MINOT STATE UNIVERSITY

General Education Assessment Results & Analyses

2019-2020 Academic Year

General Education Committee (2019–2020 AY)

College of Arts & Sciences:

Paul Lepp (20), Chair
Jean-Francois Mondon (22)
Bishnu Sedai (21)
Scott Kast (20)

College of Business:

Lori Willoughby (21)

College of Education & Health Sciences:

Pamela Ondracek (22)

Student Representative:

Brett Hlebechuk (20)

Director of Academic Assessment:

Michael Brooks (life-time member; like the mob)

Gen Ed Changes and Updates

- Added Course removal application form (https://www.minotstateu.edu/ge/GE-FacultyInfo.shtml)
- Updated CCS 4 (Quantitative Literacy) and CCS 5 (Oral and Written Communication) definitions – these were duplicate definitions.

General Education – Data Analyses in the recent past

- Data from each Development Content area collected every third semester.
  - **Added data to all categories except CCS3, CCS 6 and PSR 3, which will not be reassessed until the end of spring 2020.**

- Construed as a snap shot of the effectiveness of the Gen Ed program.

- Data reported as means ± SD and significant difference between classes (Ie, Freshman v. Seniors) reported.
  - Results very consistent between reports.

- Assumed that each student will be exposed to each content area multiple times during the course of their career.

Most Students receive only a single exposure to a content area

✗ **General Education-Developmental Content-RG12259**

Not Satisfied: General Education-Developmental Content-RG12259

Courses: 11.00 required, 10.00 used, 1.00 needed

✓ CCS1-Problem Solving-CL11731/AR4547

Satisfied: CCS1-Problem Solving-CL11731/AR4547

Courses: 1.00 required, 2.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2018 Fall	CHEM	121	General Chemistry I	A	5.00	EN
2019 Fall	BIOL	215	Genetics	A	4.00	EN

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✓ CCS2-Information Literacy-CL11733/AR4547

Satisfied: CCS2-Information Literacy-CL11733/AR4547

Courses: 1.00 required, 2.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2019 Fall	HIST	103	US History to 1877	A	3.00	EN
2020 Sprng	ENGL	120	College Composition II		3.00	IP

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✓ CCS3-Critical Reading-CL11735/AR4547

Satisfied: CCS3-Critical Reading-CL11735/AR4547

Courses: 1.00 required, 1.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2019 Fall	HIST	103	US History to 1877	A	3.00	EN

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✓ CCS4-Quantitative Literacy-CL11736/AR4547

Satisfied: CCS4-Quantitative Literacy-CL11736/AR4547

Courses: 1.00 required, 1.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2018 Fall	CHEM	121	General Chemistry I	A	5.00	EN

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✓ CCS5-Oral/Written Communications-CL11737/AR4547

Satisfied: CCS5-Oral/Written Communications-CL11737/AR4547

Courses: 1.00 required, 3.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2019 Sprin	ENGL	110	College Composition I	C	3.00	EN
2020 Sprng	ENGL	120	College Composition II		3.00	IP
2020 Sprng	COMM	110	Fund of Public Speaking		3.00	IP

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✓ CCS6-Collaboration-CL11738/AR4547

Satisfied: CCS6-Collaboration-CL11738/AR4547

Courses: 1.00 required, 1.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2019 Sprin	CHEM	122	General Chemistry II	A	5.00	EN

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✓ PSR1-Relationships & Value Systems-CL11739/AR4548

Satisfied: PSR1-Relationships & Value Systems-CL11739/AR4548

Courses: 1.00 required, 1.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2019 Sprin	PHIL	101	Introduction to Philosophy	B	3.00	EN

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✓ PSR2-Responding to Community Needs-CL11740/AR4548

Satisfied: PSR2-Responding to Community Needs-CL11740/AR4548

Courses: 1.00 required, 1.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2018 Fall	UNIV	110	First Year Seminar	A	2.00	EN

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✗ PSR3-Individual Well-Being-CL11741/AR4548

Not Satisfied: PSR3-Individual Well-Being-CL11741/AR4548

Courses: 1.00 required, 0.00 used, 1.00 needed

Select Courses From: ART 101, ART 112, ART 122, ART 130, ART 140, ART 180, ART 204, ART 250, ART 280, BADM 301, BIT 123, CD 413, FIN 251, HMS 151, HMS 240, KIN 100, KIN 101, KIN 109, KIN 110, KIN 120, KIN 125, KIN 126, MUSC 120, MUSC 150, MUSC 160, NURS 383, PSY 261, PSY 270, SPED 234, THEA 301, THEA 302, TRNSFR PSR3, PSR3-Individual Well-Being

✓ IP1-Knowledge-CL11742/AR4549

Satisfied: IP1-Knowledge-CL11742/AR4549

Courses: 1.00 required, 1.00 used

Term	Subject	Catalog Nbr	Course Title	Grade	Units	Type
2019 Fall	GEOG	161	World Regional Geography	A	3.00	EN

Type: EN=Enrollment IP=In Progress TR=Transfer TE=Test OT=Other PL=Planner WH=What-If

✗ IP2-Experience-CL11743/AR4549

Not Satisfied: IP2-Experience-CL11743/AR4549

- Data consists of two populations: those exposed once the content area and those exposed two or more times
- This confounds analyses based upon class status (I.e., freshman v. seniors)
- Collecting longitudinal data would allow us to distinguish between student with multiple exposure to a content area and those without.

