## Assessment Overview

**Discipline/Program Name:** Psychology  **Assessment Year:** 2012

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Outcome Type</th>
<th>Methodology</th>
<th>n</th>
<th>History</th>
<th>Benchmark</th>
<th>Results</th>
<th>Strength of Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research Methodology</td>
<td>Discipline Outcome</td>
<td>Pre-Post Test</td>
<td>209</td>
<td>10 Years</td>
<td>Statistically Significant Improvement</td>
<td>Significant Improvement ( p &lt; .01 )</td>
<td>Strong</td>
</tr>
<tr>
<td>2. Unifying Themes in Psychology</td>
<td>Discipline Outcome</td>
<td>Pre-Post Test</td>
<td>209</td>
<td>8 Years</td>
<td>Statistically Significant Improvement</td>
<td>Significant Improvement ( p &lt; .01 )</td>
<td>Strong</td>
</tr>
<tr>
<td>3. Information Management</td>
<td>Learning Outcome</td>
<td>Pre-Post Test</td>
<td>209</td>
<td>9 Years</td>
<td>Statistically Significant Improvement</td>
<td>Significant Improvement ( p &lt; .01 )</td>
<td>Strong</td>
</tr>
<tr>
<td>4. Quantitative Reasoning</td>
<td>Learning Outcome</td>
<td>Pre-Post Test</td>
<td>209</td>
<td>1 Year</td>
<td>Statistically Significant Improvement</td>
<td>Significant Improvement ( p &lt; .01 )</td>
<td>Strong</td>
</tr>
<tr>
<td>5. Student Success and Persistence</td>
<td>Other</td>
<td>Analysis of Institutional Data</td>
<td>2051</td>
<td>4 Years</td>
<td>Success: 70% Persistence: 85%</td>
<td>Success and Persistence Surpassed Benchmarks</td>
<td>Strong</td>
</tr>
</tbody>
</table>

**Describe the Learning Outcome That You Have Measured**

- LO, Discipline or Other
- Pre-Post Test, Judged Competition, Embedded Questions, Rubric Graded Essay
- Number of Students Assessed
- # of Years This Outcome Has Been Assessed
- Measurement Standard
- Report the Results of Your Data Analysis
- Strong: Exceeds Benchmark
  Neutral: Meets Benchmark
  Weak: Misses Benchmark
Program / Discipline Assessment Report

Program/Discipline: Psychology
Responsibility: Cheyne L. Bamford, Ph.D.

Psychology Department Mission Statement
In a continually assessed learning-centered environment, it is the psychology department's mission to offer transfer level courses that enable students to improve their learning, master psychological theories and concepts, develop critical thinking abilities and achieve their personal and academic goals.

Program/Discipline's Assessment History:
By using the assessment process as an evaluative technique, how has it previously affected your program's curricula and/or teaching strategies?
The Assessment Project in psychology has increased awareness of the psychology curriculum in general and has emphasized the instruction of scientific methodology, unifying themes in psychology, information management, technology and quantitative reasoning. The Psychology discipline assessment also provides information about psychology students’ success and persistence rates. The feedback from previous years’ assessment data has affected discipline-wide teaching strategies in both online and face-to-face psychology classes. Past assessment analyses have contributed to curriculum decisions, textbook adoptions, adjunct hiring, and the selection of classroom materials and media.
By using the assessment process as an evaluative technique, what changes to student learning have been noted?

