# Evaluating and Assessing "Against the Grain": Applying Mixed Methods in Support of Critical Library Pedagogy
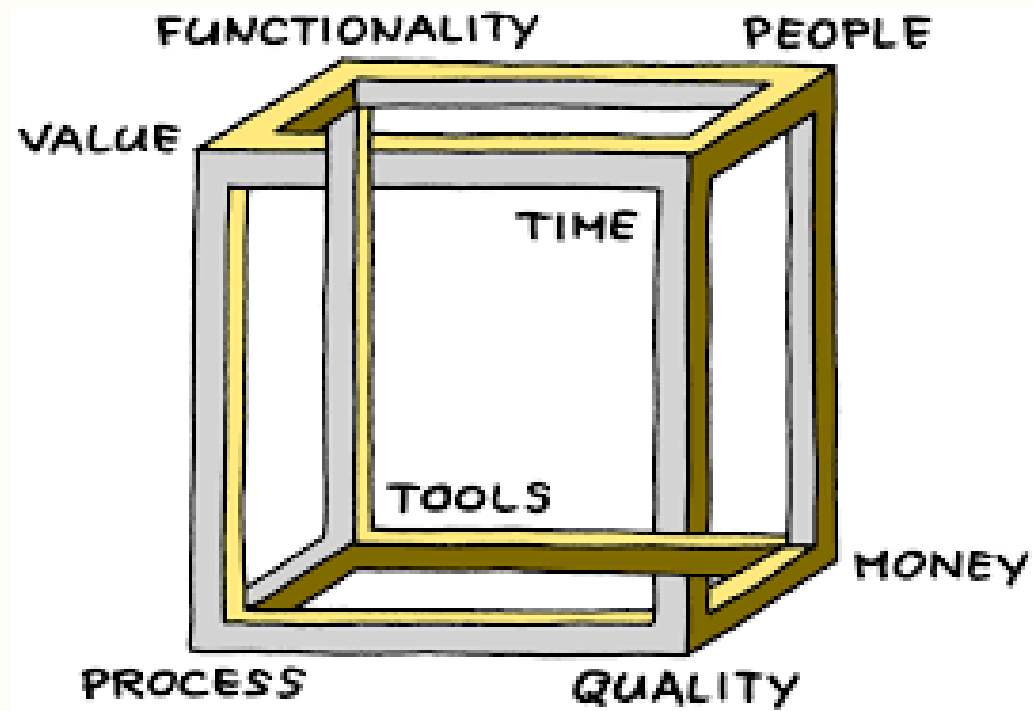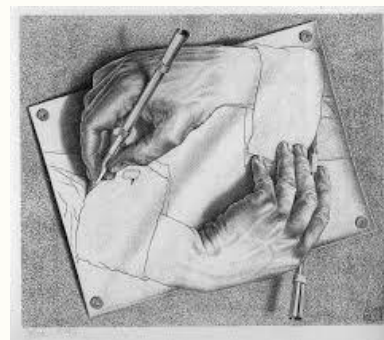
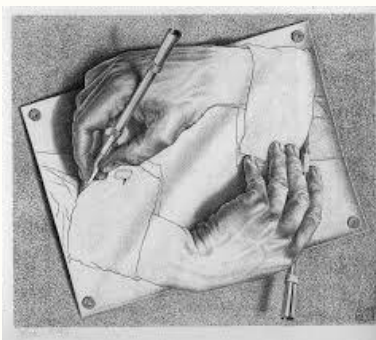**Carol A. Leibiger**  **Alan W. Aldrich**

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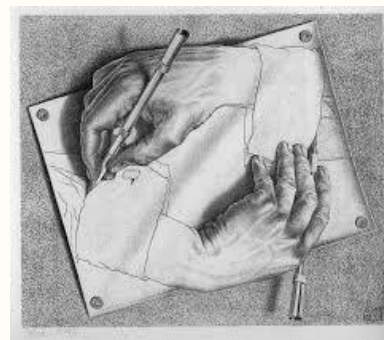
# Neoliberal universities expect ROI



Evaluation and assessment provide ways to measure and communicate value by demonstrating effective teaching and student learning.

