Mobile vs. Stationary Camera: Effects on edTPA Task 2 Scores

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Abstract: This study examined the effects of a mobile camera versus a stationary camera on scores for Rubrics 6-9 of the Elementary Education edTPA Task 2. Scores on these rubrics are primarily based on video evidence for a positive classroom environment, engaging students in learning, deepening student learning, and subject-specific pedagogy. Over two years, the researchers collected edTPA videos from Elementary Education majors and divided them based on the use of a mobile or stationary camera. Mean scores for Rubrics 6-9 were examined to determine if a significant difference existed between the camera set-up being used for the Task 2 videos. Statistical analysis revealed a significant difference in scores on Rubrics 6-8, with videos made with a mobile camera having higher mean scores. These results suggest that those completing the edTPA should consider incorporating a mobile camera to collect the video evidence required for Task 2.

Evidence Required for Each Task of Elementary Education edTPA

The edTPA is an intensive portfolio-based assessment that many states currently require for teacher licensure. An exact number of states requiring the edTPA is elusive, but according to the Stanford Center for Assessment, Learning and Equity (SCALE), in 2023-2024, 29,556 edTPA portfolios were scored across 29 teaching fields (Stanford Center for Assessment, Learning, and Equity [SCALE], 2024), giving an indication that the assessment is being completed by a significant percentage of teacher candidates in the United States. The edTPA is often completed during the semester of student teaching and requires teacher candidates to collect a variety of evidence to demonstrate their proficiency in planning, instruction, and assessment. This evidence is divided between three Tasks (for Elementary Education, there are three versions of the edTPA, two of which include a fourth Task, focusing on either Mathematics or Literacy), and each Task has a set of Likert-style rubrics with scores from 1 to 5 (SCALE, 2024), with a score of 3 generally viewed as proficient. As seen in **Table 1** below, there are specific pieces of evidence required for edTPA Tasks 1-3 for Elementary Education Literacy with Mathematics Task 4.

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Table 1. *Evidence Required for Each Task of Elementary Education edTPA.*

edTAP Elementary Task	Evidence Required
Task 1-Planning	Context for Learning Learning Segment (3-5days) Instructional Materials Assessments Planning Commentary
Task 2-Instruction	2 Videos of Instruction Commentary
Task 3- Assessment	Work Samples for 3 Focus Students Evidence of Feedback to 3 Focus Students (May be Omitted if Feedback is Evident on Work Samples) Assessment Commentary Evaluation Criteria

Note. Adapted from the "edTPA Handbook for Elementary Literacy with Mathematics Task 4," by the Stanford Center for Assessment, Learning, and Equity (SCALE), 2024 (hhtps://Elementary Education: Mathematics with Literacy Task 4). Copyright 2018 by the Board of Trustees of the Leland Stanford Junior University.

There are very specific requirements and specifications for each of the pieces of evidence listed in the table above, such as page limits for lesson plans and Commentaries, how long videos of instruction can be, and which file formats are allowed for each piece of evidence. Considering, for example, that the page limit for the Planning Commentary in Task 1 is nine pages, it starts to become clear that the edTPA does require a lot of time and effort from teacher candidates. Just how much time and effort the edTPA requires has opened it up to a certain level of criticism that should be briefly addressed.

As a licensure assessment, the edTPA is not without its critics. Researchers have suggested that the size and scope of the edTPA draw students' attention away from the meaningful learning experiences associated with their student teaching, and attention given to the edTPA detracts from the student teachers' instructional experiences that are foundational during this culminating part of their education programs (Burns et al., 2015). Student teachers often agree with these findings, stating that they struggle to balance the demands of the edTPA while at the same time meeting the program requirements for their student teaching. Specifically, student teachers acknowledge stress and anxiety based on the overwhelming volume of the edTPA manuals, a lack of familiarity with the academic vocabulary specific to the edTPA, and the repetitive nature of the tasks within edTPA (e.g., Bernard et al., 2019; Burns et al., 2015; Clayton, 2018; Greenblatt & O'Hara, 2015; Langlie, 2015).

Despite these concerns, the edTPA remains a requirement for a teaching license in many states, meaning educator preparation programs and their teacher candidates in those states must continue to navigate the demands of the edTPA successfully. And, even noting

the criticisms of the edTPA, the national passing rate for the assessment grew from approximately 74% in 2017 (edTPA, 2017) to well over 90% in 2020 (SCALE, 2020), the last year for which formal national pass rate data could be found. There is no evidence to suggest the pass rates have declined, and the passing rates indicate that despite the challenges student teachers may experience regarding the edTPA, they are finding ways to be successful with the assessment. Given that success, it is interesting to note a lack of research focusing on specific methodologies or strategies teacher candidates may use to increase their scores on the edTPA Tasks (though there are numerous edTPA support services available online students may choose to utilize outside of guidance they receive from their programs). This lack of research holds true for edTPA Task 2.

