2013-2014 ANNUAL ASSESSMENT REPORT

PSYCHOLOGY

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Part 1: Background Information

B1. Program name: Psychology **B2. Report author(s):** Kelly Cotter **B3. Fall 2012 enrollment:** 1603

Use the *Department Fact Book 2013* by OIR (Office of Institutional Research) to get the fall 2012 enrollment: (http://www.csus.edu/oir/Data%20Center/Department%20Fact%20Book/Departmental%20Fact%20Book.html).

B4. Program type: [SELECT ONLY ONE]

X	1. Undergraduate baccalaureate major
	2. Credential
	3. Master's degree
	4. Doctorate: Ph.D./E.D.D.
	5. Other, specify:

Part 2: Six Questions for the 2013-2014 Annual Assessment

Question 1 (Q1): Program Learning Outcomes (PLO) Assessed in 2013-2014.

Q1.1. Which of the following program learning outcomes (PLOs) or Sac State Baccalaureate Learning Goals did you assess in 2013-2014? (See 2013-2014 Annual Assessment Report Guidelines for more details). [CHECK ALL THAT APPLY]

X	1. Critical thinking (WASC 1) *		
	2. Information literacy (WASC 2)		
	3. Written communication (WASC 3)		
	4. Oral communication (WASC 4)		
	5. Quantitative literacy (WASC 5)		
	6. Inquiry and analysis		
	7. Creative thinking		
	8. Reading		
	9. Team work		
	10. Problem solving		
	11. Civic knowledge and engagement – local and global		
	12. Intercultural knowledge and competency		
	13. Ethical reasoning		
	14. Foundations and skills for lifelong learning		
	15. Global learning		
	16. Integrative and applied learning		
X	17. Overall competencies for GE Knowledge		
X	18. Overall competencies in the major/discipline		
	19. Others. Specify any PLOs that were assessed in 2013-2014		
	but not included above:		
	a.		
	b.		
	C.		

^{*} One of the WASC's new requirements is that colleges and universities report on the level of student performance at graduation in five core areas: critical thinking, information literacy, written communication, oral communication, and quantitative literacy.

Q1.1.1. Please provide more detailed information about the PLO(s) you checked above:

The psychology department has selected four program learning goals to emphasize and measure within the undergraduate major for the academic years 2013-2018: Competence in the Discipline, Critical Thinking, Inquiry & Analysis, and Written Communication. This year we have assessed Competence in the Discipline (both for the major and for general education) and Critical Thinking. With respect to critical thinking, psychology graduates will demonstrate the ability to systematically explore issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. Specifically they will:

- 6.1: Clearly state and describe the issue/problem to be considered, using all relevant information necessary for full understanding.
- 6.2: Develop a comprehensive analysis or synthesis of information from relevant and appropriate sources (i.e., sources identified by conducting a thorough review of relevant theoretical and empirical literature in Psychology and related disciplines).
- 6.3: Thoroughly (systematically and methodically) analyze the assumptions of self and others. Carefully evaluate the relevance of contexts when presenting a position. Consider the following in evaluating published work on a topic: theoretical frameworks, subdisciplinary perspectives, sociocultural context and worldviews, developmental status of the empirical literature on the topic, research methodologies utilized, and other potential limitations or sources of bias.
- 6.4: Formulate a specific and sophisticated position (perspective, thesis/hypothesis) which accounts for the complexities of the issue. Acknowledge the limits of the position and synthesize others' points of view. Apply this process in developing hypotheses and when interpreting findings.
- 6.5: Draw logical conclusions and related outcomes, such as potential applications or future directions for inquiry. Consequences and implications are stated and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.

Critical thinking and competence in the discipline were measured per the following:

Critical Thinking:

- 1. Capstone course professor administered a pre-post exam containing 17 questions related to critical thinking terms and concepts. The exam was administered to all students (*N* = 88) in the first 2 weeks of class. The posttest contained the same 17 questions and was administered in the last 2 weeks of class. The assessment coordinator computed statistical tests comparing pretest scores to posttest scores to determine if students improved over the course of the semester.
- 2. Capstone course professor assigned written arguments applying critical thinking skills to a controversial issue in psychology. Of four arguments assigned throughout the semester, the final assignment was assessed by the assessment committee. A random sample of 10 papers from each of three sections of the class (*N* = 30) were assessed. The assessment coordinator met with one other member of the assessment committee to read and discuss three papers and to modify the Critical Thinking VALUE rubric to fit the requirements of the assignment. The entire assessment committee (*N* = 5) then read the three papers and scored them based on the revised rubric. The committee then met to discuss and norm their scores, further revising the rubric. The committee re-read and scored the three papers (plus an additional paper), then met once again to revise the rubric and establish inter-rater reliability. The committee finally reviewed and scored the

remaining 26 papers. The assessment coordinator computed inter-rater reliability and descriptive statistics.

Overall competencies for GE knowledge:

GE course professors administered a pre-post exam in each of the GE classes (PSYC 2, 135, 137, 151). Depending on the section of the class, the pretest contained 5-30 questions and was administered to all students (*N* ranged from 19-214 students) in the first 2 weeks of class. The posttest contained the same questions and was administered in the final exam. The assessment coordinator computed statistical tests comparing pretest scores to posttest scores to determine if students improved over the course of the semester.

Overall competencies in the major/discipline:

A capstone course professor administered a pre-post exam. The pretest contained 30 questions and was administered to all students (N = 64) in the first 2 weeks of class. The posttest contained the same 30 questions and was administered in the last 2 weeks of class or on the final exam. The assessment coordinator computed statistical tests comparing pretest scores to posttest scores to determine if students improved over the course of the semester.

Q1.2. Are your PLOs closely aligned with the mission of the university?

X	1. Yes
	2. No
	3. Don't know

Q1.3. Is your program externally accredited (except for WASC)?

J 1 8	1. Yes
X	2. No (If no, go to Q1.4)
	3. Don't know (Go to Q1.4)

Q1.3.1. If yes, are your PLOs closely aligned with the mission/goals/outcomes of the accreditation agency?

1. Yes
2. No
3. Don't know

Q1.4. Have you used the *Degree Qualification Profile* (DQP)* to develop your PLO(s)?

	1. Yes	
	2. No, but I know what DQP is.	
X	3. No. I don't know what DQP is. (At least I	
	didn't before reading this template. I will look	
	into this for future reports. This pertains to Q1.4	
	for all parts of the present document.)	
	4. Don't know	

^{*} **Degree Qualifications Profile (DQP)** – a framework funded by the Lumina Foundation that describes the kinds of learning and levels of performance that may be expected of students who have earned an associate, baccalaureate, or master's degree. Please see the links for more details:

http://www.luminafoundation.org/publications/The_Degree_Qualifications_Profile.pdf and http://www.learningoutcomeassessment.org/DOPNew.html.

Question 2 (Q2): Standards of Performance/Expectations for EACH PLO.

Q2.1. Has the program developed/adopted **EXPLICIT** standards of performance/expectations for the PLO(s) you assessed **in 2013-2014 Academic Year**? (For example: We expect 70% of our students to achieve at least a score of 3 on the Written Communication VALUE rubric.)

	1. Yes, we have developed standards/expectations for ALL PLOs assessed in 2013-14.
X	2. Yes, we have developed standards/expectations for SOME PLOs assessed in 2013-14.
	3. No (If no, go to Q2.2)
	4. Don't know (Go to Q2.2)
	5. Not Applicable (Go to Q2.2)

Q2.1.1. If yes, what are the desired levels of learning, including the criteria and standards of performance/expectations, especially at or near graduation, for EACH PLO assessed in 2013-2014 Academic Year? (For example: what will tell you if students have achieved your expected level of performance for the learning outcome.) Please provide the rubric and/or the expectations that you have developed for EACH PLO one at a time below. [WORD LIMIT: 300 WORDS FOR EACH PLO]

Critical Thinking:

- 1. Statistically significant improvement on an exam of critical thinking terms and concepts.
- 2. The department has not yet established an expectation of performance on applying critical thinking skills. The data collected in the 2013-2014 academic year are intended to provide a baseline upon which the department will make judgments and recommendations for establishing standards of performance on the next assessment report. The rubric is provided here as it relates to specific questions from the capstone assignment:

Q1. Which of the textbook essays presented a <u>stronger</u> case, and why? **Provide specific evidence** from the essays to support your position. Be sure to clearly describe the issue/problem to be considered and address the relative strengths and weaknesses of each position.

	Capstone	Milestone	Milestone	Benchmark
	4	3	2	1
6.1	Issue/problem to be considered critically is stated clearly and described comprehensively, and uses relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and examined so that understanding is not seriously impeded.	Issue/problem to be considered critically is stated but description leaves some terms undefined and ambiguities.	Issue/problem to be considered critically is stated without clarification or description.
6.2	Information is taken from source(s) with substantial interpretation/evaluatio n to develop a coherent and comprehensive analysis or synthesis. Findings from the literature are questioned thoroughly.	Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. Findings from the literature are subject to questioning.	Information is taken from source(s) with some interpretation/evaluation, but not enough to develop a coherent analysis or synthesis. Findings from the literature are taken as mostly fact, with little questioning.	Information is taken from source(s) without any interpretation/evaluation. Findings from the literature are taken as fact without question.

^{*} Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

Q2. How does the journal article help address the controversy? Which side(s) does it support or refute,

and how? Provide specific details from the articles to explain.

	Capstone 4	Milestone 3	Milestone 2	Benchmark 1
6.1	Issue/problem to be considered critically is stated clearly and described comprehensively, and uses relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and examined so that understanding is not seriously impeded.	Issue/problem to be considered critically is stated but description leaves some terms undefined and ambiguities.	Issue/problem to be considered critically is stated without clarification or description.
6.2	Information is taken from source(s) with substantial interpretation/evaluation to develop a coherent and comprehensive analysis or synthesis. Findings from the literature are questioned thoroughly.	Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. Findings from the literature are subject to questioning.	Information is taken from source(s) with some interpretation/evaluation, but not enough to develop a coherent analysis or synthesis. Findings from the literature are taken as mostly fact, with little questioning.	Information is taken from source(s) without any interpretation/evaluation. Findings from the literature are taken as fact without question.

^{*} Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

Q3. Extension of the journal article. **Using the same sample described in the journal article**, propose a follow-up study describing the measurements you would take and a **specific hypothesis you would test**.

How would your proposed study help to resolve the controversy?

	Capstone	Milestone	Milestone	Benchmark
	4	3	2	1
6.4	Specific hypothesis is sophisticated, taking into account the complexities of an issue. Alternative explanations are synthesized within the proposed study.	Specific hypothesis takes into account the complexities of an issue. Alternative explanations are acknowledged within the proposed study.	Specific hypothesis is stated, but is simplistic and obvious, or proposed study does not address the hypothesis.	Specific hypothesis is implied but not stated explicitly.
6.5	Study design and anticipated results logically reflect student's informed evaluation of the controversy of healthy limb amputation.	Study design and anticipated results are identified clearly but may lack specific detail and represent ambiguous logic with respect to the controversy of healthy limb amputation.	Study design and anticipated results are not identified clearly or do not clearly relate to the controversy of healthy limb amputation.	Study design and anticipated results are stated vaguely or oversimplified and do not clearly relate to the controversy of healthy limb amputation.

^{*} Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

Q4. Consider the material from the critical thinking chapter. **Using specific terminology** from the chapter, provide an example of how a critical thinking approach could be used to shed light on this controversy. Briefly describe the assumptions that yourself or others might make in addressing this controversy.

	Capstone	Milestone	Milestone	Benchmark
	4	3	2	1
6.2	Information is taken	Information is taken	Information is taken from	Information is taken from
	from source(s) with	from source(s) with	source(s) with some	source(s) without any
	substantial	enough	interpretation/evaluation,	interpretation/evaluation.
	interpretation/evaluatio	interpretation/evaluation	but not enough to	
	n to develop a coherent	to develop a coherent	develop a coherent	
	and comprehensive	analysis or synthesis.	analysis or synthesis.	
	analysis or synthesis.			
6.3	Thoroughly	Identifies and questions	Identifies own or others'	Shows an emerging
	(systematically and	own or others'	assumptions.	awareness of assumptions
	methodically) analyzes	assumptions.		but fails to state them
	own or others'			explicitly.
	assumptions.			

^{*} Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

Overall competencies for GE knowledge:

Statistically significant improvement on an exam of GE course terms and concepts.

Overall competencies in the major/discipline:

Statistically significant improvement on an exam of capstone course terms and concepts.

Q2.2. Have you published the PLO(s)/expectations/rubric(s) you assessed in 2013-2014?

	1. Yes
X	2. No (If no, go to Q3.1)

Q2.2.1. If yes, where were the PLOs/expectations/rubrics published? [CHECK ALL THAT APPLY]

• <u>••</u> ; where	were the 120s, expectations, tablies passioned. [CHECHTIEE TIMIT HITE]
	1. In SOME course syllabi/assignments in the program that claim to
	introduce/develop/master the PLO(s)
	2. In ALL course syllabi/assignments in the program that claim to introduce
	/develop/master the PLO(s)
	3. In the student handbook/advising handbook
	4. In the university catalogue
	5. On the academic unit website or in the newsletters
	6. In the assessment or program review reports/plans/resources/activities
	7. In the new course proposal forms in the department/college/university
	8. In the department/college/university's strategic plans and other planning documents
	9. In the department/college/university's budget plans and other resource allocation
	documents
	10. In other places, specify:

Question 3 (Q3): Data, Results, and Conclusions for EACH PLO

Q3.1. Was assessment data/evidence **collected** for 2013-2014?

X	1. Yes
	2. No (If no, go to Part 3: Additional Information)
	3. Don't know (Go to Part 3)
	4. Not Applicable (Go to Part 3)

Q3.2. If yes, was the data scored/evaluated for 2013-2014?

X	1. Yes
	2. No (If no, go to Part 3: Additional Information)
	3. Don't know (Go to Part 3)
	4. Not Applicable (Go to Part 3)

Q3.3. If yes, what DATA have you collected? What are the results, findings, and CONCLUSION(s) for EACH PLO assessed in 2013-2014? In what areas are students doing well and achieving the expectations? In what areas do students need improvement? Please provide a simple and clear summary of the key data and findings, including tables and graphs if applicable for EACH PLO one at a time. [WORD LIMIT: 600 WORDS FOR EACH PLO]

Critical Thinking:

1. Student test scores were entered into a data file with the requirement that each must have a pretest score and a corresponding posttest score. Thus, students who were lacking either a pretest score (e.g., they were absent on the day of pretest, they added the class after the pretest was administered) or a posttest score (e.g., they were absent on the day of posttest, they dropped the class sometime after taking the pretest) could not be included in the data analysis. All of the test scores were converted to percentage correct responses.

The difference between the pretest (M = 64.14%, SD = .12) and posttest (M = 81.18%, SD = .09) means were evaluated with a one-way within subjects analysis of variance design. Results of the analysis indicated that the amount of improvement in test scores from the pretest to the posttest was statistically significant, F(1, 74) = 175.84, p < .001. That is, the likelihood of the difference occurring by chance alone, assuming the null hypothesis is valid, was less than one in a thousand.

Although the magnitude of the mean difference might occur very infrequently based only on chance, it is also useful to determine the strength of effect that the course exerted in producing a statistically significant mean difference. This was evaluated using both the eta squared (.70) and Cohen's \mathbf{d} (1.31) statistics, which both represented a very large effect.

Based on the results of the posttest exam, students demonstrated that they understood critical thinking terms and concepts at a proficient level.

2. Data for the application of critical thinking skills of a random sample of 30 undergraduates enrolled in a capstone course are presented in the following table:

	Capstone	Milestone	Milestone	Benchmark	No Answer	Mean (SD)	Mean (SD)
	4	3	2	1	0	with 0's	without 0's
Q1							
6.1	7.9%	18.4%	23.7%	15.8%	34.2%	1.5 (1.34)	2.28 (.97)

Q1							
6.2	7.9%	31.6%	53.9%	5.3%	1.3%	2.40 (.77)	2.43 (.72)
Q2							
6.1	5.3%	17.1%	35.5%	32.9%	9.2%	1.76 (1.02)	1.94 (.89)
Q2							
6.2	0%	5.3%	47.4%	44.7%	2.6%	1.55 (.64)	1.60 (.60)
Q3							
6.4	0%	15.8%	46.1%	22.4%	15.8%	1.62 (.94)	1.92 (.67)
Q3							
6.5	2.6%	19.7%	46.1%	26.3%	5.3%	1.88 (.88)	2.00 (.78)
Q4							
6.2	2.6%	22.4%	44.7%	13.2%	15.8%	1.83 (1.04)	2.17 (.73)
Q4							
6.3	3.9%	31.6%	25.0%	26.3%	13.2%	1.87 (1.12)	2.15 (.92)

During the rating process, reviewers noted that a number of students failed to answer part of the question(s). Data for all students is presented in the table in the column titled "Mean (SD) with 0's" to account for instances where students received a zero score for failure to answer part or all of the question posed. The column to the right, "Mean and (SD) without 0's," represents scores for instances where students provided a response to the question. As shown in the table above and explained in more detail in the Appendix, students were both most and least proficient at developing a comprehensive analysis or synthesis of information from relevant and appropriate sources (6.2), performing at the milestone level on average for question 1 (M = 2.43) and the benchmark level on average for question 2 (M = 1.60). In general, students who responded to the questions demonstrated proficiency at the milestone 2 level (M = 2.06 overall, SD = .25).

A major finding of the evaluation process was that there had been insufficient communication between the psychology department's assessment committee and the instructors of PSYC 107 when developing the assessed assignment. As a result, the learning outcomes had not been properly mapped onto course assignments. This was expected, as this is the first time the department has assessed Critical Thinking as a learning outcome and we are using this year's process and data as a means toward understanding how to craft better assessment techniques. A full-time Psychology professor has revised the course, attempting to address these problems. The following assessment strategy is a first step in this direction:

btudents who graduate from the university will demonstrate the ability to systematically explore issues, ideas, artifacts, and events before accepting or formulating an opinion or condusion. Specifically they will:

BACKGROUND PREPARATION

6.1 Clearly state and describe the issue/problem to be considered, using all relevant information necessary for full understanding.