**Historical Record of Assessments of Intended Learning Outcomes**

Table 1 presents the pre- and posttest means from the discipline assessments conducted by the Psychology Department over the last eleven years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Methodology</th>
<th>Unifying Themes</th>
<th>Information Management</th>
<th>Technology</th>
<th>Quantitative Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-‘02</td>
<td>Pre-Test</td>
<td>3.61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02-’03</td>
<td>Pre-Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03-’04</td>
<td>Pre-Test</td>
<td>4.17</td>
<td>3.48</td>
<td>2.32</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.14</td>
<td>4.06</td>
<td>2.68</td>
<td></td>
</tr>
<tr>
<td>04-’05</td>
<td>Pre-Test</td>
<td>3.48</td>
<td>3.40</td>
<td>1.97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.11</td>
<td>3.81</td>
<td>2.68</td>
<td></td>
</tr>
<tr>
<td>05-’06</td>
<td>Pre-Test</td>
<td>3.55</td>
<td>3.08</td>
<td>2.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>3.78</td>
<td>3.87</td>
<td>2.64</td>
<td></td>
</tr>
<tr>
<td>06-’07</td>
<td>Pre-Test</td>
<td>3.93</td>
<td>3.57</td>
<td>2.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>3.99</td>
<td>3.59</td>
<td>2.61</td>
<td></td>
</tr>
<tr>
<td>07-’08</td>
<td>Pre-Test</td>
<td>3.86</td>
<td>3.86</td>
<td>2.52</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.00</td>
<td>4.10</td>
<td>3.09</td>
<td></td>
</tr>
<tr>
<td>08-’09</td>
<td>Pre-Test</td>
<td>3.58</td>
<td></td>
<td>2.12</td>
<td>3.78</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.01</td>
<td></td>
<td>3.12</td>
<td>4.90</td>
</tr>
<tr>
<td>09-’10</td>
<td>Pre-Test</td>
<td>3.99</td>
<td></td>
<td>2.44</td>
<td>4.51</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.10</td>
<td></td>
<td>2.74</td>
<td>5.04</td>
</tr>
<tr>
<td>10-’11</td>
<td>Pre-Test</td>
<td>3.55</td>
<td>3.21</td>
<td>2.76</td>
<td>3.95</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.06</td>
<td>3.86</td>
<td>2.92</td>
<td>5.46</td>
</tr>
<tr>
<td>‘12</td>
<td>Pre-Test</td>
<td>3.92</td>
<td>3.71</td>
<td>2.67</td>
<td>3.65</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>4.38</td>
<td>4.23</td>
<td>3.22</td>
<td>4.17</td>
</tr>
</tbody>
</table>

**Table 1: Historical Comparison of the Mean Performance (Pretest and Posttest) for Each Intended Learning Outcome**
Research Methodology has been measured for ten years, with significant improvement in methodology learning achieved in five of those years, and no significant improvement in learning documented in five of those years. The Unifying Themes learning outcome has been measured for eight years, and significant improvement in student learning was observed in six of those eight years. The Information Management outcome has been measured for the last nine years, and has demonstrated significant improvement in student learning in every year except last year (’10-’11). The Quantitative Reasoning learning outcome was measured for the first time this year. Finally, student success rates and persistence rates in psychology courses across the discipline have been tracked for the last four years. Student success rates have remained consistent, while student persistence rates have been consistently increasing in psychology courses.

What unintended consequences, if any, have occurred because of the assessment process?
Not applicable.

Who receives information about your department's assessment and why?
The results of this year’s assessment will be shared with all psychology faculty (both full-time and adjunct), the Psychology Department chair, the ADSB dean, and the assessment committee. These parties all contribute to the development of the psychology curriculum. Hard copies of this report will be distributed to all PSY instructors, and the results will be discussed at PSY departmental meetings. The results will also be discussed at Assessment Workshops, and will be used to stimulate curriculum changes and future assessment. Analysis of these results will be included in any revisions of the Psychology Strategic Plan.

Issues that will be discussed include:
1. Improving the PSY assessment procedure, and maintaining the early delivery of the assessment tool in order to avoid compromising the pre-test data.
2. Implementing instructional methods to continue to improve students' development of critical thinking and information management abilities.
3. Modifying the psychology curriculum to further emphasize the unifying themes in psychology.
4. Investigating differences in instruction and learning across course sections—teaching styles, testing, student motivation, etc.
5. Developing strategies to achieve higher rates of student success and persistence, and the setting of appropriate benchmarks for those outcomes.
6. Extending the assessment to include additional psychology concepts: development, language, intelligence, physiology, learning and memory, motivation and emotion, sensation and perception.
7. Encouraging compliance of instructors in the administration of the assessment tool. An instructors’ failure to administer the assessment or submit the data severely limits the effectiveness of the department’s assessment process.

Following the discussion of these issues, recommended changes in the psychology curriculum will be implemented. Acting on feedback from this assessment data will close the loop, and allow present and future assessments to direct the development of the psychology curriculum.
# Part 1: Previous Academic Year Assessment Summary

**Previous Academic Year:** 2012

**Outcome #:** 1

**Outcome Title:** Research Methodology. Students will demonstrate an ability to differentiate the various steps in the research process and summarize the function of each step.

**Outcome Type:** Discipline

**Outcome Description:**
This learning outcome is assessed by measuring PSY students’ comprehension of the scientific method. Psychology is a behavioral science and relies upon the principles of the scientific method in research investigations.

**Benchmark for success**
1) Please specify what percentage of the sample size is expected to meet or exceed your benchmark.
2) What is the rationale for choosing this measure?

