Comparing Performance between Freshmen and Upperclassmen:

past workshop experiences and Perry scheme levels

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Introduction

Workshops strive to challenge and develop its students’ abilities to conceptually understand the process behind course material. Rather than memorization, it expects its students to use concepts in order to achieve reasonable answers to a posed question. By developing the cognitive abilities of the students, it would theoretically elevate the level of the student on the Perry scheme.

The Perry scheme, which measures the level of cognitive and interpersonal abilities, divides individuals on a scale of intellectual levels from basic and objective to complex forms of knowledge and outlook. The levels are defined as:

- **Dualism** (positions 1 & 2)
  - “right v. wrong”
  - teachers as absolute authorities
- **Multiplicity** (positions 3 & 4)
  - “right, wrong & not yet known”
  - accepting that there are uncertainties
  - using evidence to support ideas
- **Contextual Relativism** (positions 5 & 6)
  - self is a legitimate source of knowledge & other authorities
  - self-consciousness of being an active maker of meaning
- **Commitment within Relativism** (positions 7 – 9)
  - awareness of the need for commitment
  - actual making a major commitment
  - coping with the consequences of that commitment

Hypothesis

Do past experiences in workshops affect the performance of students in the course and their understanding of the workshop’s purpose?

Prior to the experiment, we hypothesized that upperclassmen would be higher on the Perry scheme and therefore show a better performance in the course. Assuming that upperclassmen have previously experienced similar college level courses with workshop components, they would have benefitted from the intellectually challenging nature of workshops.

Since Dr. Olek’s exams for BIO 110 rely on cognitive ability to arrive at an answer, we expect higher levels of Perry scheme for those that score higher on exams.

Results

Survey Results – Those that took the Survey: 67% Freshman 33% Upperclassmen

Survey Results – Those with Workshop Experience:

- 67% Freshman
- 33% Upperclassmen

Leads us to assume that all upperclassmen who took the survey have all had workshop experience - giving them an advantage over freshmen. However, when surveyed about the significance of workshop, we found the following:

The purpose of workshop:
- 90% - build comprehension skills
- 87% - challenge knowledge
- 77% - review material
- 38% - study

The purpose of recitations:
- 83% - go over lecture material
- 79% - build comprehension skills
- 61% - study
- 55% - challenge knowledge

The role of the workshop leader:
- 96% - guide students
- 62% - be an expert
- 60% - promote group work
- 56% - give answers
- 51% - teach material

Overall expectation of workshop:
- 62% - promote group work
- 56% - give answers
- 51% - teach material

Performance on exams so far and statistics:

<table>
<thead>
<tr>
<th>Grade Comparison</th>
<th>Upperclassmen</th>
<th>Freshmen</th>
<th>T-Value: 0.08316</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.78</td>
<td>0.77</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>0.7857</td>
<td>0.7562</td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>0.7208</td>
<td>0.79</td>
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<tr>
<td>Deviation</td>
<td>0.108613113</td>
<td>0.10816327</td>
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</tr>
</tbody>
</table>

Analysis

Overall we found that the upperclassmen do have more workshop experience than the freshmen as expected. However, there was no significant deviation between the respective performances on exams.

Survey:
- most students generally understand the purpose of workshop
- rely too heavily on the workshop leaders to be “experts”
- indicates **dualism** level of the Perry scheme
- majority response of dependence on leaders show upperclassmen did not benefit from their past workshops

Grade Comparison:
- freshmen perform on the same level as upperclassmen
- mean grade & mode grade slightly higher for upperclassmen
- distribution is the same resulting
- small T-Value (0.083) indicates overall there is no difference

Conclusion

We found that there is no correlation between class year and experience versus performance in the course. This leads to reject our initial hypothesis.

Upperclassmen:
- workshops would increase Perry scheme level but did not benefit
Factors:
  - quality of those past workshops
  - motivations to fully engage in workshop
  - time constraints
  - more commitments, responsibilities, & challenging courses.

Freshmen:
- Probably not on same level as upperclassmen, but motivated
Factors:
  - more enthusiastic
  - interested
  - motivated to do well for the first semester of college

Sources and Acknowledgments

Sources:

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