- List at least 3 elements of the argument from both the "Yes" and "No" sides of each controversy (fill-in-the-blank)
- Define terms/jargon that are specific to this controversy (examination multiple choice and/or true/false items)
- 6.2 Develop a comprehensive analysis or synthesis of information from relevant and appropriate sources (i.e., sources identified by conducting a thorough review of relevant theoretical and empirical literature in Psychology and related disciplines).
- List at least 5 fundamentally important keywords to use in a literature search (fill-in-the-blank)
- > Find at least 8 relevant articles on PsycInfo and cite these using APA-style (fill-in-the-blank)

CRITICAL THINKING APPLICATIONS

6.3 Thoroughly (systematically and methodically) analyze the assumptions of self and others. Carefully evaluate the relevance of contexts when presenting a position. Consider the following in evaluating published work on a topic: theoretical frameworks, subdisciplinary perspectives, sociocultural context and worldviews, developmental status of the empirical literature on the topic, research methodologies utilized, and other potential limitations or sources of bias.

- Demonstrate knowledge about Critical Thinking terms from assigned chapters—some of these terms may be relevant to the controversy (self-test mastery; multiple choice and true false items)
- Use these Critical Thinking terms to identify potential sources of bias in either/both position(s) of the controversy (short essay)

RESEARCH ANALYSIS & EXTENSION

6.5 Draw logical conclusions and related outcomes, such as potential applications or future directions for inquiry. Consequences and implications are stated and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.

- Explain how a given journal article helps address the controversy...which side(s) does it support or refute, and how? (short essay)
- Draw upon the Methods of an existing journal article to propose a replication and extension to address a void in the literature (short essay)
- State clearly how this proposed study could help to address the controversy (short essay)
- 6.4 Formulate a specific and sophisticated position (perspective, thesis/hypothesis) which accounts for the complexities of the issue. Acknowledge the limits of the position and synthesize others' points of view. Apply this process in developing hypotheses and when interpreting findings.
- State a directional hypothesis in terms of either (a) an association among variables (e.g. correlational design) or (b) link between independent and dependent variable (e.g., lab or field experiment design)...(short essay)
- > Identify potential limitations to the interpretation of Results (short essay)

These data will be used to provide context and information to the department as we discuss modifications to the curriculum. Per our department's curriculum map, critical thinking terms and concepts should be introduced in lower division courses and developed in upper division courses. Psychology 107, the capstone course assessed herein, provides an opportunity for students to master their critical thinking skills. The department will discuss potential methods for developing critical thinking skills further in the curriculum. It is also important to note that the assignment assessed herein does not map perfectly onto the Leap VALUE rubric, and so these scores must be considered with that caveat. The department will continue to discuss curricular changes and the possibility of setting standards for critical thinking for future assessment reports.

Overall competencies for GE knowledge:

Student test scores (N = 1381) were entered into a data file with the requirement that each must have a pretest score and a corresponding posttest score. Thus, students who were lacking either a pretest score (e.g., they were absent on the day of pretest, they added the class after the pretest was administered) or a posttest score (e.g., they were absent on the day of posttest, they dropped the class sometime after taking the pretest) could not be included in the data analysis (n = 268).

To allow different classes to be combined, all of test scores in our assessment process were converted to percentage correct responses. Table 1 presents the means (*Ms*) and standard deviations (*SDs*) of the pretest and posttest scores for each class (multiple sections of each class may be combined).

The difference between the pretest and posttest means were evaluated with a one-way within subjects analysis of variance design. Results of the analysis indicated that the amount of improvement in test scores from the pretest to the posttest was statistically significant for all courses. That is, the likelihood of the difference occurring by chance alone, assuming the null hypothesis is valid, was less than one in a thousand for all four courses.

Although the magnitude of the mean difference might occur very infrequently based only on chance, it is also useful to determine the strength of effect that the course exerted in producing a statistically significant mean difference. This was evaluated using both the eta squared and Cohen's **d** statistics. Eta squared values ranged from to .60 to .76, representing a very large effect. Cohen's **d** values ranged from 1.74 to 2.62, also representing a very large effect.

Means and Standard Deviations for Pretest and Posttest Scores for PSYC 2, 135, 137, 151

	PSYC 2 $(N = 802)$		PSYC 135 (<i>N</i> = 147)		PSYC 137 (<i>N</i> = 75)		PSYC 151 (<i>N</i> = 89)	
	M	SD	M	SD	M	SD	M	SD
Pretest	45.14%	14.85%	46.62%	14.61%	44.84%	14.68%	46.01%	14.95%
Posttest	74.90%	19.15%	81.09%	12.82%	80.46%	12.41%	76.52%	17.92%
ANOVA	F(1, 801) =	= 1218.87	F(1, 146) = 4	32.39	F(1, 74) =	= 232.88	F(1, 88) =	224.59
P value	0.>	001	< .00	1	<	001).>	001
Eta sq	.60		.75		.76		.72	
Cohen's d	1.74		2.51		2.62		1.85	

Based on the statistical analysis, it can be concluded that the instructional process underlying Psychology 2, 135, 137, and 151 significantly and substantially increases the knowledge of the students about the subject matter covered in the course. It is therefore very effective in meeting its course specific learning objectives.

Overall competencies in the major/discipline:

Student test scores were entered into a data file with the requirement that each must have a pretest score and a corresponding posttest score. Thus, students who were lacking either a pretest score (e.g., they were absent on the day of pretest, they added the class after the pretest was administered) or a posttest score (e.g., they were absent on the day of posttest, they dropped the class sometime after taking the pretest) could not be included in the data analysis. All of the test scores were converted to percentage correct responses.

The difference between the pretest (M = 22.14, SD = 7.75) and posttest (M = 63.44, SD = 25.21) means were evaluated with a one-way within subjects analysis of variance design. Results of the analysis indicated that the amount of improvement in test scores from the pretest to the posttest was statistically significant, F(1, 63) = 158.76, p < .001. That is, the likelihood of the difference occurring by chance alone, assuming the null hypothesis is valid, was less than one in a thousand.

Although the magnitude of the mean difference might occur very infrequently based only on chance, it is also useful to determine the strength of effect that the course exerted in producing a statistically significant mean difference. This was evaluated using both the eta squared (.72) and Cohen's \mathbf{d} (2.21) statistics, which both represented a very large effect.

While the pretest reflected performance at the level of chance for a 4-choice multiple choice exam, performance on the posttest impressed the course instructor, who reported creating a very difficult exam. Based on the results of the posttest exam in a capstone course in the major, students demonstrated competence in the discipline of psychology.

Q3.4. Do students meet the expectations/standards of performance as determined by the program and achieved the learning outcomes? [PLEASE MAKE SURE THE PLO YOU SPECIFY HERE IS THE SAME ONE YOU CHECKED/SPECIFIED IN Q1.1].

Q3.4.1. First PLO: Critical Thinking

	11114111 111111111115
	1. Exceed expectation/standard
	2. Meet expectation/standard
	3. Do not meet expectation/standard
X	4. No expectation/standard set
	5. Don't know

[NOTE: IF YOU HAVE MORE THAN ONE PLO, YOU NEED TO REPEAT THE TABLE IN Q3.4.1 UNTIL YOU INCLUDE ALL THE PLO(S) YOU ASSESSED IN 2013-2014.]

Q3.4.2. Second PLO: Overall competencies for GE knowledge

	1. Exceed expectation/standard
X	2. Meet expectation/standard
	3. Do not meet expectation/standard
	4. No expectation/standard set
	5. Don't know

Q3.4.3. Third PLO: Overall competencies in the major/discipline

	1. Exceed expectation/standard
X	2. Meet expectation/standard
	3. Do not meet expectation/standard
	4. No expectation/standard set
	5. Don't know

Question 4 (Q4): Evaluation of Data Quality: Reliability and Validity.

Q4.1. How many PLOs in total did your program assess in the 2013-2014 academic year? 3

Q4.2. Please choose **ONE ASSESSED PLO** as an example to illustrate how you use direct, indirect, and/or other methods/measures to collect data. If you only assessed one PLO **in 2013-14**, YOU CAN SKIP this question. If you assessed MORE THAN ONE PLO, please check **ONLY ONE PLO BELOW EVEN IF YOU ASSESSED MORE THAN ONE PLO IN 2013-2014.**

X	1. Critical thinking (WASC 1) ¹		
	2. Information literacy (WASC 2)		
	3. Written communication (WASC 3)		
	4. Oral communication (WASC 4)		
	5. Quantitative literacy (WASC 5)		
	6. Inquiry and analysis		
	7. Creative thinking		
	8. Reading		
	9. Team work		
	10. Problem solving		
	11. Civic knowledge and engagement – local and global		
	12. Intercultural knowledge and competency		
	13. Ethical reasoning		
	14. Foundations and skills for lifelong learning		
	15. Global learning		
	16. Integrative and applied learning		
	17. Overall competencies for GE Knowledge		
	18. Overall competencies in the major/discipline		
	19. Other PLO. Specify:		

Direct Measures

Q4.3. Were direct measures used to assess this PLO?

X	1. Yes
	2. No (If no, go to Q4.4)
	3. Don't know (Go to Q4.4)

Q4.3.1. Which of the following DIRECT measures were used? [Check all that apply]

X	1. Capstone projects (including theses, senior theses), courses, or experiences
	2. Key assignments from other CORE classes
	3. Key assignments from other classes
X	4. Classroom based performance assessments such as simulations, comprehensive exams, critiques
	5. External performance assessments such as internships or other community based projects
	6. E-Portfolios
	7. Other portfolios
	8. Other measure. Specify:

Q4.3.2. Please provide the direct measure(s) [key assignment(s)/project(s)/portfolio(s)] that you used to collect the data. [WORD LIMIT: 300 WORDS]

Assignment: Controversy Evaluations Papers

For each of the controversial issues, write an evaluation paper of the textbook and the journal articles. The papers are due online as indicated on the course schedule, and there will not be any make-up opportunities to turn in your evaluation if you have not done so by the end of the class period. There will be no dropped assignments for the controversy evaluations.

Each paper should be a minimum of 1000 words. Do not quote material from the reading; write in your own words. Grades will be based on thoroughness, writing quality, and provision of evidence from the readings. Please use the following 4 questions as headers to structure your paper:

- 1. Which of the textbook essays presented a stronger case, and why? Provide specific evidence from the essays to support your position. Be sure to clearly describe the issue/problem to be considered and address the relative strengths and weaknesses of each position.
- 2. How does the journal article help address the controversy? Which side(s) does it support or refute, and how? Provide specific details from the articles to explain.
- 3. Extension of the journal article. Using the same sample described in the journal article, propose a follow-up study describing the measurements you would take and a specific hypothesis you would test. How would your proposed study help to resolve the controversy?
- 4. Consider the material from the critical thinking chapter. Using specific terminology from the chapter, provide an example of how a critical thinking approach could be used to shed light on this controversy. Briefly describe the assumptions that yourself or others might make in addressing this controversy.

Q4.3.2.1. Was the direct measure(s) [key assignment(s)/project(s)/portfolio(s)] aligned directly with the rubric/criterion?

X	1. Yes
	2. No
	3. Don't know

Q4.3.3. Was the direct measure (s) [key assignment(s)/project(s)/portfolio(s)] aligned directly with the PLO?

X	1. Yes
	2. No
	3. Don't know

Q4.3.4. How was the evidence scored/evaluated? [Select one only]

	1. No rubric is used to interpret the evidence (If checked, go to Q4.3.7)
	2. Use rubric developed/modified by the faculty who teaches the class
	3. Use rubric developed/modified by a group of faculty
X	4. Use rubric pilot-tested and refined by a group of faculty

5. Use other means. Specify:

Q4.3.5. What rubric/criterion was adopted to score/evaluate the above key assignments/projects/portfolio? [Select one only]

	F = 1 = 2 = 2 = 2 = 2 = 2 = 2 = 2 = 2 = 2
	1. The VALUE rubric(s)
X	2. Modified VALUE rubric(s)
	3. A rubric that is totally developed by local faculty
	4. Use other means. Specify:

Q4.3.6. Was the rubric/criterion aligned directly with the PLO?

X	1. Yes
	2. No
	3. Don't know

Q4.3.7. Were the evaluators (e.g., faculty or advising board members) who reviewed student work calibrated to apply assessment criteria in the same way?

X	1. Yes
	2. No
	3. Don't know

Q4.3.8. Were there checks for inter-rater reliability?

X	1. Yes
	2. No
	3. Don't know

Q4.3.9. Were the sample sizes for the direct measure adequate?

X	1. Yes
	2. No
	3. Don't know

Q4.3.10. How did you select the sample of student work (papers, projects, portfolios, etc)? Please briefly specify here:

We randomly selected 10 papers from each of the three sections (30 student enrollment cap) of the capstone class: PSYC 107 (Controversial Issues in Psychology), for a total of 30 papers.

Indirect Measures

Q4.4. Were indirect measures used to assess the PLO?

	1. Yes
X	2. No (If no, go to Q4.5)

Q4.4.1. Which of the following indirect measures were used?

1. National student surveys (e.g., NSSE, etc.)
2. University conducted student surveys (OIR surveys)
3. College/Department/program conducted student surveys
4. Alumni surveys, focus groups, or interviews
5. Employer surveys, focus groups, or interviews
6. Advisory board surveys, focus groups, or interviews
7. Others, specify:

Q4.4.2. If surveys were used, were the sample sizes adequate?

•		•
	1. Yes	
	2. No	
	3. Don't know	

Q4.4.3. If surveys were used, please briefly specify how you select your sample? What is the response rate?

Other Measures

Q4.5. Were external benchmarking data used to assess the PLO?

	1. Yes
X	2. No (If no, go to Q4.6)

Q4.5.1. Which of the following measures was used?

1. National disciplinary exams or state/professional licensure exams
2. General knowledge and skills measures (e.g., CLA, CAAP, ETS PP, etc)
3. Other standardized knowledge and skill exams (e.g., ETS, GRE, etc)
4. Others, specify:

Q4.6. Were other measures used to assess the PLO?

X	1. Yes
	2. No (Go to Q4.7)
	3. Don't know (Go to Q4.7)

Q4.6.1. If yes, please specify: The capstone course professor administered a pre-post exam containing 17 questions related to critical thinking terms and concepts. The exam was administered to all students (N = 88) in the first 2 weeks of class. The posttest contained the same 17 questions and was administered in the last 2 weeks of class. The assessment coordinator computed statistical tests comparing pretest scores to posttest scores to determine if students improved over the course of the semester. Results revealed statistically significant improvement as well as proficient understanding of critical thinking terms and concepts by the end of the semester.

Alignment and Quality

Q4.7. Please describe how you collected the data? For example, in what course(s) (or by what means) were data collected? How reliable and valid is the data? [WORD LIMIT: 300 WORDS]

Capstone course professor assigned written arguments applying critical thinking skills to a controversial issue in psychology. Of four arguments assigned throughout the semester, the final assignment was assessed by the assessment committee. A random sample of 10 papers from each of three sections of the class (N = 30) were assessed. The assessment coordinator met with one other member of the assessment committee to read and discuss three papers and to modify the Critical Thinking VALUE rubric to fit the requirements of the assignment. The entire assessment committee (N = 5) then read the three papers and scored them based on the revised rubric. The committee then met to discuss and norm their scores, further revising the rubric. The committee re-read and scored the three papers (plus an additional paper), then met once again to revise the rubric and establish inter-rater reliability. The committee finally reviewed and scored the remaining 26 papers. As is explained in detail in the Appendix, "since all students are not evaluated by the same set of raters, the potential for influential rater bias is present; however, from the finding of relatively small rater interactions we can conclude that there is little rater bias. The differences in rater leniency/severity are therefore fairly consistent across questions, dimensions, and students, and therefore the fair averages reported for student papers can be assumed to adequately account for these consistent differences in rater leniency/severity."

Q4.8. How many assessment tools/methods/measures in total did you use to assess this PLO? 2 **NOTE: IF IT IS ONLY ONE, GO TO Q5.1.**

Q4.8.1. Did the data (including all the assignments/projects/portfolios) from all the different assessment tools/measures/methods directly align with the PLO?

X	1. Yes
	2. No
	3. Don't know

Q4.8.2. Were ALL the assessment tools/measures/methods that were used good measures for the PLO?

X	1. Yes
	2. No
	3. Don't know

Question 5 (Q5): Use of Assessment Data.

Q5.1. To what extent have the assessment results from 2012-2013 been used for? [CHECK ALL THAT APPLY]

APPLYJ	Very Much	Quite a Bit	Some	Not at all	Not Applicable
1. Improving specific courses	(1)	(2)	(3) X	(4)	(9)
Modifying curriculum		X	71		
3. Improving advising and mentoring		71		X	
4. Revising learning outcomes/goals	X			Λ	
5. Revising rubrics and/or expectations	X				
6. Developing/updating assessment plan	X				
7. Annual assessment reports	X				
8. Program review	X				
9. Prospective student and family information				X	
10. Alumni communication				X	
11. WASC accreditation (regional accreditation)	X				
12. Program accreditation					X
13. External accountability reporting requirement					X
14. Trustee/Governing Board deliberations					X
15. Strategic planning		X			
16. Institutional benchmarking				X	
17. Academic policy development or modification				X	
18. Institutional Improvement				X	
19. Resource allocation and budgeting				X	
20. New faculty hiring		X			
21. Professional development for faculty and staff			X		
22. Other Specify:					

Q5.1.1. Please provide one or two best examples to show how you have used the assessment data above.