1. The present study employed a repeated-measures design, and a statistically significant improvement (p < .05) in student performance across the pre and post-tests for the methodology learning outcome was predicted.
2. Achieving this benchmark would confirm that the students’ comprehension of concepts related to the scientific method improved after receiving instruction in those concepts.

**Description of assessment process**
1) What assessment methods were used to measure this outcome (i.e. pre/post test, portfolio review, etc.)?
2) How do these methods show students are learning?
3) What frequency is this outcome being measured (i.e.: each semester, yearly, every other year, etc.) and why?
4) How many students made up the sample size?

1. The assessment method for this intended learning outcome was the direct measurement of student performance based on paired pre and post tests of student learning. This year, assessment data was collected from students in PSY 101, PSY 102 and PSY 235 (General Psychology I and II and Human Growth and Development). Both face to face and online sections were assessed.
2. A significant improvement in student performance across the pre and post-tests would confirm that the students’ comprehension of concepts related to the scientific method improved after receiving instruction in those concepts.
3. The scientific methodology learning outcome is measured yearly. This timetable allows for an efficient research cycle, with data collected in the fall and analyzed in the spring.
4. 209 students from PSY 101, PSY 102 and PSY 235 completed both the pre- and post-tests.

**Results**
What were the results of the assessment process? (List results for each method, if more than one were used.)

**Assessment of the Scientific Methodology Learning Outcome**
SPSS for Windows was used to compare methodology pre- and posttest means in a repeated-measures design. Data from both the methodology pre-test and the methodology post-test were collected and entered into SPSS, with data included for analysis only if scores for both tests were available. Students with missing data were disregarded for analysis. Scores for both the pre-test and the post-test were collected for 209 students enrolled in PSY 101, PSY 102 and PSY 235. For the methodology data, the mean score of the post-test (M = 4.38) was significantly greater than the mean score of the pre-test (M = 3.92), F(1,206) = 9.819, p < .01. See the “Methodology Learning Outcome” graph below. The mean matching score on the pre-test of methodology learning increased by approximately a half-point on the post-test that followed course instruction, a significant improvement. In terms of percentage scores, the average methodology pretest score was 65%, while the average methodology posttest score was 73%.
Additionally, no main effect was observed for psychology course as a between subjects variable. The lack of a main effect of psychology course indicates that there were no significant differences in student performance on the methodology assessment across psychology courses (PSY 101, PSY 102 and PSY 235).

A significant interaction, $F(1,206) = 7.867, p < .01$, between methodology and course delivery mode was discovered in the methodology data. The interaction between methodology and delivery mode revealed that students receiving face-to-face instruction improved in their understanding of methodology across the semester, while online students’ performance decreased slightly across the semester. Both face-to-face and online instruction produced similar methodology scores at posttest. See the “A Methodology X Delivery Mode Interaction” graph below.
Online students performed better than face-to-face students on all learning outcome measures with significant differences in performance for the unifying themes measure, $F(1,416) = 7.529, p < .01$, the problem solving measure, $F(1,416) = 7.012, p < .01$, and the quantitative reasoning measure, $F(1,416) = 32.046, p < .01$. See the “A Comparison of Delivery Mode Across the Four Learning Outcomes” graph below.

What did the department learn?
1) How did group performance compare to the benchmark?
2) How does the data compare to the previous year, if applicable?

1. The methodology assessment revealed a significant improvement in student learning across the semester, and suggests that instruction contributed to improved performance in methodology concepts.
2. In the ‘01-’02 academic year, psychology students’ comprehension of methodology concepts was
3) If multiple measures were used, how do they compare to each other? evaluated. In the '03-'04, '04-'05, '05-'06, '06-'07, '07-'08, '08-'09, '09-'10, '10-'11, and '12 academic years, that methodology assessment was replicated. Referring to the “Methodology Assessment History” graph, it can be observed that student performance did not vary significantly across the pre and post tests in '03-'04, '05-'06, '06-'07, '07-'08 and '09-'10, while student performance in scientific methodology increased significantly across the pre and post tests in '01-'02, '04-'05, '08-'09, '10-'11, and '12.

![Methodology Assessment History](image)

3. Not Applicable. A single direct measure of methodology learning was employed.

**Student performance summary**

1) Based on the findings, how does the department rate student performance in regards to this outcome (strong, weak, or neutral)?
2) How does this assessment affect plans for this coming year in terms of curricula, teaching strategies, and assessment methods?

