### Annual Academic Assessment Report Cover Sheet

**Assessment reports are due the 1st Wednesday after the Fall Term**

Email to: [assessment@unlv.edu](mailto:assessment@unlv.edu)

<table>
<thead>
<tr>
<th>Program Information:</th>
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<tbody>
<tr>
<td>Program Assessed</td>
<td>EPY Master of Science</td>
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<tr>
<td>Department</td>
<td>Educational Psychology and Higher Education</td>
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<tr>
<td>College</td>
<td>Education</td>
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<tr>
<td>Department Chair</td>
<td>LeAnn Putney</td>
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<tr>
<td>Assessment Coordinator</td>
<td>Alice Corkill</td>
</tr>
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<td>Date Submitted</td>
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<table>
<thead>
<tr>
<th>Contact Person for This Report</th>
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</thead>
<tbody>
<tr>
<td>Name</td>
<td>Alice Corkill</td>
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<td>Phone</td>
<td>702-895-4164</td>
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<tr>
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<td><a href="mailto:alice.corkill@unlv.edu">alice.corkill@unlv.edu</a></td>
</tr>
</tbody>
</table>
A draft of the EPY MS Assessment Plan was submitted to the Office of Academic Assessment in February 2015. Due to the short timeline allotted for learning about, developing, vetting, and approving a three-year assessment plan, one faculty member developed the plan. Educational Psychology faculty agreed, in general, at a meeting held on 09 February 2015, that the proposed format was acceptable based on a rough draft of the assessment plan. The Assessment Plan was officially approved by Educational Psychology faculty on September 23, 2015.

This assessment report covers Fall, 2015, Spring 2016, and Summer 2016.

Student Learning Outcomes

1. Learning Theory: Students will explain and analyze key theories related to learning, cognition, and development.
2. Literature Critique: Students will critically evaluate research studies based on the study (a) methodology, (b) literature support, and (c) significance.
3. Human Measurement: Students will develop plans for test construction, item and test specification, item writing and selection, test preparation and administration, test and item analysis, item and test revision to enhance reliability and validity, and various methods for validating tests such as factor analysis, item response theory, and current issues in measurement.
4. Professional Research Skills: Students will serve as scholars who (a) can critique and evaluate reports of research studies and (b) use skills learned through their educational psychology coursework in their chosen career.
5. Specialty Coursework: Students will explain and analyze key theories related to their selected specialty or elective courses.
6. Specialty Coursework Application: Students will explain how to implement evidence-based intervention strategies and/or design and modify learning environments to promote more effective learning.
7. Professional Identity and Community: Students will (a) develop a professional identity consistent with the specialty or elective courses, (b) contribute to the community through their chosen career, and (c) explain aspects of ethical and professional functioning in their chosen domain.

Learning outcomes 1, 2, 3, and 4 were specifically addressed during the current assessment period. Learning outcomes 1 and 3 were also addressed during the previous reporting period. A copy of that assessment report should be available in the Office of Academic Assessment. The four learning outcomes were assessed via a combination of tests, papers, homework assignments, learning logs, discussion activities, common assignments, and pre-test/post-test activities.
During the assessment period, plans for assessing learning outcomes 5 and 6 were developed. The EPY MS program coordinator continued to collect preliminary data for learning outcome 7. This sequence of slowly adding learning outcome assessments to the assessment report was outlined in the aforementioned assessment plan.

Learning Outcome 1: Students will explain and analyze key theories related to learning, cognition, and development.

This learning outcome was addressed primarily through student performance in two required courses: EPY 711, Human Growth and Development, and EPY 712, Foundations of Learning and Cognition. Separate analyses are provided for the courses.

EPY 711 was offered in both spring and summer of 2016. During the spring it was taught by a part-time instructor; in the summer it was taught by a tenured faculty member. EPY 711 is typically offered in a fully online version as was the case with both sections offered during the current assessment period. Each instructor developed content elements and methods for assessing them. Six EPY MS students took this course during the assessment period. All six EPY MS students earned a grade of A. As the grades/course assessments indicate, the MS students had a solid mastery of the course content. The content for the summer session of the course was revised according to suggestions included in the previous assessment report and the results were promising. No specific changes for future presentations of the course were suggested. Nevertheless, the two courses presented during the assessment period used a different, though similar, set of learning outcomes. A set of common outcomes to be used for future presentations of the course will be developed and faculty who teach this course will be asked to adhere to the common learning outcomes. Please refer to Appendix A for the analyses associated with EPY 711.

EPY 712 was taught by Dr. Alice Corkill and she developed the content elements and methods for assessing them. Dr. Corkill reports that the educational outcomes for EPY 712 were modified based on the findings of the assessment analysis from its last administration – summer 2015. The educational outcomes used in summer 2015 had been developed so long ago that no current faculty members could remember the details of that process. Therefore, the course instructor modified the outcomes\(^1\). Dr. Corkill reports that only two EPY MS students took the course during the assessment report timeframe, therefore she elected to include data from all EPY master’s level students (e.g., students in the School Psychology program) who took the course during the summer of 2016. This resulted in a cohort of 15 students from both programs. The data are presented in an aggregate format to prevent students from being individually

\(^1\) The new educational outcomes are included in the course analysis which is available in Appendix B.
identified. Dr. Corkill reports that students demonstrated an acceptable level of mastery across all course content areas except one: Educational Outcome 12, “Describe and distinguish between different types of transfer.” Dr. Corkill has recommended the addition of a writing assignment related to this content. In addition, Dr. Corkill plans to eliminate a poorly functioning course component in favor of additional writing assignments. Students took a pre-test comprised of 15 items which aligned with the 15 Educational Outcomes each of which were matched with an item on one of five module tests. Students earned an average of 75% on the pre-test and 94% on the 15 matched items. Please refer to Appendix B for Dr. Corkill’s analysis.

Based on the combined results of student performance in EPY 711 and EPY 712, it appears that EPY MS students are making satisfactory progress with respect to this program learning outcome.

Learning Outcome 2: Literature Critique: Students will critically evaluate research studies based on the study (a) methodology, (b) literature support, and (c) significance.

This learning outcome was addressed primarily through student performance in one required course: EPY 702, Research Methods. EPY 702 is taught by full-time tenured or tenure-track faculty, visiting faculty, and part-time instructors. It is taught in the traditional, face-to-face format and in a fully online format. Several sections of the course are offered every term, including summers. EPY Foundations faculty elected to address the contribution EPY 702 makes to Educational Outcome 2 by creating and administering a matched-item pre-test and post-test. Many, but not all, students who took EPY 702 during spring and summer 2016 completed the assessments. Students demonstrated significant improvement from pre to post-test based on average scores on the assessments (pre-test average: 7.15; post-test average: 12.49; maximum score = 15). Discrepancies were noted in post-test performance across course sections. For example, students in some sections performed significantly worse (lowest course section post-test performance mean: 11.07 compared to highest course section post-test performance mean: 14.27) on the post-test despite similar performances on the pre-test. The results of a content alignment study clarified the discrepancy: four of the seven instructors who taught EPY 702 and administered the post-test had neglected to include content related most specifically to Educational Outcomes 11 and 14. EPY Foundations area faculty discussed the discrepancy and elected to assemble a standard set of instructional objectives for the course. During the next assessment period (Spring through Fall 2017) EPY 702 instructors will be asked to adhere to the standard instructional objectives. Fourteen of nineteen content areas are identified as mandatory content based on

2 Please refer to the course analysis document provided in Appendix C for specific details related to this assessment.
the educational outcomes for the course. The remaining five content areas (as reflected by the standard instructional objectives) are viewed as optional and may be addressed by course instructors based on student and/or instructor interest, time permitting. The list of standard instructional objectives is included in the analysis of this course which is available in Appendix C.

It is difficult to determine whether EPY MS students are making adequate progress with respect to this learning outcome because no EPY MS students took EPY 702 during the assessment period. Nevertheless, problems with the course that makes the greatest contribution to the learning outcome were discovered, analyzed, and identified. In addition, a method for addressing the situation was developed and will be put in place for the next assessment period.

Learning Outcome 3: Students will develop plans for test construction, item and test specification, item writing and selection, test preparation and administration, test and item analysis, item and test revision to enhance reliability and validity, and various methods for validating tests such as factor analysis, item response theory, and current issues in measurement.

