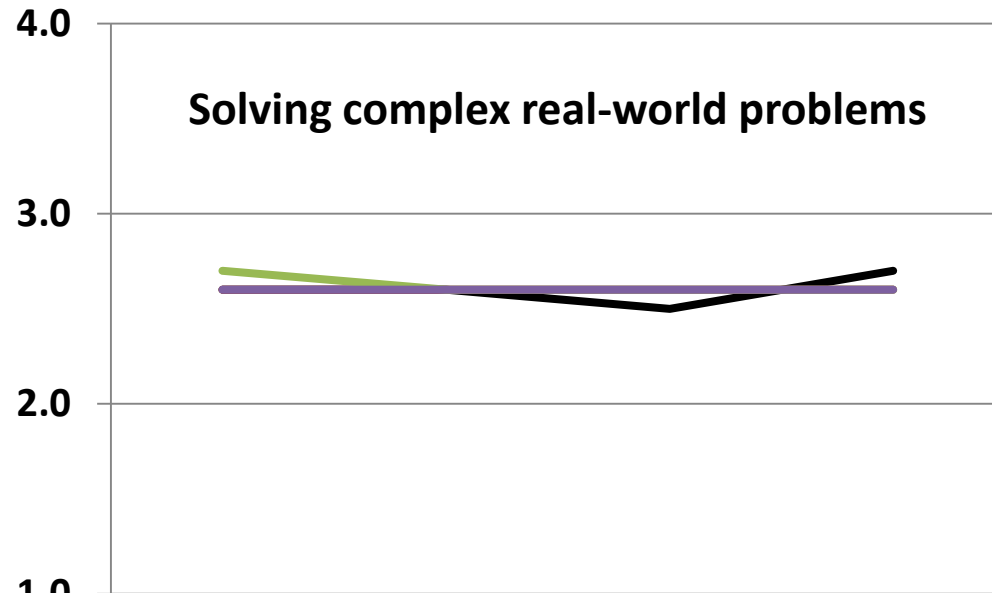
NOTE: Per National Survey of Student Engagement offered respective spring semesters. Master's includes peers at Master's-level publics and privates (per Carnegie Classification). National includes all peers at all four-year institutions participating during the time period.

Comparison of Freshmen and Senior *Perceptions* of Critical Reasoning

[Experience contributed to your knowledge, skills, and personal development where 1=Very little, 2=Some, 3=Quite a bit, 4=Very much]

FIRST-YEAR STUDENTS

SENIORS



	2013	2014	2015 (n=325)	2017 (n=302)
— MU	2.6	2.6	2.5	2.7
— PASSHE	2.6	2.6	2.6	2.6
— Master's	2.7	2.6	2.6	2.6
— NSSE All	2.6	2.6	2.6	2.6