1. The Psychology department rates the '12 student learning in methodology as strong. Students achieved the benchmark of significantly improved performance in methodology at the end of the semester. The results of the '12 assessment support the hypothesis that students’ methodology abilities would improve with instruction. The statistically significant improvement in academic performance that was observed across the semester in the methodology data can be attributed to academic experiences stimulated by the psychology curriculum. The significant improvement in students’ methodology abilities indicates that student performance improved after receiving instruction in those concepts.

2. Overall, the pattern of results observed in this year's assessment of methodology suggests that the psychology department excels in the development of methodology abilities. Scientific methodology is a discipline-related learning outcome, and is a fundamental set of concepts for the psychology discipline and all sciences.
<table>
<thead>
<tr>
<th>Outcome #: 2</th>
<th>Outcome Title: Unifying Themes in Psychology. Students will demonstrate an ability to identify the seven major unifying themes in psychology and discriminate the characteristics of each theme.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome Type: Discipline</td>
<td>Outcome Description: This learning outcome measured students’ knowledge of seven major unifying themes in the field of psychology. These unifying themes might be described as “enduring issues in psychology.” The seven unifying themes are: 1. Psychology is empirical. 2. Psychology is theoretically diverse. 3. Psychology evolves in sociohistorical context. 4. Behavior is determined by multiple causes. 5. Our behavior is shaped by our cultural heritage. 6. Heredity and environment jointly influence behavior. 7. Our experience of the world is highly subjective.</td>
</tr>
<tr>
<td>Benchmark for success</td>
<td>1. The present study employed a repeated-measures design, and a statistically significant improvement ($p &lt; .05$) in student performance across the pre and post-tests for the unifying themes learning outcome was predicted. 2. Achieving this benchmark would confirm that the students’ understanding of unifying themes improved after receiving instruction in those concepts.</td>
</tr>
<tr>
<td>Description of assessment process:</td>
<td>1. The assessment method for this intended learning outcome was the direct measurement of student performance based on paired pre and post tests of student learning. This year, assessment data was collected from students in PSY 101 and PSY 102 (General Psychology I and II) and PSY 235 (Human Growth and Development). 2. A significant improvement in student performance across the pre and post-tests would confirm that the students’ understanding of concepts related to the unifying themes in psychology improved after receiving instruction in those concepts. 3. The unifying themes learning outcome is measured yearly. This timetable allows for an efficient research cycle, with data collected in the fall and analyzed in the spring. 4. 209 students from PSY 101, PSY 102 and PSY 235 (both online and face to face classes) completed the unifying themes pre- and post-tests.</td>
</tr>
<tr>
<td>Results</td>
<td>Assessment of the Unifying Themes Learning Outcome SPSS for Windows was used to compare themes pre- and posttest means of student performance in a repeated-measures design. Data from both the themes pre-test and the themes post-test were collected and entered into SPSS, with data included for analysis only if scores for both tests were available. Students with missing data were disregarded for analysis. Scores for both the pre-test and the post-test were collected for 209 students enrolled in PSY 101, PSY 102 and PSY 235. For the themes data, the mean score of the post-test ($M = 4.23$) was significantly greater than the mean score of the pre-test ($M = 3.71$), $F(1,208) = 14.955$, $p &lt; .01$. See the “Psychological Themes Learning Outcome” graph below. The mean matching score on the pre-test of unifying themes increased by approximately a half-point on the post-test that followed course instruction, a significant improvement. In terms of percentage scores, the average themes pretest score was 53%, while the average posttest score was 60%.</td>
</tr>
</tbody>
</table>
No main effect was observed for psychology course as a between subjects variable. The lack of a main effect of psychology course indicates that there were no significant differences in student performance on the themes assessment across psychology courses (PSY 101, PSY 102 and PSY 235).

What did the department learn?

1) How did group performance compare to the benchmark?
2) How does the data compare to the previous year, if applicable?
3) If multiple measures were used, how do they compare to each other?

1. The unifying themes assessment revealed a significant improvement in student learning across the semester, and suggests that instruction contributed to improved performance in students’ understanding of unifying themes in psychology.

2. In the '02-'03 academic year, students' comprehension of unifying themes in psychology was evaluated. The themes assessment was replicated in the '03-'04, '04-'05, '05-'06, '06-'07, '07-'08, '10-'11, and '12 academic years. Referring to the “Themes Assessment History” graph, it can be observed that student performance in the comprehension of psychology themes increased significantly across the pre and post tests in '02-'03, '03-'04, '04-'05, '05-'06, '10-'11, and '12. Student performance did not vary significantly across the pre and post tests in '06-'07 or '07-'08.
3. Not applicable. A single direct measure of unifying themes learning was employed.