This learning outcome was addressed primarily through student performance in one required course: EPY 723, Theory and Practice of Human Measurement I. EPY 723 is currently taught by Dr. Alice Corkill and she developed the content elements and methods for assessing them. Dr. Corkill reports that five EPY MS students took EPY 723 during spring 2016. Dr. Corkill reports that all five EPY MS students demonstrated an acceptable level of mastery of course content and that students felt satisfied with their level of mastery. Dr. Corkill reports that the five EPY MS students demonstrated mastery performance on Exams 1 and 2, but borderline performance on Exam 3. The weakness demonstrated on Exam 3 was counterbalanced, to a degree, by performance on homework assignments. Dr. Corkill reports that she plans to include a new homework assignment related to Item Response Theory (IRT) when the course is offered again. The addition of this assignment should help students master the content related to IRT. Two new homework assignments were included during this presentation of EPY 723. The two new assignments were designed to address weaknesses observed and reported in the 2015 year assessment report and they appeared to work well. In addition students were afforded the opportunity to submit all assignments for feedback before submitting a final version of an assignment – a new element during this presentation of the course. Dr. Corkill reports that students took advantage of the opportunity to varying degrees and that students who sought feedback tended to perform better on homework assignments than students who did not. Dr. Corkill reports that this course is also required for EPY Foundations Ph.D. students and that the EPY MS students performed better with respect to the content covered on Exams 1 and 2. Please refer to Appendix D for Dr. Corkill’s analysis.
Based on the results of student performance in EPY 723, it appears that EPY MS students are making satisfactory progress with respect to this program learning outcome.

Learning Outcome 4: Professional Research Skills: Students will serve as scholars who (a) can critique and evaluate reports of research studies and (b) use skills learned through their educational psychology coursework in their chosen career.

This learning outcome was addressed primarily through student performance in two required courses: EPY 702, Research Methods, and EPY 721, Descriptive and Inferential Statistics: An Introduction. Please see the Learning Outcome 2 content (reported above) for information related to how EPY MS students performed in EPY 702. EPY 721 is taught by full-time tenured or tenure-track faculty, visiting faculty, and part-time instructors. It is taught in the traditional, face-to-face format and in a fully online format. Several sections of the course are offered every term, including summers. EPY Foundations faculty elected to address the contribution EPY 721 makes to Educational Outcome 4 by creating and administering a common final assignment. The common assignment directly addressed five of the course educational outcomes and indirectly addressed the other two. No EPY MS students took EPY 721 during the assessment period (spring and summer 2016). Many potential EPY MS students complete EPY 721 before being officially admitted to the program or they take EPY 721 during the summer after they have been officially admitted, but before they are officially recognized as EPY MS students. Therefore, the EPY MS Area Coordinator reported on the performance of all students who took the course during the assessment period. All instructors who taught EPY 721 during spring or summer 2016 administered the common assignment. Students achieved an average of 80.244% on the common assignment with a standard deviation of 15.1229%; median performance was 84.00%. The area coordinator reports that students across all five sections of the course taught during the assessment period performed similarly. The area coordinator interpreted these data as a borderline performance on the part of all EPY 721 students. The assessment data were delivered as a final, cumulative score on the common assignment. During the next assessment period (fall 2016, spring and summer 2017), instructors will be asked to provide more specific information relative to the common assignment requirements in order to determine whether there are specific content weaknesses. Please refer to Appendix E for Dr. Corkill’s analysis.

It is difficult to determine whether EPY MS students are making adequate progress with respect to this learning outcome because no EPY MS students took EPY 702 or EPY 721 during the assessment period. Nevertheless, problems with EPY 702 were discovered, analyzed, and identified. A method for addressing the situation was developed and will be put in place for the next assessment period. In addition, a refinement of the data that will be reported for the EPY 721
common assignment may help area faculty determine whether there are any specific content issues.

Learning Outcome 5: “Specialty Coursework: Students will explain and analyze key theories related to their selected specialty or elective courses” and Learning Outcome 6: “Specialty Coursework Application: Students will explain how to implement evidence-based intervention strategies and/or design and modify learning environments to promote more effective learning” are designated for attention during the upcoming assessment period as detailed in the original three-year assessment plan.

Learning Outcome 7: Students will (a) develop a professional identity consistent with the specialty or elective courses, (b) contribute to the community through their chosen career, and (c) explain aspects of ethical and professional functioning in their chosen domain.

Information relative to this learning outcome were collected via an annual student survey (please refer to Appendix F for a copy of the annual student survey). The survey was sent to all EPY MS students in July 2016. All students completed and returned the survey.

On September 26, 2016, EPY Foundations faculty met as a group and spent approximately two hours discussing the progress of all educational psychology students (Ph.D. and MS). The discussion was based on information obtained from the annual student survey as well as on faculty observations of students and their performances in classes and research activities. Within a week of the review, students were sent an email informing them of the faculty’s assessment of their progress.

Students provided content related to this learning outcome by self-reflecting on activities that they felt contributed to the development of their professional identity. Students mentioned the following:

1. working at UNLV as a graduate assistant
2. participating in campus-wide activities
3. participating in departmental-sponsored activities
4. providing job-related services based on completed coursework
5. providing service activities to UNLV based on completed coursework
6. providing other service-related activities for the community (including professional community) based on completed coursework
7. developing a mobile app for teaching fractions
8. participating in professional development activities (including the UNLV GPSA Research Symposium).
Many EPY MS students are involved in one or more of the listed activities and many of them have been able to directly apply what they have learned from their coursework to their jobs. A few students realized that they had not taken advantage of the opportunities afforded them by the department, college, and/or university. This was typically related to the time frame within which the activity was offered such that it conflicted with full-time employment. Some of the newer students were simply unaware that participating in these activities was appropriate for MS degree seeking students.

Culminating Experience: Thesis or Comprehensive Examination

The MS comprehensive exam process has been modified to ensure high standards of accountability and student engagement in the overall responsibilities of graduate-level work. The rigor of the culminating experience has increased in the past several semesters and the scoring rubric has been modified to better fit faculty expectations. The options (exam or thesis) are more comparable than they have been in the past even though they might not be equally rigorous. Nevertheless, faculty are committed to working carefully with EPY MS students in order to help them select the best culminating experience for their academic and professional goals.
Learning Outcome 1: Students will gain an understanding of the interrelationship among the biological, psychosocial, and societal systems involved in one’s development.

EPY 711, Human Growth and Development, makes the single largest contribution to the comprehensive development component of Learning Outcome 1. This contribution was directly assessed through a group discussion in which students were required to construct a response post and comment on two peer posts. Indirect assessment occurred in subsequent assignments in the form of quizzes, essays, discussion posts, and a project involving both a poster and a final essay. The developmental content has been further defined as indicated in the accompanying chart in the form of 17 Learning Outcomes and their corresponding assessment measures. The course instructor assembled and analyzed the data, and provide information that will be integrated with other assessment data for this learning outcome.

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Element from EPY 711/Assessment</th>
<th>Quizzes</th>
<th>Discussion Groups</th>
<th>Essays</th>
<th>Project (Poster &amp; Essay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gain an understanding of the interrelationship among the biological, psychosocial, and societal systems involved in one’s development</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*20</td>
<td></td>
<td>**16.67</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>Be able to define the scientific process, including a quantitative and qualitative approach to inquiry</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>See Learning Outcome 1 activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Be able to examine the basic concepts of major theories, which guide the study of human development</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>See Learning Outcome 1 activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Gain knowledge of genetic and environmental influences on human development</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>*18</td>
<td></td>
<td>**18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Gain knowledge of prenatal development and birth</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>*20</td>
<td></td>
<td>**20</td>
<td></td>
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</tr>
</tbody>
</table>
|   | Gain knowledge of health and physical development | *20  
|   |                                               | **20 |
| 7 | Gain understanding of sensation, perception, and attention across the lifespan | *19  
|   |                                               | **19.33 |
| 8 | Develop an understanding of cognitive development across the lifespan | See Learning Outcomes 5, 9, & 10 activities |
| 9 | Develop an understanding of memory and information processing | *20  
|   |                                               | **20 |
|10 | Develop an understanding of intelligence and creativity | *20  
|   |                                               | **20 |
|11 | Examine the what, when, and how of language acquisition | *20  
|   |                                               | **20 |
|12 | Discuss the influence that family has on human development | *18  
|   |                                               | **18 |
|13 | Develop an understanding of self and personality | *20  
|   |                                               | **20 |
|14 | Discuss the various aspects of social development across the lifespan | *19  
|   |                                               | **19.33 |
|15 | Gain a knowledge of developmental psychopathology | *20  
|   |                                               | **20 |
|16 | Understand issues surrounding death and loss | *20  
|   |                                               | **20 |
|17 | To gain knowledge about selected topics pertinent to the study of human development | *80  
|   |                                               | **80 |
Two MS students and one PhD student took this course during the spring of 2016. All three students earned a grade of A (each MS student earned 316/320 and the PhD student earned 308/320). As the grades/course assessments indicate, the MS and PhD students had a solid mastery of the development content. Two trends were evident in the assessment data and verified through conversations with the students.

