Educational Statistics and Research Methods
Graduate Certificate (EDST)

The University of Arkansas Graduate Certificate program in educational statistics and research methods prepares graduates for conducting applied research in social science, behavioral science, and education-related fields. In 2021, the new certificate's requirement launched that allow students to complete it with more flexibility. The current EDST certificate requires 15 credit hours and students can choose different concentrations. Students complete three core ESRM courses and then two advanced ESRM courses specializing from such areas as psychometric methods (e.g., measurement and item response theory), quantitative methods (e.g., hierarchical linear modeling, structural equations modeling, and Bayesian methods), and qualitative methods (e.g., qualitative and advanced qualitative research methods). The primary goal of the certificate is to provide students with a base level of research methods training accompanied by advanced methodological courses that prepare them for advanced research in their respective fields. Therefore, the primary learning goals of the EDST certificate program are centered around the identification of quantitative and qualitative procedures, analyses of data, critiquing research studies, and collaborating effectively with others.

An assessment of the effectiveness of the program would include students' ability to:
1. Identify appropriate research designs for research questions
2. Conducting statistical analyses for research hypotheses
3. Understand the strengths, weaknesses, and appropriateness of different statistical procedures
4. Critique statistical analyses completed by others
5. Submit research proposals or manuscripts to professional conferences and journals
6. Complete oral research presentations

In order to assess the effectiveness of the student training in the EDST graduate certificate program this year, we aggregated student data from research projects, professional conference presentations, journal articles, grant submissions, and academic or professional awards.

Assessment Information

Course-Based Data:
The quality of course-based research projects and components of take-home exams provided data for the learning outcomes of identifying appropriate designs, conducting statistical analyses, and identifying strengths, weaknesses, and appropriateness of statistical procedures. Student projects and take-home examinations have been averaged (i.e., their final grades) for coursework and were rated a 4 if they earned a mastery level of 90% or higher on their project, 3 for 80-89%, 2 for 70-79%, 1 for 60-69%, and a 0 for less than 60%.

From the university record system, there were eight students actively taking classes toward a certificate in educational statistics and research methods, completing 7 classes in total with an overall course average of 3.43 (see Table 1, those records were just for the 2021-2022 academic year). Four students completed the EDST graduate certificate in 2021-2022 academic year with

eight in progress. In addition, five students already finished the coursework for the EDST certificate in spring 2022 and filed the graduation in May 2022. Those records will show in the next year's report.

Table 1

Average Student Performance for Certificate Area of Specialization

Learning Objectives	N*	Average
Core Statistics	-	-
Electives		
Measurement & Psychometrics	2	3.5
Quantitative Methods	5	3.4
Qualitative Methods	-	-