**Student performance summary**

1) Based on the findings, how does the department rate student performance in regards to this outcome (strong, weak, or neutral)?

2) How does this assessment affect plans for this coming year in terms of curricula, teaching strategies, and assessment methods?

---

1. The Psychology department rates the '12 student learning of unifying themes as **strong**. The assessment of the unifying themes outcome revealed that students achieved the benchmark of significantly improved unifying themes scores across the semester. The results of the '12 assessment support the hypothesis that students’ understanding of unifying themes in psychology would improve with instruction. The statistically significant improvement in academic performance that was observed across the semester in the unifying themes data can be attributed to academic experiences stimulated by the psychology curriculum. The observed significant improvement in students’ performance in unifying themes confirms that student learning occurred as a result of receiving instruction in those concepts.

2. Overall, the pattern of results observed in this year's assessment of the unifying themes learning outcome suggests that the psychology department excels in the instruction of those concepts. The mastery of unifying themes is a discipline-related learning outcome, and the unifying themes are fundamental concepts within the psychology discipline.
<table>
<thead>
<tr>
<th>Outcome #: 3</th>
<th>Outcome Title: Information Management. Students will display an ability to critically evaluate sources of information and identify problems or limitations associated with those information sources.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Type:</strong> Student Learning Outcome Information Management</td>
<td><strong>Outcome Description:</strong> This learning outcome is assessed by measuring PSY students’ information management abilities. Students were asked to critically evaluate a series of items that described sources of information in scientific research. Students read each research report summary and identified problems or limitations associated with that information source.</td>
</tr>
<tr>
<td><strong>Benchmark for success</strong>&lt;br&gt;1) Please specify what percentage of the sample size is expected to meet or exceed your benchmark.&lt;br&gt;2) What is the rationale for choosing this measure?</td>
<td>1. The present study employed a repeated-measures design, and a statistically significant improvement ($p &lt; .05$) in student performance across the pre and post-tests for the information management learning outcome was predicted.&lt;br&gt;2. Achieving this benchmark would confirm that the students’ information management abilities improved after receiving instruction in those concepts.</td>
</tr>
<tr>
<td><strong>Description of assessment process:</strong>&lt;br&gt;1) What assessment methods were used to measure this outcome (i.e. pre/post test, portfolio review, etc.)?&lt;br&gt;2) How do these methods show students are learning?&lt;br&gt;3) What frequency is this outcome being measured (i.e.: each semester, yearly, every other year, etc.) and why?&lt;br&gt;4) How many students made up the sample size?</td>
<td>1. The assessment method for the information management outcome was the direct measurement of student performance based on paired pre and post tests of student learning. This year, assessment data was collected from students in PSY 101 and PSY 102 (General Psychology I and II) and PSY 235 (Human Growth and Development).&lt;br&gt;2. A significant improvement in student performance across the pre and post-tests would confirm that the students’ information management abilities improved after receiving instruction in those concepts.&lt;br&gt;3. The information management learning outcome is measured yearly. This timetable allows for an efficient research cycle, with data collected in the fall and analyzed in the spring.&lt;br&gt;4. 209 students from PSY 101, PSY 102 and PSY 235 classes (both face to face and online) completed the information management pre- and post-tests.</td>
</tr>
<tr>
<td><strong>Results</strong>&lt;br&gt;What were the results of the assessment process? (List results for each method, if more than one were used.)</td>
<td><strong>Assessment of the Information Management Learning Outcome</strong>&lt;br&gt;SPSS for Windows was used to compare information management pre- and posttest means in a repeated-measures design. Data from both the pre-test and the post-test were collected and entered into SPSS, with data included for analysis only if scores for both tests were available. Students with missing data were disregarded for analysis. Scores for both the pre-test and the post-test were collected for 209 students enrolled in PSY 101, PSY 102 and PSY 235. For the information management data, the mean score of the post-test ($M = 3.22$) was significantly greater than the mean score of the pre-test ($M = 2.67$), $F(1,206) = 17.611$, $p &lt; .01$. See the “Information Management Learning Outcome” graph below. The mean matching score on the pre-test of information management increased by approximately a half-point on the post-test that followed course instruction, a significant improvement. In terms of percentage scores, the average information management pretest score was 45%, while the average information management posttest score was 54%.</td>
</tr>
</tbody>
</table>
Additionally, no main effect was observed for psychology course as a between subjects variable. The lack of a main effect of psychology course indicates that there were no significant differences in student performance on the information management measure across psychology courses (PSY 101, PSY 102 and PSY 235).

