

**George Mason University**  
**College of Education and Human Development**  
**Elementary Education**

EDCI 559. 007-Research and Assessment in Elementary Education  
3 credits, Spring 2017  
Wednesdays 4:30-7:10; Old Bridge Elementary School

**Faculty**

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**Prerequisites**

Admission into GMU Elementary Education Graduate program; this is the capstone course for degree and must be taken last in sequence.

**University Catalog Course Description**

Provides teacher candidates an understanding of research paradigms utilizing systematic evidence to improve practice and further skills in assessment of learning outcomes. Emphasizes linking research and practice, making instructional decisions based on systematically collected data.

**Course Overview**

This course is designed to help teacher candidates understand various research paradigms utilizing research literature and systematic evidence to improve teacher practice, and to further their skills at assessment of learning outcomes. Course emphasizes linking research and practice and making instructional decisions based on systematically collected data.

**Course Delivery Method**

This course includes multiple instructional strategies and formats including face to face and asynchronous online class sessions. Individual session formats vary and may include lecture, small group/large group discussion, hands-on, interactive work, student presentations, and cooperative learning. Practical applications of theory are explored in group activities.

**Learner Outcomes**

This course is designed to enable students to do the following:

1. Articulate the role of systematic evidence in the improvement of teaching and learning.

2. Use educational research literature as a basis for reflecting on and improving their teaching practice.
3. Make explicit linkages between research and assessment practice.
4. Distinguish between the purposes and methods of theoretical, applied, and action research as well as quantitative and qualitative research.
5. Explain the fundamentals of validity and reliability, and articulate the potential threats to validity within various research paradigms.
6. Critique the quality of research studies within various paradigms.
7. Describe the purpose and cycle of action research, specifically in relationship to assessment of their learners.
8. Design appropriate and authentic assessments and analyze student data.
9. Design an action research study based on research and student assessments.
10. Use technology to assist in locating, using, conducting research, and analyzing data.

### **Professional Standards**

Upon completion of this course, students will have met the following professional standards: Association of Childhood Education International (ACEI), The Interstate Teacher Assessment and Support Consortium (InTASC), National Board for Professional Teaching Standards (NBPTS), and the National Technology Standards (NETS). (This information is available from your Academic Program Coordinator, Division Director, or Accreditation and External Reporting Office.)

#### **Association of Childhood Education International (ACEI Standards)**

**Standard 3.1: Integrating and applying knowledge for instruction**—Candidates plan and implement instruction based on knowledge of students, learning theory, connections across the curriculum, curricular goals, and community

**Standard 3.2: Adaptation to diverse students**—Candidates understand how elementary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students

**Standard 3.3: Development of critical thinking and problem solving**—Candidates understand and use a variety of teaching strategies that encourage elementary students' development of critical thinking and problem solving

**Standard 3.4: Active engagement in learning**—Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self-motivation, and positive social interaction and to create supportive learning environments

**Standard 4.0: Assessment for instruction**—Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.

**Standard 5.1 Professional growth, reflection, and evaluation**—Candidates are aware of and reflect on their practice in light of research on teaching, professional ethics, and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on students, families and other professionals in the learning community and actively seek out opportunities to grow professionally.

### **The Interstate Teacher Assessment and Support Consortium (InTASC)**

**Standard #2: Learning Differences.** The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.

**Standard #3: Learning Environments.** The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation.

**Standard #4: Content Knowledge.** The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make the discipline accessible and meaningful for learners to assure mastery of the content.

**Standard #5: Application of Content.** The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

**Standard #6: Assessment.** The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.

**Standard #7: Planning for Instruction.** The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

**Standard #8: Instructional Strategies.** The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

**Standard #9: Professional Learning and Ethical Practice.** The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

**Standard #10: Leadership and Collaboration.** The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

### **National Board for Professional Teaching Standards (NBPTS)**

**Proposition 1:** Teachers are committed to students and learning

**Proposition 3:** Teachers are responsible for managing and monitoring student learning

**Proposition 4:** Teachers think systematically about their practice and learn from their experience.

### **National Technology Standards (NETS)**

**Standard IV:** Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

**Standard V:** Teachers use technology to enhance their productivity and professional practice.

## Alignment of LEARNING OUTCOMES and Standards

Learning Outcomes	InTASC Standards	ACEI Standards	NBPTS Propositions	NETS Standards
1	2, 3, 4, 5, 6, 9, 10	3.1, 3.2, 3.3, 3.4, 4.0, 5.1	1, 3	V
2	9, 10	5.1	1, 3, 4	IV & V
3	6, 9	4.0, 5.1	1, 3, 4	IV & V
4	6,	4.0	4	V
5	6	4.0	4	V
6	6, 9, 10	4.0, 5.1	4	V
7	6, 7, 9	3.1, 4.0, 5.1	1, 3, 4	IV & V
8	6	4.0	1, 3	IV & V
9	6, 7, 9	3.1, 4.0, 5.1	4	IV & V
10	4	2.1, 2.6	4	V

### Required Text

Mills, G. E. (2014). *Action research: A guide for the teacher researcher* (5<sup>th</sup> ed.). Boston, MA: Pearson.

### Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor. Two performance-based assessments (PBAs) are required in this course. Every student registered for any Elementary Education course with a required performance-based assessment is required to submit these assessments, Action Research Report and Critical Incident Reflection, to Tk20 through Blackboard (regardless of whether the student is taking the course as an elective, a onetime course or as part of an undergraduate minor). Evaluation of the performance-based assessment by the course instructor will also be completed in Tk20 through Blackboard. Failure to submit the assessment to Tk20 (through Blackboard) will result in the course instructor reporting the course grade as Incomplete (IN). Unless the IN grade is changed upon completion of the required Tk20 submission, the IN will convert to an F nine weeks into the following semester.

### Assignments

Assignment	Points
<b>1. Readings and Activities (in-class and online)</b> [Outcomes 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]	20
<b>2. Critical Incident Reflection</b> [Outcomes 1, 8, 10]	20
<b>3. Action Research Report (PBA)</b> [Outcomes 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]	35

<b>4. Quantitative Data Analysis</b> [Outcomes 4, 5, 6]	10
<b>5. Qualitative Data Analysis</b> [Outcomes 4, 5, 6]	10
<b>6. Action Research Presentation</b> [Outcomes 1, 2, 3, 7]	5
<b>Total</b>	<b>100</b>

### Grading Scale

94-100 = A    90-93 = A-    88-89 = B+    81-87 = B    70-80 = C    Below 70 = F

### Professional Dispositions

Students are expected to exhibit professional behaviors and dispositions at all times. (See Elementary Education Program Handbook).

### Class Schedule

Date	Readings	Topics and Activities	Deliverables
1/11		<b>F2F</b> <ul style="list-style-type: none"> <li>- Introductions and Syllabus</li> <li>- Review Teacher Research</li> <li>- Critical Friends Groups</li> <li>- Rationale and Research Question</li> <li>- Reviewing the Literature</li> </ul>	
1/18	Mills ch. 1, 3	<b>F2F</b> <ul style="list-style-type: none"> <li>- Work on rationale &amp; research question(s)</li> <li>- Work on critical incident</li> </ul>	APA Tutorial (CLT task)
1/25		<b>Online</b> <ul style="list-style-type: none"> <li>- Work on annotated bibliography</li> <li>- Work on critical incident</li> </ul>	Part 1: Rationale and Research Question(s)
2/1	Mills ch. 4, 5, 6, 7 Appendices B, C	<b>F2F</b> <ul style="list-style-type: none"> <li>- Designing your study</li> <li>- Qualitative Data Collection/Analysis</li> <li>- Quantitative Data Collection/Analysis</li> </ul>	Part 2: Annotated Bibliography Critical Incident due
<b>Week of 2/8</b>		<b>Individual Conferences-Study design</b>	
2/15		<b>Online</b> <ul style="list-style-type: none"> <li>- Work on annotated bibliography</li> <li>- Work on critical incident</li> </ul>	Annotated Bibliography: 5 research articles related to your topic
2/22		<b>Online</b>	Part 3: Context and Change
3/1		<b>Online</b>	
3/8	Mills, ch. 9	<b>F2F</b>	Part 4: Data Collection

	Appendix A	<ul style="list-style-type: none"> <li>- Ensuring Trustworthiness</li> <li>- Validity, Reliability, Generalizability</li> <li>- Evaluating the Quality of Action Research</li> </ul>	
<b>3/15</b>		<b>No class- GMU Break</b>	
<b>3/22-4/5</b>		<b>No Class – IT, data collection</b>	
<b>4/12</b>		<b>No Class – PWCS Spring Break</b>	
<b>4/19</b>		<b>No Class – IT, data collection</b>	
<b>Week of 4/26</b>		<b>Individual Conferences -Analyzing data</b>	
<b>5/3</b>		<b>Online</b>	
<b>5/10</b>		<b>Online</b>	
<b>Week of 5/17</b>	Mills ch. 8	<b>Individual Conferences</b> <ul style="list-style-type: none"> <li>- Preparing final research report</li> <li>- Preparing presentation</li> </ul>	Part 5: Data Analysis Part 6: Findings
<b>5/24</b>		<b>F2F</b> <ul style="list-style-type: none"> <li>- Finalizing paper and presentation</li> </ul>	Part 7: Implications
<b>5/31</b>		<b>Online</b>	Presentation handout
<b>6/7</b>		<b>Whole Group AR conference</b> <ul style="list-style-type: none"> <li>- Sharing Symposium</li> <li>- Location TBD</li> </ul>	Final Report