Ways to use Data

- Quality control check
  - Arbitrarily define ”success” level and attempt to improve it. I.e., 80% of seniors should score a 3 or above

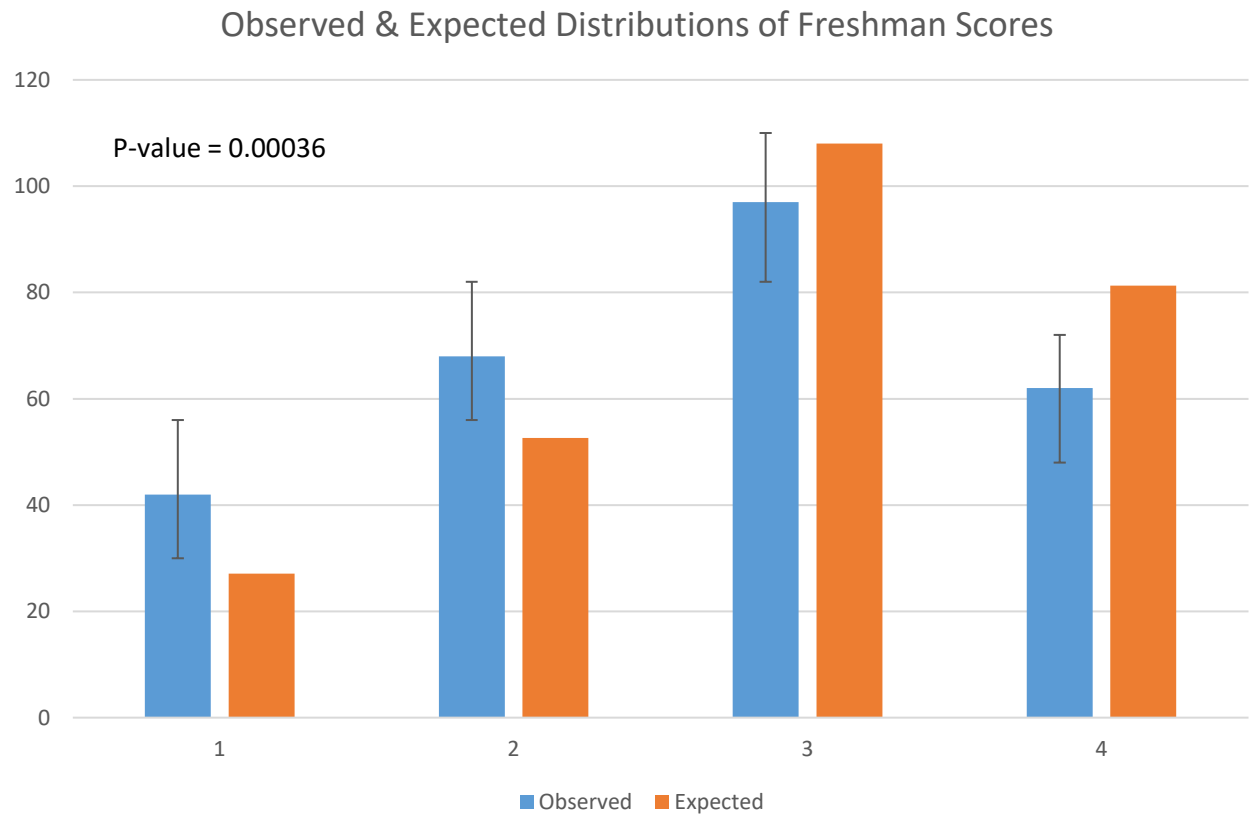
- Hypothesis Testing
  - Statistical tests are tests of hypotheses

Rubric Ratings

1 – Insufficient
2 – Basic
3 – Sufficient
4 – Advanced

χ^2 analysis of CCS 2.1

CCS 2.1 – Information Literacy; Determine the nature and extent of information needed

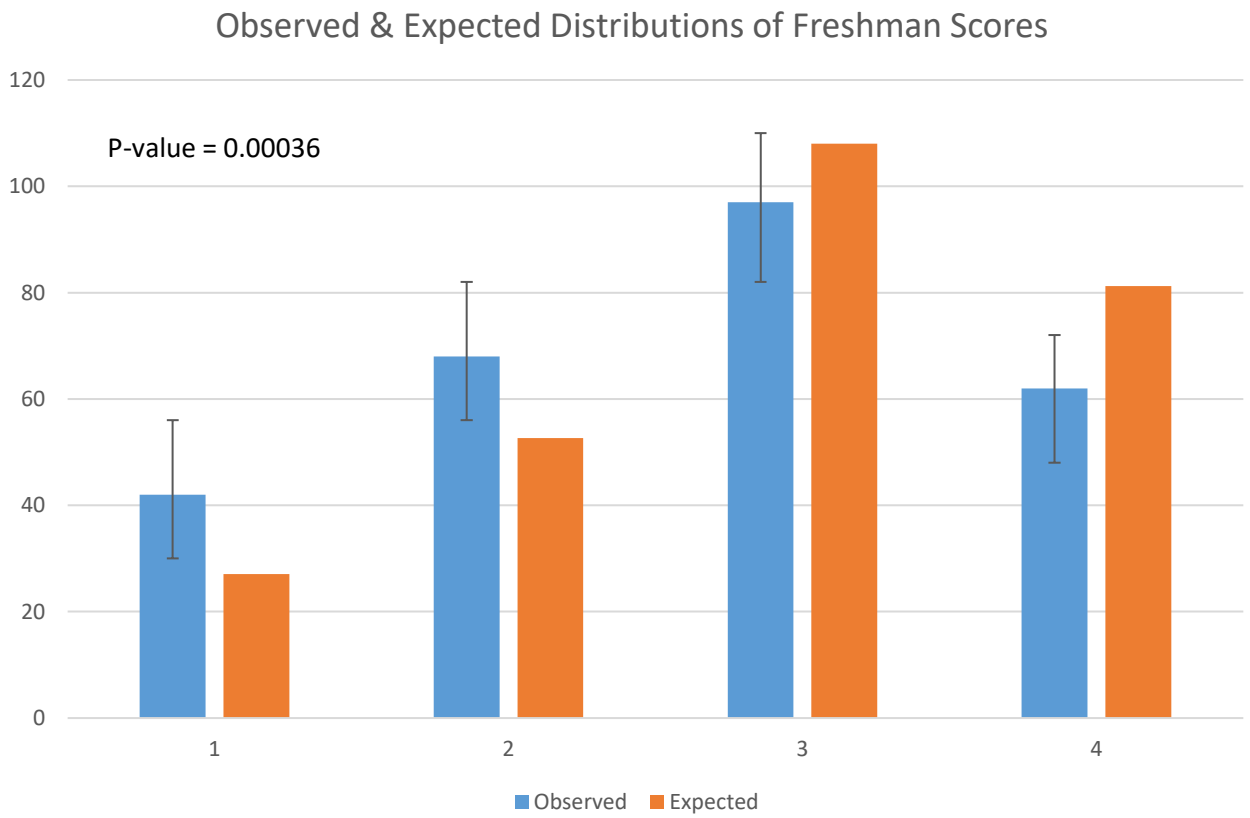


n = 269

- 25 of 32 subcategories exhibited this same pattern.
- Freshman scores were significantly lower than expected.
- Comparison based on model of data distribution.
- Does the model reflect reality? Pre and post tests would be better.