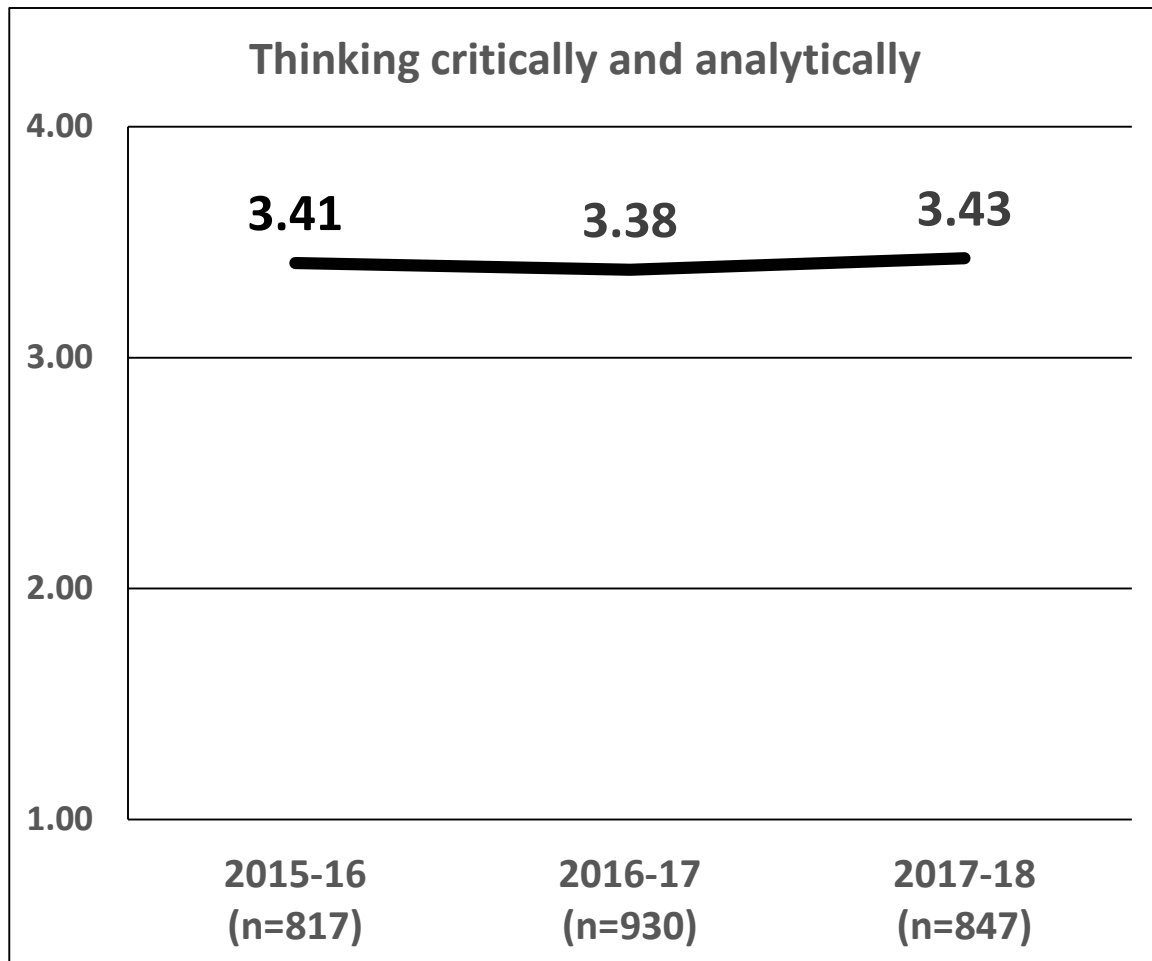
	2013	2014	2015 (n=470)	2017 (n=394)
— MU	2.7	2.9	2.8	2.8
— PASSHE	2.8	2.8	2.8	2.8
— Master's	2.8	2.8	2.8	2.8
— NSSE All	2.8	2.8	2.8	2.8

NOTE: Per National Survey of Student Engagement offered respective spring semesters. Master's includes peers at Master's-level publics and privates (per Carnegie Classification). National includes all peers at all four-year institutions participating during the time period.