First, students were less likely to persist toward mastery with quiz assignments than essay or discussion assignments. The quizzes were presented with 10 questions at 2 points each with unlimited attempts available. Once the students earned a satisfactory score, they appeared to cease their efforts. For discussion and essay assignments with clear rubrics and expectations, students were more likely to persist until all criteria were met. That said, the feedback on the quiz assignments was favorable and students requested more quiz-type assignment options.

Secondly, students were asked to select a topic at the beginning of the course and create a research poster and essay by the end of the course (with all deadlines and expectations provided the first day of class). Assessment data reflect full student efforts as maximum points were earned by both the two MS students and the 1 PhD student. Explicit rubrics were provided for each assignment and it is evident the students used them in preparing their assignments.

This is the third time I have taught this course in the online environment. Four themes have evolved which have helped make this course student friendly and run efficiently: 1) using a clear organizational structure, 2) providing consistent communication and feedback, 3) providing explicit rubrics and expectations from day one, and 4) engaging in a responsive manner to student emails.

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3 Course instructor was a part-time faculty member.
Learning Outcome 1: Learning Theory: Students will explain and analyze key theories related to learning, cognition, and development.

EPY 711, Human Growth and Development, makes the single largest contribution to the development component of Learning Outcome 1. This contribution was assessed through student performance on learning logs and student participation in student-led discussions. The developmental content has been further defined as indicated in the accompanying chart and how the element will be assessed has been specified. Students enrolled in the MS program were required to self-reflect on the elements listed in the chart provided below and respond to a survey related to levels of mastery of course content. The course instructor assembled and analyzed the data and provided information that was integrated with other assessment data for this learning outcome.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Element from EPY 711/Apssessment</th>
<th>Exam Items/Exams</th>
<th>Learning Logs*</th>
<th>Student-Led Discussions (Leader)*</th>
<th>Student-Led Discussions (Participant)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Understand what is meant by the study of human development.</td>
<td>Not applicable</td>
<td>100 (LL#2)</td>
<td>98</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Gain knowledge of genetic and environmental influences on human development.</td>
<td>95**</td>
<td>100 (LL# 3)</td>
<td>98</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Understand major principles of moral, cognitive, personality, and memory development.</td>
<td>96.88*</td>
<td>100(LL#s 5, 6, 8, &amp; 9)</td>
<td>98</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>Gain knowledge of concepts related to death and dying.</td>
<td>100**</td>
<td>100 (LL# 11)</td>
<td>98</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>Critique theories and research related to human development in verbal and written form.</td>
<td>Not applicable</td>
<td>100 (All LLs)</td>
<td>98</td>
<td>100</td>
</tr>
</tbody>
</table>
Four EP&HE MS students took this course during the summer of 2016. All four of these students earned a grade of A. As the grades/course assessments indicate, the MS students had a solid mastery of the development content. There were a few trends in the assessment data that were important. Overall, the “Student-led Discussions” were of higher quality than the last time I had taught the course (I added more detail in the syllabus regarding my expectations). If students lost points as a discussion leader it was where they specifically needed to guide the discussion back to how it relates to development (see discussion leader column). Overall, the discussions were quite interactive in terms of participation which is a positive for a fully online course.

The second trend worth noting is that all of the students in question improved their scores from Exam #1 to Exam #2.

Finally, I feel that both of the exams did not clearly assess Outcome #1 so I labelled it as “not applicable.” This important outcome, however, is adequately assessed by the LLogs and the student discussions.

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4 Course instructor was a full-time tenured faculty member.
Appendix B
Learning Outcome 1: Learning Theory: Students will explain and analyze key theories related to learning, cognition, and development.

EPY 712, Foundations of Learning and Cognition, makes the single largest contribution to the learning and cognition components of Learning Outcome 1. This contribution will be assessed through student responses to test items, student performance on thought papers, and student participation in class discussions. The learning and cognition content has been further defined as indicated in the accompanying table and how the educational outcome was assessed has been specified. Students enrolled in the MS program were required to self-reflect on the educational outcomes listed in the table provided below and respond to a survey related to levels of mastery of course content. The course instructor assembled and analyzed the data and provided information that will be integrated with other assessment data for this learning outcome.

The educational outcomes for this course were modified based on the findings of the assessment analysis from its last administration – summer 2015. The educational outcomes used in summer 2015 were developed so long ago that no current faculty members could remember the details of that process. Therefore, the outcomes were modified by the course instructor. The educational outcomes that were developed are presented immediately below. These educational outcomes were used for the summer 2016 presentation of the course.

Educational Outcomes EPY 712

1. Describe learning from a behavioral perspective.
2. Describe learning from an operant/instrumental conditioning perspective.
3. Describe learning from a social cognitive theory perspective.
4. Describe early verbal learning research.
5. Describe and distinguish between basic components of memory.
6. Describe the interface between memory components.
7. Describe memory processes.
8. Describe and distinguish between different types of knowledge.
9. Describe and distinguish between different memory models.
10. Describe and recognize examples of metacognition and self-regulated learning.
11. Describe a variety of learning strategies, including mnemonics, and how they influence learning.
12. Describe and distinguish between different types of transfer.
13. Describe historical, as well as current, approaches to problem solving; list, describe, and distinguish between problem solving techniques.
14. Define motivation and describe the different approaches to understanding the connection between motivation and learning.
Two EPY MS students took EPY 712 during the summer of 2016. Due to the small number of EPY MS students in the course, this report includes data from all EPY master’s level students (e.g., students in the School Psychology program) who took the course during the summer of 2016. This resulted in a cohort of 15 students from both programs. The data are presented in an aggregate format to prevent students from being individually identified. Of these 15 students: seven earned a grade of A; two earned grades of B+; three earned a grade of B; and three earned a grade of C+. Both EPY MS students earned grades of B or above.

<table>
<thead>
<tr>
<th>Educational Outcome</th>
<th>Exam 1</th>
<th>Exam 2</th>
<th>Exam 3</th>
<th>Exam 4</th>
<th>Exam 5</th>
<th>Discussion Assignments</th>
<th>Writing Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Describe learning from a behavioral perspective.</td>
<td>84.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2 Describe learning from an operant/instrumental conditioning perspective.</td>
<td>81.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3 Describe learning from a social cognitive perspective.</td>
<td>81.54</td>
<td></td>
<td></td>
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<td>X</td>
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<tr>
<td>4 Describe early verbal learning research.</td>
<td>91.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>X</td>
</tr>
<tr>
<td>5 Describe and distinguish between basic memory components.</td>
<td>81.67</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6 Describe the interface between memory components.</td>
<td>84.00</td>
<td></td>
<td></td>
<td></td>
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<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7 Describe memory processes.</td>
<td>87.37</td>
<td></td>
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<td></td>
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<td>X</td>
</tr>
<tr>
<td>8 Describe and distinguish between different types of knowledge.</td>
<td>86.67</td>
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<tr>
<td>9 Describe and distinguish between different memory models.</td>
<td>90.00</td>
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<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>10 Describe and recognize examples of metacognition and self-regulated learning.</td>
<td>95.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>11 Describe a variety of learning strategies, including mnemonics, and how they influence learning.</td>
<td>85.93</td>
<td></td>
<td></td>
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<td></td>
<td>X</td>
</tr>
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</table>
## Course Assessments

Course assessments demonstrate that the MS students achieved an acceptable level of mastery over course content across all content areas (mastery is defined as earning an 80% or above in the course content areas) except one: Educational Outcome 12, “Describe and distinguish between different types of transfer.” Student survey responses indicate that students felt satisfied with their level of mastery of course content. Students completed a pre-test comprised of 15 multiple choice items each of which addressed content from one of the 15 chapters/topics covered during the course. Each item on the pre-test was matched with an item on one of the five module tests. The 15 students included in this report who took this course averaged 75% on the pre-test and 94% on the 15 matched items delivered on the module tests.