χ^2 analysis of CCS 2.1

CCS 2.1 – Information Literacy; Determine the nature and extent of information needed

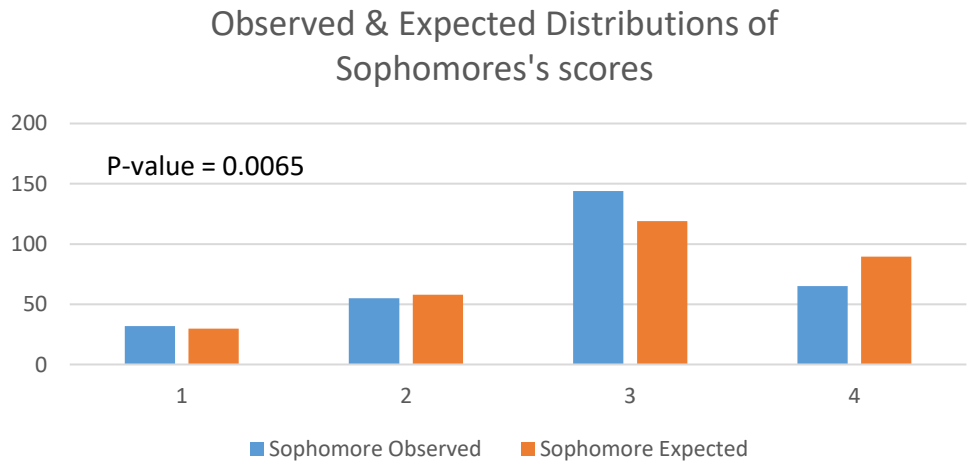


n = 269

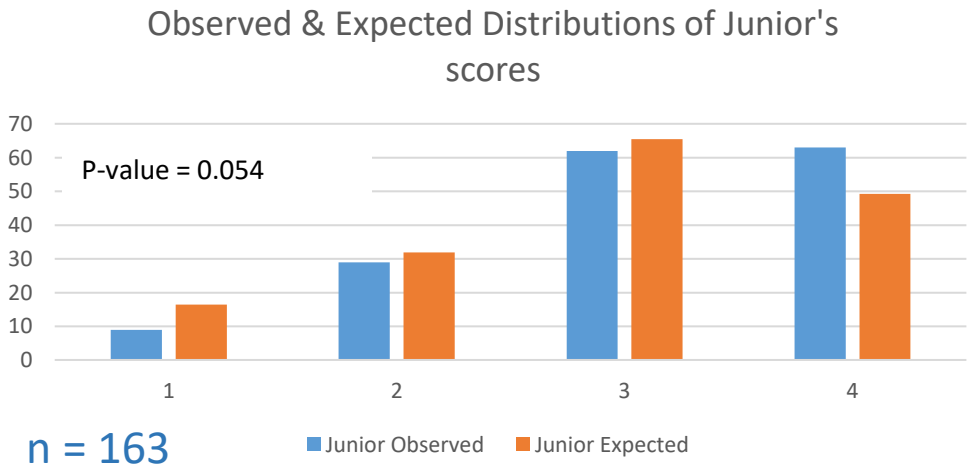
- Null hypothesis: The intervention/class did not change freshmen, sophomores, juniors and seniors ability to determine the nature and extent of the information needed because the intervention/class was ineffective. - falsified
- Alternative hypothesis #1: The intervention/class increased freshmen, sophomores, juniors and seniors ability to determine the nature and extent of the information needed because the the intervention/class was effective. - falsified
- **Alternative hypothesis #2: Freshman, sophomores, juniors and seniors scores were below expectation because they failed to determine the nature and extent of the information needed. - supported**

χ^2 analysis of CCS 2.1

CCS 2.1 – Information Literacy; Determine the nature and extent of information needed