A significant interaction, $F(1,206) = 5.852, p < .05$, between information management and course delivery mode was discovered in the data. The interaction revealed that students receiving face-to-face instruction improved in their information management abilities across the semester, while online students’ performance decreased across the semester. Both face-to-face and online instruction produced similar problem solving scores at posttest. See the “An Information Management X Delivery Mode Interaction” graph below.
What did the department learn?
1) How did group performance compare to the benchmark?
2) How does the data compare to the previous year, if applicable?
3) If multiple measures were used, how do they compare to each other?

1. The information management assessment revealed a significant improvement in student learning across the semester, and suggests that instruction contributed to improved information management abilities.
2. In the '03-'04 academic year, psychology students' information management abilities were evaluated, and that information management assessment was replicated in the subsequent eight academic years. Referring to the “Information Management Assessment History” graph, it can be observed that student performance in the development of information management abilities increased significantly across the pre and post tests in '03-'04, '04-'05, '05-'06, '06-'07, '07-'08, '08-'09, '09-'10, and '12 yet failed to achieve significant improvement in '10-'11. The Assessment Project in psychology has increased awareness of the psychology curriculum in general and has emphasized the instruction of methodology, themes, information management, technology and quantitative reasoning.
3. Not Applicable. A single direct measure of information management was employed.

**Student performance summary**

1) Based on the findings, how does the department rate student performance in regards to this outcome (strong, weak, or neutral)?
2) How does this assessment affect plans for this coming year in terms of curricula, teaching strategies, and assessment methods?

1. The Psychology department rates the '12 student learning in information management as **strong**. Students achieved the benchmark of significantly improved performance in information management at the end of the semester. The results of the '12 assessment support the hypothesis that students’ information management abilities would improve with instruction. The statistically significant improvement in academic performance that was observed across the semester in the information management data can be attributed to academic experiences stimulated by the psychology curriculum. The significant improvement in students’ information management abilities indicates that student performance improved after receiving instruction in those concepts.

2. Overall, the pattern of results observed in this year's assessment of the information management learning outcome suggests that the psychology department excels in the instruction of information management abilities. Because information management is a Student Learning Outcome, the psychology discipline is a contributor to the skills that are integral to transfer students’ upper division success and coursework completion.
<table>
<thead>
<tr>
<th>Outcome #:</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Title:</strong></td>
<td>Students will display quantitative reasoning abilities in the calculation of statistical procedures and the comprehension of quantitative psychological phenomena.</td>
</tr>
<tr>
<td><strong>Outcome Type:</strong></td>
<td>Student Learning Outcome</td>
</tr>
<tr>
<td><strong>Quantitative Reasoning</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Outcome Description:</strong></td>
<td>This learning outcome is assessed by measuring PSY students’ ability to display quantitative reasoning abilities in psychology-related examples of data analysis, statistical calculations, and understanding of quantitative psychological phenomena. Many types of psychological research rely upon quantitative reasoning abilities for data analysis and calculation.</td>
</tr>
</tbody>
</table>
| **Benchmark for success** | 1. The present study employed a repeated-measures design, and a statistically significant improvement (p < .05) in student performance across the pre and post-tests for the quantitative reasoning learning outcome was predicted.  
2. Achieving this benchmark would confirm that students’ quantitative reasoning abilities improved after receiving instruction in those concepts. |
| **Description of assessment process:** | 1. The assessment method for this intended learning outcome was the direct measurement of student performance based on paired pre and post tests of student learning. This year, assessment data was collected from students in PSY 101 and PSY 102 (General Psychology I and II) and PSY 235 (Human Growth and Development).  
2. A significant improvement in student performance across the pre and post-tests would confirm that the students’ recognition of technological concepts improved after receiving instruction in those concepts.  
3. The quantitative reasoning outcome was measured for the first time this year. Quantitative reasoning data was collected in the fall and analyzed in the spring.  
4. 209 students from PSY 101, PSY 102 and PSY 235 (both online and face to face classes) completed the technology pre- and post-tests. |
| **Results** | SPSS for Windows was used to compare technology pre- and posttest means of student performance in a repeated-measures design. Data from both the quantitative reasoning pre-test and the quantitative reasoning post-test were collected and entered into SPSS, with data included for analysis only if scores for both tests were available. Students with missing data were disregarded for analysis. Scores for both the pre-test and the post-test were collected for 209 students enrolled in PSY 101, PSY 102 and PSY 235. For the quantitative reasoning data, the mean score of the post-test (M = 4.17) was significantly greater than the mean score of the pre-test (M = 3.65), F(1,203) = 12.15, p < .01. The mean matching score on the quantitative reasoning pre-test increased by approximately a half point on the post-test that followed course instruction, a statistically significant improvement. See the “Quantitative Reasoning Learning Outcome” graph below. In terms of percentage scores, the mean quantitative reasoning pretest score was 41%, while the mean posttest score was 46%. |
Additionally, no main effect was observed for psychology course as a between subjects variable. The lack of a main effect of psychology course indicates that there were no significant differences in student performance in the quantitative reasoning measure across psychology courses (PSY 101, PSY 102 and PSY 235).