Two changes for this course are being planned for its next administration during the summer of 2017. First, the discussion assignments will be removed in favor of additional writing assignments. The course instructor finds that attempting to discuss course content using the tools in Web Campus does not result in a back-and-forth exchange between students. Students tend to post a few sentences to a discussion thread in order to receive credit for participating in the required discussions, but most students do not revisit the discussion. As a result, there is no true discussion. Therefore, the course instructor plans to require additional writing assignments related to course content. Second, educational outcome 12, “Describe and distinguish between different types of transfer” needs to be addressed in some fashion. This particular educational outcome was only addressed via examination items. The course instructor plans to include a writing assignment covering this content with hopes that the additional attention to the content will remediate the poor performance on it.

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<tbody>
<tr>
<td>12</td>
<td>Describe and distinguish between different types of transfer.</td>
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<td>75.24</td>
</tr>
<tr>
<td>13</td>
<td>Describe historical, as well as current, approaches to problem solving; list, describe, and distinguish between problem solving techniques.</td>
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<td>82.50</td>
</tr>
<tr>
<td>14</td>
<td>Define motivation and describe the different approaches to understanding the connection between motivation and learning.</td>
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<td>87.92</td>
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<tr>
<td>15</td>
<td>Describe how motivation influences learning and the relationship between self-regulation, motivation, and affect.</td>
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<td>88.10</td>
</tr>
</tbody>
</table>
Learning Outcome 2: Literature Critique: Students will critically evaluate research studies based on the study (a) methodology, (b) literature support, and (c) significance.

Learning Outcome 4: Professional Research Skills: Students will serve as scholars who (a) can critique and evaluate reports of research studies and (b) use skills learned through their educational psychology coursework in their chosen career.

EPY 702, Introduction to Research Methods makes a significant contribution to the Literature Critique Educational Outcome (Educational Outcome 2) and Professional Research Skills Educational Outcome (Educational Outcome 4). Although the knowledge and skills included in EPY 702 are not specifically stated in either educational outcome, the abilities students should acquire in this course are necessary for research competence.

EPY faculty elected to address the contribution EPY 702 makes to Educational Outcomes 2 and 4 by creating and administering a matched-item pre-test and post-test. Five full-time faculty who regularly teach EPY 702 were asked to create matched pre- and post-test items for use on the assessment. Four faculty members participated and created one matched set of test items for each of 15 educational outcomes. The list of educational outcomes is provided in Table 1. The matched 15-item pre- and post-tests were assembled by the EPY MS coordinator and are provided below.

<table>
<thead>
<tr>
<th>Educational Outcome</th>
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<tbody>
<tr>
<td>1 Distinguish among the following types of quantitative or qualitative approaches: survey, correlative, causal-comparative, experimental, single-subject, narrative, ethnographic and case study.</td>
</tr>
<tr>
<td>2 Define, recognize the specific purpose for, and identify everyday examples of the following types of research: basic, applied, evaluation, research &amp; development, and action research.</td>
</tr>
<tr>
<td>3 Distinguish between quantitative and qualitative research with respect to: their general purposes, their assumptions, and general characteristics of each.</td>
</tr>
<tr>
<td>4 Define and recognize examples of the following: sampling, sample, population, target population, and accessible population.</td>
</tr>
<tr>
<td>5 Distinguish between and identify examples of independent/grouping variables and dependent variables.</td>
</tr>
<tr>
<td>6 Distinguish among and recognize examples of non-directional, directional, and null hypotheses.</td>
</tr>
<tr>
<td>7 Recognize examples of the following types of probability sampling techniques: simple random sampling, stratified sampling (both proportional and non-proportional), cluster sampling, and systematic sampling.</td>
</tr>
<tr>
<td>8 Recognize examples of the following types of validity: content, criterion-related (predictive and concurrent), construct, and consequential.</td>
</tr>
</tbody>
</table>
Distinguish among and recognize examples of the following types of research studies: survey, correlational, causal-comparative, and experimental.

Given measurement data (e.g., mean, raw score, SD), determine equivalent raw scores, T-scores, z-scores, percentile ranks, & stanines).

Define and recognize examples of Type I and Type I errors.

Recognize elements of research ethics.

Distinguish between reliability estimating methods.

Distinguish between and interpret simple statistics (e.g., measures of central tendency, variability, correlation) and describe the relationships between them.

Recognize qualitative research analyses and discuss other issues related to qualitative research.

Table 1 – Educational Outcomes for Pre- and Post-Test Assessment Item Development

The EPY MS Coordinator, Alice Corkill, assembled pre- and post-tests by selecting one item per educational outcome. EPY 702 instructors who were full-time tenured or tenure-track faculty were respectfully requested to include the pre- and post-test measures in their sections of EPY 702. Visiting faculty and part-time instructors were required to administer the pre- and post-test measures in their sections of EPY 702. All instructors were asked to assign weight to the pre- and post-tests in terms of credit toward the final grade so that students would take the pre- and post-tests seriously. The data presented in this report reflects performance on these measures during the spring and summer terms of 2016. Insufficient numbers of EPY MS students took EPY 702 during the spring or summer sessions of 2016. Therefore, the data presented in this report refer to the performance of all students to whom the pre- and post-tests were administered. EPY MS students were not considered in isolation because many EPY MS students complete EPY 702 after learning they were admitted to the EPY MS program (in the spring), but before they are considered fully admitted (for fall semester). In other words, many EPY MS students complete EPY 702 before they are officially admitted to the program. The EPY MS Area Coordinator assembled and analyzed the data and provided the information for this learning outcome.

Spring 2016

One visiting faculty member who taught multiple sections of EPY 702 administered the pre-test in a format that did not result in performance measures for individual students. One part-time instructor, who was hired close to the beginning of the spring semester, was not informed of the pre-test/post-test assessment; therefore no data are available for that section of the course. Two instructors (one full-time tenured faculty member and one part-time instructor) collected pre- and post-test data. Students who took EPY 702 from either of these
instructors demonstrated a significant increase in EPY 702 content knowledge from pre- to post-test (pre-test mean: 7.31; post-test mean: 12.82).

Summer 2016

One visiting faculty member (who taught two online sections during summer term 2016) and one full-time tenured faculty member who taught two sections of EPY 702 (one online section and one traditional section) administered the pre- and post-tests to students. Two full-time, tenured faculty members who each taught two, online sections of EPY 702 did not administer the pre- and post-tests to their students. One visiting faculty member who taught an online section of EPY 702 administered the pre- and post-tests, but the data were unusable. Students who took EPY 702 from either of these instructors demonstrated a significant increase in EPY 702 content knowledge from pre- to post-test (pre-test mean: 7.03; post-test mean: 12.25).

Serious discrepancies were noted in post-test performance. For example, students in some sections of EPY 702 performed significantly worse (lowest post-test performance mean: 11.07 compared to highest post-test performance mean: 14.27) on the post-test despite similar performances on the pre-test. To better understand the discrepancy, a course content alignment study was conducted. The content identified in course syllabi for seven EPY 702 instructors (three full-time, tenured faculty members, two visiting faculty members, and two part-time instructors) was included in the study. The results revealed that four of the seven instructors had neglected to include content related most specifically to Educational Outcomes 11 and 14.