Based on our assessment results from 2012-2013 we have thoroughly revised our assessment plan, including updating and modifying our plans for measures of learning goals. For example, we are now working to include both direct and indirect measures of program learning outcomes, where before we relied only on direct measures. In addition, we worked LEAP rubrics that were slightly modified for the psychology department in general before. Now have come to appreciate that the rubrics often need to be modified for use with specific assignments in order to provide valid data. For the current assessment report we had to make the following modifications to the original LEAP rubric for valid use assessing assignments (changes tracked):

	Capstone	Milestone	Milestone	Benchmark
	Capsione 4	Milestone 3	Milestone 2	Denchmark 1
6.1	Issue/problemto be	Issue/problem to be	Issue/problem to be	Issue/problem to be
0.1	considered critically	considered critically is	considered critically is	considered critically is
	is stated clearly and	stated, described, and	stated but description	stated without
	described	examined so that	leaves some terms	clarification or
	comprehensively, and	understanding is not	undefined and	description.
	uses relevant	seriously impeded by	ambiguities , and	description.
	information necessary	emissions.	backgrounds	
	for full	emissions.	unexplored.	
	understanding.		and approved.	
6.2	Information is taken	Information is taken	Information is taken	Information is taken
0.2	from source(s) with	from source(s) with	from source(s) with	from source(s) without
	substantial	enough	some	any
	interpretation/evaluati	interpretation/evaluati	interpretation/evaluatio	interpretation/evaluatio
	on to develop a	on to develop a	n, but not enough to	n. Findings from the
	coherent and	coherent analysis or	develop a coherent	literature are taken as
	comprehensive	synthesis.	analysis or synthesis.	fact without question.
	analysis or synthesis.	Findings from the	Findings from the	
	Findings from the	literature are subject to	literature are taken as	
	literature are	questioning.	mostly fact, with little	
	questioned		questioning.	
	thoroughly.			
6.2	Information is taken	Information is taken	Information is taken	Information is taken
for	from source(s) with	from source(s) with	from source(s) with	from source(s) without
Q4	substantial	enough	some	any
	interpretation/evaluati	interpretation/evaluati	interpretation/evaluatio	interpretation/evaluatio
	on to develop a	on to develop a	n, but not enough to	n. Findings from the
	coherent and	coherent analysis or	develop a coherent	literature are taken as
	comprehensive	synthesis.	analysis or synthesis.	fact without question.
	analysis or synthesis.	Findings from the	Findings from the	
	Findings from the	literature are subject to	literature are taken as	
	literature are	questioning .	mostly fact, with little	
	questioned		questioning.	
	thoroughly.			
6.3	Thoroughly	Identifies and	Identifies some	Shows an emerging
	(systematically and	questions own and	assumptions but may	awareness of
	methodically)	or others'	be more aware	assumptions but
	analyzes own and	assumptions.	ofown or others'	sometimes labels
	or others'	Evaluates several	assumptions-than	assertions as
	assumptions and	relevant contexts	one's own (or vice	assumptions fails to
	carefully evaluates	when presenting a	versa). Identifies	state them explicitly.
	the relevance of	position.	some relevant	Begins to identify
	contexts when	Position.	contexts when	some contexts when
	presenting a		presenting a position	presenting a position.
			presenting a position	presenting a position.
6.4	position.	C1C141	0	0
6.4	Specific position	Specific position	Specific position	Specific position
	(perspective;	(perspective,	(perspective,	(perspective,
	thesis/hypothesis) is	thesis/hypothesis)	thesis/hypothesis)	thesis/hypothesis) is

1	sophisticated, taking	takes into account the	acknowledges different	stated, but is simplistic
1	into account the	complexities of an	sides of an	and obvious.Specific
	complexities of an	issue.	issueSpecific	hypothesis is implied
	issue.	Others' points of	hypothesis is stated,	but not stated
	Limits of position	view Alternative	but is simplistic and	explicitly.
1	(perspective,	explanations are	obvious, or proposed	
	thesis/hypothesis) are	acknowledged within	study does not address	
1	acknowledged.	the proposed	the hypothesis.	
	Others' points of	study position		
	view Alternative	(perspective;		
	explanations are	thesis/hypothesis).		
	synthesized within			
	the proposed			
1	study position			
1	(perspective, thesis/hypothesis).			
	thesis/hypothesis).			
6.5	Conclusions Study	Study design and	Study design and	Study design and
1	design and	anticipated results	anticipated results	anticipated results
1	anticipated results	Conclusion is	Conclusion is	Conclusion are stated
1	and related	logically tied to a	logically tied to	vaguely oris
	outcomes	range of	information (because	inconsistently tied to
	(consequences and	information,	information is chosen	some of the
	implications) are	including opposing	to fit the desired	information
	logical andlogically	viewpoints; related	conclusion); some	discussed; related
	reflect student's	outcomes	related outcomes	outcomes
	informed evaluation	(consequences and	(consequences and	(consequences and
	of the controversy	implications) are	implications) are not	implications) are
	of healthy limb	identified clearly but	identified clearly or	oversimplified and
	amputation and	may lack detail and	do not clearly relate	do not clearly relate
	ability to place	represent ambiguous	to the controversy of	to the controversy of
	evidence and	logic with respect to	healthy limb	healthy limb
	perspectives	the controversy of	amputation.	amputation.
	discussed in priority	healthy limb		
	order.	amputation.		
		amputation.		

^{*} Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

Q5.2. As a result of the **assessment effort in 2013-2014** and based on the prior feedbacks from OAPA, do you anticipate making any changes for your program (e.g., course structure, course content, or modification of program learning outcomes)?

X	1. Yes
	2. No (If no, go to Q5.3)
	3. Don't know (Go to Q5.3)

Q5.2.1. What changes are anticipated? By what mechanism will the changes be implemented? How and when will you assess the impact of proposed modifications? [WORD LIMIT: 300 WORDS]

The psychology department is currently undergoing a significant change to our curriculum and will use assessment data to restructure course offerings. The changes will likely take place slowly over the next five years. Furthermore, at the course level the assessment committee will make recommendations to the capstone course instructor for revising the wording of the assignment to better align with the rubric and to provide the rubric to students before the assignment is due or on the course syllabus. Finally, in order to

incorporate indirect assessment of critical thinking (among other learning outcomes), we will implement the following exit survey of Psychology graduates upon their completion of the program:

Psychology Major Student Experience Survey California State University, Sacramento

Congratulations on your completion of the psychology major and your graduation from CSUS! The Psychology Department is proud of our major program and we wish to continue to improve the educational experiences we provide to students. Having just completed the major, you are in a great position for providing us with feedback. Please take a few moments to reflect on your experience as a psychology major and complete the following survey. We appreciate your input!

Coursework. We are interested in your thoughts about the coursework offered in the program.

Number of semesters (from acceptance into the major) to graduation: semesters
Approximate Sac State GPA:
Approximate Cumulative GPA:
Please list or describe your favorite aspects of the coursework you have taken thus far:
Please list or describe what you would most like to see changed about the coursework you have taken:

Self-ratings. We are interested in your self-evaluations of knowledge and skills.

Using the stem provided below, please indicate <u>your agreement</u> for items 1.4 by circling the number to the right. The psychology major helped me to become confident about my knowledge/skills in terms of...

			Strongly Agree		Strongly Disagre		
1.	Competence in the discipline	5	4	3	2	1	
2.	(Knowledge of major concepts and key sress of psychology.) Critical Thinking	5	4	3	2	1	
3.	(Ability to comprehensively explore issues, ideas, and events before accepting or formulating an opinion or conclusion.) Information Literacy	5	4	3	2	1	
	(Ability to know when there is a need for information, to be able identify, locate, evaluate, and effectively and responsibly use and share that information for the problem at hand.)						
4.	Inquiry/Analysis	5	4	3	2	1	
5.	(Ability to systematically explore issues through collecting and analyzing evidence that results in informed conclusions or judgm Oral Communication	ents.) 5	4	3	2	1	
	(Prepared, purposeful presentation designed to increase knowledg to foster understanding, or to promote change in the listeners' atti- yalues, beliefs, or behaviors.)						
6.	Quantitative Literacy	5	4	3	2	1	
	(Ability to reason and solve quantitative problems from a wide an	ray					
7.	of authentic contexts and everyday life situations.) Written Communication (Ability to develop and express ideas in writing including the use	5	4	3	2	1	
	(Abinty to develop and express ideas in writing including the use text, data, and images.)	.01					

Dozen	, have a johno	w? 🗖 No	□ Var	If Von	T Full Tim	no 🗖 Poet T	ima	
-	•	andplace of em						
		orked in your c						
		ed future job inte						
		graduateprogra						
		ou applied? For tart the program		ram(s)? For	a Master's I	Degree or a Phi	Q? Have yo	u been accepted?
If No:	Do you plan to	apply? Forwhi	chprogram	(s)?ForaM	aster's Degr	ee or a PhD?		
Backgrou	nd Information	a, Please answe	the follow	ing to help u	s collect bac	kground infon	mation for th	he program.
Age:_	years	Gender (circle one):	Male I	emale Ot	her gender ide	entification	
Ethnic	ity (please chec	k all that apply)	:					
_	African Amer Asian/Pacific			Arab Ameri Iispanic/La		☐ Multir		
Other Inf	rmation: Do y	ou have any oth	ner commer	ts or sugges	tions that yo	u would like to	share with	us?
nvite you	to special event	e like to keep in s, and inform yo n the future. Tha	ou of oppor	unities.Plea	ise provide a	current email	address or p	development, ohone number so

Q5.2.2. Is there a follow-up assessment on these areas that need improvement?

37	1 17
X	I Yes

2. No
3. Don't know

Q5.3. Many academic units have collected assessment data on aspects of a program that are not related to program learning outcomes (i.e., impacts of an advising center, etc.). If your program/academic unit has collected assessment data in this way, please briefly report your results here. [WORD LIMIT: 300 WORDS]

Question 6 (Q6). Which program learning outcome(s) do you plan to assess next year?

X	1. Critical thinking (WASC 1) ¹
	2. Information literacy (WASC 2)
	3. Written communication (WASC 3)
	4. Oral communication (WASC 4)
	5. Quantitative literacy (WASC 5)
X	6. Inquiry and analysis
	7. Creative thinking
	8. Reading
	9. Team work
	10. Problem solving
	11. Civic knowledge and engagement – local and global
	12. Intercultural knowledge and competency
	13. Ethical reasoning
	14. Foundations and skills for lifelong learning
	15. Global learning
	16. Integrative and applied learning
X	17. Overall competencies for GE Knowledge
X	18. Overall competencies in the major/discipline
	19. Others. Specify any PLOs that the program is going to assess
	but not included above:
	a.
	b.
	C.

Part 1: Background Information

B1. Program name: ABA Psychology MA

B2. Report author(s): Kelly Cotter

B3. Fall 2012 enrollment: 75 (for the entire MA enrollment, not for the ABA program specifically) *Use* the *Department Fact Book 2013* by OIR (Office of Institutional Research) to get the fall 2012 enrollment: (http://www.csus.edu/oir/Data%20Center/Department%20Fact%20Book/Departmental%20Fact%20Book.html).

B4. Program type: [SELECT ONLY ONE]

	1. Undergraduate baccalaureate major
	2. Credential
X	3. Master's degree
	4. Doctorate: Ph.D./E.D.D.
	5. Other, specify:

Part 2: Six Questions for the 2013-2014 Annual Assessment

Question 1 (Q1): Program Learning Outcomes (PLO) Assessed in 2013-2014.

Q1.1. Which of the following program learning outcomes (PLOs) or Sac State Baccalaureate Learning Goals did you assess in 2013-2014? (See 2013-2014 Annual Assessment Report Guidelines for more details). [CHECK ALL THAT APPLY]

L THAT APPLY]
1. Critical thinking (WASC 1) *
2. Information literacy (WASC 2)
3. Written communication (WASC 3)
4. Oral communication (WASC 4)
5. Quantitative literacy (WASC 5)
6. Inquiry and analysis
7. Creative thinking
8. Reading
9. Team work
10. Problem solving
11. Civic knowledge and engagement – local and global
12. Intercultural knowledge and competency
13. Ethical reasoning
14. Foundations and skills for lifelong learning
15. Global learning
16. Integrative and applied learning
17. Overall competencies for GE Knowledge
18. Overall competencies in the major/discipline
19. Others. Specify any PLOs that were assessed in 2013-2014
but not included above:
a.
b.
c.

^{*} One of the WASC's new requirements is that colleges and universities report on the level of student performance at graduation in five core areas: critical thinking, information literacy, written communication, oral communication, and quantitative literacy.

Q1.1.1. Please provide more detailed information about the PLO(s) you checked above:

The psychology department has selected six program learning outcomes to emphasize and measure within the Applied Behavior Analysis (ABA) MA for the academic years 2013-2018: Competence in the Discipline, Critical Thinking, Ethical Reasoning, Inquiry & Analysis, Problem Solving, and Written Communication. This year we have assessed Competence in the Discipline and Critical Thinking. With respect to critical thinking, ABA psychology MA graduates will demonstrate the ability to systematically explore issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. Specifically they will:

- 6.1: Clearly state and describe the issue/problem to be considered, using all relevant information necessary for full understanding.
- 6.2: Develop a comprehensive analysis or synthesis of information from relevant and appropriate sources (i.e., sources identified by conducting a thorough review of relevant theoretical and empirical literature in Psychology and related disciplines).
- 6.3: Thoroughly (systematically and methodically) analyze the assumptions of self and others. Carefully evaluate the relevance of contexts when presenting a position. Consider the following in evaluating published work on a topic: theoretical frameworks, subdisciplinary perspectives, sociocultural context and worldviews, developmental status of the empirical literature on the topic, research methodologies utilized, and other potential limitations or sources of bias.
- 6.4: Formulate a specific and sophisticated position (perspective, thesis/hypothesis) which accounts for the complexities of the issue. Acknowledge the limits of the position and synthesize others' points of view. Apply this process in developing hypotheses and when interpreting findings.
- 6.5: Draw logical conclusions and related outcomes, such as potential applications or future directions for inquiry. Consequences and implications are stated and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.

Critical thinking and competence in the discipline were measured per the following:

Critical Thinking:

1. Direct Method- Theses from ABA psychology MA students were assessed against the Thesis Assessment Scale and Evaluation Chart (below) by thesis committee members (N = 3 per student).

Assessment Scale

The following response scale should be used to evaluate the dimensions covered in the Evaluation Chart below.

Scale Label	Behavioral Anchor
Below Minimal	Student has not demonstrated the minimal level of competence for Master's students in
Competence	Psychology on this dimension.
Minimal	Student has demonstrated the minimal level of competence for Master's students in Psychology
Competence	on this dimension.
Satisfactory	Student has demonstrated a satisfactory level of competence for Master's students in
Competence	Psychology on this dimension.
High Level of	Student has demonstrated a higher level of competence than is ordinarily expected of Master's
Competence	students in Psychology on this dimension.

Evaluation Chart

Consider all of the Master's level Psychology students you have known in your capacity as a professor at CSUS. With respect to that population of students, please place a check mark in the box representing the demonstrated level of each dimension below.

Dimension	Below Minimal Competence	Minimal Competence	Satisfactory Competence	High Level of Competence
Literature review				
Presentation of context for thesis/project				
Description of research problem/purpose				
Methodology addressing problem/purpose				
Data or conceptual analysis				
Conclusions drawn from analysis				
Writing of thesis/project				
Oral presentation of work				
Responses to questions during the oral defense				

Revised 8/1/2013

2. Indirect Method- Responses to an exit survey were collected from graduating ABA psychology MA students (see below). The assessment coordinator sent an email to thesis chairs at the end of the spring semester soliciting responses from students. Chairs then forwarded the exit survey to their graduates, who submitted their completed survey to the assessment coordinator.

Graduate Student Experience Survey: Applied Behavior Analysis Program California State University, Sacramento

\ge:	years	Gender (circle	e one): M	ale Female					
Ethnicity									
_ A	frican American/E	Black	☐ Bi-Ra	cial		l Hispa	nic/Lat	ino	
□ A	sian/Pacific Island	ier	🗆 Сацса	sian/White		Other			
What was	your undergradua	te major?							
Where die	d you obtain your	undergraduate	e degree?						
	acramento State								
0 0	ther: School Nam	E			_Locati	on			
nrsework	We are interested	in vone thous	this about the	coursework off	ered in t	he nroer	m		
		-							
-	ed number of year	s (from entran	ce into progra	am) to graduatio	n:	years			
	nate GPA:								
Please lis	t or describe your	favorite aspec	ts of the cour	sework you hav	e taken t	thus far:			
Please lis	t or describe what	vou would m	ost like to see	e changed about	the cour	sework	ou hav	e taken:	
Please lis	t or describe what	you would me	ost like to see	e changed about	the cour	sework y	ou hav	e taken:	
Please lis	t or describe what	you would m	ost like to see	e changed about	the cour	sework y	ou hav	e taken:	
Please lis	t or describe what	you would m	ost like to see	e changed about	the cour	sework y	ou hav	e taken:	
Please list	t or describe what	you would m	ost like to see	e changed about	the cour	sework y	you hav	e taken:	
Please list	t or describe what	you would m	ost like to see	e changed about	the cour	sework y	ou hav	e taken:	
	t or describe what					sework y	ou hav	e taken:	
lf-ratings.	We are interested	in your self-ev	valuations of	knowledge and	skills.				
lf-ratings. \	We are interested :	in your self-ev	valuations of dicate <u>your a</u>	knowledge and s	skills. ms 1-4 b	y circlin	g the nu		
lf-ratings. \	We are interested	in your self-ev	valuations of dicate <u>your a</u>	knowledge and greement for ites	skills ms 1-4 b	y circlin	g the nu	mber to	the right
Using the	We are interested : stem provided be uate program help	in your self-ev	valuations of dicate <u>your a</u>	knowledge and greement for ites	skills. ms 1-4 b dge/skills trongly /	y circlin s in term	gthe nu s of	mber to	the right
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Using the The grade	We are interested is stem provided be uate program help Competence in the Knowledge of major of Critical Thinking	in your self-ev low, please inc ed me to becom discipline	valuations of dicate your at me confident a	knowledge and s greement for ites about my knowle St	skills. ms 1-4 b dge/skills trongly /	y circlin s in term	gthe nu s of	mber to	the right
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Using the The grade	We are interested is stem provided bei uate program help Competence in the Knowledge of major of Critical Thinking Ability to compensa- pospojog or formulating inquiry/Analysis Ability to assistantical	in your self-ev low, please inc ed me to becom discipline encepts and key are ively explore issues an opinion or cone by explore issues	valuations of dicate <u>vour al</u> ne confident a man of ABA/paych n, ideas, and events lusion.	knowledge and s greement for iter shout my knowle Si clegy: s before	skills. ms 1-4 b dge/skill: trongly /	y circlin sinterm Agree 4	g the nu s of Si	mber to	the right
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_	
_	
_	
	arch: We are interested in your research experience thus far, as well as the general areas of interest that pertain to research. Please include a description where applicable.
N	umber of research studies involved in (total):
N	Topics (generally): umber of professional conference presentations:
N	Conference Locations: umber of journal publications (include articles submitted or in press): Journal Titles:
P	lease tell us a little about your favorite aspect of the research experiences you have had:
_	
P	lease tell us what you would like to see changed about research opportunities in the program:
-	
_	
cti	ical Experience: Please explain a little about your practical/internships experience you have had.
W	That organization(s) were you employed with in order to receive your supervised clinical hours for certification?
Н	ow many hours per week did you work?
P	lease list the name(s) of your BCBA supervisor(s):
W	That types of settings did you work in? □ Center-based □ Home-based □ Both.
P	lease tell us a little about your favorite aspect of the practical experiences you have had:
_	
P)	lease tell us what you would like to see changed about practical opportunities in the program:
_	
-	

Career/Care	r Goals: Please explain a little abou	it your current job status and/or work-related positions.	
Do you h	ve a job now? 🔲 No 🔲 Yes	is If Yes: Full-Time Part-Time	
What is y	our job title and place of employmen	nt?	
How long	have you worked in your current pos	sition?months,years	
Do way b	era zone ather fradhack comeding eran	or experiences in the graduate program at Sacramento State?	
Do you n	ve any other reedback regarding you	ir experiences in the gladuate program at Sacramento State:	

Overall competencies in the major/discipline:

An ABA psychology MA course professor administered a weekly writing assignment assessing competence in the discipline of ABA psychology in an article critique (assignment description below). Each assignment was graded by the professor. Grades across the semester were averaged and compared to a standard set by the ABA committee.

