

VIDEO AS A TOOL TO SUPPORT TEACHER PERFORMANCE EVALUATION: IMPACT ON FIRST-YEAR TEACHER EFFECTIVENESS

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Abstract

Research indicates that teacher performance is a critical focus for school districts, administrators, and teachers. Pre-service teacher preparation, teacher retention, job satisfaction, mentoring, continuous feedback, and onboarding support for new teachers are all factors that influence teacher performance. While teacher performance evaluations occur in all districts, the evaluation tools, appraisal components, methods, and procedures drastically differ. The variations in evaluations create inequities that may limit an appraiser's viewpoint of a teacher's performance, which can stifle the feedback an appraiser provides to the teacher. It is this potentially limited viewpoint of the appraiser's feedback that prompted this study. In response, this study explored the integration of a video recording device to support continuous and enhanced accessibility, flexibility, and authentic appraiser feedback for first-year teachers. This study used a descriptive quantitative correlational analysis to explore the relationship between the use of a video recording device and summative Texas Teacher Evaluation and Support System (T-TESS) evaluation scores of 4+1 TEACH first-year teachers. The findings indicate that there is positive correlational significance between the number of uses of video recording device and teacher performance.

Keywords: Teacher effectiveness; Video recording device; Correlational analysis; Teacher appraisal systems; Texas Teacher Evaluation Support System

Research indicates that teacher performance is a critical focus for school districts, administrators, and teachers. Pre-service teacher preparation, teacher retention, job satisfaction, mentoring, continuous feedback, and onboarding support for new teachers are all factors that influence teacher performance (Carver-Thomas & Darling-Hammond, 2017). To measure teacher performance, appraisal systems like the Texas Teacher Evaluation and Support System (T-TESS) have been implemented to assess the quality of instruction within any given classroom in the State of Texas. The results of the teacher performance assessment are used by administrators and teachers for the refinement of pedagogical practices to enhance instruction and learning for students (Holland, 2014; Jiang et al., 2015; Vandermolen & Meyer-Looze, 2021). While teacher performance evaluations occur in all districts, the evaluation tools, appraisal components, methods, and procedures drastically differ. The variations in evaluations create inequities that may limit an appraiser's viewpoint of a teacher's performance, which can stifle the feedback an

appraiser provides to the teacher (Jiang et al., 2015). It is this potentially limited viewpoint of the appraiser's feedback that prompted this study. In response, this study explored the integration of a video recording device to support continuous and enhanced accessibility, flexibility, and authentic appraiser feedback for first-year teachers. While limited in scope, this study has the potential to provide integratory information to support future research on the addition of supplementary evaluation elements to strengthen teacher performance appraisal feedback, conceivably allowing appraisers and teachers to be intentional, innovative, and personalized with feedback and strategies to enhance individual professional growth.

Historically, various systematic teacher appraisal evaluations have been conducted to determine teacher quality. More recently, the focus in these appraisal systems has largely shifted from a teacher-centered approach to a teacher- and student-centered approach. Respectively, in April 2016, the T-TESS, an appraisal system that rates teacher performance based on student engagement, a more teacher- and student-centered approach, was introduced to school districts across Texas. As stated by the Texas Education Agency (TEA, 2022a), T-TESS "strives to capture the holistic nature of teaching – the idea that a constant feedback loop exists between teacher and students and gauging the effectiveness of teachers requires a consistent focus on how students respond to their teacher's instructional practices" (para. 1).

While the T-TESS rubric takes a comprehensive approach in evaluating teacher performance, the way in which evaluations are performed poses a concern. Traditionally, teacher evaluations have included classroom observations by a school administrator, combined with student performance achievement data, typically test-based measures (Ballou & Springer, 2015; Jiang et al., 2015).

Research indicates that teacher quality has a direct impact on student learning. In fact, Wiliam (2016) reports that effective teachers have a 50% increase in student learning over average teachers and a 100% increase in learning over low-performing teachers. Wiliam (2016) also points out that the qualities between effective and ineffective teachers are complex, not clearly defined, and vary tremendously. The challenge then becomes determining what can be done to improve the current teacher appraisal system that would allow flexibility, authentic and continuous feedback, and refinement of pedagogical practices. If the goal of evaluations is truly to refine pedagogical practices to improve instruction and student learning, there must be an appraisal system in place that fosters authentic feedback and flexibility for the feedback to be given continually.