Comparison of Senior & Alumni *Perceptions* of Critical Reasoning

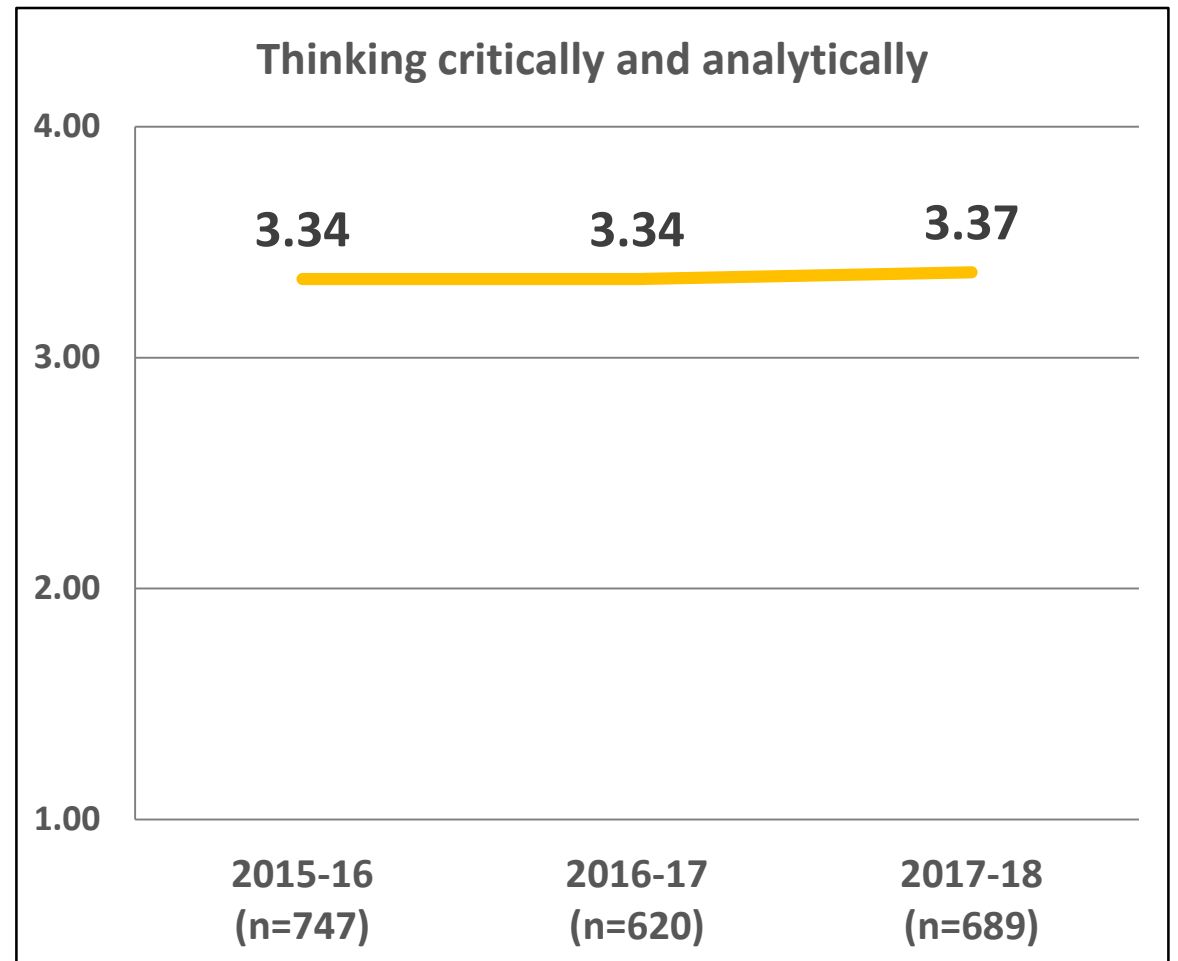
[Experience contributed to your knowledge, skills, and personal development where 1=Very little, 2=Some, 3=Quite a bit, 4=Very much]

SENIORS AT GRADUATION



[Senior perceptions per Senior Exit Survey administered last two weeks before commencement.]