What did the department learn?
1) How did group performance compare to the benchmark?
2) How does the data compare to the previous year, if applicable?
3) If multiple measures were used, how do they compare to each other?

1. The quantitative reasoning assessment revealed a significant improvement in student learning across the semester, and suggests that instruction contributed to improved performance in students’ quantitative reasoning abilities.
2. Not applicable. This is the first year of measuring the quantitative reasoning learning outcome.
3. Not applicable. A single direct measure of quantitative reasoning was employed.

Student performance summary
1) Based on the findings, how does the department rate student performance in regards to this outcome (strong, weak, or neutral)?
2) How does this assessment affect plans for this coming year in terms of curricula, teaching strategies, and assessment methods?

1. The Psychology department rates the ’12 student learning in quantitative reasoning as strong. The assessment of the quantitative reasoning learning outcome revealed that students achieved the benchmark of significantly improved quantitative reasoning scores across the semester. The results of the ’12 assessment support the hypothesis that students’ quantitative reasoning would improve with instruction. The statistically significant improvement in academic performance that was observed across the semester in the quantitative reasoning data can be attributed to academic experiences stimulated by the psychology curriculum. The observed significant improvement in quantitative reasoning confirms that student learning occurred as a result of receiving instruction in quantitative reasoning.
2. Overall, the pattern of results observed in this year's assessment of the quantitative reasoning learning outcome suggests that the psychology department excels in the instruction of quantitative reasoning skills. Because quantitative reasoning is also a Student Learning Outcome, the psychology discipline is a contributor to the skills that are integral to transfer students’ upper division success and coursework completion.
<table>
<thead>
<tr>
<th><strong>Outcome #: 5</strong></th>
<th><strong>Outcome Title:</strong> Student Success and Persistence in Psychology. Students will be encouraged to pursue success in psychology department offerings and to persist to completion in the PSY classes in which they enroll.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Type:</strong> Other Analysis of Institutional Data</td>
<td><strong>Outcome Description:</strong> This learning outcome is assessed by analyzing institutional data to determine PSY students’ success rates and persistence rates. The psychology department seeks to maintain a high level of student success and a high level of student persistence in psychology classes.</td>
</tr>
</tbody>
</table>
| **Benchmark for success** | 1. Student success is defined by a grade of “C” or better in any psychology course. The benchmark for student success in psychology is 70% of students achieving a “C” or better. Student persistence is defined as the completion of any psychology class with any grade. The benchmark for any given semester for student persistence in psychology is 85% or better. This benchmark can also be described as a withdrawal rate of less than 15%.  
2. The institution measures year-to-year persistence and defines it as the proportion of full-time students who enrolled for the first time at the beginning of one academic year and who (1) were still enrolled for at least one credit at the beginning of the next academic year (fall-to-fall) and who (2) had not yet completed a degree or certificate. At ACC, the 2006 cohort persistence rate was 45%, indicating that 45% of the students who had previously enrolled at the college continued to be enrolled one year later. The Psychology department encourages student success and persistence, with the belief that students that persist through a single semester of study are likely to continue to enroll at the college and continue to persist in their academic pursuits. Note that a 90% semester persistence rate in psychology classes compares very favorably to a 45% year-to-year persistence rate at the institution. |
| **Description of assessment process:** | 1. An analysis of institutional data was used to determine PSY students’ success rates and persistence rates across all psychology classes. This year, institutional data was collected from face to face and online sections of PSY 101 and PSY 102 (General Psychology I and II), PSY 116 (Stress Management), PSY 205 (Psychology of Gender), PSY 226 (Social Psychology), PSY 235 (Human Growth and Development), PSY 238 (Child Development), and PSY 249 (Abnormal Psychology).  
2. Persistence to completion in a psychology class affords the student exposure to the entire class curriculum. Success in the class implies that the student has mastered the course competencies and has received a passing grade of “C” or better.  
3. The student success and persistence data is analyzed in both the fall and spring semesters.  
4. Success and persistence data was analyzed for 861 students in fall ’10, 982 students in spring ’11, 1005 students in fall ’11, and 1046 students in spring ‘12. Data was analyzed for both face to face and online classes. |
Results
What were the results of the assessment process? (List results for each method, if more than one were used.)