Due to the variations and complexity of teaching, a shift in the trends associated with teacher performance appraisals shows an emphasis on an improvement framework stance, as opposed to an evaluation improvement stance. At the center of this improvement framework stance is flexibility and authentic feedback (Holland, 2014; Jiang et al., 2015; Vandermolen & Meyer-Looze, 2021; Wiliam, 2016). However, trends in research indicate revisions to the current teacher appraisal system may still be warranted, including offering accessibility to a variety of instructional instances, allowing the teacher and appraiser intentional flexibility for when and what lessons are evaluated, and including opportunities to provide authentic feedback related to strengths and weaknesses to foster professional growth (Fradkin-Hayslip, 2021; Goldstein, 2014; Hawthorne, 2021; Holland, 2014; Jiang et al., 2015; Moir, 2009). Specifically, a video-recording device could be incorporated in the evaluation process as an added tool to facilitate enhanced teacher performance, though there is minimal research documenting the results of the inclusion of a video-based recording device within the appraisal process available at this time.

Literature Review

Teacher effectiveness has a direct impact on students' success in the classroom. The impact extends beyond academics, encapsulating the physical, intellectual, behavioral, and social-emotional well-being of each student (Hepsibha & Catherine, 2022; Killion & Hirsh, 2011; Wiliam, 2016). Research indicates that teacher quality has a direct impact on student learning. In fact, Wiliam (2016) reports that effective teachers have a 50% increase in student learning over average teachers and a 100% increase in learning over poor teachers. These findings imply that students in an average teacher's class will take one year to learn what students in an effective teacher's class will learn in a six-month timeframe. More profoundly stated, students in a less competent teacher's classroom will learn in two years what students in an effective teacher's class will learn in six months. This research study explored teacher performance evaluation measures, the history of measuring teacher performance, the various performance evaluation systems, the T-TESS evaluation system, and teacher evaluations connected to teacher retention. (Danielson, 2011; Goe et al., 2008; Greenville City Schools, 2013; Hepsibha & Catherine, 2022; Killion & Hirsh, 2011; Little et al., 2009; TEA, 2022c; US Department of Education, 2022).

Teacher Performance Evaluation Measures and Process

Just as teacher effectiveness is complex and difficult to clearly define, it is also challenging to measure. Various measures have been explored, including classroom observations, principal evaluations, instructional artifacts, teacher portfolios, teacher self-reports, value-added models, student evaluations, and standards-based evaluations (Danielson, 2011; Goe et al., 2008, Little et al., 2009). Not only are there various ways to measure teacher performance, but the evaluation tools used also differ.

Hepsibha and Catherine (2022) suggest that while qualitative in nature, there are no fixed conventions by which we study teacher effectiveness. They advocate that to measure teacher effectiveness, researchers must use a quantitative approach simulating a scale to measure "preparation of teaching, teacher communication, and presentation in the classroom, classroom engagement techniques, and their efforts to upgrade or improve teaching" (p. 2117). In support of Hepsibha and Catherine's findings, researchers Killion and Hirsh (2011) state that "for teachers in the classroom, effective professional learning is the single most powerful pathway to promote continuous improvement in teaching" (para. 1). In April 2016, the Texas Teacher Evaluation and Support System (T-TESS) was introduced to school districts across Texas to address the cohesiveness of measuring teacher performance. As an effort to strengthen the way teacher performance is measured in Texas, the T-TESS evaluation tool incorporates components for goal setting, professional development planning, student growth measures, and a cycle approach to the evaluation process, including a pre-conference, observation, and post-conference (TEA, 2022b).

