

**Component 4.1 & A 4.1 Triangulating Data Plans  
Impact on P-12 Learning and Development**

*This study is ongoing and may be completed during the AY 2021-2022. It has been slowed due to COVID-19 impact on PK-12 schools.*

This study is designed to examine Attallah College at Chapman University's program completer contribution to PK-12 student learning and development. Additionally, this study seeks to collect data regarding program completers' strengths and weaknesses that will serve to provide indicators for program improvement.

**Purpose of This Study**

This study has two specific purposes: (1) to learn about the ways in which our graduates contribute to PK-12 student growth and development and (2) determine which programmatic aspects have room to grow. This aligns with both the State of California and CAEP standards. We must meet California Commission on Teacher Credentialing (CTC) Common Standard 4, Continuous Improvement and Standard 5<sup>1</sup>, Program Impact. In addition, these data will contribute to our meeting Standard 4.1 Program Impact as part of our CAEP accreditation. Thus, findings from this study will help provide evidence that we are meeting those standards.

**Grounded in Research**

The importance of well-prepared teachers has been widely recognized at the community, state, and national levels. The relationship between teacher education and teacher effectiveness has been a contested topic in both policy and research (Ballou & Podgursky, 2000; Darling-Hammond, 2012; Darling-Hammond & Youngs, 2002; U.S. Department of Education, 2002). Student learning and growth have become important factors in measuring educator effectiveness. Simultaneously, there is increasing demand for high-quality teachers, even as funding inequities are expanding, and there is increasing pressure on institutions to quickly train and place teachers in classrooms. As a result, it becomes even more important to ensure that our teacher education programs are developing highly qualified teachers who serve all students.

Whereas some states consider value added measures (VAMs) as the singular method for identifying institutions' graduate contributions to PK-12 student learning, many researchers disagree as to the real value of these measures (Mariano, McCaffrey & Lockwood, 2010; Rothstein 2009; Goldhaber, Goldschmidt, Tseng, 2013; Koretz, 2008). Moreover, the literature includes concerns about the potential problems of basing teacher impact substantially on student test scores. Researchers have raised questions about whether VAMs are a valid measure of teaching quality (Hill, 2009; Pianta, Mashburn, Downer, Hamre, & Justice, 2008;

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<sup>1</sup> Common Standard 4. The education unit develops and implements a comprehensive continuous improvement process at both the unit level and within each of its programs that identifies program and unit effectiveness and makes appropriate modifications based on findings.

Common Standard 5. The unit and its programs demonstrate that they are having a positive impact on teaching and learning in schools that serve California's students.

Schacter & Thum, 2004) and whether they reliably measure teachers' effects across different student assessments (Papay, 2011), student populations (McCaffrey et al., 2004; Newton, Darling-Hammond, Haertel, & Thomas, 2010), and model specifications (e.g., American Statistical Association, 2014; Ballou, Sanders, & Wright, 2004).

Additionally, a teacher's "value-added" score may be more closely associated with the overall school-based working conditions than with the individual teacher's effectiveness (Goldhaber, 2015; Ronfeldt, Loeb, & Wyckoff, 2013). A focus on measuring individual teachers' ability to improve student performance fails to recognize the important role that teacher working conditions play in growing educator capacity. Furthermore, a focus on individual effectiveness may reinforce teacher individualism and isolation and, in doing so, make it more difficult to strengthen the teaching force (Johnson, 2015)

Studies suggest there are other methods of measuring educator impact on PK-12 student learning (Carey & Dammitt, 2012; Leon, Villares, Brigman, Webb, Peluso, 2011; Papay, 2011; McCaffrey et al., 2004; Newton, Darling-Hammond, Haertel, & Thomas, 2010). One of them is action research, a process in which participants examine and evaluate their own educational practices systematically and thoughtfully, using research techniques. According to Watts (1985, p. 118), this process is based on the following assumptions:

- Teachers and principals work best on problems they have identified for themselves.
- Teachers and principals become more effective when encouraged to examine and assess their own work and then consider ways of working differently.
- Teachers and principals help each other by working collaboratively.

Based on this research, Attallah College had designed a study to demonstrate student learning growth through individual teacher/counselor action research case studies. Each case study is designed and conducted by the Attallah College graduate teacher/counselor in partnership with a faculty lead. Each case study requires the teacher/counselor to apply research-based pedagogical content knowledge and skills to effectively implement and measure student learning. The program impact for graduates is measured by qualitative and quantitative data analysis of PK-12 student growth (Heafner, McIntyre, Spooner, 2014).