Article Critiques: Students will be asked to write a 2-3 page double-spaced, APA-style critique of one of the articles assigned for each class. Be sure to integrate your critical analysis of the study with the material covered in class. The review should consist of a *brief* summary of the article (no more than half a page), a description of the strengths and limitations, and a clearly articulated idea for future research. Each article critique is worth 10 points.

Q1.2. Are your PLOs closely aligned with the mission of the university?

X	1. Yes
	2. No
	3. Don't know

Q1.3. Is your program externally accredited (except for WASC)?

	1. Yes
X	2. No (If no, go to Q1.4)
	3. Don't know (Go to Q1.4)

Q1.3.1. If yes, are your PLOs closely aligned with the mission/goals/outcomes of the accreditation agency?

1. Yes
2. No
3. Don't know

Q1.4. Have you used the *Degree Qualification Profile* (DQP)* to develop your PLO(s)?

1. Yes
2. No, but I know what DQP is.

X	3. No. I don't know what DQP is.
	4. Don't know

^{*} **Degree Qualifications Profile (DQP)** – a framework funded by the Lumina Foundation that describes the kinds of learning and levels of performance that may be expected of students who have earned an associate, baccalaureate, or master's degree. Please see the links for more details:

http://www.luminafoundation.org/publications/The Degree Qualifications Profile.pdf and http://www.learningoutcomeassessment.org/DQPNew.html.

Question 2 (Q2): Standards of Performance/Expectations for EACH PLO.

Q2.1. Has the program developed/adopted **EXPLICIT** standards of performance/expectations for the PLO(s) you assessed **in 2013-2014 Academic Year**? (For example: We expect 70% of our students to achieve at least a score of 3 on the Written Communication VALUE rubric.)

	,
	1. Yes, we have developed standards/expectations for ALL PLOs assessed in 2013-14.
X	2. Yes, we have developed standards/expectations for SOME PLOs assessed in 2013-14.
	3. No (If no, go to Q2.2)
	4. Don't know (Go to Q2.2)
	5. Not Applicable (Go to Q2.2)

Q2.1.1. If yes, what are the desired levels of learning, including the criteria and standards of performance/expectations, especially at or near graduation, for EACH PLO assessed in 2013-2014 Academic Year? (For example: what will tell you if students have achieved your expected level of performance for the learning outcome.) Please provide the rubric and/or the expectations that you have developed for EACH PLO one at a time below. [WORD LIMIT: 300 WORDS FOR EACH PLO]

Critical Thinking:

- 1. Direct Method- 100% of students should perform at a level of satisfactory competence or better on the following aspects of their thesis: Literature review, Presentation of context.
- 2. Indirect Method- The department has not established an expectation regarding responses to the exit survey and does not conclude that it would be appropriate to do so.

Overall competencies in the major/discipline:

100% of students should perform at a level of B work or better (on average) across all exam questions.

Q2.2. Have you published the PLO(s)/expectations/rubric(s) you assessed in 2013-2014?

	1. Yes
X	2. No (If no, go to Q3.1)

Q2.2.1. If yes, where were the PLOs/expectations/rubrics published? [CHECK ALL THAT APPLY]

1. In SOME course syllabi/assignments in the program that claim to
introduce/develop/master the PLO(s)
2. In ALL course syllabi/assignments in the program that claim to introduce
/develop/master the PLO(s)
3. In the student handbook/advising handbook
4. In the university catalogue
5. On the academic unit website or in the newsletters
6. In the assessment or program review reports/plans/resources/activities
7. In the new course proposal forms in the department/college/university
8. In the department/college/university's strategic plans and other planning documents
9. In the department/college/university's budget plans and other resource allocation
documents
10. In other places, specify:

Question 3 (Q3): Data, Results, and Conclusions for EACH PLO

Q3.1. Was assessment data/evidence collected for 2013-2014?

X	1. Yes
	2. No (If no, go to Part 3: Additional Information)
	3. Don't know (Go to Part 3)
	4. Not Applicable (Go to Part 3)

Q3.2. If yes, was the data scored/evaluated for 2013-2014?

X	1. Yes
	2. No (If no, go to Part 3: Additional Information)
	3. Don't know (Go to Part 3)
	4. Not Applicable (Go to Part 3)

Q3.3. If yes, what DATA have you collected? What are the results, findings, and CONCLUSION(s) for EACH PLO assessed in 2013-2014? In what areas are students doing well and achieving the expectations? In what areas do students need improvement? Please provide a simple and clear summary of the key data and findings, including tables and graphs if applicable for EACH PLO one at a time. [WORD LIMIT: 600 WORDS FOR EACH PLO]

Critical Thinking:

1. Direct Method- Each student in the ABA psychology MA program is required to conduct a thesis as his or her culminating experience, wherein the student creates a research question based on his or her interests and review of the psychological literature, designs a research project to test a hypothesis, collects data, analyzes the data, and draws conclusions based on the results. Students are required to write an APA research paper describing their project, wherein students model professional journal submissions by describing the extant literature and providing a rationale for the present study in an Introduction section, describing the methodology of the project they designed in a Method section, describing their statistical analysis of the data in a Results section, and discussing the results, limitations, and implications in a Discussion section. Students also publically defend their thesis to a committee of three faculty members. Once oral presentations are scheduled, faculty committee members receive the *Department of Psychology Thesis/Project Competencies Assessment Form* and complete the form after the oral defense.

Students' theses are evaluated on the following learning outcomes: Reviewing and Evaluating Information from the Psychological Literature; Generating and Articulating Research Problems and Designing Sound Research Studies; Analyzing and Interpreting the Results of Data and Drawing Inferences and Conclusions from Empirical Results; and Writing Psychological Reports and Giving Professional-level Oral Presentations. Each of these aspects or dimensions is associated with a set of behavioral anchors ranging from *Below Minimal Competence* as the weakest level of performance (1) to *High Level of Competence* as the strongest level of performance (4). After collecting the data for the 2012-2013 academic year and discussing the results among faculty members, the department set explicit and specific standards of performance for theses. For the purposes of assessing critical thinking in the thesis, 100% of students should perform at a level of Satisfactory Competence or better on the following aspects of their thesis: Literature review, Presentation of context.

In the 2013-2014 academic year, four ABA psychology MA candidates defended their theses. Four evaluations were submitted for these students. The evaluations for each dimension were

averaged across the ratings made by each rater of each thesis (see *M*s and *SD*s below). Overall, the nine dimensions were evaluated at approximately the same level of performance (around a 3.3 on the 4-point response scale). The reviewers rated the theses as largely meeting the "Satisfactory" or "High" level of competence. Specifically relating to assessment of critical thinking application, 100% performed at the Satisfactory or High level of competence for Literature Review and Presentation of Context. These means and frequencies can be interpreted as theses meeting culminating requirements for graduation, often at a level exceeding requirements.

Composite Rater Means and Standard Deviations

Dimension	M	SD
Literature Review	3.25	.50
Context	3.25	.50
Purpose	3.25	.50
Methodology	3.25	.50
Analyses	3.50	.58
Conclusions	3.00	.00
Writing	2.75	.50
Oral Presentation	3.75	.50
Question Responses	3.50	.58

2. Indirect Method- Responses to an exit survey were collected from graduating/recently graduated ABA psychology MA students. The assessment coordinator sent an email to thesis chairs at the end of the fall and spring semesters soliciting responses from students. Chairs then forwarded the exit survey to their graduates, who submitted their completed survey to the assessment coordinator. Six students returned a completed exit survey (five from the fall semester and once from the spring semester). Critical thinking was assessed with one question, regarding which graduates were asked to indicate how strongly they agreed/disagreed on the following scale: 1 = strongly disagree to 5 = strongly agree. In response to the statement, "The graduate program helped me to become confident about my knowledge/skills in terms of critical thinking (the ability to comprehensively explore issues, ideas, and events before accepting or formulating an opinion or conclusion)," the respondents all strongly agreed (5). This response can be interpreted as the graduate meeting culminating requirements for graduation.

Overall competencies in the major/discipline:

An ABA psychology MA course professor administered a weekly writing assignment assessing competence in the discipline via an article critique. Each assignment was graded by the professor. Grades across the semester for the 13 students were averaged. The average score for individual students ranged from 86% to 99%, or a grade of B to A. The average score among all students was 93%, or an A-. 100% of students met the criterion of performing "at a level of B work or better (on average) across all exam scores." Thus, students met culminating requirements for graduation, often at a level exceeding requirements.

Q3.4. Do students meet the expectations/standards of performance as determined by the program and achieved the learning outcomes? [PLEASE MAKE SURE THE PLO YOU SPECIFY HERE IS THE SAME ONE YOU CHECKED/SPECIFIED IN Q1.1].

Q3.4.1. First PLO: Critical Thinking

	1. Exceed expectation/standard
X	2. Meet expectation/standard
	3. Do not meet expectation/standard
	4. No expectation/standard set
	5. Don't know

[NOTE: IF YOU HAVE MORE THAN ONE PLO, YOU NEED TO REPEAT THE TABLE IN Q3.4.1 UNTIL YOU INCLUDE ALL THE PLO(S) YOU ASSESSED IN 2013-2014.]

Q3.4.2. Second PLO: Competence in the Major/Discipline

X	1. Exceed expectation/standard
	2. Meet expectation/standard
	3. Do not meet expectation/standard
	4. No expectation/standard set
	5. Don't know

Question 4 (Q4): Evaluation of Data Quality: Reliability and Validity.

Q4.1. How many PLOs in total did your program assess in the 2013-2014 academic year? 2

Q4.2. Please choose **ONE ASSESSED PLO** as an example to illustrate how you use direct, indirect, and/or other methods/measures to collect data. If you only assessed one PLO **in 2013-14**, YOU CAN SKIP this question. If you assessed MORE THAN ONE PLO, please check **ONLY ONE PLO BELOW EVEN IF YOU ASSESSED MORE THAN ONE PLO IN 2013-2014.**

Circulate 1: MYAGG 1)
Critical thinking (WASC 1) ¹
Information literacy (WASC 2)
Written communication (WASC 3)
Oral communication (WASC 4)
Quantitative literacy (WASC 5)
Inquiry and analysis
Creative thinking
Reading
Team work
). Problem solving
. Civic knowledge and engagement – local and global
2. Intercultural knowledge and competency
B. Ethical reasoning
4. Foundations and skills for lifelong learning
5. Global learning
5. Integrative and applied learning
7. Overall competencies for GE Knowledge
3. Overall competencies in the major/discipline
O. Other PLO. Specify:
1

Direct Measures

Q4.3. Were direct measures used to assess this PLO?

X	1. Yes
	2. No (If no, go to Q4.4)
	3. Don't know (Go to Q4.4)

Q4.3.1. Which of the following DIRECT measures were used? [Check all that apply]

X	1. Capstone projects (including theses, senior theses), courses, or experiences
	2. Key assignments from other CORE classes
	3. Key assignments from other classes
	4. Classroom based performance assessments such as simulations, comprehensive
	exams, critiques
	5. External performance assessments such as internships or other community based
	projects
	6. E-Portfolios
	7. Other portfolios
	8. Other measure. Specify:

Q4.3.2. Please provide the direct measure(s) [key assignment(s)/project(s)/portfolio(s)] that you used to collect the data. [WORD LIMIT: 300 WORDS]

According to the department's graduate handbook, a graduate thesis is defined as "scholarly work of an original nature performed by students to demonstrate their mastery of the field." The University requires that theses contain a review of the relevant scholarly or professional literature with appropriate citations and a list of primary sources presented at the end of the document. A thesis is an empirical study, the writing of which is usually (but not necessarily) organized around chapters titled *Introduction, Method, Results*, and *Discussion*.

Q4.3.2.1. Was the direct measure(s) [key assignment(s)/project(s)/portfolio(s)] aligned directly with the rubric/criterion?

X	1. Yes
	2. No
	3. Don't know

Q4.3.3. Was the direct measure (s) [key assignment(s)/project(s)/portfolio(s)] aligned directly with the PLO?

	1. Yes
X	2. No
	3. Don't know

Q4.3.4. How was the evidence scored/evaluated? [Select one only]

	1. No rubric is used to interpret the evidence (If checked, go to Q4.3.7)
	2. Use rubric developed/modified by the faculty who teaches the class
	3. Use rubric developed/modified by a group of faculty
X	4. Use rubric pilot-tested and refined by a group of faculty
	5. Use other means. Specify:

Q4.3.5. What rubric/criterion was adopted to score/evaluate the above key assignments/projects/portfolio? [Select one only]

	1. The VALUE rubric(s)
	2. Modified VALUE rubric(s)
X	3. A rubric that is totally developed by local faculty
	4. Use other means. Specify:

Q4.3.6. Was the rubric/criterion aligned directly with the PLO?

	1. Yes
X	2. No
	3. Don't know

Q4.3.7. Were the evaluators (e.g., faculty or advising board members) who reviewed student work calibrated to apply assessment criteria in the same way?

	1. Yes
X	2. No
	3. Don't know

Q4.3.8. Were there checks for inter-rater reliability?

	1. Yes
X	2. No
	3. Don't know

Q4.3.9. Were the sample sizes for the direct measure adequate?

X	1. Yes
	2. No
	3. Don't know

Q4.3.10. How did you select the sample of student work (papers, projects, portfolios, etc)? Please briefly specify here:

We included all submitted evaluations of all graduate students who defended their theses in the 2013-2014 academic year.

Indirect Measures

Q4.4. Were indirect measures used to assess the PLO?

X	1. Yes
	2. No (If no, go to Q4.5)

Q4.4.1. Which of the following indirect measures were used?

	1. National student surveys (e.g., NSSE, etc.)
	2. University conducted student surveys (OIR surveys)
X	3. College/Department/program conducted student surveys
	4. Alumni surveys, focus groups, or interviews
	5. Employer surveys, focus groups, or interviews
	6. Advisory board surveys, focus groups, or interviews
	7. Others, specify:

Q4.4.2. If surveys were used, were the sample sizes adequate?

•	•	•
	1. Yes	
X	2. No	
	3. Don't know	

Q4.4.3. If surveys were used, please briefly specify how you select your sample? What is the response rate?

We sent surveys to all graduates (N = 4) and included all responses that were returned (n = 1). The response rate was 25%.

Other Measures

Q4.5. Were external benchmarking data used to assess the PLO?

	1. Yes
X	2. No (If no, go to Q4.6)

Q4.5.1. Which of the following measures was used?

1. National disciplinary exams or state/professional licensure exams
2. General knowledge and skills measures (e.g., CLA, CAAP, ETS PP, etc)
3. Other standardized knowledge and skill exams (e.g., ETS, GRE, etc)
4. Others, specify:

Q4.6. Were other measures used to assess the PLO?

	1. Yes
X	2. No (Go to Q4.7)
	3. Don't know (Go to Q4.7)

Q4.6.1. If yes,	please specify:	[]
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Alignment and Quality

Q4.7. Please describe how you collected the data? For example, in what course(s) (or by what means) were data collected? How reliable and valid is the data? [WORD LIMIT: 300 WORDS]

The data collection procedures are described above. Because so few students graduate each year, the sample size is very small. For the assessment of critical thinking in the thesis, evaluators were not calibrated. However, evaluators are all experts in their field and familiar with what a good research report should include. Thus, the ratings that evaluators provide should be presumed valid. The similarities in scores provided by each rater also indicate that ratings are reliable. (There were too few ratings to conduct a meaningful reliability analysis. However, raters were always within one point of each other for each criterion on a 4-point scale.).

Q4.8. How many assessment tools/methods/measures in total did you use to assess this PLO? 2 NOTE: IF IT IS ONLY ONE, GO TO Q5.1.

Q4.8.1. Did the data (including all the assignments/projects/portfolios) from all the different assessment tools/measures/methods directly align with the PLO?

X	1. Yes
	2. No
	3. Don't know

Q4.8.2. Were **ALL** the assessment tools/measures/methods that were used good measures for the PLO?

	1. Yes
X	2. No
	3. Don't know

Question 5 (Q5): Use of Assessment Data.

Q5.1. To what extent have the assessment results from 2012-2013 been used for? [CHECK ALL THAT APPLY]

APPLYJ	Very Much	Quite a Bit	Some	Not at all	Not Applicable
	(1)	(2)	(3)	(4)	(9)
1. Improving specific courses				X	
2. Modifying curriculum				X	
3. Improving advising and mentoring				X	
4. Revising learning outcomes/goals				X	
5. Revising rubrics and/or expectations	X				
6. Developing/updating assessment plan	X				
7. Annual assessment reports	X				
8. Program review	X				
9. Prospective student and family information				X	
10. Alumni communication				X	
11. WASC accreditation (regional accreditation)				X	
12. Program accreditation					X
13. External accountability reporting requirement					X
14. Trustee/Governing Board deliberations					X
15. Strategic planning				X	
16. Institutional benchmarking				X	
17. Academic policy development or modification				X	
18. Institutional Improvement				X	
19. Resource allocation and budgeting				X	
20. New faculty hiring				X	
21. Professional development for faculty and staff				X	
22. Other Specify:					

Q5.1.1. Please provide one or two best examples to show how you have used the assessment data above.

Based on the assessment of graduate theses in the 2012-2013 academic year, we slightly revised the scoring rubric and established expectations/standards of performance. We also used the data to write our annual assessment report and for program review for our department's self study.

Q5.2. As a result of the **assessment effort in 2013-2014** and based on the prior feedbacks from OAPA, do you anticipate making any changes for your program (e.g., course structure, course content, or modification of program learning outcomes)?

	1. Yes
	2. No (If no, go to Q5.3)
X	3. Don't know (Go to Q5.3)

Q5.2.1. What changes are anticipated? By what mechanism will the changes be implemented? How and when will you assess the impact of proposed modifications? [WORD LIMIT: 300 WORDS]

Q5.2.2. Is there a follow-up assessment on these areas that need improvement?

	1. Yes
X	2. No
	3. Don't know

Q5.3. Many academic units have collected assessment data on aspects of a program that are not related to program learning outcomes (i.e., impacts of an advising center, etc.). If your program/academic unit has collected assessment data in this way, please briefly report your results here. [WORD LIMIT: 300 WORDS]

Question 6 (Q6). Which program learning outcome(s) do you plan to assess next year?