This discovery lead to EPY foundations area faculty discussions about the content that should be included in EPY 702 and a set of instructional objectives was assembled. The instructional objectives are provided below. Beginning in the spring semester of 2017, full-time tenured or tenure-track faculty will be respectfully requested to address a specific portion the new set of objectives; visiting and part-time instructors will be instructed to do so. Instructors may, at their discretion, include objectives for content that is not included in the prescribed set. EPY faculty are hopeful that by more carefully prescribing the content that should be addressed in EPY 702 the performance discrepancies will disappear.
<table>
<thead>
<tr>
<th>Item</th>
<th>Objective</th>
<th>Pre-test Item</th>
<th>Post-test Item</th>
</tr>
</thead>
</table>
| 1    | **Distinguish among the following types of quantitative or qualitative approaches: survey, correlational, causal comparative, experimental, single-subject, narrative, ethnographic and case study.** | What is an example of a correlational research question?  
- a. **Is there a relationship between student achievement and homework completion?**  
- b. How much homework does the average fifth-grade teacher in our district assign?  
- c. Are there differences in parent attitudes about homework between mothers and fathers?  
- d. What are the attitudes of parents about our school district’s new homework policy? | What is an example of a causal-comparative research question?  
- a. What are the reasons a school would include computer-based simulations in their instructional methods?  
- b. Is there a relationship between computer-based simulation training and attitudes about computers?  
- c. **Are there gender differences in the effectiveness of computer-based simulations?**  
- d. What happens in a typical science lesson that includes computer-based simulations? |
| 2    | **Define, recognize the specific purpose for, and identify everyday examples of the following** | A materials scientist conducts research on the effects of environmental toxins on various materials samples. The scientist carefully designs these studies and collects data in order to derive theory about how toxins affect these materials. The scientist’s research falls into which category?  
- a. Ethnographic research  
- b. Applied research  
- c. Action research | A researcher is collecting data for a school district that is interested in the effectiveness of a district-provided Head Start program. The researcher is examining the benefits of the program, based upon test scores, in order to make decisions about whether the program should be continued. The researcher is conducting which type of research?  
- a. **Evaluation research** |
### Types of Research

- **Basic**
- **Applied**
- **Evaluation**
- **Research & Development**
- **Action Research**

### Questions

#### Distinguish between quantitative and qualitative research with respect to:

**Their general purposes, assumptions, and general characteristics of each.**

- **Basic Research**
- **Research and Development**
- **Basic Research**
- **Survey Research**

What is generally true regarding the differences between qualitative and quantitative research?

- a. Qualitative research but not quantitative research informs educational practice.
- b. Qualitative but not quantitative research involves data collection.
- c. Qualitative but not quantitative research generally states hypotheses.
- d. Qualitative research involves more participant/researcher interaction than does quantitative.

What is a typical characteristic of qualitative research?

- a. Statistical procedures for data analysis
- b. Data collection is on-going
- c. Generalization of findings
- d. Control of contextual factors

#### Define and recognize examples of the following:

- **Sampling**
- **Sample**
- **Population**
- **Target Population**
- **Accessible Population**

In a study on test anxiety, a researcher is particularly interested in studying only first-year university students because the researcher wants the findings to generalize to only first-year students in large universities in the U.S. The researcher samples first-year students at his own west coast state university. The researcher has identified all first-year students at his institution, has determined his desired sample size, and has listed all the members of the population. What is the target population in the researcher’s study?

- a. First-year students at the researcher’s university

In a study on test anxiety, a researcher is particularly interested in studying only first-year university students because the researcher wants the findings to generalize to only first-year students in large universities in the U.S. The researcher samples first-year students at the researcher’s own west coast state university. The researcher has identified all first-year students at the researcher’s institution, has determined his desired sample size, and has listed all the members of the population. What is the accessible population in the researcher’s study?
### 5 Distinguish between and identify examples of independent/grouping variables and dependent variables.

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<td>b.</td>
<td>Students at the researcher’s university</td>
<td>a. First-year students at the researcher’s university</td>
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<tr>
<td>c.</td>
<td>West coast university students</td>
<td>b. Students at the researcher’s university</td>
</tr>
<tr>
<td>d.</td>
<td>First-year students at U.S. universities</td>
<td>c. West coast university students</td>
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</table>

Consider the following hypothesis: Children who are given a free breakfast at school perform better on achievement tests and are more motivated for school than are children who are not given a free breakfast. What is the independent variable?

- a. Achievement tests
- b. Motivation
- c. Children
- d. Free breakfast

Consider the following research question: Are there differences in individual reading comprehension scores as measured by standardized achievement tests between classes where students are provided silent sustained reading time and classes where reading is conducted through reading out loud.

Silent sustained reading time is which type of variable?

- a. Moderating variable
- b. Dependent variable
- c. Extraneous variable
- d. Independent variable

### 6 Distinguish among and recognize examples of non-directional, directional, and null hypotheses.

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<tr>
<td>a. Students in self-paced conditions have higher grades in psychology than students in lecture classes.</td>
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<tr>
<td>b. There are no differences in final class grades between students taught psychology in a lecture versus a self-paced format.</td>
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<tr>
<td>c. Students taught psychology in a lecture format receive higher class grades than students in a self-paced condition.</td>
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</table>

Which option provides a null hypothesis for the research topic: Are there differences in final class grades between students who are taught psychology in a lecture format and those take a self-paced class?

- a. Students in self-paced conditions have higher grades in psychology than students in lecture classes.
- b. There are no differences in final class grades between students taught psychology in a lecture versus a self-paced format.
- c. Students taught psychology in a lecture format receive higher class grades than students in a self-paced condition.

A researcher is trying to determine what is the more effective method for teaching comprehension skills to learning disabled students, Method A or Method B. A statement that there is no difference between Method A and Method B represents which kind of hypothesis?

- a. Alternative
- b. Inferential
- c. Null
- d. Research
| 7 | Recognize examples of the following types of probability sampling techniques: simple random sampling, stratified sampling (both proportional and non-proportional), cluster sampling, and systematic sampling. | The graduate college needs to conduct a survey for current graduate students. A graduate assistant compiles a list of current graduate students and calls every 5th name on the list. Which sampling method is in use?  
   a. Cluster sampling  
   b. Simple random sampling  
   c. Stratified random sampling  
   d. **Systematic sampling** | A researcher needs to conduct a survey for the alumni association. The researcher takes the list of all alumni and calls every tenth name on the list. Which type of sampling is the researcher employing?  
   a. Stratified random sampling  
   b. **Systematic sampling**  
   c. Random sampling  
   d. Cluster sampling |
|---|---|---|---|
| 8 | Recognize examples of the following types of validity: content, criterion-related (predictive and concurrent), | A researcher constructed a self-report measure of achievement motivation. The researcher is sure the measure is better than other measures because it is shorter. The researcher decides to administer the measure along with a well-known measure generally used in the field. Which type of validity will this strategy help the researcher to assess?  
   a. Predictive  
   b. **Concurrent**  
   c. Content | A student left the physics final and complained that the questions on the cumulative final covered only about one quarter of the concepts for the course. The student is suggesting that the test lacks which type of validity?  
   a. Predictive  
   b. Concurrent  
   c. **Content**  
   d. Consequential |
<table>
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<tr>
<th>Question</th>
<th>Description</th>
<th>Options</th>
<th>Further Details</th>
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<tbody>
<tr>
<td><strong>9</strong></td>
<td>Distinguish among and recognize examples of the following types of research studies: survey, correlational, causal-comparative, and experimental.</td>
<td>Which type of research randomly assigns participants into two groups, provides one group with a variable of interest, and measures the outcome of both groups on a specified activity?</td>
<td>A researcher is conducting laboratory research regarding the effectiveness of a new drug on student attention and learning. The researcher randomly selects students from a single population and then randomly assigns the students to either a control group (who receive a placebo) or an experimental group (who receive the new drug). The researcher’s study is an example of which type of experimental design?</td>
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<td></td>
<td></td>
<td>a. Survey research</td>
<td>a. Pre-experimental</td>
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<td>b. Correlational research</td>
<td>b. Quasi-experimental</td>
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<td></td>
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<td>c. Causal-comparative research</td>
<td>c. Experimental</td>
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<td></td>
<td></td>
<td>d. Experimental research</td>
<td>d. Correlational</td>
</tr>
<tr>
<td><strong>10</strong></td>
<td>Given measurement data (e.g., mean, raw score, SD), determine equivalent raw scores, T-scores, z-scores, percentile ranks, &amp; stanines.</td>
<td>A teacher is reporting standardized test scores to the parents of students. The mean for a test the teacher gave was 80 with a standard deviation of 6. If a student received a T-score of 40, what can the teacher accurately conclude about the student’s performance?</td>
<td>A student scored at the 88th percentile in mathematics achievement on a national assessment. What is an appropriate interpretation of the students’ score?</td>
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<tr>
<td></td>
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<td>a. The student’s performance was below average.</td>
<td>a. The stanine score is approximately 6.</td>
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<td>b. The student had a raw score greater than 80.</td>
<td>b. The score is higher than the mean.</td>
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<td>c. The student’s stanine score was 8.</td>
<td>c. The z-score is less than 1.</td>
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<td></td>
<td>d. The student had a positive z-score.</td>
<td>d. The T-score is approximately 58.</td>
</tr>
<tr>
<td><strong>11</strong></td>
<td>Define and recognize examples of Type 1 and Type I errors.</td>
<td>A researcher concluded that there were no differences in self-confidence between people who had received an intervention and people in a control group. However, there were differences. The researcher’s intervention worked! The researcher’s conclusion represents which type of error?</td>
<td>What does it mean if a researcher makes a Type I error?</td>
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<td></td>
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<td>a. The researcher failed to reject the null hypothesis when it was false.</td>
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<td>12</td>
<td>Recognize elements of research ethics.</td>
<td>A researcher is conducting a longitudinal research study tracking the relationship between teacher attitudes and student engagement. As part of the procedures to protect her participants, the researcher assigns each teacher and student a code and removes their identifying information from the data. The researcher keeps a master list that matches the codes with the student and teacher names for future waves of data collection. What is the purpose of the researcher’s practices?</td>
<td>A researcher secures research data and other research participant information in such a manner that only the members of a research team will be able to identify the research participants by name. Because of these actions, the researcher can assure participants of which feature of informed consent?</td>
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</table>
|  |  | a. To provide anonymity to participants | a. Confidentiality  
b. Anonymity  
c. Isolation  
d. Privacy  
|  |  | b. To ensure confidentiality of the participant data  
c. To secure anonymity and confidentiality for participants  
d. To make things easier for Josephina to get her research published |  |
| 13 | Distinguish between reliability estimating methods. | A student takes an intelligence test in 4th grade and then takes the same test again in 5th grade. The student’s scores for the two separate attempts are about the same. The student’s scores are evidence for which aspect of reliability in measurement? | A teacher scheduled the U.S. History final for the same day as the Advanced Placement (AP) Physics test. The teacher decides to let students who were registered for the AP test take the history final on a different day. The teacher creates two different  
a. Equivalence |
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<tr>
<td>b. Predictability</td>
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<tr>
<td>c. Internal consistency</td>
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<tr>
<td>d. Stability</td>
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<td>versions of the history final. The teacher should be most concerned about which reliability construct?</td>
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<tr>
<td>a. Internal consistency</td>
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<tr>
<td>b. Split-half reliability</td>
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<td></td>
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<td>c. Test-retest reliability</td>
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<tr>
<td>d. Equivalent forms reliability</td>
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<table>
<thead>
<tr>
<th>14</th>
<th>Distinguish between and interpret simple statistics (e.g., measures of central tendency, variability, correlation) and describe the relationships between them.</th>
<th>Which correlation coefficient shows the strongest relationship?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. -.80</td>
<td></td>
<td></td>
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<tr>
<td>b. -.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. +.31</td>
<td></td>
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<tr>
<td>d. +.75</td>
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</table>