### **Research Questions**

1. To what extent are Attallah College Teacher Education program completer(s) contributing to expected levels of student learning growth?
  - a. In what ways do Attallah College's Teacher Preparation programs contribute to student learning growth?
  - b. In what ways can Attallah College's Teacher Preparation programs improve program execution to support stronger student learning outcomes?
2. To what extent are Attallah College School Counseling program completer(s) contributing to expected levels of student growth?

- a. In what ways do Attallah College's School Counseling preparation programs contribute to student growth?
- b. In what ways can Attallah College's School Counseling preparation programs improve program execution to support stronger student outcomes?

### **Methods**

The Attallah College study consists of a select sample<sup>2</sup> of four Attallah graduates from our Teacher Education ( $N = 3$ ) and School Counseling ( $N = 1$ ) programs. Each graduate is participating in an individual *case study*. As described in Appendix A, these graduates are conducting *action research* studies during their first and/or second year of teaching or counseling. In Spring 2022, three Attallah College Teacher Education program faculty (Single Subject, Multiple Subject, and Special Education) are working in with individual program graduates (teachers/school counselors) in the implementation of the action research projects.

The Attallah College faculty are specifically helping the program completers with three separate components of the study. First, with the action research study, faculty are supporting graduates with study development, serving as observers during implementation. Second, faculty are helping to provide independent scoring of student outcomes based on predetermined Goal Attainment Scaling (GAS). Finally, faculty are coaching Attallah graduates through this qualitative and quantitative process so that graduates can continue to utilize program impact measurement cycles as part of ongoing professional learning and development. Graduates retain study design, data, and findings and may use them as evidence of their practical theorizing and reflective practicing as part of their professional development in teaching.

### **Action Research Study**

The first part of this study includes program completers developing their action research studies with Attallah College faculty. The action research studies are based on the following Reason and Bradbury's definition:

A participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview which we believe is emerging at this historical moment. It seeks to bring together action and reflection, theory, and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities. (2001, p. 1)

In part one, teachers will identify questions they are interested in and can effectively answer. This data may consist of teacher-made surveys and standardized test data. Data may consist of surveys and interviews. Collected data may also consist of student portfolios, observations, and other sources of information. The data collected may also consist of research, conducted to

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<sup>2</sup> Candidates will be selected based on ensuring sample is representative of program completers including education specialists inclusive of mild/moderate and moderate/severe, multiple subject, and single subject as well as MAT and MACI program completers.

identify best practices, or research tested techniques. This is an opportunity to learn from others that may have been trying to unpack the same problems or challenges.

The Teacher Education Program Impact Action Research Model (see Appendix A) is designed to facilitate change by helping involve the teacher system in a diagnostic, active-learning, problem-finding, and problem-solving process. We define the program impact outcomes for candidates from qualitative data analyses of candidate students/case load outcomes that are supported by quantitative data from predetermined, research-based performance outcome measures. This project aligns with the California Induction guidelines<sup>3</sup> to ensure our Teacher Education program graduates can use this process and individual research findings to support their application for their California Clear Credential.

As Figure 2 illustrates, the Counselor Program Impact Action Research Model is designed to promote counselor identification of goals, counseling interventions, and student progress across caseloads. For a School Counselor, this project is based on professional standards supporting the skills of School Counselors in developing goals for counseling cases. Further, this action research is based on the identification and creation of measurable goals to track case and a sample of caseload progress.

This study follows Warner Burke's 7-step Action Research Model.



Figure 2. Warner Burke's 7 Step Action Research Model

Together, these studies are designed to both collect data on current student impact and provide tools for program completers to independently seek and attain data to improve teaching and counseling practices. Further, the qualitative data gathered during the action research study is supported by GAS quantitative data.

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<sup>3</sup> Teachers who earn a clear credential must demonstrate an aptitude for inquiry and growth based on the California Standards for the Teaching Profession.

The study is designed to follow PK-12 academic calendar for data collection, while also ensuring program graduates that wish to participate do so the second semester of the academic year to allow new graduates to acclimate to full-time teaching/counseling prior to participation. Figure 3 provides the timeline of the study.