ALUMNI 6 TO 10 MONTHS OUT

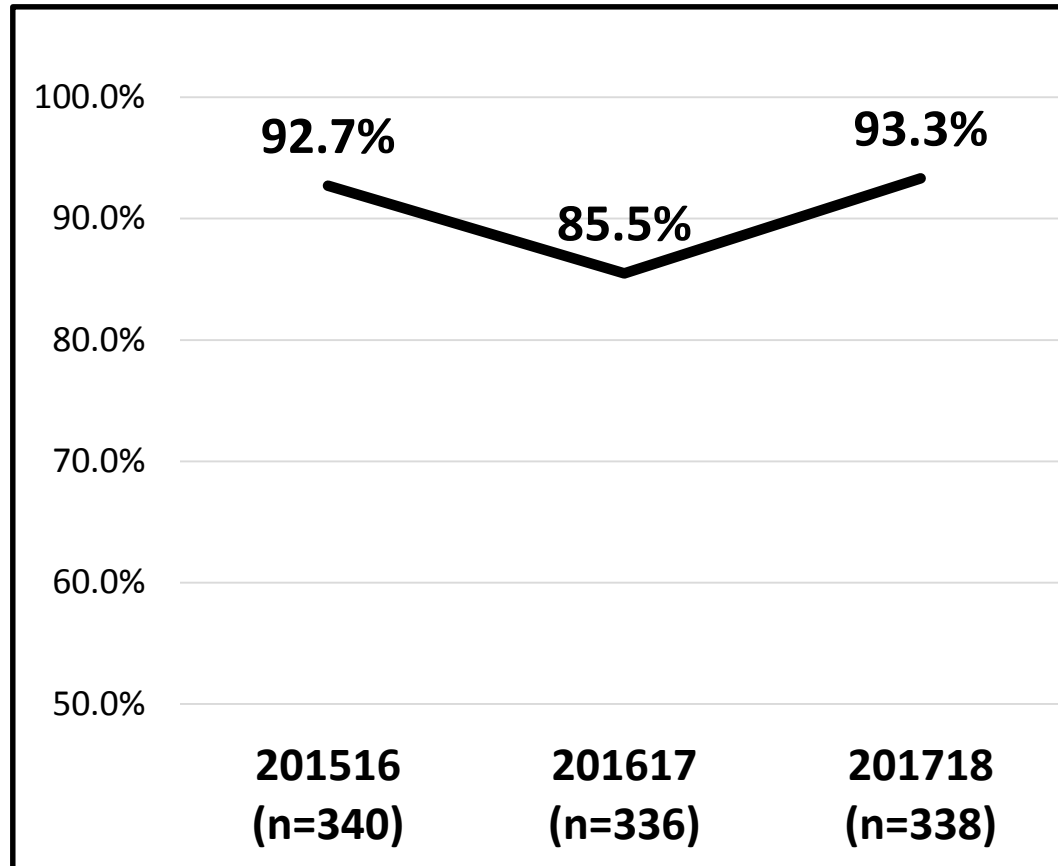


[Alumni perceptions per Alumni Job Placement Survey administered about six to ten months after commencement.]

Internship Field Supervisor *Feedback* on Critical Reasoning

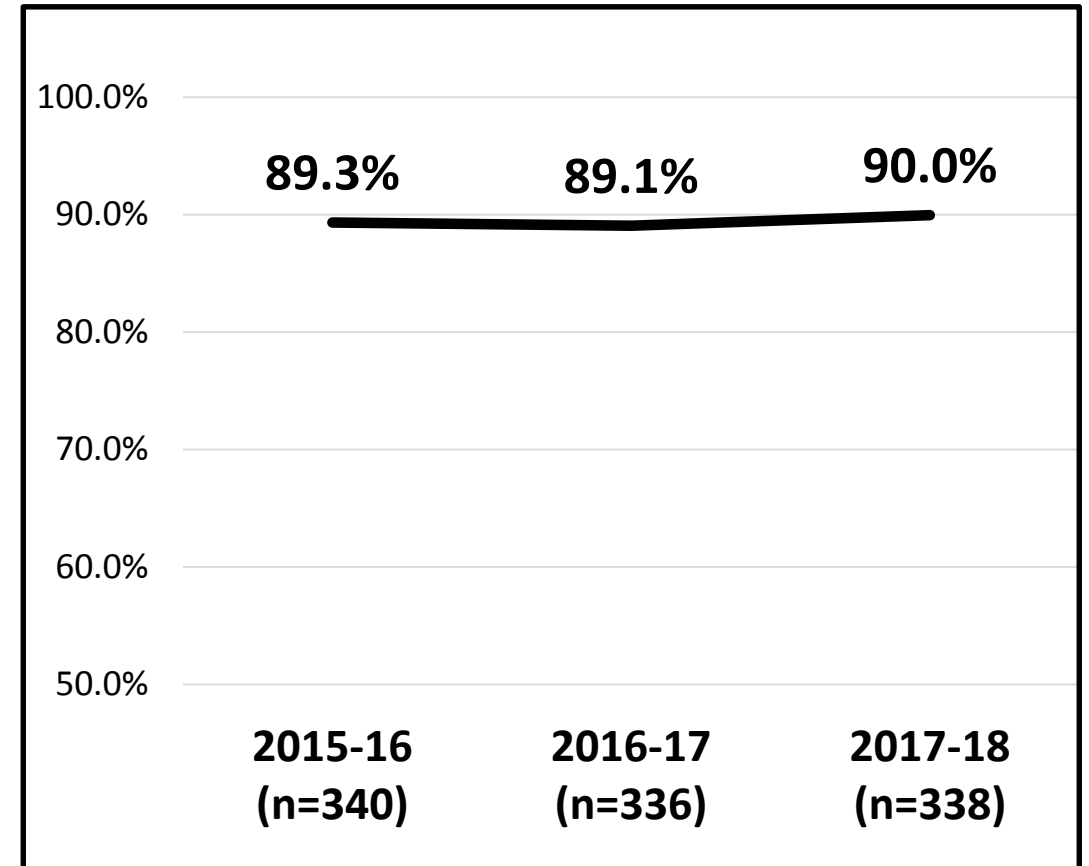
THE STUDENT IS ABLE TO MAKE EFFECTIVE DECISIONS, ANALYZE ISSUES AND OVERCOME PROBLEMS.