The primary evidence required for Task 2 of the edTPA is videos of the student teacher conducting a lesson (SCALE, 2024). Anecdotal evidence and the first author's personal experience coordinating the edTPA for an educator preparation program suggest that for teacher candidates, recording themselves teaching and then conducting a thorough self-analysis of their instruction in the video is daunting. It is not surprising, therefore, that most students express that they find Task 2 of the edTPA to be the most challenging of the Tasks.

Some of the trepidation teacher candidates feel about the video evidence in Task 2 may be found in the expectations for Rubrics 6-9. These expectations are very similar across teaching disciplines. The Elementary Education Handbook, Literacy with Mathematics Task 4 (SCALE, 2024), features a good representation of the expectations for the Task 2 Rubrics across teaching fields. Level 3 expectations for each of the four Task 2 rubrics that primarily require video evidence are presented below (SCALE, 2024):

- Rubric 6- Learning Environment: "The candidate demonstrates rapport with and respect for students. AND Candidate provides a positive, low-risk learning environment that reveals mutual respect among students."
- Rubric 7- Engaging Students in Learning: "Students are engaged in learning tasks that address their understanding of the essential literacy strategy for comprehending OR composing text AND related skills. Candidate links prior academic learning to new literacy learning." (Note-Different disciplines will address understandings related to those disciplines).
- Rubric 8- Deepening Student Understanding: "Candidate elicits student responses to support use of the essential literacy strategy OR related skills to comprehend OR compose text." (Note-Different disciplines will support skills related to those disciplines).
- Rubric 9- Subject-Specific Pedagogy: "Candidate models the essential literacy strategy to comprehend OR compose text WITH limited opportunities for practice." (Note- Different disciplines will have discipline-specific pedagogical expectations.)

Upon first review, these expectations may not seem so daunting. However, teacher candidates are most often still developing classroom management and instructional methodologies, which they will continue to refine and improve in their early careers. Thus, they are still developing their competencies in all of the areas assessed by the Task 2 Rubrics. It may sound overly simple to tell a teacher candidate to ensure they capture evidence of good teaching to be successful on Rubrics 6-9, though that is clearly the goal of requiring

video evidence of quality instruction. The first author has experience with the edTPA dating back to 2012, and has been a university coordinator for the edTPA since 2015. He has been responsible for making sure teacher candidates understand how to succeed on the edTPA, and one thing he has noticed about Task 2 is that student teachers who use a *mobile camera* for their video evidence appear to do better on Rubrics 6-9 than students who use a stationary camera. The researchers decided to put this observation to a formal test and determine if there is a significant difference in scores based on using a *mobile or stationary camera* approach.

Methods

Based on personal experience providing edTPA support to teacher candidates, the researchers sought to examine whether or not there was a significant difference in scores on Rubrics 6-9 in Task 2 for Elementary Education Literacy with Mathematics Task 4 based on student teachers' use of a *mobile* or *stationary camera* to obtain their video evidence. A 2x4 design was utilized, based on the two independent variables (*mobile camera, stationary camera*) and four dependent variables (average scores on Rubrics 6,7, 8, and 9 for the Elementary Education edTPA Task 2). To determine if a difference existed, a null hypothesis was developed, stating, "There is no significant difference in the average scores of Rubrics 6-9 of the edTPA when using a *mobile camera* versus a *stationary camera*."

Sample

Accessing a convenience sample, the first author randomly collected 60 (n=60) edTPA portfolios from elementary education majors during their student teaching semester at a regional comprehensive university in the southeastern United States between August 2022 and May 2024. These portfolios were collected just prior to them being submitted to Pearson for official scoring. Each student signed releases that their materials could be used for instructional and/or research purposes. 92% of the portfolios were created by Caucasian students, with the remaining 8% coming from African American students. 97% of the portfolios were created by female students, with the remaining percentage created by male students. Due to the relatively small sample size accumulated, the researchers chose not to focus on ethnic or gender differences when conducting statistical analysis.

Instrument

Average scores on rubrics 6-9 of the Elementary Education edTPA Task 2 were the measures used and analyzed in this study. These rubrics were chosen because they specifically focus on video evidence of instruction delivered by the student teacher. Scorers for the edTPA are instructed to focus primarily on the video evidence presented for Task 2 in the edTPA portfolio rather than what teacher candidates write about the video evidence in the Commentary. Teacher candidates are advised not to reference evidence in their Task 2 Commentaries that cannot be seen in the videos they submit. The rubric scores utilized in this study came from the official scores received from Pearson.