Performance Evaluation Systems

Complexity and diversity among the types of teacher performance evaluation systems are evident across research. While the measures included within each system can vary drastically, one common goal is prominent in each tool: to improve teacher performance (Goe et al., 2008; Hepsibha & Catherine, 2022; Killion & Hirsh, 2011; Little et al., 2009). As Goe et al. (2008) point out, the system itself should be comprised of multiple measures that align with the contextual factors of the state, district, or campus that intends to implement the system. While all teachers must be assessed, the evaluation tool used is not the

same. In fact, in many cases, school districts have a choice to adopt the state recommended evaluation tool or create their own evaluation tool.

Trends in teacher performance evaluation tools are similar in Texas. Over the past 20 years, the focus of teacher performance assessments has shifted. Twenty years ago, teachers were assessed using the Professional Development Appraisal System (PDAS). This appraisal system required administrators to conduct periodical walk-throughs and one formal in-class assessment (Region 13 Service Center, 2020). The appraisal's focus was on the teacher; student relevance was not addressed. In April 2016, the T-TESS was introduced to school districts across Texas. The focus of the new appraisal system was on teacher performance based on student engagement. This differed from the PDAS system, allowing for a more student- and teacher-centered approach. While the teacher performance measurement system shifted, the way it was administered did not, still requiring an administrator to be present in the room to conduct the appraisal (TEA, 2022b). For this study, the T-TESS evaluation tool was used to evaluate teacher performance for all the target group of teacher residents.

T-TESS Evaluation Tool

T-TESS was designed to reveal the comprehensive nature of teaching, encapsulating the essence of continual, evidence-based feedback between students and teachers and gauging teacher effectiveness based on student response. With an overall focus on six broad performance standards (*Instructional Planning and Delivery, Knowledge of Students and Student Learning, Content Knowledge and Expertise, Learning Environment, Data-Driven Practice, and Professional Practices & Responsibility*), TEA (2022b) identified four domains to be assessed during the evaluation process using a rubric system. The four domains, *Planning, Instruction, Learning Environment, and Professional Practices & Responsibilities*, focus on both teachers and students. As seen in Appendix A, each domain has subcategories of assessment, identified as dimensions (TEA, 2022a). Five ratings, *Distinguished, Accomplished, Proficient, Developing, and Needs Improvement*, are assessed on the evaluation rubric for each dimension based on the level of student-centered actions versus teacher-centered actions. Higher levels of student-centered actions increase the performance rating. The performance ratings are then used by the evaluator as a common language to provide evidence-based feedback and develop a personalized professional development plan for the teacher (TEA, 2022b). While the evaluation tool approaches the process from a growth mindset, limitations still exist in relation to the narrow and potentially limited window of observation time.

Having a student and teacher-centered approach to the assessment components, supporting autonomy, relatedness, and competence (TEA, 2022b). Supporting research suggests that teacher quality has a direct impact on student learning. In fact, Wiliam (2016) reports that effective teachers have a 50% increase in student learning over average teachers and a 100% increase in learning over poor teachers, indicating that students in an average teacher's class will take one year to learn what students in an effective teacher's class will learn in a six-month timeframe. This research supports the competence aspect, driving home the importance of a growth mindset and student-centered approach. As Wiliam (2016) points out, the qualities between effective and ineffective teachers are complex, not clearly defined, and vary tremendously. It is these variations and complexity in teaching that shift the focus of improvement to an improvement framework stance as opposed to an evaluation improvement stance. A teacher's performance, when deemed highly effective, also elicits high job satisfaction, dedication to the profession, and value for continuous growth (Ryan & Deci, 2017; Fradkin-Hayslip, 2021; Wiliam, 2016).

Research Method

This study used a descriptive quantitative bivariate correlational research design. The study aimed to determine the relationship between the number of uses of a video recording device and teacher performance measured by T-TESS for first-year teachers. Using archival data, a power analysis and descriptive bivariate correlational analysis were performed, allowing researchers to explore the relationship between data, making inferences about the types of correlational research the variables presented.

For this study, archival data was retrieved from a target group of teacher residents ($n = 170$) who implemented a video-based recording device, a Swivl™ robot, to improve their pedagogical practices. The group of teachers who participated in the archival experimental research study were residents of a four-year higher education institution 4+1 TEACH program located in southeast Texas. They were afforded a video recording device, a Full Release Mentor (FRM), and a Site-Based Mentor (SBM).