# Instructional & institutional context

- IL mandate in first-semester Freshman Composition

- 50+ Freshman Composition sections/semester

- 2 library sessions/semester to support research assignments

- 11 instructors

- Responsibility Center Management

- Emerging library culture of evaluation and assessment

- Initiating evaluation and assessment of library instruction

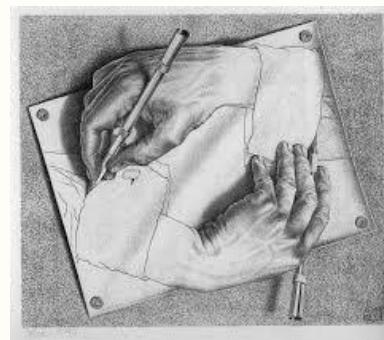# Inclusion of student voices within a CLP perspective…



Qualitative methods can capture student voices
- Portfolios
- Focus groups

- Qualitative methods are labor intensive
  - Not suited for analysis of large populations
  - Results take time
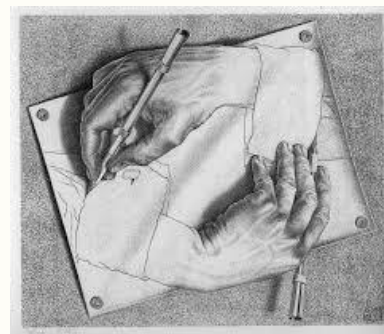
# Designing the instrument



## Assessment and evaluation context

- Neoliberal workplace expectations
- Critical Pedagogy, which informs our instructional praxis...
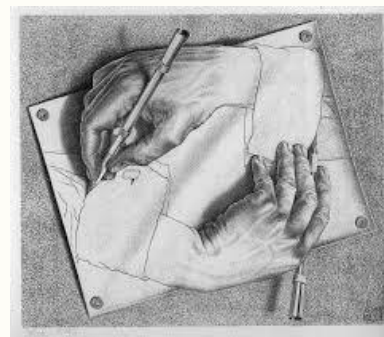- Large scale instruction

## Instrument needed to...

- be simple to administer and analyze.
- use 5 minutes or less of class time.
- capture student satisfaction.
- identify student learning.

# Hybrid survey design

| Evaluation and Assessment Questions | |
|---|---|
| Question | **Closed-Ended Evaluation Questions** |
| 1 | The librarian presented the material effectively. |
| 2 | The librarian presented clear and accurate information. |
| 3 | The librarian answered questions competently. |
| 4 | Students had the opportunity to participate and/or ask questions. |
| | **Open-Ended Evaluation and Assessment Questions** |
| 5 | How could the librarian have taught this session better? |
| 6 | What did you learn in this library session that you could pass on to fellow students or friends to help them complete this assignment better? |

# Quantitative results



| Overall Mean Scores for Evaluation Questions 1-4 | | |
|---|---|---|
| Question | Question | Mean |
| Q1 | Librarian presented materials effectively | 4.52 |
| Q2 | Librarian presented clear and accurate information | 4.51 |
| Q3 | Librarian answered questions completely | 4.51 |
| Q4 | Students could participate and ask questions | 4.53 |

- Very high means

- Results suggest strong satisfaction

# Qualitative results: Positive behaviors

| Librarian Positive Instructional Behaviors from the Open-Ended Evaluation Question | | |
|---|---|---|
| **Librarian positive behaviors** | n | % |
| holistic positive | 312 | 65% |
| effective explanations | 90 | 19% |
| generally positive (praise + recommendation) | 19 | 4% |
| helpfulness | 19 | 4% |
| answering questions | 13 | 3% |
| appropriate pacing | 7 | 1% |
| individualized attention | 7 | 1% |
| librarian knowledge | 3 | 1% |
| positive affect | 3 | 1% |
| effective explanations (library resources) | 2 | 0% |
| emoticon (smiley face) | 2 | 0% |
| modeling effective searching | 2 | 0% |
| attentiveness to students | 1 | 0% |
| effective explanations (databases) | 1 | 0% |
| kindness | 1 | 0% |
| opportunities to ask questions | 1 | 0% |
| repeating/restating instruction | 1 | 0% |
| **Total** | 482 | 99% |