A correlation between in-service teacher induction training and teacher attrition rates over a five year period results in a correlation of \( r = -0.65 \). How much variance do these variables share?  |
| a. 25%  |
| b. 42%  |
| c. 65%  |
| d. 78%  |
| 15 | **Recognize qualitative research analyses and discuss other issues related to qualitative research.** | In qualitative research, a category is defined as a group of what?  
   a. Segments  
   b. Topics  
   c. Patterns  
   d. Codes | Qualitative researchers will often confirm the consistency of a trend or pattern by using more than one data source. What is this technique called?  
   a. Matching  
   b. Multiple data collection  
   c. **Triangulation**  
   d. Verification |
EPY 702 Instructional Objectives

Mandatory Content: Chapters 1 – 11, 17, 18, and Quantitative Research
Optional Content: Chapters 12 - 16

Chapter 1: Introduction to Educational Research
Objectives
1. List and briefly describe the major steps involved in conducting a research study.
2. Describe the differences between quantitative and qualitative research.
3. Briefly define and state the major characteristics of these research approaches: survey, correlational, causal-comparative, experimental, single-subject, narrative, ethnographic, and case study.
4. Identify and differentiate among research purposes, including basic research, applied research, evaluation research, research and development (R&D), and action research.
5. Recognize the ethical obligations that educational researchers have and describe the codes and procedures they follow to ensure they adhere to them.

Chapter 2: Selecting and Defining a Research Topic
Objectives
1. Distinguish good research topics from less appropriate ones.
2. Distinguish between topic statements for quantitative studies and those for qualitative studies.
3. Identify or create good research hypotheses for quantitative and qualitative studies.
4. Explain the differences between null, directional, and non-directional hypotheses and discuss the use of a directional hypothesis in a study.

Chapter 3: Reviewing the Literature
Objectives:
1. Define the purpose of a review of related literature in quantitative and qualitative studies.
2. Evaluate the sources to determine their appropriateness as part of the literature review.
3. Describe the steps involved in analyzing, organizing, and reporting a review of the literature.
4. Define meta-analysis and describe the process for conducting a meta-analysis.

Chapter 4: Preparing and Evaluating a Research Plan
Objectives
1. Briefly describe each component of a quantitative research article.

Chapter 5: Selecting a Sample
Objectives:
1. Define sampling, and distinguish between samples and populations.
2. Define random sampling, and explain how to select a sample using four random sampling techniques.
3. Define nonrandom sampling, and explain how to select a sample using three nonrandom sampling techniques.
4. Explain the difference between sampling error and sample bias, and describe strategies for avoiding each.
5. Describe the sampling strategies commonly used in qualitative studies.

Chapter 6: Selecting Measuring Instruments
Objectives:
1. State the relation between a variable and a construct, and distinguish among categories of variables (e.g., categorical and quantitative; dependent and independent) and the scales to measure them (e.g., nominal, ordinal, interval, and ratio).
2. Define measurement, and describe ways to interpret measurement data.
3. Describe the types of measuring instruments used to collect data in qualitative and quantitative studies (e.g., cognitive, affective, and projective tests).
4. Define validity, and differentiate among content, criterion-related, construct, and consequential validity.
5. Explain how to measure reliability, and differentiate among stability, equivalence, internal consistency, and scorer/rater reliability.
6. Identify useful sources of information about specific tests, and provide strategies for test selection.
7. Provide guidelines for test construction and test administration.

Chapter 7: Survey Research
Objectives:
1. Define survey research, and differentiate between sample surveys and census surveys, and between cross-sectional and longitudinal surveys.
2. Describe the procedures involved in constructing a questionnaire.
3. Describe the procedures involved in administering a questionnaire.

Chapter 8: Correlational Research
Objectives
1. Briefly state the purpose of correlational research, and describe the major steps involved in basic correlational research.
2. Describe the size and direction of values associated with a correlation coefficient, and explain its relation to statistical significance.
3. State the major purposes of relationship studies, and identify and briefly describe the steps involved in conducting a relationship study and interpreting the data.
4. State the major purposes of prediction studies, and identify and briefly describe the steps involved in conducting a prediction study and interpreting the data.

Chapter 9: Causal-Comparative Research
Objectives
1. Briefly state the purpose of causal–comparative research and describe the similarities and differences among causal–comparative, correlational, and experimental research.
2. Identify causal-comparative research topics, and describe the basic causal–comparative design.
3. Identify and describe three types of control procedures that can be used in a causal–comparative study, and explain why the results of causal–comparative studies must be interpreted very cautiously.

Chapter 10: Experimental Research
Objectives:
1. Briefly state the purpose of experimental research and list the basic steps involved in conducting and controlling an experiment.
2. Briefly define internal validity and describe eight major threats to the internal validity of an experiment.
3. Briefly define external validity and describe six major threats to the external validity of an experiment.
4. Identify and briefly describe five ways to control extraneous variables.
5. Define and provide examples of single-variable designs (i.e., pre-experimental, true experimental, and quasi-experimental designs) and factorial designs, and explain how they differ.

Chapter 11: Single-Subject Experimental Research
Objectives
1. Describe the characteristics of a single-subject design, and explain the benefits and challenges of this type of research.
2. Differentiate among the three major categories of single-subject designs — A–B–A withdrawal, multiple-baseline, and alternating treatments designs — and the variants within each category.
3. Briefly describe three types of replication involved in single-subject research, and explain why replication is more useful than statistical analysis.

Chapter 12: Narrative Research
Objectives
1. Describe the key characteristics of narrative research.
2. Describe narrative research techniques, including restorying; oral history; examining photographs, memory boxes, and other artifacts; storytelling; letter writing; and autobiographical and biographical writing.
3. Outline the steps involved in writing a narrative

Chapter 13: Ethnographic Research
Objectives
1. Describe the key characteristics of ethnographic research.
2. Identify and describe the different types of ethnographic research.
3. Describe the use of ethnographic research techniques.
Chapter 14: Case Study Research
Objectives
1. Define and explain the purpose of case study.
2. Describe the characteristics of case study research.
3. Describe the processes involved in designing case study research.
4. Describe the various considerations that might be related to sample selection in case study research.
5. Describe how to conduct and analyze multiple case studies.