Assessment of the Student Success and Persistence Learning Outcome
Student success and persistence is an assessment outcome that relies upon institutional data. Data were analyzed for all sections of all psychology courses.

<table>
<thead>
<tr>
<th></th>
<th>Success</th>
<th>Failure</th>
<th>Persistence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2010</td>
<td>72%</td>
<td>16%</td>
<td>88%</td>
</tr>
<tr>
<td>Spring 2011</td>
<td>75%</td>
<td>12%</td>
<td>87%</td>
</tr>
<tr>
<td>Fall 2011</td>
<td>75%</td>
<td>13%</td>
<td>88%</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>74%</td>
<td>16%</td>
<td>90%</td>
</tr>
</tbody>
</table>

What did the department learn?
1) How did group performance compare to the benchmark?
2) How does the data compare to the previous year, if applicable?
3) If multiple measures were used, how do they compare to each other?

1. In fall ’10, spring ’11, fall ’11 and spring ’12, the student success rate surpassed the 70% benchmark (fall ‘10: 72%, spring ‘11: 75%, fall ’11: 75%, and spring ’12: 74%) In fall ’10, spring ’11, fall ’11 and spring ’12 the student persistence rate surpassed the 85% benchmark (fall ‘10: 88%, spring ‘11: 87%, fall ’11: 88%, and spring ’12: 90%).
2. This is the fourth year of measuring the student success and persistence outcome. As can be observed in the “Assessment History: Student Success and Persistence” graph below, the student success and persistence results have been very consistent over the past 4 years.
### Student performance summary

1. Based on the findings, how does the department rate student performance in regards to this outcome (strong, weak, or neutral)?
2. How does this assessment affect plans for this coming year in terms of curricula, teaching strategies, and assessment methods?

1. The Psychology department rates the ’10-’11 student success and persistence as **strong**.
2. Overall, the pattern of results observed in this year’s student success and persistence assessment suggests that the psychology department produces a high rate of student success and encourages student persistence. At present, the success rate has surpassed the 70% benchmark, and has been stable at 75% for the last two years. The student persistence rate is currently exceeding the 85% benchmark, and a 90% persistence rate was achieved in spring ‘12.

### Assessment History: Student Success and Persistence

![Graph showing assessment history](image)

3. Not applicable. A single measure of student success and persistence was employed.
Part 2: Current Academic Year Assessment Plan

Current Academic Year: 2013

Intended Learning Outcomes:
1. Research Methodology – Discipline Outcome
2. Unifying Themes – Discipline Outcome
3. Information Management – Learning Outcome
4. Quantitative Reasoning – Learning Outcome
5. Student Success and Persistence – Other Outcome

Assessment Methods
1. Research Methodology: Pre–Post Tests
2. Unifying Themes: Pre-Post Tests
3. Information Management: Pre-Post Tests
4. Quantitative Reasoning: Pre-Post Tests
5. Student Success: Analysis of PSY student success rates and student persistence rates

Benchmarks
1. Research Methodology: Statistically significant improvement across the pre-post tests
2. Unifying Themes: Statistically significant improvement across the pre-post tests
3. Information Management: Statistically significant improvement across the pre-post tests
4. Quantitative Reasoning: Statistically significant improvement across the pre-post tests
5. Student Success: Surpassing a 70% student success rate department-wide with success defined as a passing grade (C or better)

Have you submitted a separate budget worksheet? (Choose by bolding; for information about this worksheet, please refer to the specific budgeting e-mail sent by the committee chairperson.)

Yes   No

Please submit this report (including both last year's summary and this year's plan) in a Word document to the Program Assessment committee chairperson (Cheyne Bamford: cheyne.bamford@arapahoe.edu). If you have any questions about the process, please contact the chairperson.