- High degree of student satisfaction (65%)
- Positive results support the quantitative data
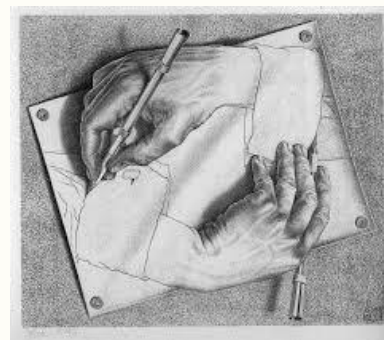
# Qualitative results: Recommendations



| Student recommendations | n | % |
|---|---|---|
| **Instruction management** | | |
| use appropriate pacing | 87 | 40% |
| provide more individual attention to students | 13 | 6% |
| provide more interactive learning | 6 | 3% |
| other instructional management recommendations | 20 | 9% |
| **Explanations** | | |
| provide more detailed explanations | 38 | 17% |
| provide more effective explanations | 21 | 10% |
| provide more focused examples | 7 | 3% |
| **Self-presentation** | | |
| provide more positive affect | 13 | 6% |
| use appropriate volume | 7 | 3% |
| other self-presentation recommendations | 5 | 2% |
| **Beyond instructor control** | | |
| provide longer sessions | 2 | 1% |
| **Total recommendations** | 219 | 100% |

Analytical dilemma:

How to reconcile the overall high positive results with the students' recommendations?
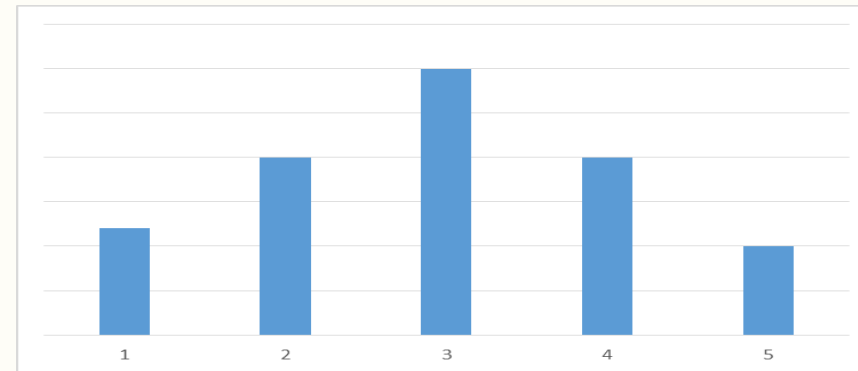
# Structure of the analysis
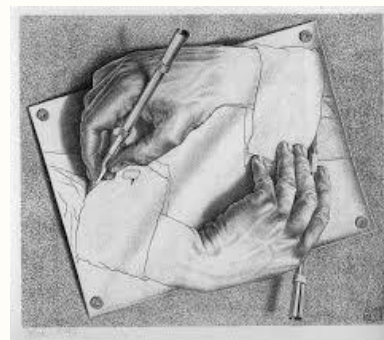
## Stratification of the quantitative data

- Identified sections with lowest & highest satisfaction rates on Q1-Q4
- Lowest and Highest 20% (Quintiles)
- One Way ANOVA with Independent Samples k=2

## Results

- Q1: $F_{(1,14)}$ 308.71 p < .0001
- Q2: $F_{(1,14)}$ 184.04 p < .0001
- Q3: $F_{(1,14)}$ 172.07 p < .0001
- Q4: $F_{(1,14)}$ 184.11 p < .0001
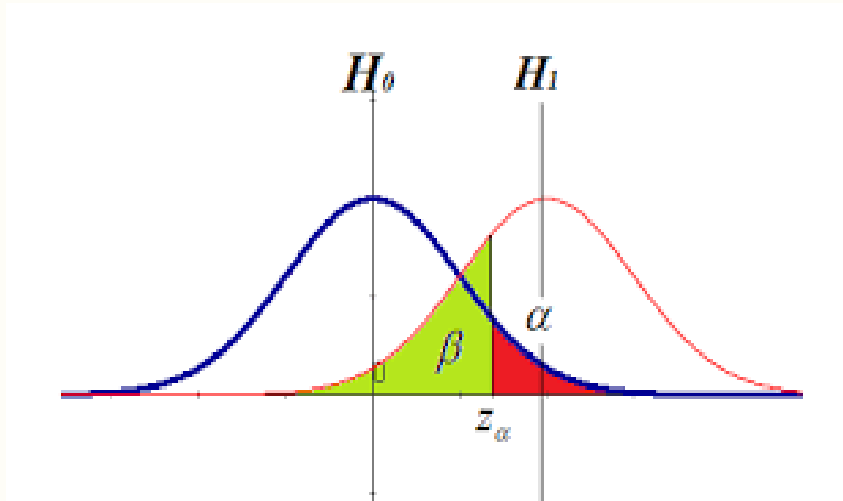
# Using Z-tests