	1. Critical thinking (WASC 1) ¹	
	2. Information literacy (WASC 2)	
	3. Written communication (WASC 3)	
	4. Oral communication (WASC 4)	
	5. Quantitative literacy (WASC 5)	
	6. Inquiry and analysis	
	7. Creative thinking	
	8. Reading	
	9. Team work	
	10. Problem solving	
	11. Civic knowledge and engagement – local and global	
	12. Intercultural knowledge and competency	
X	13. Ethical reasoning	
	14. Foundations and skills for lifelong learning	
	15. Global learning	
	16. Integrative and applied learning	
	17. Overall competencies for GE Knowledge	
X	18. Overall competencies in the major/discipline	
	19. Others. Specify any PLOs that the program is going to assess	
	but not included above:	
	a.	
	b.	
	C.	

Part 1: Background Information

B1. Program name: General Psychology MA

B2. Report author(s): Kelly Cotter

B3. Fall 2012 enrollment: 75 (for the entire MA enrollment, not for the general psychology program

specifically)

Use the *Department Fact Book 2013* by OIR (Office of Institutional Research) to get the fall 2012 enrollment: (http://www.csus.edu/oir/Data%20Center/Department%20Fact%20Book/Departmental%20Fact%20Book.html).

B4. Program type: [SELECT ONLY ONE]

	the second second
1. Undergraduate baccalaureate major	
	2. Credential
X	3. Master's degree
	4. Doctorate: Ph.D./E.D.D.
	5. Other, specify:

Part 2: Six Questions for the 2013-2014 Annual Assessment

Question 1 (Q1): Program Learning Outcomes (PLO) Assessed in 2013-2014.

Q1.1. Which of the following program learning outcomes (PLOs) or Sac State Baccalaureate Learning Goals did you assess in 2013-2014? (See 2013-2014 Annual Assessment Report Guidelines for more details). [CHECK ALL THAT APPLY]

s). [CHECK ALL THAT AFFLT]			
X	1. Critical thinking (WASC 1) *		
	2. Information literacy (WASC 2)		
	3. Written communication (WASC 3)		
	4. Oral communication (WASC 4)		
	5. Quantitative literacy (WASC 5)		
	6. Inquiry and analysis		
	7. Creative thinking		
	8. Reading		
	9. Team work		
	10. Problem solving		
	11. Civic knowledge and engagement – local and global		
	12. Intercultural knowledge and competency		
	13. Ethical reasoning		
	14. Foundations and skills for lifelong learning		
	15. Global learning		
	16. Integrative and applied learning		
	17. Overall competencies for GE Knowledge		
X	18. Overall competencies in the major/discipline		
	19. Others. Specify any PLOs that were assessed in 2013-2014		
	but not included above:		
	a.		
	b.		
	C.		

^{*} One of the WASC's new requirements is that colleges and universities report on the level of student performance at graduation in five core areas: critical thinking, information literacy, written communication, oral communication, and quantitative literacy.

Q1.1.1. Please provide more detailed information about the PLO(s) you checked above:

The psychology department has selected five program learning outcomes to emphasize and measure within the General Psychology MA for the academic years 2013-2018: Competence in the Discipline, Critical Thinking, Inquiry & Analysis, Quantitative Literacy, and Written Communication. This year we have assessed Competence in the Discipline and Critical Thinking. With respect to critical thinking, general psychology MA graduates will demonstrate the ability to systematically explore issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. Specifically they will:

- 6.1: Clearly state and describe the issue/problem to be considered, using all relevant information necessary for full understanding.
- 6.2: Develop a comprehensive analysis or synthesis of information from relevant and appropriate sources (i.e., sources identified by conducting a thorough review of relevant theoretical and empirical literature in Psychology and related disciplines).
- 6.3: Thoroughly (systematically and methodically) analyze the assumptions of self and others. Carefully evaluate the relevance of contexts when presenting a position. Consider the following in evaluating published work on a topic: theoretical frameworks, subdisciplinary perspectives, sociocultural context and worldviews, developmental status of the empirical literature on the topic, research methodologies utilized, and other potential limitations or sources of bias.
- 6.4: Formulate a specific and sophisticated position (perspective, thesis/hypothesis) which accounts for the complexities of the issue. Acknowledge the limits of the position and synthesize others' points of view. Apply this process in developing hypotheses and when interpreting findings.
- 6.5: Draw logical conclusions and related outcomes, such as potential applications or future directions for inquiry. Consequences and implications are stated and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.

Critical thinking and competence in the discipline were measured per the following:

Critical Thinking:

1. Direct Method 1- Theses from general psychology MA students were assessed against the Thesis Assessment Scale and Evaluation Chart (below) by thesis committee members (*N* = 3 per student).

Assessment Scale

The following response scale should be used to evaluate the dimensions covered in the Evaluation Chart below.

Scale Label	Behavioral Anchor
Below Minimal	Student has not demonstrated the minimal level of competence for Master's students in
Competence	Psychology on this dimension.
Minimal	Student has demonstrated the minimal level of competence for Master's students in Psychology
Competence	on this dimension.
Satisfactory	Student has demonstrated a satisfactory level of competence for Master's students in
Competence	Psychology on this dimension.
High Level of	Student has demonstrated a higher level of competence than is ordinarily expected of Master's
Competence	students in Psychology on this dimension.

Evaluation Chart

Consider all of the Master's level Psychology students you have known in your capacity as a professor at CSUS. With respect to that population of students, please place a check mark in the box representing the demonstrated level of each dimension below.

Dimension	Below Minimal Competence	Minimal Competence	Satisfactory Competence	High Level of Competence
Literature review				
Presentation of context for thesis/project				
Description of research problem/purpose				
Methodology addressing problem/purpose				
Data or conceptual analysis				
Conclusions drawn from analysis				
Writing of thesis/project				
Oral presentation of work				
Responses to questions during the oral defense				

Revised 8/1/2013

- 2. Direct Method 2- The Introduction section from each thesis (N = 7) was also assessed against the LEAP Critical Thinking VALUE Rubric (provided below). The assessment coordinator met with one other member of the assessment committee to discuss the rubric. The entire assessment committee (N = 5 members) then read one thesis and scored it based on the rubric. The committee then communicated via email to discuss and norm their scores. The committee re-read and scored the thesis, plus an additional three theses each. The assessment coordinator computed inter-rater reliability and descriptive statistics.
- 3. Indirect Method- Responses to an exit survey were collected from graduating general psychology MA students (see below). The assessment coordinator sent an email to thesis chairs at the end of the spring semester soliciting responses from students. Chairs then forwarded the exit survey to their graduates, who submitted their completed survey to the assessment coordinator.

ursewo	rk. We are inte	erested in your thoughts a	oout the coursew	ork offered in t	the progr	am.		
Antici	pated number o	f years (from entrance in	to program) to gr	aduation:	years			
Appro	ximate GPA:_							
Please	list or describe	your favorite aspects of	the coursework y	ou have taken	thus far:			
Please	list or describe	what you would most lik	te to see changed	about the cou	rseworky	ouhaw	e taken:	
ratin	gs. We are inte	rested in your self-evalua	tions of knowled	ge and skills.				
Using	the stem provi	ded below, please indicat	e <u>your agreement</u>	for items 1-4 l	y circlin	g the nu	ımber to	theright.
The g	raduate progr	am helped me to becom	e confident abou	t my knowled	ge/skills			
				Strongly	Agree	S	trongly	Disagree
1	= Knowleds	e in the discipline se of major concepts and l	cey areas of your	5	4	3	2	1
2	specialty are Critical Thir	ea of psychology. iking		5	4	3	2	1
		comprehensively explore						
3	gegggg accep . Inquiry/Ans	pting or formulating an op llysis	nmon or conclus	ion. 5	4	3	2	1
		s y stematically explore is ng evidence that results in						
4	. Written Con	nmunication		5	4	3	2	1
		develop and express idea xt, data, and images.	s in writing inclu	ding				
eer Pl	ans and/or Int	erests. What are your int	ended future job i	interests? (Ples	ıse check	all that	apply.)	
□ A	ademic	☐ Industry	☐ Gover	nment		Hum	an Servi	ces
□ O ₁	her (please ext	olain):						
Arevo	ou planning to a	apply to a PhD program?	□ No	□ Yes I	fYes: W	here ha	vevous	pplied?Ha
		When will you start the pr						
you be								
you be								

Number of research studies in	volved in (total):
Topics (generally):	
Number of professional confe	rence presentations (posters):
Conference Locations;	
Number of professional confe	rance presentations (papars/symposia):
Conference Locations;	
Number of publications/techni	cal reports
Accepted for publication:	Journal Name(s):
Submitted but not yet acce	pted:Journal Name(s):
Please tell us a little about you	r favorite aspect(s) of the research experiences you have had:
Please tell us what you would	like to see changed about research opportunities in the program:
reer/Career Goals: Please exp	lain a little about your current job status and/or work-related positions.
-	lain a little about your current job status and/or work-related positions. No
Do you have a job now?	
Do you have a job now? What is your job title and place	No ☐ Yes If Yes: ☐ Full-Time ☐ Part-Time
Do you have a job now? What is your job title and place How long have you worked in	No Yes If Yes: Full-Time Part-Time
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow	No
Do you have a job now? What is your job title and plac How long have you worked in Please check each of the follow Teaching Psychology	No Part-Time e of employment? your current position? months years wing that you have had experience in (either at your work or at CSUS):
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting	No Part-Time Part-Time of employment? your current position?monthsyears wing that you have had experience in (either at your work or at CSUS): Private Research Organization Public Research Organization Other (Please describe)
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting	No Part-Time e of employment? your current position?monthsyears wing that you have had experience in (either at your work or at CSUS): Private Research Organization Public Research Organization
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting Characteristics Ckground Information, Please	No Part-Time Part-Time of employment? your current position?monthsyears wing that you have had experience in (either at your work or at CSUS): Private Research Organization Public Research Organization Other (Please describe)
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting ckground Information, Please	No Pes If Yes: Full-Time Part-Time e of employment? your current position?monthsyears ving that you have had experience in (either at your work or at CSUS): Private Research Organization Public Research Organization Other (Please describe) answer the following to help us collect background information for the prog
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting ckground Information, Please Age:years Ge	No Pes If Yes: Full-Time Part-Time e of employment? your current position?monthsyears wing that you have had experience in (either at your work or at CSUS): Private Research Organization Public Research Organization Other (Please describe) answer the following to help us collect background information for the progrander (circle one): Male Female
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting Characteristics Age:years Generality:	No
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting ckground Information, Please Age: years	No
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting ckground Information, Please Age: years	No
Do you have a job now? What is your job title and place How long have you worked in Please check each of the follow Teaching Psychology Consulting ckground Information, Please Age: years	No

Overall competencies in the major/discipline:

A general psychology MA course professor administered midterm and final exams assessing competence in the discipline of social psychology. Social psychology is a core course in the general MA curriculum. Each exam was graded by the professor. Grades on the two exams were averaged and compared to a standard set by the Predoctoral Preparation/General Psychology MA committee.

Q1.2. Are your PLOs closely aligned with the mission of the university?

X	1. Yes
	2. No
	3. Don't know

Q1.3. Is your program externally accredited (except for WASC)?

J F B	j p		
	1. Yes		
X	2. No (If no, go to Q1.4)		
	3. Don't know (Go to Q1.4)		

Q1.3.1. If yes, are your PLOs closely aligned with the mission/goals/outcomes of the accreditation agency?

	1. Yes
	2. No
	3. Don't know

Q1.4. Have you used the *Degree Qualification Profile* (DQP)* to develop your PLO(s)?

	in a contract to the contract
	1. Yes
	2. No, but I know what DQP is.
X	3. No. I don't know what DQP is.
	4. Don't know

^{*} **Degree Qualifications Profile (DQP)** – a framework funded by the Lumina Foundation that describes the kinds of learning and levels of performance that may be expected of students who have earned an associate, baccalaureate, or master's degree. Please see the links for more details:

 $\frac{http://www.luminafoundation.org/publications/The\ Degree\ Qualifications\ Profile.pdf}{http://www.learningoutcomeassessment.org/DQPNew.html}.$

Question 2 (Q2): Standards of Performance/Expectations for EACH PLO.

Q2.1. Has the program developed/adopted **EXPLICIT** standards of performance/expectations for the PLO(s) you assessed **in 2013-2014 Academic Year**? (For example: We expect 70% of our students to achieve at least a score of 3 on the Written Communication VALUE rubric.)

	1. Yes, we have developed standards/expectations for ALL PLOs assessed in 2013-14.
X	2. Yes, we have developed standards/expectations for SOME PLOs assessed in 2013-14.
	3. No (If no, go to Q2.2)
	4. Don't know (Go to Q2.2)
	5. Not Applicable (Go to Q2.2)

Q2.1.1. If yes, what are the desired levels of learning, including the criteria and standards of performance/expectations, especially at or near graduation, for EACH PLO assessed in 2013-2014 Academic Year? (For example: what will tell you if students have achieved your expected level of performance for the learning outcome.) Please provide the rubric and/or the expectations that you have developed for EACH PLO one at a time below. [WORD LIMIT: 300 WORDS FOR EACH PLO]

Critical Thinking:

- 1. Direct Method 1- 100% of students should perform at a level of minimal competence or better on the following aspects of their thesis: Literature review, Presentation of context.
- 2. Direct Method 2- The data collected in the 2013-2014 academic year were intended to provide a baseline upon which the department will make judgments and recommendations for establishing standards of performance on the next assessment report.
- 3. Indirect Method- The department has not established an expectation regarding responses to the exit survey and does not conclude that it would be appropriate to do so.

Overall competencies in the major/discipline:

75% of students should perform at a level of B work or better (on average) across all exam questions.

Q2.2. Have you published the PLO(s)/expectations/rubric(s) you assessed in 2013-2014?

	1. Yes
X	2. No (If no, go to Q3.1)

Q2.2.1. If yes, where were the PLOs/expectations/rubrics published? [CHECK ALL THAT APPLY]

1. In SOME course syllabi/assignments in the program that claim to
introduce/develop/master the PLO(s)
2. In ALL course syllabi/assignments in the program that claim to introduce
/develop/master the PLO(s)
3. In the student handbook/advising handbook
4. In the university catalogue
5. On the academic unit website or in the newsletters
6. In the assessment or program review reports/plans/resources/activities
7. In the new course proposal forms in the department/college/university
8. In the department/college/university's strategic plans and other planning documents
9. In the department/college/university's budget plans and other resource allocation
documents
10. In other places, specify:

Question 3 (Q3): Data, Results, and Conclusions for EACH PLO

Q3.1. Was assessment data/evidence collected for 2013-2014?

X	1. Yes
	2. No (If no, go to Part 3: Additional Information)
	3. Don't know (Go to Part 3)
	4. Not Applicable (Go to Part 3)

Q3.2. If yes, was the data scored/evaluated for 2013-2014?

X	1. Yes
	2. No (If no, go to Part 3: Additional Information)
	3. Don't know (Go to Part 3)
	4. Not Applicable (Go to Part 3)

Q3.3. If yes, what DATA have you collected? What are the results, findings, and CONCLUSION(s) for EACH PLO assessed in 2013-2014? In what areas are students doing well and achieving the expectations? In what areas do students need improvement? Please provide a simple and clear summary of the key data and findings, including tables and graphs if applicable for EACH PLO one at a time. [WORD LIMIT: 600 WORDS FOR EACH PLO]

Critical Thinking:

1. Direct Method 1- Each student in the general psychology MA program is required to conduct a thesis or a project as his or her culminating experience. Students typically choose the thesis, wherein the student creates a research question based on his or her interests and review of the psychological literature, designs a research project to test hypothesis(es), collects data, analyzes the data, and draws conclusions based on the results. Students are required to write an APA research paper describing their project, wherein students model professional journal submissions by describing the extant literature and providing a rationale for the present study in an Introduction section, describing the methodology of the project they designed in a Method section, describing their statistical analysis of the data in a Results section, and discussing the results, limitations, and implications in a Discussion section. Students also publically defend their thesis or project to a committee of three faculty members. Once oral presentations are scheduled, faculty committee members receive the *Department of Psychology Thesis/Project Competencies Assessment Form* and complete the form after the oral defense.

Students' theses are evaluated on the following learning outcomes: Reviewing and Evaluating Information from the Psychological Literature; Generating and Articulating Research Problems and Designing Sound Research Studies; Analyzing and Interpreting the Results of Data and Drawing Inferences and Conclusions from Empirical Results; and Writing Psychological Reports and Giving Professional-level Oral Presentations. Each of these aspects or dimensions is associated with a set of behavioral anchors ranging from *Below Minimal Competence* as the weakest level of performance (1) to *High Level of Competence* as the strongest level of performance (4). After collecting the data for the 2012-2013 academic year and discussing the results among faculty members, the department set explicit and specific standards of performance for theses. For the purposes of assessing critical thinking in the thesis, 100% of students should perform at a level of *Minimal Competence* or better on the following aspects of their thesis: Literature review, Presentation of context.

In the 2013-2014 academic year, three general psychology MA candidates defended their theses. Seven evaluations were submitted for these students. The evaluations for each dimension were averaged across the ratings made by each rater of each thesis (see *Ms* and *SDs* below). Overall, the nine dimensions were evaluated at approximately the same level of performance (around a 3.5 on the 4-point response scale). The reviewers rated the theses as largely meeting the "Satisfactory" or "High" level of competence. Specifically relating to assessment of critical thinking application, 100% performed at the Satisfactory or High level of competence for Literature Review and Presentation of Context. These means and frequencies can be interpreted as theses meeting culminating requirements for graduation, often at a level exceeding requirements.

Composite Rater Means and Standard Deviations

Dimension	M	SD
Literature Review	3.71	.49
Context	3.57	.53
Purpose	3.43	.79
Methodology	3.57	.53
Analyses	3.71	.49
Conclusions	3.29	.95
Writing	3.43	1.13
Oral Presentation	3.43	.79
Question Responses	3.14	1.07

2. Direct Method 2- The Introduction section from each thesis (N = 7) was assessed against the LEAP Critical Thinking VALUE Rubric. Aggregate data are presented in the following table:

	Capstone	Milestone	Milestone	Benchmark	
	4	3	2	1	Mean (SD)
6.1	65.2%	34.8%	0%	0%	3.65 (.49)
6.2	13.0%	60.9%	26.1%	0%	2.87 (.63)
6.4	21.7%	69.6%	8.7%	0%	3.13 (.55)

As shown in the table above, students were most proficient at clearly stating and describing the issue/problem to be considered, using all relevant information necessary for full understanding (6.1), performing between the milestone 3 and capstone level on average. Students were least proficient at developing a comprehensive analysis or synthesis of information from relevant and appropriate sources (6.2), performing near the milestone 3 level on average. In general, students demonstrated proficiency at the milestone 3 level (M = 3.22 overall, SD = .40).