[PERCENT SCORING 5 & 4, WHERE 5=DEFINITELY, 3=SOMEWHAT, AND 1=NOT AT ALL]



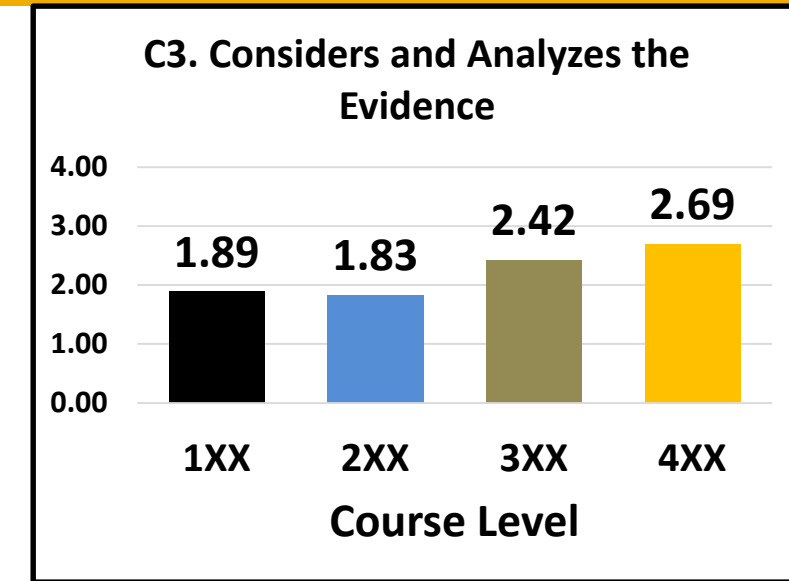
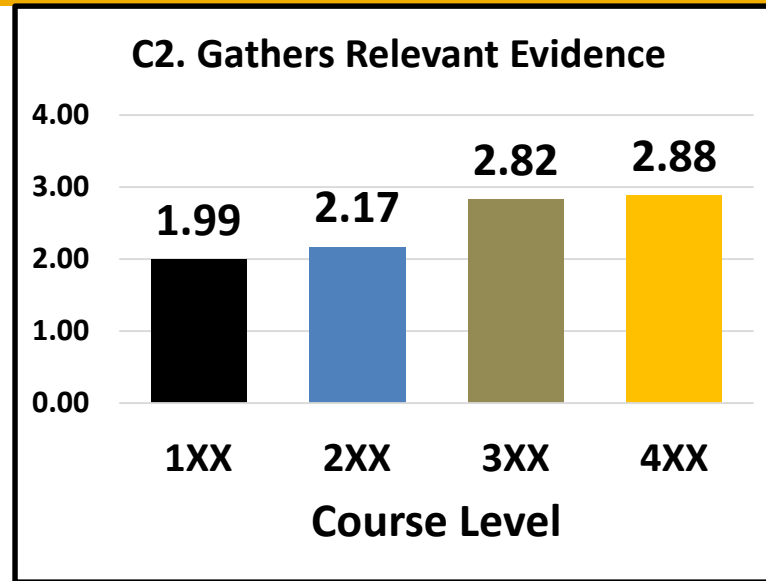
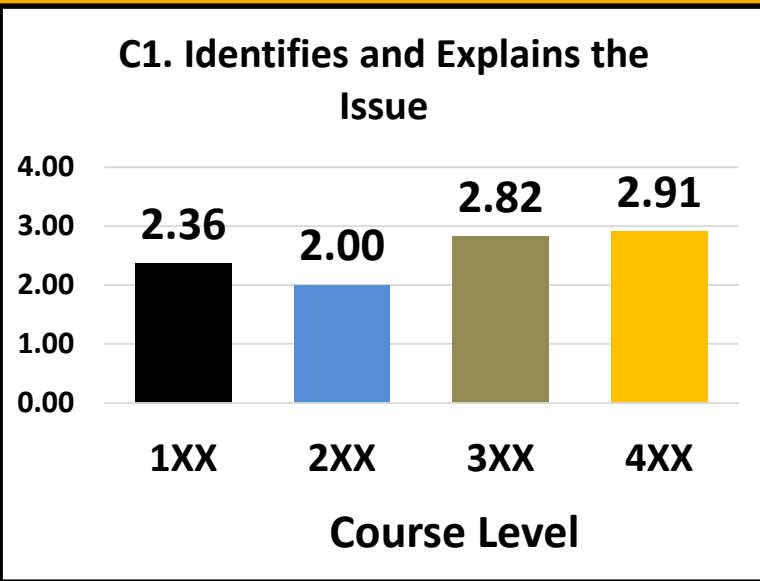
EVALUATION OF STUDENT CAREER-READINESS FOR CRITICAL THINKING /PROBLEM-SOLVING SKILLS.