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

### **Core Values Commitment**

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

### **GMU Policies and Resources for Students**

#### *Policies*

- Students must adhere to the guidelines of the Mason Honor Code (see <http://oai.gmu.edu/the-mason-honor-code/>).
- Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.

- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be silenced during class unless otherwise authorized by the instructor.

### *Campus Resources*

- Support for submission of assignments to Tk20 should be directed to [tk20help@gmu.edu](mailto:tk20help@gmu.edu) or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>.
- The Writing Center provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see <http://writingcenter.gmu.edu/>).
- The Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (see <http://caps.gmu.edu/>).
- The Student Support & Advocacy Center staff helps students develop and maintain healthy lifestyles through confidential one-on-one support as well as through interactive programs and resources. Some of the topics they address are healthy relationships, stress management, nutrition, sexual assault, drug and alcohol use, and sexual health (see <http://ssac.gmu.edu/>). Students in need of these services may contact the office by phone at 703-993-3686. Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to <http://ssac.gmu.edu/make-a-referral/>.

**For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/>.**

### **Course Policies**

All assignments must be written in Times New Roman 12 point font, double-spaced, and follow APA (6th edition) formatting guidelines (see <http://owl.english.purdue.edu/owl/resource/560/01/> for more information). **Assignments should be submitted electronically via email and are due by class time on the date indicated in an appropriate format (i.e., Word document).** Assignments turned in late or in an inappropriate format will be eligible for only 50% of the

available points. If there is an emergency, contact me as soon as possible. **All assignments should be submitted with the following naming convention: student's last name and the title of the assignment.** For example: Edkins\_LitReview

**Absentee Policy:** I understand that we all get sick and busy. However, we our class meets during a compressed summer schedule, and missing one class is equivalent to missing about half a week's worth of class. If you are absent more than once, I will deduct points from your class participation grade as a result. You cannot contribute to class if you do not attend.

**Technology Policy:** When you are using cell phones, laptops, etc., please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions show a lack of professionalism and may affect your participation grade.

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The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See <http://caps.gmu.edu/>].

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Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (See <http://writingcenter.gmu.edu/>).

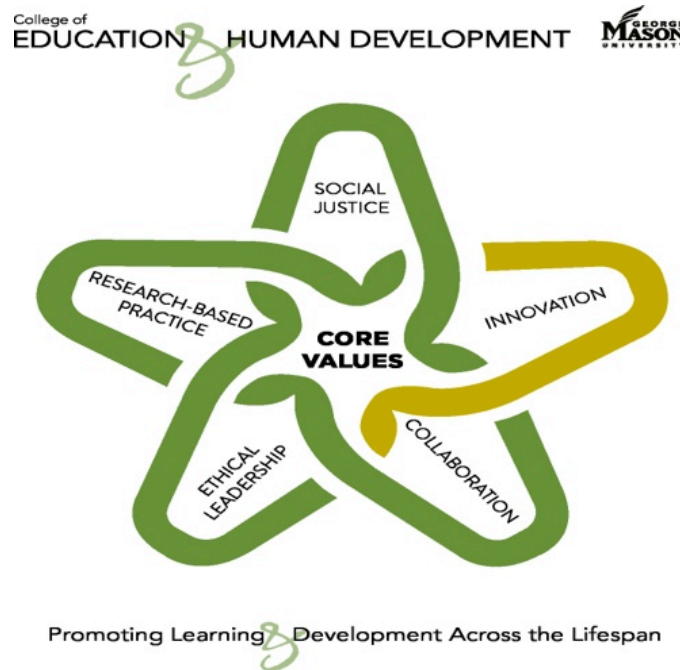
### **Professional Dispositions**

Students are expected to exhibit professional behaviors and dispositions at all times (See Elementary Education Program Handbook).



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For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See <http://gse.gmu.edu/>].