These data corroborate the results from thesis committee members' ratings of theses, such that when evaluating pieces of the thesis (the introduction section in this case) against the Leap VALUE rubric, scores tend to align with thesis committee members' global evaluations of theses. These data demonstrate that master's students are demonstrating satisfactory proficiency on their culminating experience in terms of critical thinking skills.

3. Indirect Method- Responses to an exit survey were collected from graduating general psychology MA students. The assessment coordinator sent an email to thesis chairs at the end of the spring semester soliciting responses from students. Chairs then forwarded the exit survey to their

graduates, who submitted their completed survey to the assessment coordinator. Two students returned a completed exit survey. Critical thinking was assessed with one question, regarding which graduates were asked to indicate how strongly they agreed/disagreed on the following scale: 1 = strongly disagree to 5 = strongly agree. In response to the statement, "The graduate program helped me to become confident about my knowledge/skills in terms of critical thinking (the ability to comprehensively explore issues, ideas, and events before accepting or formulating an opinion or conclusion)," the respondents both strongly agreed (5). This response can be interpreted as the graduate meeting culminating requirements for graduation.

Overall competencies in the major/discipline:

A general psychology MA course professor administered a midterm and final exam assessing competence in the discipline of social psychology. Social psychology is a core course in the general MA curriculum. Each exam was graded by the professor. Grades across the semester for the 3 students were averaged. The average score for individual students ranged from 84% to 91.5%, or a grade of B to A-. The average score among all students was 88.5%, or a B+. 100% of students met the criterion of performing "at a level of B work or better (on average) across all exam scores." Thus, students met culminating requirements for graduation.

Q3.4. Do students meet the expectations/standards of performance as determined by the program and achieved the learning outcomes? [PLEASE MAKE SURE THE PLO YOU SPECIFY HERE IS THE SAME ONE YOU CHECKED/SPECIFIED IN Q1.1].

Q3.4.1. First PLO: Critical Thinking

	1. Exceed expectation/standard
X	2. Meet expectation/standard
	3. Do not meet expectation/standard
	4. No expectation/standard set
	5. Don't know

[NOTE: IF YOU HAVE MORE THAN ONE PLO, YOU NEED TO REPEAT THE TABLE IN Q3.4.1 UNTIL YOU INCLUDE ALL THE PLO(S) YOU ASSESSED IN 2013-2014.]

Q3.4.2. Second PLO: Competence in the Major/Discipline

	1. Exceed expectation/standard
X	2. Meet expectation/standard
	3. Do not meet expectation/standard
	4. No expectation/standard set
	5. Don't know

Question 4 (Q4): Evaluation of Data Quality: Reliability and Validity.

Q4.1. How many PLOs in total did your program assess in the 2013-2014 academic year? 2

Q4.2. Please choose **ONE ASSESSED PLO** as an example to illustrate how you use direct, indirect, and/or other methods/measures to collect data. If you only assessed one PLO **in 2013-14**, YOU CAN SKIP this question. If you assessed MORE THAN ONE PLO, please check **ONLY ONE PLO BELOW EVEN IF YOU ASSESSED MORE THAN ONE PLO IN 2013-2014.**

37
X

Direct Measures

Q4.3. Were direct measures used to assess this PLO?

X	1. Yes
	2. No (If no, go to Q4.4)
	3. Don't know (Go to Q4.4)

Q4.3.1. Which of the following DIRECT measures were used? [Check all that apply]

X	1. Capstone projects (including theses, senior theses), courses, or experiences	
	2. Key assignments from other CORE classes	
	3. Key assignments from other classes	
	4. Classroom based performance assessments such as simulations, comprehensive	
	exams, critiques	
	5. External performance assessments such as internships or other community based projects	
	6. E-Portfolios	
	7. Other portfolios	
	8. Other measure. Specify:	

Q4.3.2. Please provide the direct measure(s) [key assignment(s)/project(s)/portfolio(s)] that you used to collect the data. [WORD LIMIT: 300 WORDS]

According to the department's graduate handbook, a graduate thesis is defined as "scholarly work of an original nature performed by students to demonstrate their mastery of the field." The University requires that theses contain a review of the relevant scholarly or professional literature with appropriate citations and a list of primary sources presented at the end of the document. A thesis is an empirical study, the writing of which is usually (but not necessarily) organized around chapters titled *Introduction, Method, Results*, and *Discussion*.

Q4.3.2.1. Was the direct measure(s) [key assignment(s)/project(s)/portfolio(s)] aligned directly with the rubric/criterion?

X	1. Yes
	2. No
	3. Don't know

Q4.3.3. Was the direct measure (s) [key assignment(s)/project(s)/portfolio(s)] aligned directly with the PLO?

X	1. Yes
	2. No
	3. Don't know

Q4.3.4. How was the evidence scored/evaluated? [Select one only]

	1. No rubric is used to interpret the evidence (If checked, go to Q4.3.7)
	2. Use rubric developed/modified by the faculty who teaches the class
	3. Use rubric developed/modified by a group of faculty
X	4. Use rubric pilot-tested and refined by a group of faculty
	5. Use other means. Specify:

Q4.3.5. What rubric/criterion was adopted to score/evaluate the above key assignments/projects/portfolio? [Select one only]

X	1. The VALUE rubric(s)	
	2. Modified VALUE rubric(s)	
	3. A rubric that is totally developed by local faculty	
	4. Use other means. Specify:	

Q4.3.6. Was the rubric/criterion aligned directly with the PLO?

X	1. Yes
	2. No
	3. Don't know

Q4.3.7. Were the evaluators (e.g., faculty or advising board members) who reviewed student work calibrated to apply assessment criteria in the same way?

v	1. Yes
Λ	
	2. No
	3. Don't know

Q4.3.8. Were there checks for inter-rater reliability?

X	1. Yes
	2. No
	3. Don't know

Q4.3.9. Were the sample sizes for the direct measure adequate?

X	1. Yes
	2. No
	3. Don't know

Q4.3.10. How did you select the sample of student work (papers, projects, portfolios, etc)? Please briefly specify here:

We assessed Introduction sections from theses written by all graduate students who defended their theses in the 2013-2014 academic year.

Indirect Measures

Q4.4. Were indirect measures used to assess the PLO?

X	1. Yes
	2. No (If no, go to Q4.5)

Q4.4.1. Which of the following indirect measures were used?

	1. National student surveys (e.g., NSSE, etc.)
	2. University conducted student surveys (OIR surveys)
X	3. College/Department/program conducted student surveys
	4. Alumni surveys, focus groups, or interviews
	5. Employer surveys, focus groups, or interviews
	6. Advisory board surveys, focus groups, or interviews
	7. Others, specify:

Q4.4.2. If surveys were used, were the sample sizes adequate?

X	1. Yes
	2. No
	3. Don't know

Q4.4.3. If surveys were used, please briefly specify how you select your sample? What is the response rate?

We sent surveys to all graduates (N = 3) and included all responses that were returned (n = 2). The response rate was 67%.

Other Measures

Q4.5. Were external benchmarking data used to assess the PLO?

	8
	1. Yes
X	2. No (If no, go to Q4.6)

Q4.5.1. Which of the following measures was used?

1. National disciplinary exams or state/professional licensure exams
2. General knowledge and skills measures (e.g., CLA, CAAP, ETS PP, etc)
3. Other standardized knowledge and skill exams (e.g., ETS, GRE, etc)
4. Others, specify:

Q4.6. Were other measures used to assess the PLO?

	1. Yes
X	2. No (Go to Q4.7)
	3. Don't know (Go to Q4.7)

Q4.6.1. If yes, please s	specify:	[
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Alignment and Quality

Q4.7. Please describe how you collected the data? For example, in what course(s) (or by what means) were data collected? How reliable and valid is the data? [WORD LIMIT: 300 WORDS]

The data collection procedures are described above. Because so few students graduate each year, the sample size is very small. For the assessment of critical thinking in the thesis, evaluators were not calibrated. However, evaluators are all experts in their field and familiar with what a good research report should include. Thus, the ratings that evaluators provide should be presumed valid. The similarities in scores provided by each rater also indicate that ratings are reliable. (There were too few ratings to conduct a meaningful reliability analyses. However, raters were always within one point of each other for each criterion on a 4-point scale.).

As a quality check to ensure that committee members' ratings align with the Critical Thinking VALUE rubric, the assessment committee also rated the Introduction sections of each thesis against the rubric. Ratings by the Assessment Committee corroborate results of thesis committee members. Thesis Introduction sections were rated above a Milestone 3 level, on average, across dimensions and raters. (There were too few ratings to conduct a meaningful reliability analyses. However, raters were always within one point of each other for each criterion on a 4-point scale.).

For the indirect assessment of critical thinking skills, the exit survey, the sample size was low but adequate. The department had initially intended for students to receive the exit survey upon defense of their thesis. Students would then need to submit their exit survey before the thesis chair would sign off on the thesis. Thus, each student would need to submit a survey in order to graduate. Due to a miscommunication in the department, students did not receive surveys in the manner intended. Instead, the assessment coordinator had to email thesis chairs after graduation. Thus, the response rate was lower than anticipated. This issue should be rectified in the 2014-2015 academic year.

Q4.8. How many assessment tools/methods/measures in total did you use to assess this PLO? 2 **NOTE: IF IT IS ONLY ONE, GO TO Q5.1.**

Q4.8.1. Did the data (including all the assignments/projects/portfolios) from all the different assessment tools/measures/methods directly align with the PLO?

X	1. Yes
	2. No

3. Don't know

Q4.8.2. Were ALL the assessment tools/measures/methods that were used good measures for the PLO?

X	1. Yes
	2. No
	3. Don't know

Question 5 (Q5): Use of Assessment Data.

Q5.1. To what extent have the assessment results from 2012-2013 been used for? [CHECK ALL THAT APPLY]

APPLYJ	Very Much	Quite a Bit	Some	Not at all	Not Applicable
	(1)	(2)	(3)	(4)	(9)
1. Improving specific courses				X	
2. Modifying curriculum				X	
3. Improving advising and mentoring				X	
4. Revising learning outcomes/goals	X				
5. Revising rubrics and/or expectations	X				
6. Developing/updating assessment plan	X				
7. Annual assessment reports	X				
8. Program review	X				
9. Prospective student and family information				X	
10. Alumni communication				X	
11. WASC accreditation (regional accreditation)	X				
12. Program accreditation	X				
13. External accountability reporting requirement					X
14. Trustee/Governing Board deliberations					X
15. Strategic planning					X
16. Institutional benchmarking				X	
17. Academic policy development or modification				X	
18. Institutional Improvement				X	
19. Resource allocation and budgeting				X	
20. New faculty hiring				X	
21. Professional development for faculty and staff				X	
22. Other Specify:					

Q5.1.1. Please provide one or two best examples to show how you have used the assessment data above.

The psychology department is currently undergoing a significant change to our curriculum and will use assessment data to restructure course offerings. The changes will likely take place slowly over the next five years. For example, we have added new graduate courses to the offerings available to General MA candidates in order to provide a breadth of information, making MA students more competitive for PhD programs. Furthermore, we have changed the procedure by which we administer the exit survey in order to gather more information from graduates.

Q5.2. As a result of the **assessment effort in 2013-2014** and based on the prior feedbacks from OAPA, do you anticipate making any changes for your program (e.g., course structure, course content, or modification of program learning outcomes)?

X	1. Yes
	2. No (If no, go to Q5.3)
	3. Don't know (Go to Q5.3)

Q5.2.1. What changes are anticipated? By what mechanism will the changes be implemented? How and when will you assess the impact of proposed modifications? [WORD LIMIT: 300 WORDS]

The psychology department is currently undergoing a significant change to our curriculum and will use assessment data to restructure course offerings. The changes will likely take place slowly over the next five years. For example, we have added new graduate courses to the offerings available to General MA candidates in order to provide a breadth of information, making MA students more competitive for PhD programs. Furthermore, we have changed the procedure by which we administer the exit survey in order to gather more information from graduates.

Q5.2.2. Is there a follow-up assessment on these areas that need improvement?

1. Yes
2. No
3. Don't know

Q5.3. Many academic units have collected assessment data on aspects of a program that are not related to program learning outcomes (i.e., impacts of an advising center, etc.). If your program/academic unit has collected assessment data in this way, please briefly report your results here. [WORD LIMIT: 300 WORDS]

Question 6 (Q6). Which program learning outcome(s) do you plan to assess next year?

	· · · · · · · · · · · · · · · · · · ·
	1. Critical thinking (WASC 1) ¹
	2. Information literacy (WASC 2)
	3. Written communication (WASC 3)
	4. Oral communication (WASC 4)
	5. Quantitative literacy (WASC 5)
X	6. Inquiry and analysis
	7. Creative thinking
	8. Reading
	9. Team work
	10. Problem solving
	11. Civic knowledge and engagement – local and global
	12. Intercultural knowledge and competency
	13. Ethical reasoning
	14. Foundations and skills for lifelong learning
	15. Global learning
	16. Integrative and applied learning
	17. Overall competencies for GE Knowledge
X	18. Overall competencies in the major/discipline
	19. Others. Specify any PLOs that the program is going to assess
	but not included above:
	a.
	b.
	C.

Part 1: Background Information

B1. Program name: I/O Psychology MA **B2. Report author(s):** Kelly Cotter

B3. Fall 2012 enrollment: 75 (for the entire MA enrollment, not for the I/O program specifically) *Use* the *Department Fact Book 2013* by OIR (Office of Institutional Research) to get the fall 2012 enrollment: (http://www.csus.edu/oir/Data%20Center/Department%20Fact%20Book/Departmental%20Fact%20Book.html).

B4. Program type: [SELECT ONLY ONE]

	1. Undergraduate baccalaureate major
	2. Credential
X	3. Master's degree
	4. Doctorate: Ph.D./E.D.D.
	5. Other, specify:

Part 2: Six Questions for the 2013-2014 Annual Assessment

Question 1 (Q1): Program Learning Outcomes (PLO) Assessed in 2013-2014.

Q1.1. Which of the following program learning outcomes (PLOs) or Sac State Baccalaureate Learning Goals did you assess in 2013-2014? (See 2013-2014 Annual Assessment Report Guidelines for more details). [CHECK ALL THAT APPLY]

<u></u>	LE HIAT ATTEL
X	1. Critical thinking (WASC 1) *
	2. Information literacy (WASC 2)
	3. Written communication (WASC 3)
	4. Oral communication (WASC 4)
	5. Quantitative literacy (WASC 5)
	6. Inquiry and analysis
	7. Creative thinking
	8. Reading
	9. Team work
	10. Problem solving
	11. Civic knowledge and engagement – local and global
	12. Intercultural knowledge and competency
	13. Ethical reasoning
	14. Foundations and skills for lifelong learning
	15. Global learning
	16. Integrative and applied learning
	17. Overall competencies for GE Knowledge
X	18. Overall competencies in the major/discipline
	19. Others. Specify any PLOs that were assessed in 2013-2014
	but not included above:
	a.
	b.
	c.

^{*} One of the WASC's new requirements is that colleges and universities report on the level of student performance at graduation in five core areas: critical thinking, information literacy, written communication, oral communication, and quantitative literacy.

Q1.1.1. Please provide more detailed information about the PLO(s) you checked above:

The psychology department has selected one program learning outcome (reflecting 21 competencies determined by the Society for Industrial/Organizational Psychology (SIOP), the program's accrediting agency) to emphasize and measure within the Industrial/Organizational (I/O) MA for the academic years 2013-2018 (see table below for curriculum map).

I/O MA Program Curriculum Map

Competency from SIOP Guidelines CSUS Coursework

Competency from Stor Guidennes		COOS COUISCWOIK			
	206	209	216*	260	262
History and Systems of Psychology	X	X			
Fields of Psychology	X	X			
Research Methodology	X	X	X	X	X
Statistical Methods & Data Analysis	X	X	X	X	X
Ethical, Legal, and Professional Contexts	X	X	X	X	X
Measurement of Individual Differences	X		X	X	
Criterion Theory and Development	X		X	<mark>X</mark>	
Job and Task Analysis	X		X	<mark>X</mark>	
Employee Selection, Placement, and Classification	X		X	<mark>X</mark>	
Perform Appraisal and Feedback			X	<mark>X</mark>	X
Training: Theory, Program Design, and Evaluation			X	<mark>X</mark>	X
Work Motivation			X		X
Attitude Theory			X		X
Small Group Theory and Process			X		X
Organization Theory			X		X
Organizational Development			X		X

Note: Psychology 216 varies in content, typically 3 or 4 content areas are covered in-depth in terms of journal articles and an applied research project.

In addition to these Competencies in the Discipline of I/O Psychology, this year we have assessed Critical Thinking. With respect to critical thinking, I/O psychology MA graduates will demonstrate the ability to systematically explore issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. Specifically they will:

- 6.1: Clearly state and describe the issue/problem to be considered, using all relevant information necessary for full understanding.
- 6.2: Develop a comprehensive analysis or synthesis of information from relevant and appropriate sources (i.e., sources identified by conducting a thorough review of relevant theoretical and empirical literature in Psychology and related disciplines).
- 6.3: Thoroughly (systematically and methodically) analyze the assumptions of self and others. Carefully evaluate the relevance of contexts when presenting a position. Consider the following in evaluating published work on a topic: theoretical frameworks, subdisciplinary perspectives, sociocultural context and

worldviews, developmental status of the empirical literature on the topic, research methodologies utilized, and other potential limitations or sources of bias.

- 6.4: Formulate a specific and sophisticated position (perspective, thesis/hypothesis) which accounts for the complexities of the issue. Acknowledge the limits of the position and synthesize others' points of view. Apply this process in developing hypotheses and when interpreting findings.
- 6.5: Draw logical conclusions and related outcomes, such as potential applications or future directions for inquiry. Consequences and implications are stated and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.

Critical thinking and competence in the discipline were measured per the following:

Critical Thinking:

1. Direct Method- Theses from I/O psychology MA students were assessed against the Thesis Assessment Scale and Evaluation Chart (below) by thesis committee members (N = 3 per student).

Assessment Scale

The following response scale should be used to evaluate the dimensions covered in the Evaluation Chart below.

Scale Label	Behavioral Anchor
Below Minimal	Student has not demonstrated the minimal level of competence for Master's students in
Competence	Psychology on this dimension.
Minimal	Student has demonstrated the minimal level of competence for Master's students in Psychology
Competence	on this dimension.
Satisfactory	Student has demonstrated a satisfactory level of competence for Master's students in
Competence	Psychology on this dimension.
High Level of	Student has demonstrated a higher level of competence than is ordinarily expected of Master's
Competence	students in Psychology on this dimension.