n = 296



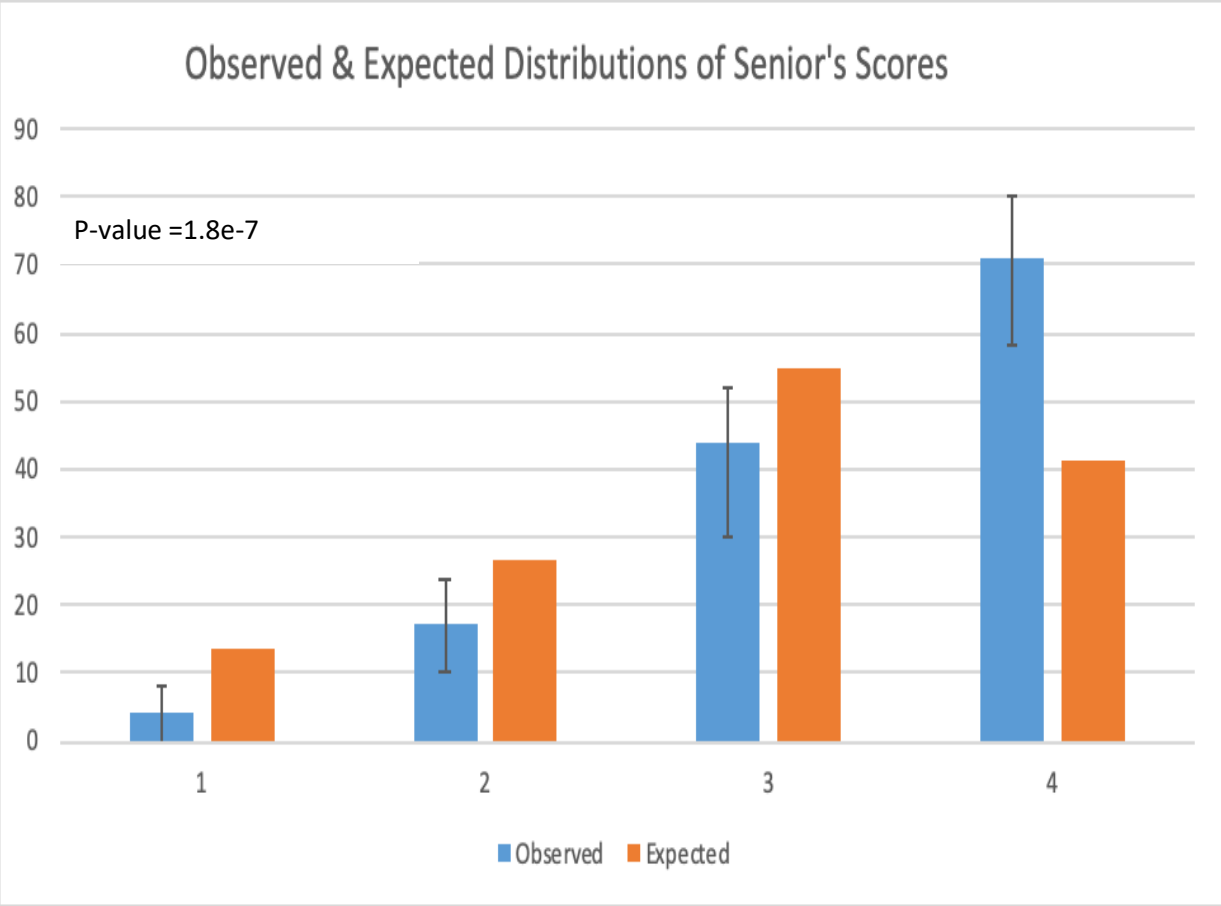
n = 163

- Null hypothesis: The intervention/class did not change freshmen, sophomores, juniors and seniors ability to determine the nature and extent of the information needed relative to peers. - falsified
- Alternative hypothesis #1: The intervention/class increased freshmen, sophomores, juniors and seniors ability to determine the nature and extent of the information needed relative to peers. - falsified
- **Alternative hypothesis #2: Freshman, sophomores, juniors and seniors scores were below expectation because they failed to determine the nature and extent of the information needed relative to peers. - supported**

- Not enough statistical power

χ^2 analysis of CCS 2.1

CCS 2.1 – Information Literacy; Determine the nature and extent of information needed

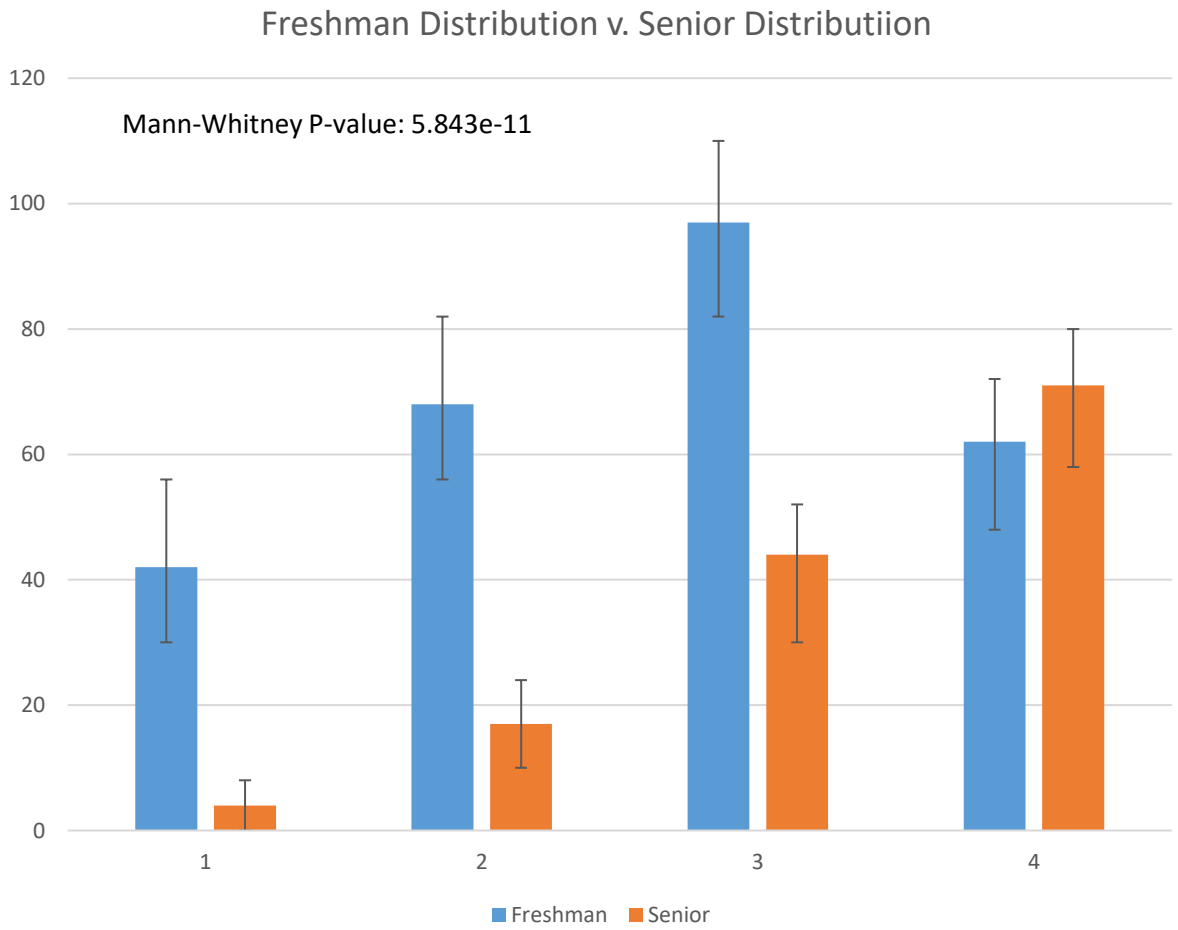


n = 136

- Null hypothesis: The intervention/class did not change freshmen, sophomores, juniors and seniors ability to determine the nature and extent of the information needed relative to peers. - falsified
- Alternative hypothesis #1: The intervention/class increased freshmen, sophomores, juniors and seniors ability to determine the nature and extent of the information relative to peers. - supported
- Alternative hypothesis #2: Freshman, sophomores, juniors and seniors scores were below expectation relative to peers. - falsified