Chapter 15: Mixed Methods Research
Objectives
1. Define mixed methods research and describe the purpose of a mixed methods study.
2. Distinguish among the various basic and advanced mixed methods research designs.
3. Describe the processes involved in conducting mixed methods research.
4. Identify studies using mixed methods designs.
5. Evaluate a mixed methods study using a series of questions and criteria.

Chapter 16: Action Research
Objectives
1. Describe the purpose of action research
2. Describe the design of action research in terms of the research spiral
3. Describe the key characteristics of action research
4. Discuss why personal reflection is an essential element in action research

Chapter 17: Descriptive Statistics
Objectives:
1. Define and distinguish among the three measures of central tendency
2. Define variability, and distinguish among the range, semi-quartile range, variance, and standard deviation
3. Describe the major characteristics of normal and skewed distributions.
4. Define and differentiate among measures of relative position, including percentile ranks and standard scores.
5. Define and differentiate among two measures of relationship, the Pearson $r$ and Spearman rho.

Chapter 18: Inferential Statistics
Objectives:
1. Explain the concept of standard error and describe how sample size affects standard error.
2. Explain how a test of significance is related to the null hypothesis and the research hypothesis of a study, and differentiate between one-tailed and two-tailed tests of significance.
3. Define Type I and Type II errors.
4. Explain when and how to use a t test for independent samples, a t test for nonindependent samples, and gain or difference scores.
5. Explain when and how to use analysis of variance, including one-way and multifactor ANOVA and ANCOVA.
6. Explain when to use multiple regression and chi square.

Qualitative Research
Objectives:
1. Identify and differentiate between the goals of qualitative and quantitative research methods.
2. Describe qualitative data collection sources and techniques.
3. Identify the purpose of the literature review in designing and conducting qualitative research.
4. Describe strategies to address the trustworthiness (i.e., validity) and replicability (i.e., reliability) of qualitative research.
5. Describe the steps for getting started as a qualitative researcher ready to begin data collection, or fieldwork: including developing a qualitative research question.
6. Develop and differentiate qualitative from quantitative research questions.
7. Develop and apply grounded codes to qualitative observation and interview data.
8. Describe the process by which thematic findings can be used to answer a qualitative research question.
Learning Outcome 3: Human Measurement: Students will develop plans for test construction, item and test specification, item writing and selection, test preparation and administration, test and item analysis, item and test revision to enhance reliability and validity, and various methods for validating tests such as factor analysis, item response theory, and current issues in measurement.

EPY 723, Theory and Practice of Human Measurement I, makes the single largest contribution to the human measurement components of Learning Outcome 3. This contribution was assessed through student responses to test items and homework assignments. The human measurement content has been further defined as indicated in the Table 1 and how the element was assessed has been specified. Students enrolled in the MS program were required to self-reflect on the elements listed in the table and to respond to a survey related to levels of mastery of course content. The course instructor assembled and analyzed the data and provided information that will be integrated with other assessment data for this learning outcome.

<table>
<thead>
<tr>
<th>Educational Outcome</th>
<th>Exam 1</th>
<th>Exam 2</th>
<th>Exam 3</th>
<th>Homework Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. List, describe, and distinguish the 12 steps of test development.</td>
<td>78%</td>
<td>100%</td>
<td></td>
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<tr>
<td>2. Calculate and interpret basic statistics associated with measurement including</td>
<td>89%</td>
<td></td>
<td>94%</td>
<td></td>
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<tr>
<td>measures of central tendency, measures of variability, correlation, and simple</td>
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<td></td>
<td></td>
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<tr>
<td>linear regression.</td>
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<tr>
<td>3. Define reliability, distinguish between types of error, and describe the</td>
<td>74%</td>
<td></td>
<td></td>
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<tr>
<td>relationship between random variables and test scores.</td>
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<tr>
<td>4. Define validity, describe and distinguish between the different types of validity,</td>
<td>86%</td>
<td></td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>and describe how validity is authenticated.</td>
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<td></td>
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<tr>
<td>5. Describe and distinguish between the different options for calculating reliability,</td>
<td></td>
<td></td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td>use SPSS to calculate reliability values, and interpret reliability results.</td>
<td>83%</td>
<td></td>
<td></td>
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<tr>
<td>6. Describe how to develop a test using a table of specification and develop</td>
<td>86%</td>
<td>86%</td>
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<tr>
<td>appropriate test items.</td>
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<td></td>
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<tr>
<td>7. List and describe indices of item analysis and calculate and interpret item</td>
<td>90%</td>
<td></td>
<td>98%</td>
<td></td>
</tr>
<tr>
<td>analysis values.</td>
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</tr>
<tr>
<td>8. Recognize and describe the basic elements of Item Response Theory.</td>
<td></td>
<td></td>
<td>76%</td>
<td></td>
</tr>
</tbody>
</table>

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5 Two homework assignments contributed to this value.
List, describe, and distinguish between the three basic categories of standard setting; interpret the results from a mock standard setting study.

Describe how to conduct a norming study, distinguish between normative scores, and interpret standard scores.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>9</td>
<td>List, describe, and distinguish between the three basic categories of standard setting; interpret the results from a mock standard setting study.</td>
</tr>
<tr>
<td>10</td>
<td>Describe how to conduct a norming study, distinguish between normative scores, and interpret standard scores.</td>
</tr>
</tbody>
</table>

Table 1: EPY MS Student Performance on EPY 723 Educational Outcomes

Five EPY MS students took this course during the spring semester 2016. Of these five students: three earned a grade of A; one earned a grade of B+; and one earned a grade of B.

The educational outcomes for this course were modified after the assessment data from the previous presentation of this course (Spring 2015) was evaluated by the course instructor. For the Spring 2015 presentation of the course, eight educational outcomes were presented. These outcomes were not as well aligned with the course content as they should have been. The ten educational outcomes that are presented in this report better reflect the content that is included in EPY 723: Theory of Human Measurement I. These objectives were revised by the current course instructor.

Course assessments may be interpreted to mean that the MS students demonstrated borderline to mastery performance across most outcomes (mastery is defined as earning an 80% or above in the course content areas). This data are presented in Table 1. Contrary to the results reported for Spring 2015, examination and assignment performance make a more equitable contribution to each outcome.

**Exam Performance**

Students demonstrated mastery performance for exams 1 and 2 and borderline performance for exam 3.

**Homework Performance**

Based on the analysis of student performance in this course during Spring 2015, two homework assignments were added (one related to educational outcome 2 and one related to educational outcome 4) and students were afforded the opportunity to acquire feedback on most of the homework assignments (five of seven) before submitting a final version for grading. All students were required to submit a first draft of one of the homework assignments associated with educational outcome 6 (there were two). Feedback on the homework assignment associated with educational outcome 9 was irrelevant.
One of the five students took advantage of this opportunity for four of the five eligible assignments and one did so for two of the eligible assignments. For the most part students who sought feedback performed better on the assignments that students who did not.

**Weaknesses**

Weaknesses on exam performance is somewhat counterbalanced by exceptional performance on homework assignments associated with the same educational outcome. Nevertheless, two educational outcomes appear to need attention. Educational outcome 3 is related to reliability issues. A homework assignment that gives students an opportunity to work with this content area in greater detail would likely remediate the problem. The addition of a homework assignment will be considered for the next presentation of this course. Educational outcome 8 is related to Item Response Theory. Item Response Theory is a complex content area. Students are provided a basic introduction to several relevant constructs important to the theory. Although performance on the exam items related to Item Response Theory result in borderline performance, the addition of an assignment is unlikely to remediate the problem. The addition of a reading which explains the basic tenants of the theory will be considered.

The analysis of the Spring 2015 data indicated weaknesses with respect to educational outcomes related to: 1) item and test specification and 2) item and test revision to enhance reliability and validity. This content is currently housed in educational outcomes 6 and 4 respectively. New procedures were required for a homework assignment for educational outcome 6 – students were required to submit a first draft of a homework assignment for this objective before submitting a final version – and a homework assignment related to the content of educational outcome 4 was added. Student performance related to this content appears to have improved.

This course is required not only for EPY MS students, but also for EPY Foundations Ph.D. students. Interestingly, EPY MS students performed better than the Ph.D. students with respect to the content covered on Exams 1 and 2. Student survey responses indicate that the five MS students felt satisfied with their level of mastery of course content.
Learning Outcome 4: Professional Research Skills: Students will serve as scholars who (a) can critique and evaluate reports of research studies and (b) use skills learned through their educational psychology coursework in their chosen career.