Evaluation Chart

Consider all of the Master's level Psychology students you have known in your capacity as a professor at CSUS. With respect to that population of students, please place a check mark in the box representing the demonstrated level of each dimension below.

Dimension	Below Minimal Competence	Minimal Competence	Satisfactory Competence	High Level of Competence
Literature review				
Presentation of context for thesis/project				
Description of research problem/purpose				
Methodology addressing problem/purpose				
Data or conceptual analysis				
Conclusions drawn from analysis				
Writing of thesis/project				
Oral presentation of work				
Responses to questions during the oral defense				

Revised 8/1/2013

2. Indirect Method- Responses to an exit survey were collected from graduating I/O psychology MA students (see below). The assessment coordinator sent an email to thesis chairs at the end of the spring semester soliciting responses from students. Chairs then forwarded the exit survey to their graduates, who submitted their completed survey to the assessment coordinator.

Graduate Student Experience Survey: Industrial/Organizational Psychology California State University, Sacramento

Background Information, Please answer the following to help us o	ollect backgrou	nd information	1 for the I	O program.
Age: years Gender (circle one): Male Fen	nale			
Ethnicity:				
☐ African American/Black ☐ Bi-Racial ☐ Asian/Pacific Islander ☐ Caucasian/Whi		Hispanic/La Other:		
What was your undergraduate major?				
Where did you obtain your undergraduate degree?				
Sacramento State Other: School Name	Location	1		
Coursework. We are interested in your thoughts about the coursewo	ork offered in the	e program.		
Anticipated number of years (from entrance into program) to gra	aduation: v	ears		
Approximate GPA:				
Please list or describe your favorite aspects of the coursework yo	ou have taken th	us far:		
Please list or describe what you would most like to see changed	about the course	sworkyouhav	ve taken:	
Self-ratings. We are interested in your self-evaluations of knowledg Using the stem provided below, please indicate your agreement The graduate program helped me to become confident about my knowledge.	<u>it</u> for items 1-4 b owledge/skills in t	terms of		
4 Commente and in the distriction	Strongly Ag 5	gree 3 4 3	Strongly [2)isagree 1
 Competence in the discipline = Knowledge of major concepts and key areas of I-O psychology 	•	4 3	2	1
 Critical Thinking Ability to comprehensively explore issues, ideas, and events before accepting, or formulating an opinion or conclusion. 	5	4 3	2	1
Inquiry/Analysis Ability to systematically explore issues through collecting and analyzing exidence, that results in informed conclusions or judgments.	5	4 3	2	1
Written Communication Ability to develop and express ideas in writing including the use of text, the and impact.	5	4 3	2	1

Care	er Plans and/or Interests. What	arey	our intended future j	ob i	nterests? (<u>check</u> al	l that	apply)	
	Organizational Development	0	Research		Teaching		Human Resources	
	Employee Development		Training		Job Analysis		Psychometrics	
	Performance Assessment		Selection		Consulting		Government	
0	ther (please explain in the space)	belo	w):					
_								
_		_		_				
_								
	rch: We are interested in your re esearch. Please include a descrip			ır, as	well of the genera	ıl area	s of interest that perts	ain to
N	umber of research studies involv							
	Topics (generally):							
N	umber of professional conference							
	Conference Locations;							
N	umber of journal publications (in			_				
	Journal Titles:							
N	umber of applied projects condu							
	Topics:							
N	umber of service learning project		nducted:					
	Topics:							
Pl	ease tell us a little about your fav	orit	e aspect of the resear	ch e	xperiences you hav	ve had	Ŀ	
_								-
Pl	ease tell us what you would like	to se	ee changed about rese	eard	n opportunities in t	hepr	ogram:	_
-				_				-
Care	er/Career Goals: Please explain:	a litt	le about your curren	tjob	status and/or worl	c-relat	ed positions.	
D	o you have a job now? 🏻 🗖 No	•	☐ Yes If Yes:		Full-Time 🗖 P	art-T	ime	
	hat is your job title and place of							_
H	ow long have you worked in you	rcu	rent position?	_m,	onthsyears	5		
Pl	ease check each of the following							
	Teaching Psychology		Private Applied Re			hing I	Business	
	Public Applied Research	_	Private Research_		Cons	ultina	i	

Overall competencies in the major/discipline:

- Direct Method- An I/O psychology MA course professor administered a final exam assessing
 five of the competencies in the discipline of I/O psychology (highlighted in the table above).
 Each exam was graded by the professor. Grades were averaged and compared to a standard
 set by the I/O committee.
- 2. Indirect Method- Responses to an exit survey were collected from graduating I/O psychology MA students (see above). The assessment coordinator sent an email to thesis chairs at the end of the spring semester soliciting responses from students. Chairs then forwarded the exit survey to their graduates, who submitted their completed survey to the assessment coordinator.

Q1.2. Are your PLOs closely aligned with the mission of the university?

X	1. Yes
	2. No
	3. Don't know

Q1.3. Is your program externally accredited (except for WASC)?

	 y
X	1. Yes
	2. No (If no, go to Q1.4)
	3. Don't know (Go to Q1.4)

Q1.3.1. If yes, are your PLOs closely aligned with the mission/goals/outcomes of the accreditation agency?

X	1. Yes
	2. No
	3. Don't know

Q1.4. Have you used the *Degree Qualification Profile* (DQP)* to develop your PLO(s)?

	1. Yes
	2. No, but I know what DQP is.
X	3. No. I don't know what DQP is.
	4. Don't know

^{*} **Degree Qualifications Profile (DQP)** – a framework funded by the Lumina Foundation that describes the kinds of learning and levels of performance that may be expected of students who have earned an associate, baccalaureate, or master's degree. Please see the links for more details:

http://www.luminafoundation.org/publications/The Degree Qualifications Profile.pdf and http://www.learningoutcomeassessment.org/DQPNew.html.

Question 2 (Q2): Standards of Performance/Expectations for EACH PLO.

Q2.1. Has the program developed/adopted **EXPLICIT** standards of performance/expectations for the PLO(s) you assessed **in 2013-2014 Academic Year**? (For example: We expect 70% of our students to achieve at least a score of 3 on the Written Communication VALUE rubric.)

	1. Yes, we have developed standards/expectations for ALL PLOs assessed in 2013-14.
X	2. Yes, we have developed standards/expectations for SOME PLOs assessed in 2013-14.
	3. No (If no, go to Q2.2)
	4. Don't know (Go to Q2.2)
	5. Not Applicable (Go to Q2.2)

Q2.1.1. If yes, what are the desired levels of learning, including the criteria and standards of performance/expectations, especially at or near graduation, for EACH PLO assessed in 2013-2014 Academic Year? (For example: what will tell you if students have achieved your expected level of performance for the learning outcome.) Please provide the rubric and/or the expectations that you have developed for EACH PLO one at a time below. [WORD LIMIT: 300 WORDS FOR EACH PLO]

Critical Thinking:

- 1. Direct Method- The I/O committee has not yet established an expectation of performance on applying critical thinking skills in the thesis. The data collected in the 2013-2014 academic year are intended to provide a baseline upon which the committee will make judgments and recommendations for establishing standards of performance on the next assessment report.
- 2. Indirect Method- The department has not established an expectation regarding responses to the exit survey and does not conclude that it would be appropriate to do so.

Overall competencies in the major/discipline:

- 1. Direct Method- 100% of students should perform at a level of B work or better (on average) across all exam questions.
- 2. Indirect Method- The department has not established an expectation regarding responses to the exit survey and does not conclude that it would be appropriate to do so.

Q2.2. Have you published the PLO(s)/expectations/rubric(s) you assessed in 2013-2014?

	1. Yes
X	2. No (If no, go to Q3.1)

Q2.2.1. If yes, where were the **PLOs/expectations/rubrics** published? [CHECK ALL THAT APPLY]

J	The state of the s
	1. In SOME course syllabi/assignments in the program that claim to
	introduce/develop/master the PLO(s)
	2. In ALL course syllabi/assignments in the program that claim to introduce
	/develop/master the PLO(s)
	3. In the student handbook/advising handbook
	4. In the university catalogue
	5. On the academic unit website or in the newsletters
	6. In the assessment or program review reports/plans/resources/activities
	7. In the new course proposal forms in the department/college/university
	8. In the department/college/university's strategic plans and other planning documents
	9. In the department/college/university's budget plans and other resource allocation

documents
10. In other places, specify:

Question 3 (Q3): Data, Results, and Conclusions for EACH PLO

Q3.1. Was assessment data/evidence collected for 2013-2014?

X	1. Yes
	2. No (If no, go to Part 3: Additional Information)
	3. Don't know (Go to Part 3)
	4. Not Applicable (Go to Part 3)

Q3.2. If yes, was the data scored/evaluated for 2013-2014?

X	1. Yes
	2. No (If no, go to Part 3: Additional Information)
	3. Don't know (Go to Part 3)
	4. Not Applicable (Go to Part 3)

Q3.3. If yes, what DATA have you collected? What are the results, findings, and CONCLUSION(s) for EACH PLO assessed in 2013-2014? In what areas are students doing well and achieving the expectations? In what areas do students need improvement? Please provide a simple and clear summary of the key data and findings, including tables and graphs if applicable for EACH PLO one at a time. [WORD LIMIT: 600 WORDS FOR EACH PLO]

Critical Thinking:

1. Direct Method- Each student in the I/O psychology MA program is required to conduct a thesis as his or her culminating experience, wherein the student creates a research question based on his or her interests and review of the psychological literature, designs a research project to test hypothesis(es), collects data, analyzes the data, and draws conclusions based on the results. Students are required to write an APA research paper describing their project, wherein students model professional journal submissions by describing the extant literature and providing a rationale for the present study in an Introduction section, describing the methodology of the project they designed in a Method section, describing their statistical analysis of the data in a Results section, and discussing the results, limitations, and implications in a Discussion section. Students also publically defend their thesis to a committee of three faculty members. Once oral presentations are scheduled, faculty committee members receive the *Department of Psychology Thesis/Project Competencies Assessment Form* and complete the form after the oral defense.

Students' theses are evaluated on the following learning outcomes: Reviewing and Evaluating Information from the Psychological Literature; Generating and Articulating Research Problems and Designing Sound Research Studies; Analyzing and Interpreting the Results of Data and Drawing Inferences and Conclusions from Empirical Results; and Writing Psychological Reports and Giving Professional-level Oral Presentations. Each of these aspects or dimensions is associated with a set of behavioral anchors ranging from *Below Minimal Competence* as the weakest level of performance (1) to *High Level of Competence* as the strongest level of performance (4).

In the 2013-2014 academic year, four I/O psychology MA candidates defended their theses. Eight evaluations were submitted for these students. The evaluations for each dimension were averaged across the ratings made by each rater of each thesis (see *Ms* and *SDs* below). Overall, the nine dimensions were evaluated at approximately the same level of performance (around a 3.5 on the 4-point response scale). The reviewers rated the theses as largely meeting the "Satisfactory" or "High" level of competence. Specifically relating to assessment of critical thinking application,

100% performed at the Satisfactory or High level of competence for Literature Review and Presentation of Context. These means and frequencies can be interpreted as these meeting culminating requirements for graduation, often at a level exceeding requirements.

Composite Rater Means and Standard Deviations

Dimension	M	SD
Literature Review	3.63	.52
Context	3.63	.52
Purpose	3.50	.53
Methodology	3.50	.53
Analyses	3.50	.53
Conclusions	3.38	.52
Writing	2.50	.53
Oral Presentation	3.38	.52
Question Responses	3.38	.52

2. Indirect Method- Responses to an exit survey were solicited from graduating I/O psychology MA students. The assessment coordinator sent an email to thesis chairs at the end of the spring semester soliciting responses from students. Chairs then forwarded the exit survey to their graduates. However, no graduates submitted their completed survey to the assessment coordinator.

Overall competencies in the major/discipline:

- 1. Direct Method- An I/O psychology MA course professor administered a final exam assessing competence in the discipline of I/O psychology. Specifically, competency was assessed for: Criterion Theory and Development; Job and Task Analysis; Employee Selection, Placement, and Classification; Perform Appraisal and Feedback; and Training: Theory, Program Design, and Evaluation. Each exam was graded by the professor. Grades across exam questions for the nine students were averaged. The average score for individual students ranged from 80% to 94%, or a grade of B- to A. The average score among all students was 87%, or a B+. 100% of students met the criterion of performing "at a level of B work or better (on average) across all exam scores." Thus, students met culminating requirements for graduation, often at a level exceeding requirements.
- 2. Indirect Method- Responses to an exit survey were solicited from graduating I/O psychology MA students. The assessment coordinator sent an email to thesis chairs at the end of the spring semester soliciting responses from students. Chairs then forwarded the exit survey to their graduates. However, no graduates submitted their completed survey to the assessment coordinator.
- **Q3.4.** Do students meet the expectations/standards of performance as determined by the program and achieved the learning outcomes? [PLEASE MAKE SURE THE PLO YOU SPECIFY HERE IS THE SAME ONE YOU CHECKED/SPECIFIED IN Q1.1].

03	41	First	ΡĪ	\mathbf{O}	Critical	Thinking

6
1. Exceed expectation/standard

X	X 2. Meet expectation/standard	
3. Do not meet expectation/standard		
4. No expectation/standard set		
	5. Don't know	

[NOTE: IF YOU HAVE MORE THAN ONE PLO, YOU NEED TO REPEAT THE TABLE IN Q3.4.1 UNTIL YOU INCLUDE ALL THE PLO(S) YOU ASSESSED IN 2013-2014.]

Q3.4.2. Second PLO: Competence in the Major/Discipline

1. Exceed expectation/standard	
X	2. Meet expectation/standard
3. Do not meet expectation/standard	
4. No expectation/standard set	
	5. Don't know

Question 4 (Q4): Evaluation of Data Quality: Reliability and Validity.

Q4.1. How many PLOs in total did your program assess in the 2013-2014 academic year? 2

Q4.2. Please choose **ONE ASSESSED PLO** as an example to illustrate how you use direct, indirect, and/or other methods/measures to collect data. If you only assessed one PLO **in 2013-14**, YOU CAN SKIP this question. If you assessed MORE THAN ONE PLO, please check **ONLY ONE PLO BELOW EVEN IF YOU ASSESSED MORE THAN ONE PLO IN 2013-2014.**

X	1. Critical thinking (WASC 1) ¹
	2. Information literacy (WASC 2)
	3. Written communication (WASC 3)
	4. Oral communication (WASC 4)
	5. Quantitative literacy (WASC 5)
	6. Inquiry and analysis
	7. Creative thinking
	8. Reading
	9. Team work
	10. Problem solving
	11. Civic knowledge and engagement – local and global
	12. Intercultural knowledge and competency
	13. Ethical reasoning
	14. Foundations and skills for lifelong learning
	15. Global learning
	16. Integrative and applied learning
	17. Overall competencies for GE Knowledge
	18. Overall competencies in the major/discipline
	19. Other PLO. Specify:

Direct Measures

Q4.3. Were direct measures used to assess this PLO?

X	1. Yes
	2. No (If no, go to Q4.4)
	3. Don't know (Go to Q4.4)

Q4.3.1. Which of the following DIRECT measures were used? [Check all that apply]

X	1. Capstone projects (including theses, senior theses), courses, or experiences
	2. Key assignments from other CORE classes
	3. Key assignments from other classes
	4. Classroom based performance assessments such as simulations, comprehensive exams, critiques
	5. External performance assessments such as internships or other community based projects
	6. E-Portfolios
	7. Other portfolios
	8. Other measure. Specify:

Q4.3.2. Please provide the direct measure(s) [key assignment(s)/project(s)/portfolio(s)] that you used to collect the data. [WORD LIMIT: 300 WORDS]

According to the department's graduate handbook, a graduate thesis is defined as "scholarly work of an original nature performed by students to demonstrate their mastery of the field." The University requires that theses contain a review of the relevant scholarly or professional literature with appropriate citations and a list of primary sources presented at the end of the document. A thesis is an empirical study, the writing of which is usually (but not necessarily) organized around chapters titled *Introduction, Method, Results*, and *Discussion*.

Q4.3.2.1. Was the direct measure(s) [key assignment(s)/project(s)/portfolio(s)] aligned directly with the rubric/criterion?

X	1. Yes
	2. No
	3. Don't know

Q4.3.3. Was the direct measure (s) [key assignment(s)/project(s)/portfolio(s)] aligned directly with the PLO?

	1. Yes
X	2. No
	3. Don't know

Q4.3.4. How was the evidence scored/evaluated? [Select one only]

	z y j
1. No rubric is used to interpret the evidence (If checked, go to Q4.3.7)	
	2. Use rubric developed/modified by the faculty who teaches the class
	3. Use rubric developed/modified by a group of faculty
X	4. Use rubric pilot-tested and refined by a group of faculty
	5. Use other means. Specify:

Q4.3.5. What rubric/criterion was adopted to score/evaluate the above key assignments/projects/portfolio? [Select one only]

	1. The VALUE rubric(s)	
2. Modified VALUE rubric(s)		
X 3. A rubric that is totally developed by local faculty		
	4. Use other means. Specify:	

Q4.3.6. Was the rubric/criterion aligned directly with the PLO?

	1. Yes
X	2. No
	3. Don't know

Q4.3.7. Were the evaluators (e.g., faculty or advising board members) who reviewed student work calibrated to apply assessment criteria in the same way?

	1. Yes
X	2. No
	3. Don't know

Q4.3.8. Were there checks for inter-rater reliability?

	1. Yes
X	2. No
	3. Don't know

Q4.3.9. Were the sample sizes for the direct measure adequate?

X	1. Yes
	2. No
	3. Don't know

Q4.3.10. How did you select the sample of student work (papers, projects, portfolios, etc)? Please briefly specify here:

We included all submitted evaluations of all graduate students who defended their theses in the 2013-2014 academic year.

Indirect Measures

Q4.4. Were indirect measures used to assess the PLO?

X	1. Yes
	2. No (If no, go to Q4.5)

Q4.4.1. Which of the following indirect measures were used?

	1. National student surveys (e.g., NSSE, etc.)
	2. University conducted student surveys (OIR surveys)
X	3. College/Department/program conducted student surveys
	4. Alumni surveys, focus groups, or interviews
	5. Employer surveys, focus groups, or interviews
	6. Advisory board surveys, focus groups, or interviews
	7. Others, specify:

Q4.4.2. If surveys were used, were the sample sizes adequate?