## Emergency Procedures

You are encouraged to sign up for emergency alerts by visiting the website <https://alert.gmu.edu>. There are emergency posters in each classroom explaining what to do in the event of crises. Further information about emergency procedures exists on <http://gmu.edu/service/cert>

## Assignment Directions

### 1. Reading and Discussion Activities (In-Class and Online) (20 points)

I expect that you will complete all assigned readings and tasks each week. You also must be present during each class session by actively engaging with the content and your peers. Online discussions and activities must also clearly demonstrate your thoughtful completion of the readings and tasks. In the event of an emergency, I must be notified of your absence in advance of class.

## 2. Critical Incident Reflection (20 points) —a TK 20 Requirement

According to John Dewey (1933) reflection is an active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds supporting it and future conclusions to which it tends. Critical reflection delves even more deeply. Critical reflection allows teachers to make teaching decisions on the basis of a conscious awareness and careful consideration of the assumptions on which the decisions are based, and the technical, educational, and ethical consequences of those decisions. The end result of critical reflection for the individual is cognitive change (Yost et al., 2011).

Van Manen (1977) describes three hierarchical levels of reflection:

- **Technical reflection** – focuses on effective application of skills and knowledge in the classroom so reflection focuses on analyzing the effects of strategies used.
- **Practical reflection** – focuses on the assumptions underlying a specific practice and the consequences of that practice on student learning. It implies the assessment of the educational implications of actions and beliefs.
- **Critical reflection** – includes emphases from technical and practical reflection and goes deeper. It focuses on questioning moral and ethical dimensions of decisions related, directly or indirectly, to the classroom. Teachers make connections between situations they encounter and the broader social, political, and economic forces that influence those events.

### *Video analysis*

This assignment requires you to reflect at all three levels. Sometime during one of the lessons you teach during your internship, record yourself teaching a lesson. **Prior to recording, be sure to obtain appropriate permissions from school system, school, and families as needed in your specific context.**

*Part 1 – Holistic Reflection* – Following the lesson presentation, write a reflective statement that includes technical, practical, and critical reflections.

*Part 2 – Critical Incident Analysis* – From your recorded lesson, select a segment (~5-10 minutes in length) that contains a critical incident [critical incident can be replaced or defined by the program and/or course].

The following should be used to guide your description of and reflection on the critical teaching incident captured within your videotaped lesson:

- a. Provide a brief description of what is happening in the selected clip.
- b. Explain why this particular segment was selected.
- c. Briefly describe what went well and what aspects of the lesson you would like to revise.
- d. Propose alternative ways of handling the critical incident. You should draw upon your readings, knowledge of best practice, observations, and course work for support.
- e. Summarize what was learned and how it will impact your future teaching.

Students will turn in (a) the lesson plan for the recorded lesson, (b) the holistic reflection, (c) the critical incident video clip, and (d) critical incident video analysis.

## 3. Action Research Report (35 points) -TK20 Requirement

This is the major assignment for this class and is the Performance Based Assessment (PBA) for the course. The final written report will include the seven sections below. These sections will be submitted throughout the semester for formative feedback from peers and your instructor. These drafts **MUST** be submitted by their syllabus due dates. Not doing so will affect your Readings and Activities (in class and online) grade. Points will also be earned for quality of writing and use of APA style. See attached rubric.

- Part One: Rationale and Research Question(s)
- Part Two: Annotated Bibliography Literature Review
- Part Three: Context and Instructional Change
  - Describe your school, community, classroom and student population; and
  - Describe the instructional change
- Part Four: Data Collection and Student Assessment
  - Describe how you collected data to answer your research question(s). This includes formative and summative assessments designed to gather that data.
- Part Five: Data Analysis
  - Describe how you analyzed your data
- Part Six: Findings
  - Describe your findings and their implications for teaching and learning
- Part Seven: Implications
  - Describe the implications of your study for your teaching

Must be submitted via TK20

**4. Quantitative Data Analysis (10 points)**

Students will collect and analyze quantitative data.

**5. Qualitative Data Analysis (10 points)**

Students will collect and analyze qualitative data.

**6. Action Research Presentation (5 points)**

You will present your Action Research. This presentation will be based on your written report (see above). You will participate with other sections of EDCI 559 in a roundtable session. You will prepare a one-page handout for distribution to your audience. You may already have this prepared from the spring and if so, you may use it, updated to reflect any new analysis or findings.