EPY 721, Descriptive and Inferential Statistics: An Introduction, makes a significant contribution to the Professional Research Skills Learning Outcome (Learning Outcome 4). Although the knowledge and skills included in EPY 721 are not specifically stated in the learning outcome, the abilities students should acquire in this course are necessary for research competence.

Educational Outcomes EPY 721

1. Create, use, and interpret descriptive statistics.
2. Describe the properties of the normal and standard normal distributions and explain why these properties are important.
3. Calculate and interpret correlation coefficients, specifically the Pearson Product Moment Correlation Coefficient.
4. Create a regression equation and use it to make, evaluate, and interpret predictions.
5. Describe the rationale and process of hypothesis testing and explain Type I and Type II errors, power, and effect size.
6. Conduct an independent t-test and interpret the results.
7. Conduct a dependent t-test and interpret the results.

EPY faculty elected to create a common, final assessment activity for students in this course in order to determine whether students were meeting the course learning outcomes across all sections (i.e., instructors and formats). The common assessment was in the form of an SPSS assignment for which students had to determine the appropriate analysis, conduct the analysis, report the results, and interpret the findings. This assignment clearly included elements from five of the seven course learning outcomes (i.e., educational outcomes 1, 3, 4, 6, and 7) although one could argue that the other two course learning outcomes were included indirectly. A copy of the common assessment is included toward the end of this report. In addition, a table which identifies which learning outcome is related to each common assessment analysis is included toward the end of this report.

Multiple sections of EPY 721 were taught by a variety of full and part-time faculty throughout the assessment period. In addition, EPY 721 was taught in the traditional, face-to-face format and as a fully online course.

The EPY MS Area Coordinator assembled and analyzed the data and provided the information for this learning outcome. Final scores on the common assignment were provided to the EPY MS Area Coordinator by the EPY 721 instructors. The data are in aggregate format for all students who completed the common assignment during the assessment period (Spring 2016 and Summer 2016). EPY MS students were not
considered in isolation because many EPY MS students complete EPY 721 after learning they were admitted to the EPY MS program (in the spring), but before they are considered fully admitted (for fall semester). In other words, many EPY MS students complete EPY 721 before they are officially admitted to the program.

Students in EPY 721 during Spring and Summer 2016 achieved an average of 80.244 on the common assignment with a standard deviation of 15.1229. The median performance was 84.00. Additional analyses of the common assignment data indicate that students performed at comparable levels across all five sections of the course offered during the assessment period (three sections during Spring 2016; two sections during Summer 2016). There were no appreciable differences in performance between students taught by full or part-time faculty (two sections taught by full time faculty; three sections taught by part time faculty) nor were there appreciable differences in performance between students who took the course in a traditional versus online format (one section taught in the traditional format; four sections taught in an online format). Each instructor developed his or her own rubric for scoring the common assignment.

Student performance on the common assignment can be interpreted to indicate that students demonstrated borderline performance of course content (mastery is defined as earning an 80% or above in the course content areas). The available data do not permit a more in-depth analysis of whether student performance is similar across all four analyses required on the common assignment or whether there might be specific analyses for which student performance is better or worse.

The common assignment will be used for the next assessment period (Fall 2016 through Summer 2017), but instructors will be asked to provide more specific information relative to student performance in order to determine whether the level of performance is consistent across all four common assignment analyses. Analysis of these data may help to better identify instructional and/or student weaknesses. In addition, Learning Outcome 4 for the EPY MS will be reviewed by area faculty and modified as necessary.
In this assignment, you will work with a real dataset to test three formally posed research questions with an inferred hypothesis and an open-ended research question. The data come from a recent study of middle school math achievement in a context where students use the Cognitive Tutor, an intelligent tutoring system for mathematics, as a supplement to their typical classroom mathematics instruction.

Using the range of descriptive and inferential statistical methods you have learned in this course, you are responsible for completing an original report that addresses the following four research questions.

1. Does the number of Cognitive Tutor units a student completes predict their achievement in math?
2. Do students’ grades in their math course increase from the first to the last quarter?
3. Do students in the regular track complete more Cognitive Tutor units during the course of the year than students in the slower track?
4. How do student characteristics affect their performance in math?

To address these research questions, use the dataset title CTandMSMath.sav available in Web Campus.

For each research question, you should

a. describe the rationale behind your analytical approach.
b. report the results of your statistical analyses with test statistics and tables/figure where warranted.
c. formally provide an answer to the research question.
d. describe the results with respect to the size of the effect/relationship and its meaning in a real world context.

You must submit a copy of your SPSS output for each research question that contains only analyses presented in your report.

As a rule of thumb, you shouldn’t exceed half a page of narrative for any research question.

If a research question is best answered by including tables or figures, include them.

For all analyses, use alpha = .05 as your criterion for determining significance.
<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Common Assignment Analysis 1</th>
<th>Common Assignment Analysis 2</th>
<th>Common Assignment Analysis 3</th>
<th>Common Assignment Analysis 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Create, use, and interpret descriptive statistics.</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>Describe the properties of the normal and standard normal distributions and explain why these properties are important.</td>
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<tr>
<td>3</td>
<td>Calculate and interpret correlation coefficients, specifically the Pearson Product Moment Correlation Coefficient.</td>
<td></td>
<td>X</td>
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<tr>
<td>4</td>
<td>Create a regression equation and use it to make, evaluate, and interpret predictions.</td>
<td></td>
<td>X</td>
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<tr>
<td>5</td>
<td>Describe the rationale and process of hypothesis testing and explain Type I and Type II errors, power, and effect size.</td>
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<tr>
<td>6</td>
<td>Conduct an independent t-test and interpret the results.</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7</td>
<td>Conduct a dependent t-test and interpret the results.</td>
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<td>X</td>
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</table>
Appendix F
EPY MS STUDENT ANNUAL REVIEW SURVEY – FALL, 2016.

This required survey is intended to summarize your accomplishments and progress toward degree completion in the past year (Fall 2015, Spring 2016, Summer, 2016). Please complete the survey and email it to the coordinator for the MS in Educational Psychology (Alice.Corkill@unlv.edu) no later than 5:00 p.m., Monday, August 29, 2016. Failure to complete the survey by this date may result in you being placed on academic probation. Please email the program coordinator (Alice.Corkill@unlv.edu) if you have any questions. Please maintain a copy of this survey for your records and send a copy to your academic advisor.

1. Name:

2. Email (Rebelmail address only):

3. Advisor:

4. When were you admitted to the program?

5. Cumulative EPY MS program GPA:

6. Number of credits completed as of end of Summer 2016:

7. Please use the table provided below to list the courses you completed in Fall 2015, Spring 2016, and Summer 2016. For each course, indicate the grade earned and whether the course was required or elective. In addition, please describe how
the course is helping or will help you meet your academic and/or professional goals. (Add rows as necessary.)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Grade</th>
<th>Required or Elective</th>
<th>How this course will help me meet my academic and/or professional goals</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
8. Please use the table provided below to list the courses you plan to take during the 2016-2017 academic year (including Summer 2017). (Add rows as necessary.)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

9. Please use the table provided below to list conferences, if any, you attended during the 2015 – 2016 academic year. (Add rows as necessary.)

<table>
<thead>
<tr>
<th>Conference</th>
<th>Dates</th>
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</table>

10. Please use the table provided below to list your participation research activities, if any, during the 2015 – 2016 academic year? Please describe your role in the project or study and list the supervising faculty member. (Add rows as necessary.)

<table>
<thead>
<tr>
<th>Project Title</th>
<th>My Role</th>
<th>Supervising Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

11. Which culminating experience do you plan to complete: thesis or comprehensive exam?

12. If you selected comprehensive exam as your likely culminating experience, in which semester do you plan to sit for the exam? (Note: the exam is offered in fall and spring semesters only.)
13. In one or two paragraphs, please describe and self-report on your level of professional identity and community. Examples of activities that demonstrate development of professional identity and community include, but are not limited to, participating in departmental sponsored student activities, attending professional conferences, providing paid or volunteer services based on completed coursework to your place of employment or other organization (e.g., a public or private school), participating in campus-wide activities/events related to your specialty or elective courses (e.g., attending workshops or lectures or participating in events like the Festival of Communities). It is incumbent upon you to make the case for how the activity or events you listed have contributed to the development of your professional identity.