•		_
	1. Yes	
X	2. No	
	3. Don't know	

Q4.4.3. If surveys were used, please briefly specify how you select your sample? What is the response rate?

We sent surveys to all graduates (N = 4) but received no surveys in return (response rate = 0%).

Other Measures

Q4.5. Were external benchmarking data used to assess the PLO?

	1. Yes
X	2. No (If no, go to Q4.6)

Q4.5.1. Which of the following measures was used?

 -
1 N-411 111-11
1. National disciplinary exams or state/professional licensure exams

2. General knowledge and skills measures (e.g., CLA, CAAP, ETS PP, etc)
3. Other standardized knowledge and skill exams (e.g., ETS, GRE, etc)
4. Others, specify:

Q4.6. Were other measures used to assess the PLO?

	1. Yes
X	2. No (Go to Q4.7)
	3. Don't know (Go to Q4.7)

Q4.0.1. If yes, please specify, [f yes, please specify: [
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Alignment and Quality

Q4.7. Please describe how you collected the data? For example, in what course(s) (or by what means) were data collected? How reliable and valid is the data? [WORD LIMIT: 300 WORDS]

The data collection procedures are described above. Because so few students graduate each year, the sample size is very small. For the assessment of critical thinking in the thesis, evaluators were not calibrated. However, evaluators are all experts in their field and familiar with what a good research report should include. Thus, the ratings that evaluators provide should be presumed valid. The similarities in scores provided by each rater also indicate that ratings are reliable. (There were too few ratings to conduct a meaningful reliability analyses. However, raters were always within one point of each other for each criterion on a 4-point scale.).

For the indirect assessment of critical thinking skills and competence in the discipline, the exit survey, the sample size was non-existent. The department had initially intended for students to receive the exit survey upon defense of their thesis. Students would then need to submit their exit survey before the thesis chair would sign off on the thesis. Thus, each student would need to submit a survey in order to graduate. Due to a miscommunication in the department, students did not receive surveys in the manner intended. Instead, the assessment coordinator had to email thesis chairs after graduation. Thus, the response rate was lower than anticipated. This issue should be rectified in the 2014-2015 academic year.

Q4.8. How many assessment tools/methods/measures in total did you use to assess this PLO? 2 **NOTE: IF IT IS ONLY ONE, GO TO Q5.1.**

Q4.8.1. Did the data (including all the assignments/projects/portfolios) from all the different assessment tools/measures/methods directly align with the PLO?

X	1. Yes
	2. No
	3. Don't know

Q4.8.2. Were ALL the assessment tools/measures/methods that were used good measures for the PLO?

	1. Yes
X	2. No
	3. Don't know

Question 5 (Q5): Use of Assessment Data.

Q5.1. To what extent have the assessment results from 2012-2013 been used for? [CHECK ALL THAT APPLY]

	Very	Quite a	Some	Not at	Not
	Much (1)	Bit (2)	(3)	all (4)	Applicable (9)
1. Improving specific courses	. ,			X	. ,
2. Modifying curriculum	X				
3. Improving advising and mentoring	X				
4. Revising learning outcomes/goals				X	
5. Revising rubrics and/or expectations		X			
6. Developing/updating assessment plan	X				
7. Annual assessment reports	X				
8. Program review	X				
9. Prospective student and family information				X	
10. Alumni communication				X	
11. WASC accreditation (regional accreditation)				X	
12. Program accreditation				X	
13. External accountability reporting requirement					X
14. Trustee/Governing Board deliberations					X
15. Strategic planning				X	
16. Institutional benchmarking				X	
17. Academic policy development or modification				X	
18. Institutional Improvement				X	
19. Resource allocation and budgeting				X	
20. New faculty hiring				X	
21. Professional development for faculty and staff				X	
22. Other Specify:					

Q5.1.1. Please provide one or two best examples to show how you have used the assessment data above.

Based on the assessment of graduate theses in the 2012-2013 academic year, we slightly revised the scoring rubric and established expectations/standards of performance. We also used the data to write our annual assessment report and for program review for our department's self study. Most importantly, we re-evaluated our courses and mapped them on to the SIOP standards, ensuring that we continue to cover each learning outcome in our curriculum.

Q5.2. As a result of the **assessment effort in 2013-2014** and based on the prior feedbacks from OAPA, do you anticipate making any changes for your program (e.g., course structure, course content, or modification of program learning outcomes)?

programme programme	1. Yes
	2. No (If no, go to Q5.3)

X	3. Don't know (Go to Q5.3)

Q5.2.1. What changes are anticipated? By what mechanism will the changes be implemented? How and when will you assess the impact of proposed modifications? [WORD LIMIT: 300 WORDS]

Q5.2.2. Is there a follow-up assessment on these areas that need improvement?

	1. Yes
X	2. No
	3. Don't know

Q5.3. Many academic units have collected assessment data on aspects of a program that are not related to program learning outcomes (i.e., impacts of an advising center, etc.). If your program/academic unit has collected assessment data in this way, please briefly report your results here. [WORD LIMIT: 300 WORDS]

Question 6 (Q6). Which program learning outcome(s) do you plan to assess next year?

	<u> </u>		
	1. Critical thinking (WASC 1) ¹		
	2. Information literacy (WASC 2)		
	3. Written communication (WASC 3)		
	4. Oral communication (WASC 4)		
	5. Quantitative literacy (WASC 5)		
X	6. Inquiry and analysis		
	7. Creative thinking		
	8. Reading		
	9. Team work		
	10. Problem solving		
	11. Civic knowledge and engagement – local and global		
	12. Intercultural knowledge and competency		
	13. Ethical reasoning		
	14. Foundations and skills for lifelong learning		
	15. Global learning		
	16. Integrative and applied learning		
	17. Overall competencies for GE Knowledge		
X	18. Overall competencies in the major/discipline		
	19. Others. Specify any PLOs that the program is going to assess		
	but not included above:		
	a.		
	b.		
	c.		

Part 3: Additional Information

A1. In which academic year did you **develop** the current assessment plan?

The state of the four transfer of the state		
	1. Before 2007-2008	
	2. 2007-2008	
	3. 2008-2009	
	4. 2009-2010	
	5. 2010-2011	
	6. 2011-2012	
X	7. 2012-2013	
X	8. 2013-2014	
	9. Have not yet developed a formal assessment plan	

A2. In which academic year did you last **update** your assessment plan?

	1. Before 2007-2008
	2. 2007-2008
	3. 2008-2009
	4. 2009-2010
	5. 2010-2011
	6. 2011-2012
	7. 2012-2013
X	8. 2013-2014
	9. Have not yet updated the assessment plan

A3. Have you developed a curriculum map for this program?

X	1. Yes
	2. No
	3. Don't know

A4. Has the program indicated explicitly where the assessment **of student learning** occurs in the curriculum?

•			
	X	1. Yes	
		2. No	
		3. Don't know	

A5. Does the program have any capstone class?

X	1. Yes
	2. No
	3. Don't know

A5.1. If yes, please list the course number for each capstone class: PSYC 102, 107, 190, and 194 (undergraduate BA) and PSYC 500a, 500b (Graduate MA)

A6. Does the program have **ANY** capstone project?

X	1. Yes (Grad: thesis)
X	2. No (Undergrad)
	3. Don't know

A7. Name of the academic unit: Psychology

A8. Department in which the academic unit is located: Psychology

A9. Department Chair's Name: Marya Endriga

A10. Total number of annual assessment reports submitted by your academic unit for 2013-2014: 4 (Psychology major, MA in ABA psychology, MA in general psychology, and MA in I/O psychology)

A11. College in which the academic unit is located:

2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
	1. Arts and Letters	
	2. Business Administration	
	3. Education	
	4. Engineering and Computer Science	
	5. Health and Human Services	
	6. Natural Science and Mathematics	
X	7. Social Sciences and Interdisciplinary Studies	
	8. Continuing Education (CCE)	
	9. Other, specify:	

Undergraduate Degree Program(s):

A12. Number of undergraduate degree programs the academic unit has: 3

A12.1. List all the name(s): BA in Psychology, Minor in Psychology, Certificate in Applied Behavioral Analysis

A12.2. How many concentrations appear on the diploma for this undergraduate program? 0

Master Degree Program(s):

A13. Number of Master's degree programs the academic unit has: 4

A13.1. List all the name(s): MA in ABA Psychology, MA in Counseling Psychology, MA in General Psychology/Predoctoral Preparation, MA in I/O Psychology. The MA in Counseling Psychology program is currently being phased out. Courses no longer appear in the catalog or schedule of classes, and there remain just a few students who need to complete their thesis before the program will be officially closed.

A13.2. How many concentrations appear on the diploma for this master program? 0

Credential Program(s):

A14. Number of credential degree programs the academic unit has: 0

A14.1. List all the names:

Doctorate Program(s)

A15. Number of doctorate degree programs the academic unit has: 0

A15.1. List the name(s):

Appendix

Map of Measurement Facets

The table below shows the scaling of each measurement facet onto the same latent scale. Students' abilities are distinguished with an adequate degree of reliability (.77), and differences between question and dimension difficulties are distinguished with a high degree of reliability (.92 and .93, respectively). These are all positive findings. However, the moderate (.72) reliability in distinguishing among degrees of rater leniency/severity is a potential issue, in that interchangeable raters should be indistinguishable with a reliability close to zero. If rater bias is not an issue and the "fair averages" are used for students so that consistent rater differences are accounted for, then the rater differences are not a problem.

	+Students	-Questions	-Raters	-Dimensions	CRITTHINK
Rel	rel = .77	rel = .92	rel = .72	rel = .93	
2 +			+ More Severe 	+ More Challenging	+ (4) 4capstone
1 +	 S11 S26 + S25	 	 	 	3 3mileston
	 S30 S18 S5 S17		 GREG JJ KIM	6.4(FormPosition)	
0 *	S15 S21 S24 S9 S22 S28 S6 S10 S19 S23 S27 S7 S20 S20 S20 S27 S7 S20 S20 S20 S20 S20 S20 S20 S20 S20 S20 S20	ExampleCritThinkApprch	 JEFF KELLY * 	6.5(LogicalConcl) * 6.1(ProbDesc)	 2 2mileston
	S12 S13 S2 S14 S8 S16	 DesignOwnHypothStudy 		6.2(AnalyzeInfo) 6.3(AnalyzeAssump)	ZillITESCOII
 -1	 S29 S3 + S4	 	 	 - -	
					 1 1benchmar
-2 +		Less Difficult	 - - 	+ Less Challenging	(0) +0offtopic
+ Measr	•	+	+ -Raters	-Dimensions	CRITTHINK

Student Differences:

Student papers in this set are separated with a moderate degree of reliability (.77). The table below shows various statistics related to each student's score. The *observed average* is the mean of raters' ratings, while the *fair average* is adjusted for rater effects.

Total Score		Average		Measure	S.E.		MnSq ZStd		PtMea	PtExp	 Nu Students
30	16	1.88	1.74	+ 05	.28	+ .53 -1.5		1.60	.61	.29	+ 1 S1
25	16	1.56	1.42	43	.27	.882	.882	1.37	.16	.29	2 S2
19	16	1.19	1.04	88	.28	.931	.931	1.28	.46	.28	3 S3
37	40	.93	.85	-1.14	.19	.80 -1.0	.77 -1.2	1.24	.37	.25	4 S4
90	40	2.25	2.19	.50	.18	1.07 .3	1.08 .4	.93	.16	.25	5 S5
76	40	1.90	1.83	.06	.17	.77 -1.1	.77 -1.1	1.18	.30	.26	6 S6
70	40	1.75	1.68	13	.17	1.21 1.0	1.22 1.0	.72	.18	.26	7 S7
37	24	1.54	1.38	48	.22	.96 .0	.951	1.17	.00	.26	8 S8
32	16	2.00	1.92	.17	.28	.824	.824	1.23	.38	.24	9 S9
30	16	1.88	1.80	.02	.28	.49 -1.8	.49 -1.7	1.53	.45	.25	10 S10
44	16	2.75	2.69	1.19	.31	1.60 1.5	1.58 1.5	.26	.09	.22	11 S11
25	16	1.56	1.48	36	.27	1.09 .3	1.09 .3	1.07	.53	.25	12 S12
25	16	1.56	1.48	36	.27	.69 -1.0	.70 -1.0	1.36	13	.25	13 S13
34	24	1.42	1.38	48	.22	1.21 .8	1.20 .8	.82	.57	.24	14 S14
30	16	1.88	1.92	.16	.28	1.14 .5	1.14 .5	.92	.22	.21	15 S15
20	16	1.25	1.29	58	.27	.796	.806	1.25	.22	.21	16 S16
33	16	2.06	2.10	.40	.28	.892	.882	1.05	.04	.21	17 S17
34	16	2.13	2.17	.47	.28	1.56 1.4	1.56 1.4	.46	.39	.21	18 S18
27	16	1.69	1.73	06	.27	.892	.892	.99	.37	.21	19 S19
38	24	1.58	1.63	18	.22		1.85 2.7	26	.28	.21	20 S20
30	16	1.88	1.92	.17	.28	.37 -2.3	.38 -2.3	1.71	.39	.21	21 S21
29	16	1.81	1.86	.09	.27	.46 -1.9	.45 -2.0	1.59	.24	.21	22 S22
26	16	1.63	1.67	13	.27	1.77 2.1	1.76 2.0	.01	24	.21	23 S23
31	16	1.94	1.98	.25	.28	.65 -1.0	.65 -1.0	1.47	.23	.21	24 S24
39	16	2.44	2.48	.89	.29	1.16 .5	1.14 .5	.79	25	.20	25 S25
64	24	2.67	2.64	1.12	.25	1.33 1.1	1.30 1.0	.59	.44	.27	26 S26
30	16	1.88	1.74	05	.28	.892	.892	1.16	13	.29	27 S27
32	16	2.00	1.87	.10	.28	1.09 .3	1.12 .4	.87	.39	.28	28 S28
19	16	1.19	1.04	88	.28	1.06 .3	1.09 .3	1.07	05	.28	29 S29
38	16	2.38	2.25	.59	.29		.65 -1.0	1.36	.19		
36.5	20.3	1.82	1.77	.00	.26	.991	.991		.23		Mean (Count: 30)
16.5	8.2		.44	.54			.36 1.2		.23		S.D. (Population)
16.8	8.3	.42	.44	.55	.04	.37 1.2	.37 1.2		.23		S.D. (Sample)

Model, Sample: RMSE .26 Adj (True) S.D. .48 Separation 1.85 Strata 2.80 Reliability .77

Rater Effects:

While interchangeable raters would yield separation reliability near zero, raters in this set are separated with a moderate degree of reliability (.72). As seen in the table below, *fair averages* for JJ, Greg, and Kim were relatively lower (they were more severe) at approximately 1.7 while the *fair averages* for Jeff and Kelly were relatively higher (they were more lenient) at approximately 1.9-2.0. These *fair averages* are the mean ratings for each rater after adjustment for differences in the abilities of the students whose papers they evaluated. If differences in rater means are consistent (akin to main effects in ANOVA) then the model adequately adjusts for them when computing *fair averages*. However, if rater bias is found (rater interactions with other measurement facets) then the model may not adequately adjust for these differences.

Tota	-	tal ount		Fair(M) Average		Model S.E.	Infit MnSq Z		Outfit MnSq ZStd	Discrm	PtMea	PtExp	!	Agree. Exp %	 N Judges
161 146 411 166	5 7 2 5	88 88 240 88	1.83 1.66 1.74 1.89	1.65 1.66 1.67 1.90 2.02	.55 .53 .52 .24	.12 .12 .07 .12	1.16 .79 - .96	1.2 1.1 2.6 2	1.17 1.1 1.15 1.0 .80 -2.5	.73 .72 1.31 1.03	.48 .50 .43 .52	.48 .43 .47 .48	40.1 47.5	31.8 31.5 31.3 31.3 31.0	5 JJ
100	0.9	.21.6 59.5 66.5	1.81 .11 .12	1.78 .15 .17	.39 .18 .21	.11 .02 .02	+ 1.06 .16 .18	1.6	1.06 .2 .16 1.5 .17 1.7	++ 	.48		+ 		Mean (Count: 5) S.D. (Population) S.D. (Sample)

Model, Sample: RMSE .11 Adj (True) S.D. .17 Separation 1.59 Strata 2.46 Reliability (not inter-rater) .72 Model, Fixed (all same) chi-square: 14.7 d.f.: 4 significance (probability): .01 Inter-Rater agreement opportunities: 590 Exact agreements: 263 = 44.6% Expected: 184.9 = 31.3%

Measurement bias:

Measurement bias (including rater bias) was explored by estimating the percentage of variance in scores that is attributed to interactions among facets of the rating system. Initially, an omnibus test of all interactions was estimated. As shown below, 77% of the raw score variance is residual variance, after the "main effect only" model has been accounted for. When all interactions are specified, the residual variance is reduced to only 2%. This suggests that interactions among facets of the measurement system are explaining a substantial amount of the variance among student scores.

Omnibus Bias/Interaction Test:

Count of measurable responses = 608
Raw-score variance of observations = 1.04 100.00%
Variance explained by Rasch measures = 0.24 22.92%
Variance of residuals = 0.80 77.08%

```
Variance explained by bias/interactions = 0.77 74.75%
Variance remaining in residuals = 0.02 2.33%
```

But only some of these interactions are potentially problematic---namely, those that involve raters. Further exploration of residuals revealed that the following percentages of residual variance are explained by each two-way interaction:

Interactions involving raters:

Raters X Questions: 4%
Raters X Students: 9%
Raters X Dimensions: 5%

Interactions involving non-rater measurement facets:

Students X Questions: 31% Students X Dimensions: 35% Questions X Dimensions: 5%

Because interactions involving raters are among the smaller sources of residual variance, rater bias is *not* the major contributor to the overall finding of interactions among measurement elements. For the most part, the variance explained by interactions comes from different students finding different questions more/less difficult, and different students performing better/worse across different critical thinking dimensions. These are perfectly legitimate sources of variance, simply suggesting that different students have different performance profiles. In addition, since all students answered all questions and were evaluated along all dimensions, these sources of residual variance are not "biasing" the measurement system. If some students answered easier questions while others answered harder questions, this would be an example of a situation that could produce bias. As it stands, each student's score in the "main effect" model is averaged across the same questions and dimensions, so this is not a problem.

Since all students are not evaluated by the same set of raters, the potential for influential rater bias is present; however, from the finding of relatively small rater interactions we can conclude that there is little rater bias. The differences in rater leniency/severity are therefore fairly consistent across questions, dimensions, and students, and therefore the fair averages reported for student papers can be assumed to adequately account for these consistent differences in rater leniency/severity.