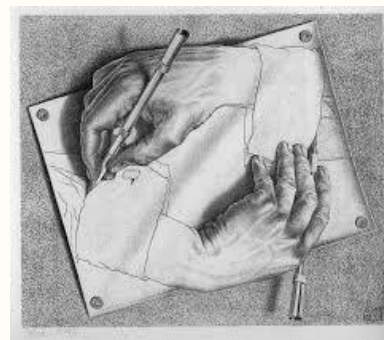Coding and categorization of the qualitative data

- Done by a two person team
- Identified themes
- Calculated proportions for each theme

Testing relationships between each quantitative question and the qualitative categories  (Z Tests)

- Comparing two proportions
- Identify positive and negative instructional behaviors

# Z test results for instructor behaviors

*Helpfulness*:
- Q1: High quintile (.07) significantly more helpful than low quintile (.01), Z = -2.20, p <.05
- Q3: High quintile (.10) significantly more helpful than low quintile (.01), Z = -2.72, p <.05
- Q4: High quintile (.07) significantly more helpful than low quintile (.01), Z = -2.27, p <.05

*More detailed explanations*
- Q2: Low quintile (.07) significantly greater need for more detailed explanations than the high quintile (0.0), Z = 2.08, p < .05.
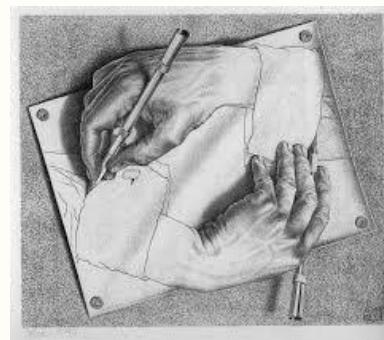
*Positive affect*
- Q1: Low quintile (.11) needs to display positive affect than high quintile (0.0), Z = 2.59, p < .05.

*Pacing*
- Q2: Low quintile (.40) needs more appropriate pacing than high quintile (.14), Z = 2.72, p < .05

# Assessment of student learning



*Narrowing the search*:

Q1: Students in the high quintile (.16) identified narrowing the search more than students in the low quintile (.07), $Z = -1.95$, $p < .05$

Q2: Students in the high quintile (.16) identified narrowing the search more than students in the low quintile (.06), $Z = -2.33$, $p < .05$
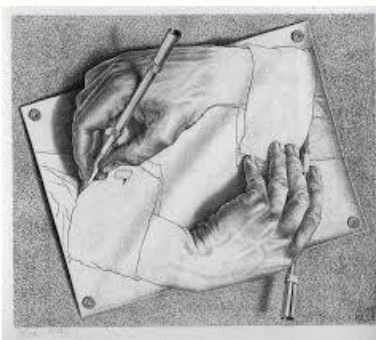
*Navigating the library website*:

Q1: Students in the low quintile (.22) identified navigating the library website more than students in the high quintile (.12), $Z = 1.97$, $p < .05$

Q2: Students in the low quintile (.26) identified navigating the library website more than students in the high quintile (.10), $Z = 3.26$, $p < .05$
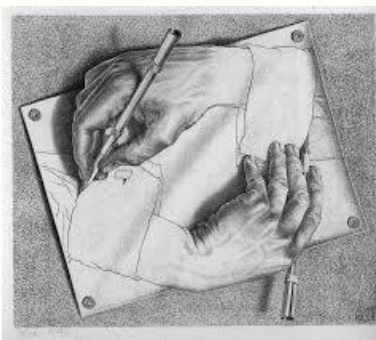
*Improvement in searching*:

Q3: Students in the low quintile (.11) identified improvement in searching more than students in the high quintile (.02), $Z = 2.37$, $p < .05$

"...a critical interpretation of reality should make use of the scientific tools developed by sociology and thereby seek to contribute to the emancipation of society" - Pierre Bourdieu

- Simple design employing quantitative *and* qualitative methods
- Qualitative responses incorporate student voices and are easily coded
- Combining the quantitative and qualitative results in analysis provided nuanced results
- Suitable for analysis of large scale instruction

# Merci beaucoup pour votre attention!

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