Research Question

The following research question explores the research on the relationship between the use of video recording device and first-year teacher performance. The following research question guided the study: RQ1: Does a relationship exist between the number of uses of a video recording device and teacher performance measured by the Texas Teacher Evaluation and Support System (T-TESS) for first-year teachers?

The purpose of this study was to determine the relationship that exists between the number of uses of a video recording device and first-year teacher performance, which may provide insight into additional measures for improving pedagogical practices for first-year teachers (Beaird et al., 2017; Borich, 2000; Dominguez, 2017; Greenville City Schools, 2013).

Research Design

This research study intends to determine if a relationship exists between the number of uses of a video recording device and first-year teacher performance in all four domains measured by T-TESS by evaluating a target group of first-year teachers. Using archival data, the number of uses of a video recording device for each participant and the summative T-TESS evaluation scores from all four evaluation domains (Learning, Instruction, Learning Environment, and Professional Practices and Responsibilities) was examined. Utilizing G-Power 3.1.9.7 statistical software, the suggested sample size, based on a 95% confidence level, needed for this study was 138 teacher residents. Archival data was collected for 170 total teacher residents, exceeding the required sample size.

Using a two-tailed bivariate correlational analysis, we examined the relationship between the number of uses of the recording device and the summative T-TESS scores by domain for 4+1 TEACH first-year teachers (Creswell & Creswell, 2018).

Study Population

The population of the archival sample was a part of the 4+1 TEACH program, cohorts 2-5. Students included in the study population applied to the program in the first semester of their senior year

as an undergraduate. The target group of teachers who applied to the program were seeking an alternative certification with an accelerated teaching placement as teacher of record and a master's degree to be completed within the first year of teaching. 4+1 TEACH teacher residents were required to complete their last semester of course work, graduate with their undergraduate degree, and obtain a paid internship as teacher of record in a partnering school district in their certification area. During their first year of teaching residents were afforded a Full Release Mentor (FRM). The FRM was a mentor who was completely released from classroom teaching duties, had at least 10 years of creditable teaching experience in the grade level/subject of the resident, was a highly effective educator as evidenced by student learning, and was a T-TESS certified evaluator. The FRM was assigned no more than five first-year residents, and they were required to have weekly contact with those residents. The primary responsibility of the FRM was to support first-year teachers in implementing effective classroom management procedures, establishing routines, and implementing evidence-based instructional practices (Edmondson et al., 2018).

The study population consisted of 154 females and 16 males. Teacher residents sought certification in a variety of areas. Certification areas, along with counts of teacher residents, were as follows: EC-6 Generalist (51), EC-6 Bilingual (23), EC-12 Special Education (27), 4-8 Math (21), 4-8 English Language Arts/Social Studies (15), 4-8 Math/Science (11), 6-12 Family and Consumer Sciences (1), 7-12 English Language Arts (3), 7-12 History (4), 7-12 Math (2), 7-12 Theatre (3), 7-12 Social Studies (2), 7-12 Biology (1), 7-12 Life Science (1), EC-12 Spanish (2), and 6-12 Agriculture (3). The ethnic background of the target group of teacher residents included nine African American, two Asian, 39 Hispanic, three International, three Multiple Race, seven Unknown, and 107 White students.

Table 1

Study Population

Cohort Group	<i>n</i>	Certification Area
Cohort 2	44	EC-6 Generalist (20), EC-6 Bilingual (2), EC-6 Special Education (5), 4-8 Math (5), 4-8 English Language Arts/Social Studies (4), 4-8 Math/Science (2), 7-12 History (2), 7-12 Theatre (2), 7-12 Social Studies (1), and 7-12 Biology (1).
Cohort 3	45	EC-6 Generalist (18), EC-6 Bilingual (9), EC-6 Special Education (4), 4-8 Math (5), 4-8 English Language Arts/Social Studies (4), 4-8 Math/Science (3), 7-12 History (1), and 7-12 Life Science (1)
Cohort 4	45	EC-6 Generalist (4), EC-6 Bilingual (4), EC-6 Special Education (13), 4-8 Math (7), 4-8 English Language Arts/Social Studies (3), 4-8 Math/Science (4), EC-12 Spanish (2), 6-12 Agriculture (3), 7-12 English Language Arts (2), 6-12 Family and Consumer Sciences (1), 7-12 History (1), and 7-12 Social Studies (1)
Cohort 5	36	EC-6 Generalist (9), EC-6 Bilingual (8), EC-12 Special Education (5), 4-8 Math (4), 7-12 Math (2), 4-8 English Language Arts/Social Studies (4), 4-8 Math/Science (2), 7-12 English Language Arts (1), and 7-12 Theatre (1)