Mann-Whitney analysis of CCS 2.1

CCS 2.1 – Information Literacy; Determine the nature and extent of information needed



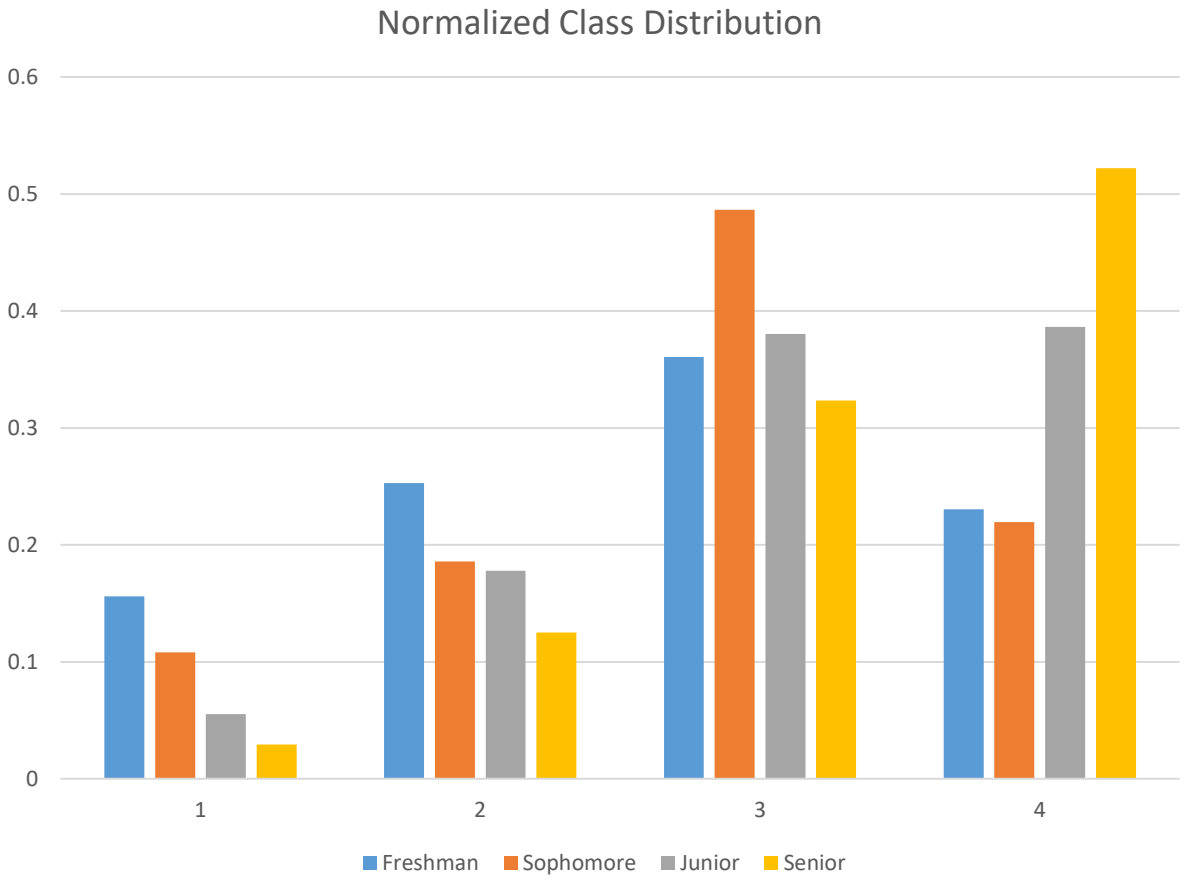
n = 269

n = 136

- Null hypothesis – The distribution of scores between Freshmen and Seniors did not differ significantly (a=0.05, b=0.2) because the course instruction had little to no impact on the students' learning outcomes relative to each other.
- Alternative hypothesis #1 – The distribution of scores was significantly higher for Seniors than Freshman because exposure to similar course content in multiple courses during a Senior student's college career has resulted in greater assimilation of learning outcomes compared to the single exposure among Freshmen. - supported
- Alternative hypothesis #2 - – The distribution of scores was significantly higher for Seniors than Freshman because undefined forces such maturity and greater life-experience has led Senior students to assimilate lessons similar to those taught during an instructional course. -supported

Frequency Distribution of CCS 2.1 Scores by Class

CCS 2.1 – Information Literacy; Determine the nature and extent of information needed