Procedure

Before completing their edTPA portfolios, each student from the sample signed a release that their materials could be used for instructional and/or research purposes. Once finished and collected, the portfolios were divided into two equal groups: those who submitted Task 2 videos using a *stationary camera* and those who submitted using a *mobile camera*. Parameters to distinguish between a *stationary camera* set-up and a *mobile camera* set-up are presented in the definitions below.

Stationary Camera: Set up in a fixed position and moves no more than once during recording. For example, it may move when a class transitions from whole group to small group instruction.

Mobile Camera: Moves at least three times to follow a student teacher around the classroom during the recording and may move to record individual students or small groups who then receive instructional support from the student teacher.

Once the videos had been divided into the two groups, all specific identifying information for the student teachers was removed, and the scores for Rubrics 6-9 were then pulled from the edTPA score reports. The specific rubric scores were then assigned a number between 1 and 30, with the Rubric number and a notation of S for *Stationary Camera* and M for *Mobile Camera* attached (e.g., 1-6-S, 1-6-M). The scores were run through SPSS© to conduct statistical analysis.

Results

Descriptive statistics obtained in an initial comparison of the scores shows that for Rubrics 6-8, the mean scores for the student teachers who used a mobile camera were all above 3.0, while the means for those who used a stationary camera were all below 3.0. Interestingly, for Rubric 9: Subject-Specific Pedagogy, the student teachers who used a stationary camera had a higher average score than those who used a mobile camera. The mean scores obtained by themselves suggest a difference between the two camera approaches, though further analysis was required to determine if that difference was statistically significant. See **Table 2** for initial comparisons between the two.

Table 2. *Means and standard deviations for Task 2 Rubrics.*

Measure	*n*	*M*	*SD*	Range
Stationary Camera				
Rubric 6: Learning Environment	30	2.73	0.74	2-4
Rubric 7: Engaging in Students Learning	30	2.80	0.66	2-4
Rubric 8: Deepening Student Learning	30	2.73	0.58	2-4
Rubric 9: Subject-Specific Pedagogy	30	2.93	0.69	2-4
Mobile Camera				
Rubric 6: Learning Environment	30	3.17	0.79	2-5

Rubric 7: Engaging in Students Learning	30	3.2	0.66	2-4
Rubric 8: Deepening Student Learning	30	3.17	0.58	2-4
Rubric 9: Subject-Specific Pedagogy	30	2.87	0.43	2-4

Vogt et al. (2014) suggest that the simplest research design may be the best research design. With the study including two independent variables and four dependent variables, a MANOVA was deemed the simplest and most effective approach for statistical analysis. A one-way Multivariate Analysis of Variance (MANOVA) was conducted to examine the effect of camera set-up (*Stationary* v *Mobile*) on four dependent variables: Elementary Education Literacy with Mathematics Task 4 edTPA Task 2 Rubric 6, Rubric 7, Rubric 8, and Rubric 9. The analysis revealed a significant multivariate effect of camera set-up, Wilks' Lambda = 0.84, $F(4, 55) = 2.57$, $p = .048$, $\eta p^2 = 0.157$. Please see **Table 3** below for the results of the tests of between-subjects effects for Rubrics 6-9.

Table 3. *Tests of between-subjects effects for rubrics 6-9.*

Dependent Variable	$F(1, 58)$	p	ηp^2
Rubric 6	4.80	.032	.076
Rubric 7	5.44	.023	.086
Rubric 8	7.42	.009	.113
Rubric 9	0.07	.656	.003

The researchers chose to use Wilks' Lambda in the analysis because it is often used in Multivariate Analysis of Variance (MANOVA) to test whether there are significant differences between groups across multiple dependent variables simultaneously. It also provides the option of additional analysis to obtain an F-Statistic to determine a p-value. The Wilks' Lambda of 0.84 at first suggests little statistical difference between the two groups in this study, but further analysis provided better evidence of a difference. In particular, the *p*-value for Rubric 6 was $p = 0.032$, for Rubric 7 $p = 0.023$, and for Rubric 8 $p = 0.009$, all of which indicate that the differences found were not likely caused by chance. On the other hand, the *p*-value for Rubric 9 was $p = 0.656$, indicating a much larger chance the differences could come from chance. Because of the *p*-values obtained, the researchers could reject the null hypothesis, there is no statistical difference based on the camera approach used, for Rubrics 6-8, but could not reject the null hypothesis for Rubric 9.

Partial Eta-Squared scores were calculated for each of the comparisons, with slightly better than moderate effect sizes found for Rubrics 6 (η^2_p=.076) and 7 (η^2_p=.086) and a fairly strong effect size found for Rubric 8 (η^2_p =0.113). Rubric 9 had an effect size well below what would be considered small (η^2_p=.003), providing further evidence that little difference could be found in scores for the rubric for Subject-Specific Pedagogy.