**Action Research Rubric**

Levels/Criteria	3	2	1
Introduction: Describes the problem. Clear research	The problem is described in details. The description fully leads the reader to the research question. The	The problem is adequately described. The description partially leads the reader to the research question.	The problem is not adequately described. It does not lead the reader to the research question. The

question stated. Significance of problem is addressed. <b>InTASC 9 ACEI 5.1</b>	research question is clear. It is measureable. The significance of the problem is addressed fully. It is clear why this is an important problem to study.	The research question is vague. It is measureable. The significance of the problem is adequately addressed, but it is not clear as to why this is important.	research question is unclear. It is not measureable. The significance of the problem is unfocused and rambles. It is not clear why this is an important topic to study.
Annotated Bibliography: Research studies are used. Studies relate to the research question. <b>InTASC 9 ACEI 5.1</b>	At least nine to ten research studies are used to support the literature review. These are from respectable journals. The studies are appropriate for the topic and research questions. Bibliography is in APA style with no errors.	Five to eight research studies are used. At least one of them is from a respectable journal. The studies are somewhat appropriate for the topic and research question. Bibliography follows APA style with no more than two errors.	Less than five research studies are used. The articles are not from respectable journals. The studies are not appropriate for the topic or research question.
Context and Intervention Provided: Setting Described. Population identified. Intervention. <b>InTASC 9 ACEI 5.1</b>	The setting is fully described. It includes, size of school, location, grade level, subject taught, etc. All pertinent information is included. The population is fully described. It includes number of students, gender and ethnic breakdown, grade levels, academic abilities, etc. Information relevant to the research is included. Intervention is fully described. It is clear what the intervention is and how it will be implemented. Intervention is realistic.	The setting is adequately described. Most information is included, but not all. The population is adequately described. Most information is included, but not all. Intervention is adequately described, but either the description of the intervention or the implementation is confusing.	Setting is not included or inadequately described. It is not clear where the research will be conducted. Population is not included or inadequately described. It is not clear who will be participating in the research study. There is no intervention or implementation explained or the intervention does not align with the research question.
Research Design: Design of study matches goals. Formative and Summative Assessments included. Data sources	The methodology chosen (quantitative, qualitative, mixed methods) is appropriate for the research question. There is adequate time allowed for data collection. The treatment is reasonable and ethical.	Two of the three stated criteria are adequate. Formative and summative assessments are included in the design. Copies are not included and they are not well described. Most, but not all, of the data sources are	None or one of the criteria is adequate. The research is not ethical. Either formative or summative assessments are included, but not both. Copies are not included and they are not well described.

<p>appropriate. <b><i>InTASC 9 ACEI 5.1</i></b></p>	<p>There is a mixture of formative and summative assessments included in the design. They are well-described or a copy is included. All data sources are appropriate for the research question. The information collected will help answer the question.</p>	<p>appropriate.</p>	<p>The majority of the data sources are not appropriate for the research question. Data collected is not ethical.</p>
<p>Analysis of Data: Appropriate analysis for data collected. <b><i>InTASC 9 ACEI 5.1</i></b></p>	<p>The entire analysis of the data is appropriate. The information gathered addresses the research question.</p>	<p>The majority of the analysis is appropriate. However, it is not clear how other parts were analyzed.</p>	<p>The analysis is inappropriate or not well-defined.</p>
<p>Findings and Implications: Findings are presented clearly. Implications from data proposed. Connects back to the findings.  <b><i>InTASC 9 ACEI 5.1</i></b></p>	<p>Findings are presented in a clear format. Key findings are thoroughly discussed. Implications from the data are well-developed and fully discussed. The implications are connected back to the results of the data analysis.</p>	<p>Findings are presented in an appropriate format, although they could be clearer. Key findings are discussed in general terms. Implications from the data are adequately discussed. It is clear the student is able to interpret the findings. However, the implications are not tied back to the results.</p>	<p>Findings are not presented in a clear format or are absent. Key findings are not adequately discussed. Implications from the data are inadequately discussed. It is not clear the student is able to interpret the findings. The implications are not tied back to the results.</p>
<p>Overall Style: Clear, concise writing. Grammar and punctuation. Multiple levels of headings used to organize ideas. <b><i>InTASC 9 ACEI 5.1</i></b></p>	<p>The writing is very clear and concise. The reader can understand what the problem is and how the research will address it. There are no grammar and punctuation errors. There is evidence of multiple levels of headings. These are used appropriately in all instances.</p>	<p>The majority of the writing is clear and concise. There are one to three grammar and punctuation errors. There is evidence of multiple levels of headings. These are used appropriately in the majority of instances.</p>	<p>The majority of the reading is vague and unclear. The reader has difficulty seeing the connections between the various sections. There are four or more grammar and punctuation errors. There is no evidence of multiple levels of headings or these are used inappropriately in the majority of instances.</p>