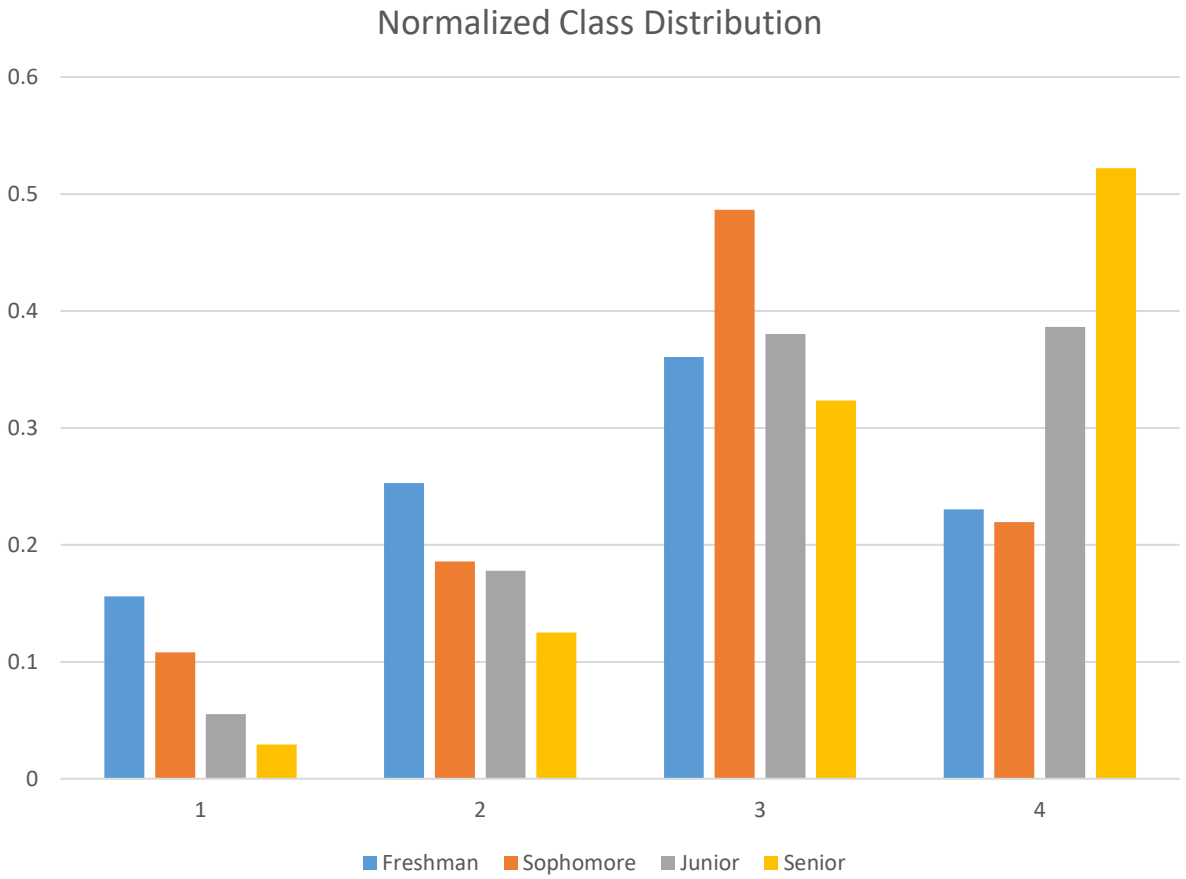


- Alternative hypothesis #1 – The distribution of scores was significantly higher for Seniors than Freshman because exposure to similar course content in multiple courses during a Senior student's college career has resulted in greater assimilation of learning outcomes compared to the single exposure among Freshmen. - supported
- Alternative hypothesis #2 - – The distribution of scores was significantly higher for Seniors than Freshman because undefined forces such maturity and greater life-experience has led Senior students to assimilate lessons similar to those taught during an instructional course. -supported

- Longitudinal tracking could distinguish between these two hypotheses.

Frequency Distribution of CCS 2.1 Scores by Class

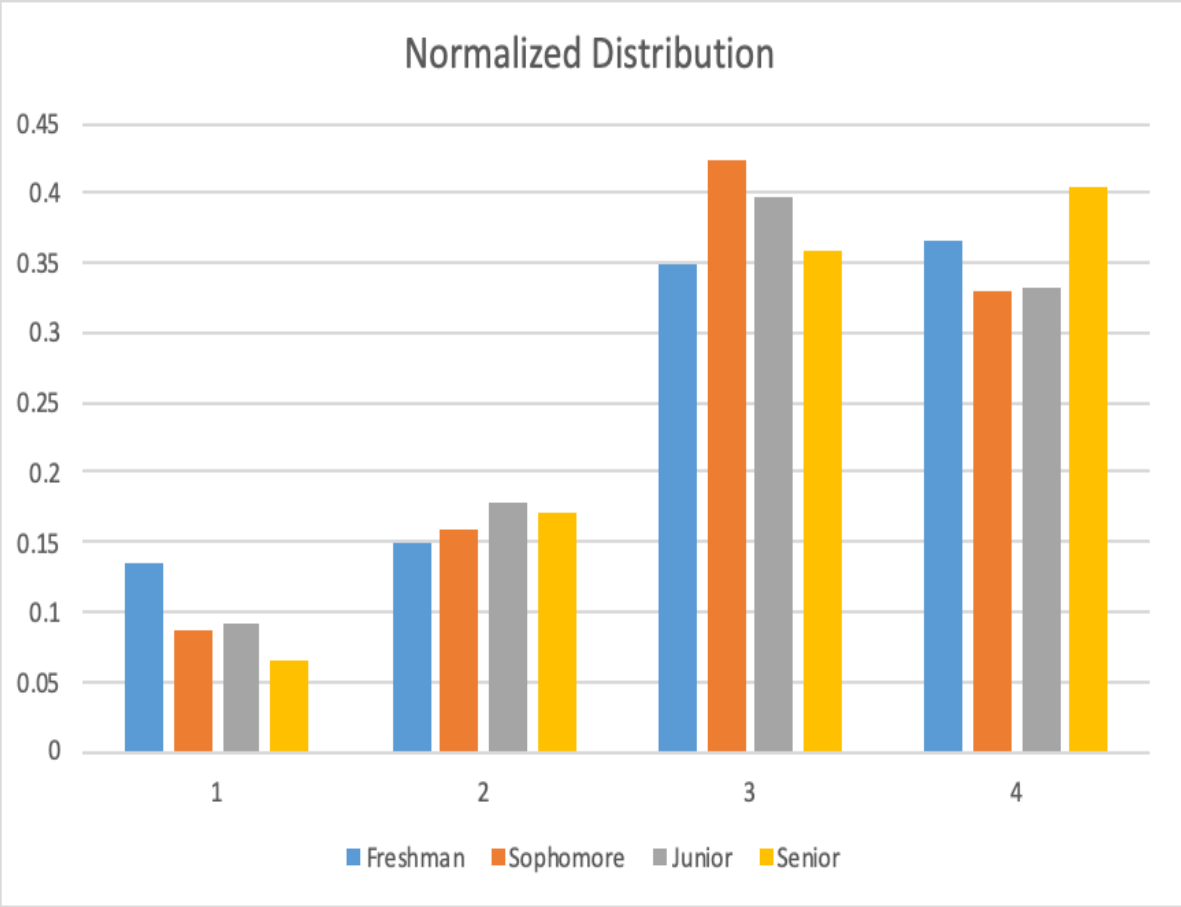
CCS 2.1 – Information Literacy; Determine the nature and extent of information needed



- The majority of freshman (>50%), garnered ratings of sufficient (3) or advanced (4), despite the fact that freshman tended to have a higher percentage of ‘insufficient’ (1) and ‘basic’ (2) ratings compared to those of more advanced academic standing.