Based on the statistical analysis, admittedly weakened to some extent by a smaller sample size, the researchers believe there is evidence to suggest a *mobile camera* may positively influence scores on Rubrics 6-8. The .113 Partial Eta-Squared for Rubric 8 is particularly promising as that Rubric focuses on Deepening Student Understanding. Capturing video evidence of instructional practice that improves student understanding of lesson content should be important for the edTPA, and having one simple strategy, a *mobile camera*, to improve the collection of that instructional evidence is something student teachers should know as they approach Task 2 of the edTPA.

Discussion

The results of this study suggest a mobile camera approach may affect positively scores on Rubrics 6-8 of the Elementary Education Literacy with Mathematics Task 4 edTPA. No statistical evidence was found for an effect on Rubric 9 based on using a mobile camera or a stationary camera. Educator preparation programs that are tasked with supporting student teachers on the edTPA may want to consider including some discussion of using a mobile camera, when possible, to obtain Task 2's video evidence. Encouraging students to practice this approach prior to student teaching would be advisable. It is understood that not all student teachers will have someone available to move the camera when they record their instruction, but if a cooperating teacher or another education professional can provide that assistance, this study suggests it would be good practice.

Considering the rubric 6-8 evidentiary requirements, it is ultimately not surprising that a mobile camera would be better to collect strong evidence. For Rubric 6, for example, there is an expectation of evidence that the students support one another in the learning process. Getting that evidence from a video clip of whole class instruction may be challenging if the camera is in a fixed position. The same goes for both Rubrics 7 and 8. The ideas of engaging students and deepening their understanding are supported by the notion of "teach from your feet, not from your seat," and if a student teacher is moving around the classroom to engage students and increase their understanding of the lesson content it makes sense that such activity would be better captured by a mobile camera. A video clip where the student teacher stays in front of the class the entire time does not necessarily preclude obtaining evidence of quality instruction, but it stands to reason it may limit the types of quality instruction that can be captured.

The researchers acknowledge that a mobile camera approach by itself is not any guarantee of better scores on the Task 2 rubrics. Student teachers should be using that mobile camera to capture evidence of effective instructional practice. Good teaching in and of itself is what is being assessed by Task 2, meaning student teachers should focus on effective instructional practice and classroom management before they worry about using a mobile or stationary camera. Once they are ready to teach effectively, the researchers suggest incorporating a mobile camera approach.

Limitations

There are some key limitations to this study that must be noted. The first and most significant is the lack of a true experimental design due to the lack of random assignment of subjects. Working with extant data meant the researchers were responsible for making the

decisions about whether camera use was identified as stationary or mobile. Though this is a limitation, the researchers feel they still asked a valid research question and conducted the study properly to address it.

A second limitation is the small sample size obtained for analysis. The researchers would have liked to have included more videos for comparison, and in particular wish the idea to collect the videos for that comparison had been put into practice prior to 2022. Future research efforts should endeavor to have a larger sample size to increase the power of the statistical analysis.

A third limitation is that data from only one teaching field, Elementary Education, and one specific edTPA Handbook was obtained. This limitation is most concerning in regards to generalization to other teaching disciplines assessed by the edTPA. The researchers do feel, that because the video evidence requirements are so similar across the teaching fields for edTPA, the results of this study have some potential for generalization. Research is needed that examines potential differences in Task 2 scores based on camera approach used from different edTPA teaching fields.

A final limitation that must be included in the study did not address other possible variables that could impact the scores on Rubrics 6-9. The overall performance of the student teachers during their internships, based on evaluations from university supervisors and cooperating teachers, may have played a part in their performance on the four Task 2 edTPA rubrics examined. Future research should examine if a correlation exists between higher student teaching evaluation scores and better scores on Rubrics 6-9. Another variable that could be considered is students' performance in their educator preparation program prior to student teaching. Research could look for a correlation between students' GPAs and any field-based instructional evaluations and their scores on the four Task 2 edTPA rubrics. A last potential variable, and probably the most difficult to address, is student teachers' motivation levels. The researchers have a good sense of when students and student teachers are engaged, motivated, and driven to succeed, all of which are hard to quantify but most likely play a role in how a student teacher completes her or his edTPA.

Conclusion

Despite the limitations addressed above, this study does provide some evidence that a *mobile camera* may influence scores on Rubrics 6-8 of the Elementary Education Literacy with Mathematics Task 4 edTPA. A camera that moves around the room to follow transitions, documents the student teacher providing guidance and direction to small groups of students working together, and documents students supporting one another in the learning process is a camera better positioned to obtain the evidence the Task 2 rubrics will evaluate. The use of a *mobile camera* may be best characterized as an approach to recording the videos rather than a strategy, and student teachers must understand that the quality of the instruction will always be more important than the camera approach utilized. However, when effective teaching is being recorded, this study suggests that a *mobile camera* approach to that recording can be considered a good practice.

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