[PERCENT SCORING 5 & 4, WHERE 5=EXCELLENT, 3=FAIR, AND 1=UNACCEPTABLE]

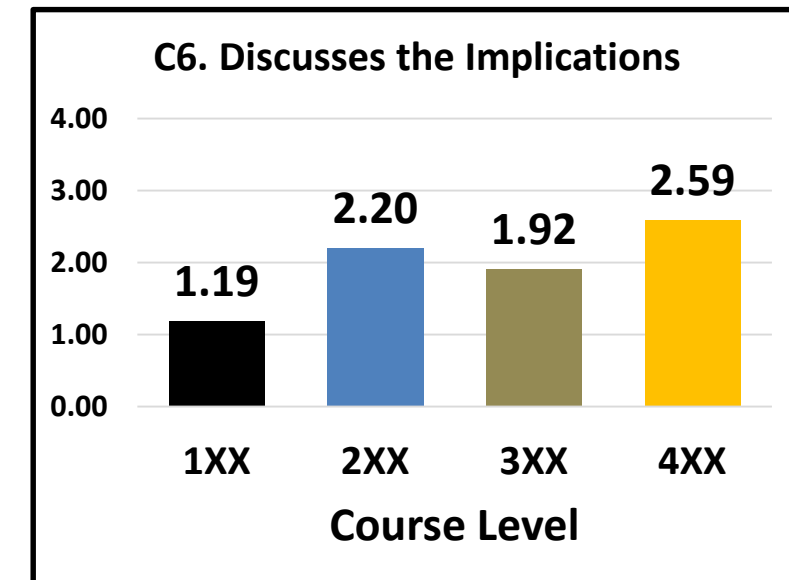
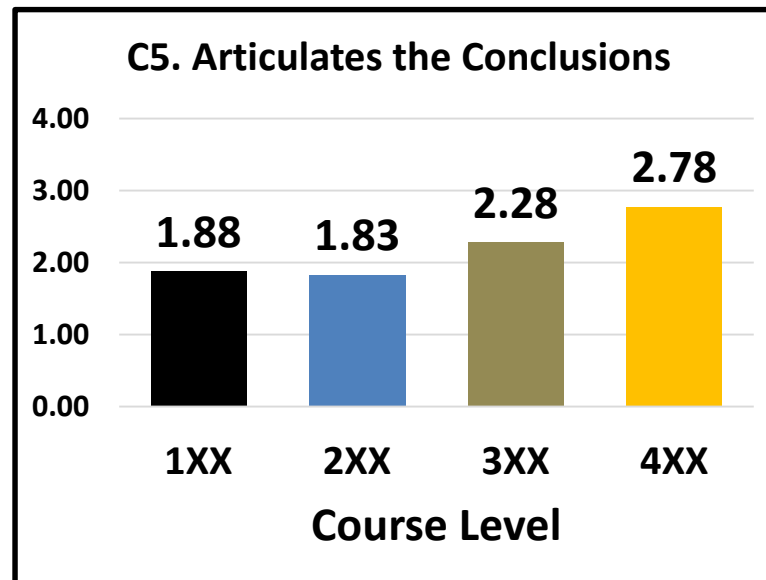
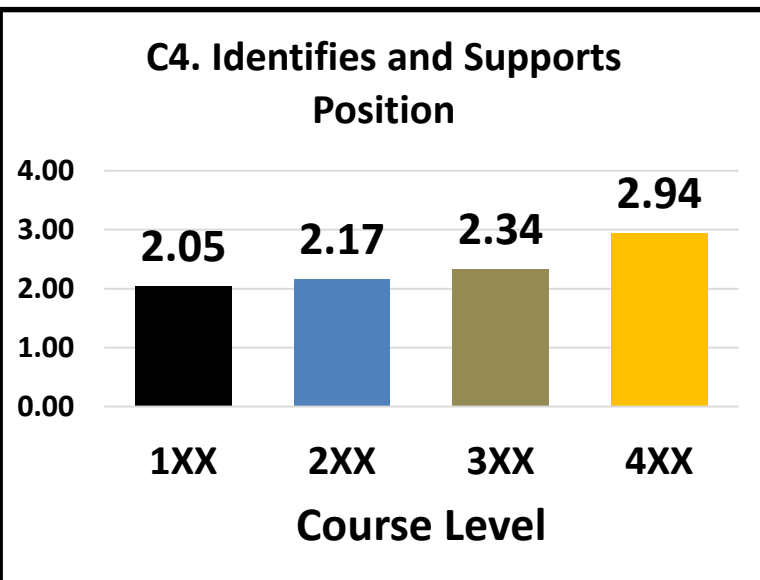