Frequency Distribution of CCS 4.1 Scores by Class

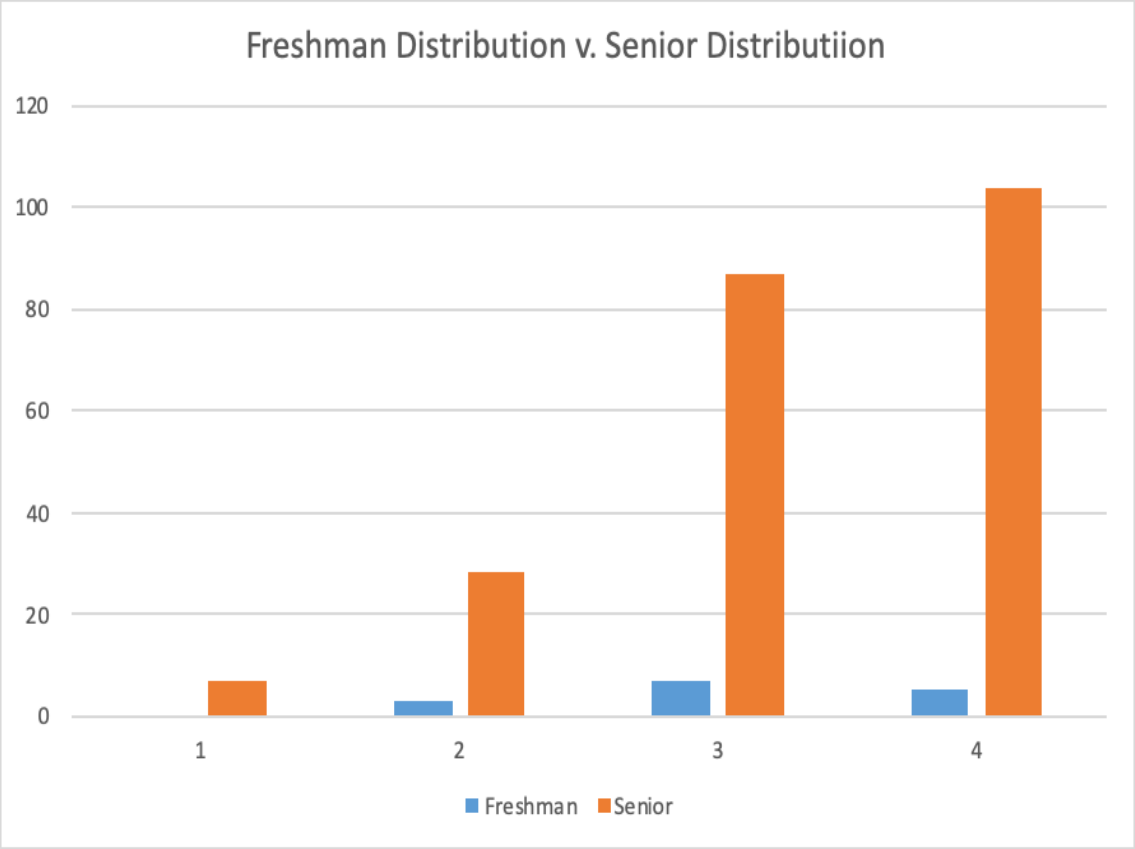
CCS 4.1 – Quantitative Literacy; Interpretation



- No statistically significant difference between academic levels.
  - (281 freshmen, 365 sophomores, 219 juniors, 245 seniors)
  - Lack of statistical power (CCS 4.1 β=0.61, CCS 4.2 β=0.67)
  - Estimate n=800/group for β=0.2
- The majority of freshman, in excess of 70%, garnered ratings of sufficient (3) or advanced (4), despite the fact that freshman tended to have a higher percentage of ‘insufficient’ (1) ratings compared to those of more advanced academic standing.