Date	Activity
Spring 2021	Cycle 1 (Benchmark): Case study data collection, analysis, and findings
Summer 2021	EPP-wide data analysis and findings
Fall 2022	Present findings to programs
Fall 2022	Utilize study findings to inform program improvement
Spring 2023	Cycle 2: Case study data collection, analysis, and findings

Figure 3. Study Timeline

**Goal Attainment Scaling**

The individual action research studies, as part of this Program Impact Study, are designed with quantitative outcome measurements. Each case study is designed utilizing a GAS, which provides the framework for the development of program goals that are measurable; attainable; and socially, functionally, and contextually relevant. The procedure involves two basic steps. First, construct a plan, or a goal attainment guide, based on desired level of performance (step 3 of Action Research Study Guide). GAS is a criterion-referenced measure that helps us to quantify a degree to which goals are achieved. This level of performance is then used to construct a goal attainment guide or plan. Each case study utilizes GAS to ensure tasks are identified and scaled around current and expected levels of performance. An important feature of GAS is the a priori establishment of criteria for a “successful” outcome, which is designed before intervention starts so that everyone has a realistic expectation of what is likely to be achieved. As Figure 4 illustrates, each goal is rated on a 5-point Likert scale (+2 to a –2), with the degree of attainment captured for each goal area.

<ul style="list-style-type: none"> <li>• +2 HIGHEST OUTCOME REASONABLY ATTAINABLE FOR STUDENT/GROUP/CLASS ON A GIVEN GOAL</li> </ul>
<ul style="list-style-type: none"> <li>• +1 OUTCOME IN WHICH EXPECTATIONS ARE EXCEEDED BY THE STUDENT/GROUP/CLASS ON A GIVEN GOAL</li> </ul>
<ul style="list-style-type: none"> <li>• 0 EXPECTED OUTCOME FOR STUDENT/GROUP/CLASS ON A GIVEN GOAL</li> </ul>
<ul style="list-style-type: none"> <li>• –1 STUDENT/GROUP/CLASS BASELINE PERFORMANCE ON A GIVEN GOAL</li> </ul>

- -2 DECLINE IN STUDENT/GROUP/CLASS PERFORMANCE

Figure 4. Goal Attainment Scaling

This method is being used because, with the utilization of a 5-point scale, GAS allows the teacher/counselor to set a graduated, intervention specific target outcome(s) predicated on the student(s) observed baseline and desired outcome. The second step is to apply the scale to student performance. GAS allows the researcher (teacher/counselor) to quantify student performance and use those measures to analyze, reflect, and make improvements to their teaching/counseling efforts as part of the Action Research cycle. Additionally, it can be used across a wide variety of goals, thus allowing us to measure across program graduates to attain a score for the EPP.

The eight steps of GAS are embedded in the action research steps.

Step 1	Identify an overall (general) objective.
Step 2	Identify specific problem areas that should be addressed.
Step 3	Specifically identify what behaviors or events will indicate improvement in each of the areas selected in Step 2.
Step 4	Determine the methodology that will be used to collect the desired information.
Step 5	Select the expected level of performance.
Step 6	Identify the most favorable outcome, the least favorable outcome, and intermediate levels of the client’s performance.
Step 7	Once the goal attainment guide has been completed, ascertain whether there are overlapping levels, gaps between levels, or more than one indicator in a problem area.
Step 8	Ascertain the client’s current status determined future evaluations to document progress.

Figure 5. GAS steps

**Analysis**

After identifying study focus and collecting data, teachers/counselors will analyze and make interpretations from data. Teachers/counselors will describe or summarize the data clearly. Teachers/counselors will analyze data for consistent patterns or themes.

There are multiple strategies and techniques that may be used to analyze data. Teacher/counselors will break down all data and identify themes or patterns to make sense of the results. As teachers/counselors make sense of the results, they will use those results to identify findings. They will apply those findings to develop an improvement plan. With the support from Chapman faculty, teacher/counselors will explain their methods and write up

their findings. Once the scale is scored, the goals may be changed to meet a new set of expectations.

### **EPP-Wide Synthesis and Analysis**

Finally, the Office of Accreditation and Assessment will analyze de-identified outcome data utilizing GAS methods to ensure individual project findings can be gain an understanding of PK-12 student growth across the college to support overall impact. All case studies will use the standard 5-point scaling system proposed by Kiresuk and Sherman (1968). The de-identified scores shared with the college will be calculated using the following formula:

$$T = 50 + \frac{10[\sum w_i x_i - E(\sum w_i x_i)]}{\sqrt{VAR(\sum w_i x_i)}}$$

The resulting score represents an overall quantitative measure of the qualitative data used to gauge program impact of individual case studies. This first round of scoring will serve as a baseline for the data collected in the next cycle (Spring 2021). Further, these scores will become part of the program annual review data packages giving programs and the Education Preparation Program (EPP) as a whole the opportunity to use these findings to make improvements over time.