Student *Performance* per Critical Thinking Rubric

[where 4=advanced; 3=Proficient; 2=Basic; 1=Minimal, 0=Not evident/Deficient]



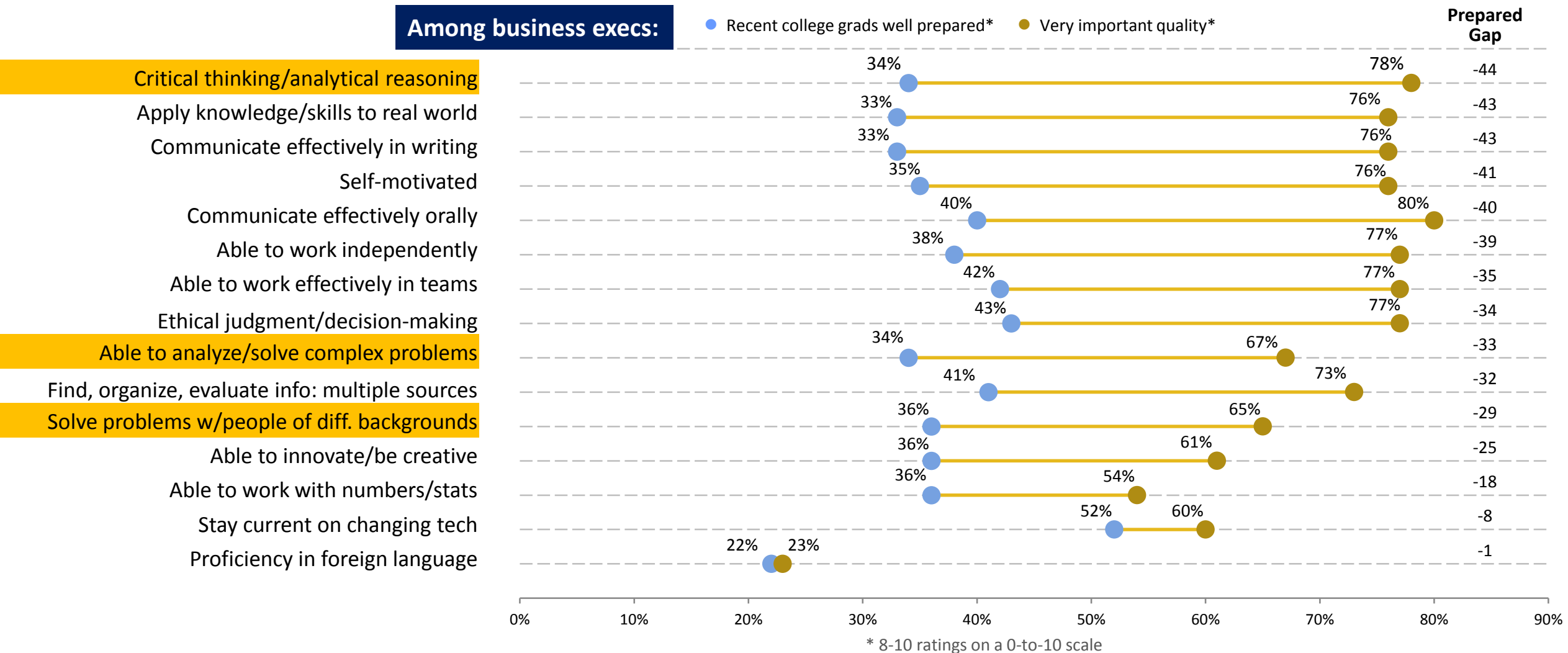
Overall Mean Scores: 1XX=1.90, 2XX=2.02, 3XX=2.44, 4XX=2.80