Frequency Distribution of IP 2.1 Scores by Class

IP 2.1 – Experience; Knowledge of Cultural Worldview Frameworks



- No statistically significant difference between freshmen and seniors

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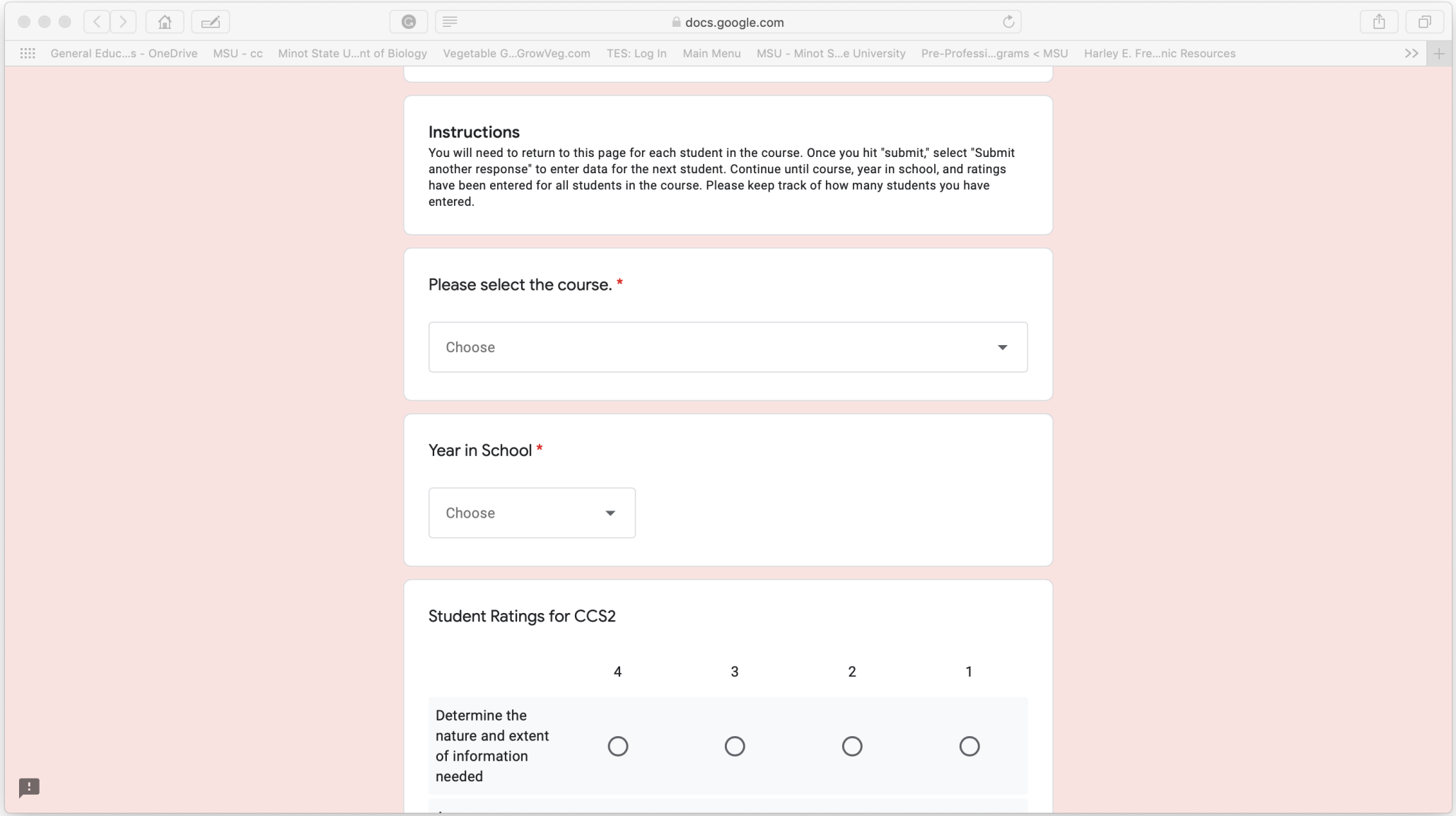
Conclusions & Recommendations:

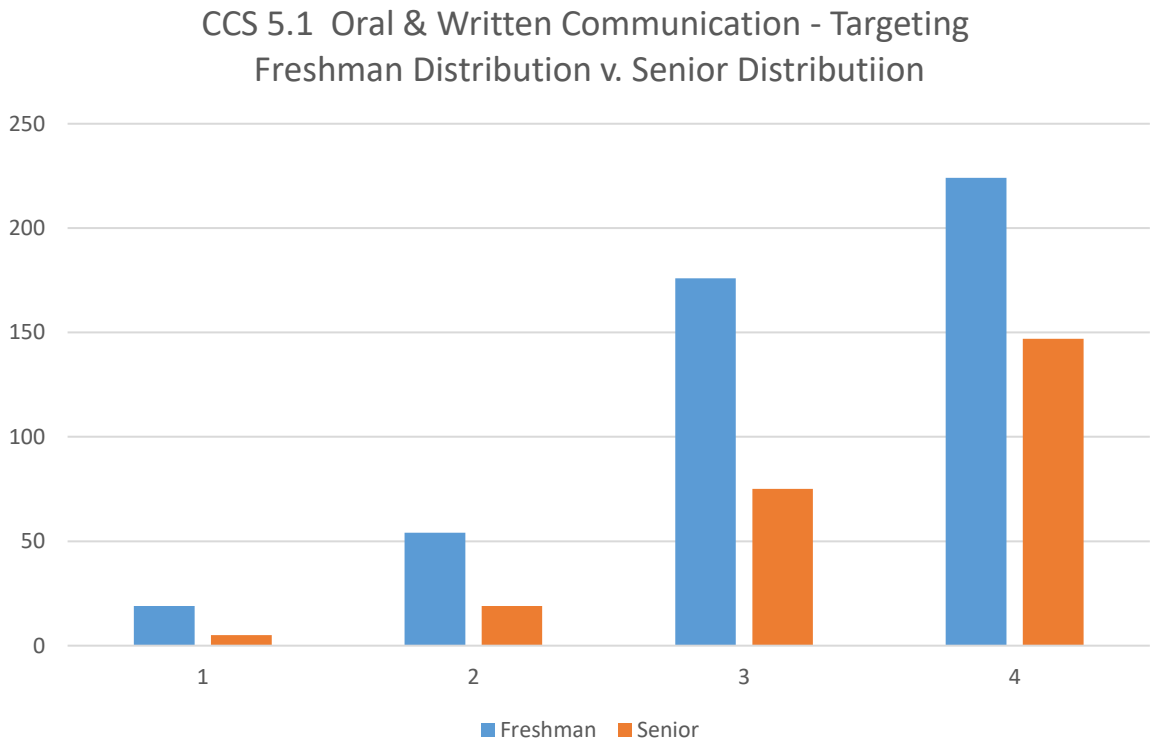
- Most General Education categories show a marked progression in competency during a student's college career.
- Longitudinal data would be relatively easy to collect and helpful in addressing hypotheses
  - Assessment Input form
    - Get rid of year in school box
    - Permits analysis of demographic data
- Pilot pre- and post-assessment assignments in PSR 1 or IP 2

  * Maybe some developmental categories require multiple exposures while others require only a single intervention.



Parametric v non-parametric analysis

- T-test assumes a normal distribution of data



Freshman mean±SD: 3.28±0.82
n=473

Seniors mean±SD: 3.48±0.73
n=252

T-test p-value Freshman v Seniors: 0.001278144

Mann-Whitney p-value: 0.00097969