At the end of each academic year we analyze the results of these studies with two main goals. First, deepen our understanding of the connection between program design/implementation and P-12 student outcomes. Second, identify ways in which these studies maybe adjusted moving forward to collect data that support program improvement.

Overall, credibility will be obtained in the form of triangulated data points. Program Impact findings will be triangulated using 4 data points to indicate growth over time in relation to the Attallah College University Supervisor, Mentor Teacher, and California Program Completer Survey data as well as document collection and analysis of student work samples.

### **Synthesizing Data from Goal Attainment Scales:**

Each case as data is based on PK-12 program impact outcomes. Data will be synthesized from action research goal attainment scales to produce an overall judgment about the impact of EPP program graduates. To do this, level indicators will be converted to t-scores (see McDougall & King, 2007, p. 13). Cardillo (1994) provides convenient conversion tables. Statistical software is available for this purpose as well. However, in day-to-day practice and to make the data understandable to graduates, the data will stay graphable utilizing the +2 to -2 data.

### **Findings (2021-2022 AY)**

Due to COVID-19 we have only two data sets (please see below), so far (not enough to analyze) we hope to have more in this year and the next.

### COVID-19

The COVID-19 pandemic and resulting California statewide school closures have impacted the 2019-2020, and 2020-2021 AY case studies. As of early April 2020, one advanced program case study moved online, and two preliminary case studies have moved online. Our goal is to complete one cycle with the ongoing three cases including data analysis. We are currently in the process still gathering impact data and as a result do not have analysis regarding these measures. We understand that it is likely we will need to extend the timeline for the outstanding cases into the fall of 2022.

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**Appendix A**

<p>Identify the focus</p>	<ul style="list-style-type: none"> <li>•What do I need to know/learn to develop and improve pupil learning?</li> <li>•Why is this important?</li> <li>•How do I know?</li> <li>•Define and redefine your problem. Make sure you know what issue you are inquiring about.</li> <li>•How does this problem fit into your student outcomes?</li> </ul>
<p>Identify how you used research to inform your thinking</p>	<ul style="list-style-type: none"> <li>•Literature</li> <li>•How do the professional standards support/inform/relate to this?</li> </ul>
<p>Identify your focus and goals</p>	<ul style="list-style-type: none"> <li>•How will you construct your study?</li> <li>•How will you ensure it is replicable?</li> <li>•Formulate Research Question(s)</li> <li>•How will you set your Goal Attainment Scaling (GAS)?</li> </ul>
<p>Plan your methods</p>	<ul style="list-style-type: none"> <li>•Develop appropriate methods. Researcher/Teacher decides: which classes to study (<i>population</i>), what time it will take to conduct the study (<i>timeframe</i>), how to gather data (<i>measures<sup>1</sup>-surveys, observation</i>), what permissions or support are needed (<i>other conditions tht need to be met</i>).</li> </ul>
<p>Plan and describe the anticipated Impact</p>	<ul style="list-style-type: none"> <li>•What impact/change, if any, do I anticipate for:             <ul style="list-style-type: none"> <li>•Thinking/understanding?</li> <li>•My professional actions?</li> <li>•My interactions/relationships with pupils?</li> <li>•Pupil learning?</li> <li>•How will I know the impact on                 <ul style="list-style-type: none"> <li>•My practice?</li> <li>•Students and their learning?</li> </ul> </li> </ul> </li> </ul>
<p>Implement the plan and gather data</p>	<ul style="list-style-type: none"> <li>•Describe how the intervention was implemented</li> <li>•Collect lesson plan</li> <li>•Collect student pretest/post test data</li> <li>•Provide demographic information about students who participated in the intervention</li> <li>•Teacher and faculty support observational notes</li> </ul>
<p>Application of GAS</p>	<ul style="list-style-type: none"> <li>•How will I analyze/make sense of the evidence?</li> <li>•Pretest/post-test data</li> </ul>
<p>Evidence of Impact</p>	<ul style="list-style-type: none"> <li>•What data did you collect?</li> <li>•What does that tell you about student learning?</li> <li>•What have you learned?</li> <li>•How will you implement your findings?</li> </ul>
<p>Reflect and Take Informed Action</p>	<ul style="list-style-type: none"> <li>•Will the results of this study influence your teaching practice? In what ways?</li> <li>•In what ways has my professional learning informed my professional judgement?</li> <li>•How will you modify and repeat?</li> </ul>

Action Research Cycle