EXECUTIVES identification of gaps in recent graduates' preparedness on key learning outcomes. [National Survey]

Among business execs:

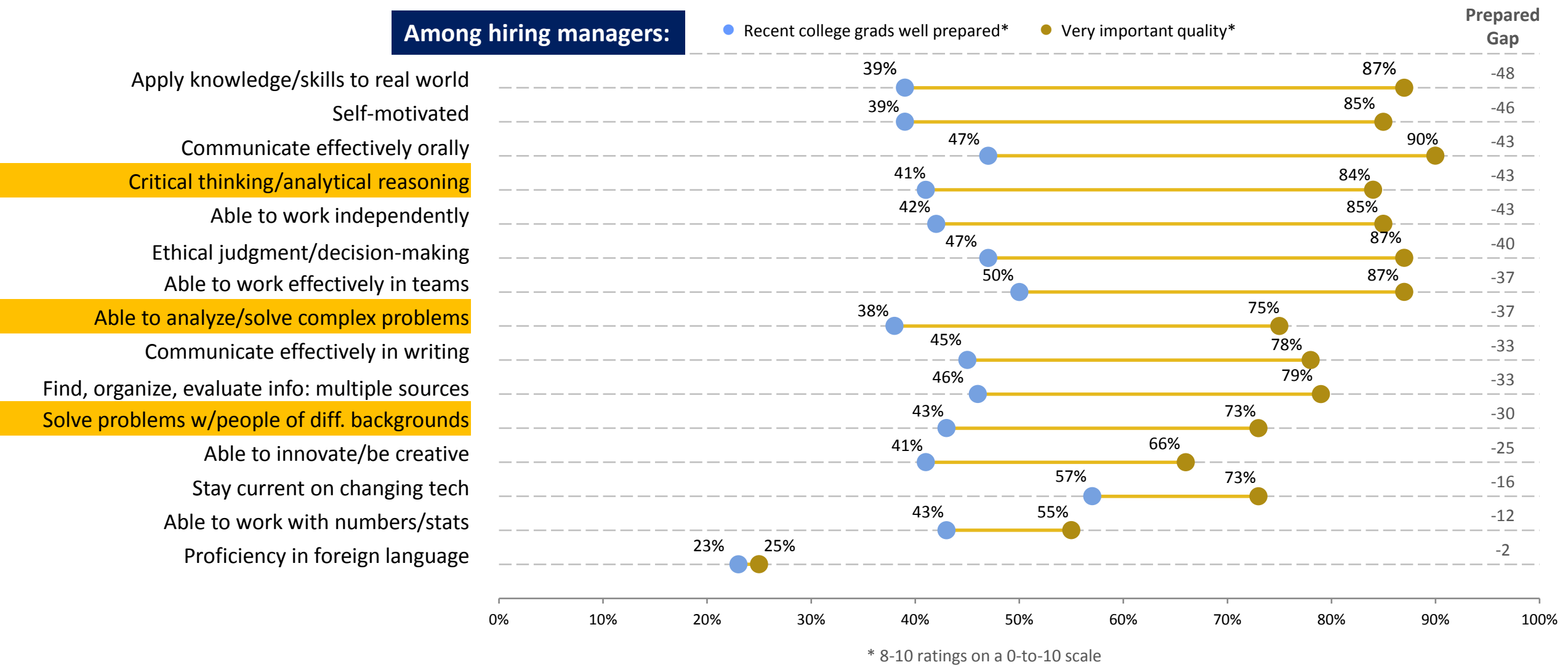
● Recent college grads well prepared* ● Very important quality*



[AAC&U Fulfilling the American Dream: Liberal Education and the Future of Work/2018 Employers Survey*Hart Research]

HIRING MANAGERS identification of gaps in recent graduates' preparedness on key learning outcomes. [National Survey]

Among hiring managers:



[AAC&U Fulfilling the American Dream: Liberal Education and the Future of Work/2018 Employers Survey*Hart Research]

Discussion

What do the results mean?

In your small group, discuss the follow:

1) What does the evidence demonstrate?

- Does the assessment evidence presented demonstrate added value? How?
- Are students gaining skills as presented in these results?

2) Are you satisfied with results?

- If so, what learning experiences contribute to the achievement of the competency?
- If not, how might we make improvements to the learning experiences?

3) Share highlights of your discussion with the larger group.