Note. *n* = 170

Data Analysis

IBM® SPSS was used to analyze archival quantitative data collected by the 4+1 TEACH team. A two-tailed bivariate correlational analysis was performed to examine the relationship between the number of uses of the recording device and the summative T-TESS scores by domain for 4+1 TEACH first-year teachers (Creswell & Creswell, 2018). Scatterplots were used to present the correlations between variables. To measure the strength of the relationship between the two variables, Pearson's Correlation Coefficient (Pearson's r) was used (Creswell & Creswell, 2018; Field, 2018). Pearson's r ranges from -1.00 to +1.00, with -1.00 representing the strongest possible negative relationship and +1.00 representing the strongest possible positive relationship. Pearson r correlation coefficients near $\pm .10$ are considered small in relationship strength, near $\pm .30$ are considered medium in relationship strength, and near $\pm .50$ are considered large in relationship strength (Creswell & Creswell, 2018; Field, 2018).

Results

A descriptive quantitative correlational research design using a bivariate correlational analysis was applied to explore the relationship that existed between the number of uses of a video recording device and teacher performance measured by the Texas Teacher Evaluation and Support System (T-TESS) for first-year teachers. This study analyzed the summative T-TESS evaluations of first-year 4+1 TEACH residents and the number of times each teacher resident uploaded a video recording. Quantitative methods were used to provide an objective means that allowed the researcher to explore, collect, analyze, and determine possible relationships (Creswell & Creswell, 2018; Field, 2018).

Descriptive Analysis

Utilizing G-Power 3.1.9.7 statistical software, the suggested sample size, based on a 95% confidence level, needed for this study was 138 teacher residents. The archival data collected provided data for 170 total teacher residents, exceeding the required sample size. The target group of teacher residents for this study were part of a four-year higher education institution 4+1 TEACH program located in southeast Texas. The study population included teacher residents from cohorts 2-5, $n = 170$. Teacher residents applied in the first semester of their senior year as an undergraduate. Teacher residents who applied were seeking an alternative certification with an accelerated teaching placement as teacher of record and a master's degree to be completed within the first year of teaching.

For this research, the focus was related to all four T-TESS domains: Planning, Instruction, Learning Environment, and Professional Practices and Responsibilities. The T-TESS evaluation rubric used a 5-point scale, which included ratings for *Distinguished (5)*, *Accomplished (4)*, *Proficient (3)*, *Developing (2)*, and *Needs Improvement (1)*. TEA identifies the target rating that teachers must achieve for each domain of the T-TESS evaluation is (3) *Proficient*. A rating of 3 or higher dictates that the teacher has met the performance expectation (Texas Education Agency, 2022c). As indicated by the data provided in Table 1, each domain had a mean score of 3 or higher; *Planning* $M = 3.136$, $SD = .495$, *Instruction* $M = 3.082$, $SD = .556$, *Learning Environment* $M = 3.223$, $SD = .649$, *Professional Practices and Responsibilities* $M = 3.267$, $SD = .564$. The 4+1 TEACH program expected teacher residents to use the Swivl™ video recording device a minimum of six times. The data provided in Figure 1 show that the program expectation was met with $M = 8.35$, $SD = 4.89$.

Table 2*Descriptive Statistics*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>
T-TESS Planning	170	3.136	.495
T-TESS Instruction	170	3.082	.556
T-TESS Learning Environment	170	3.223	.649
T-TESS Prof Practice & Responsibilities	170	3.267	.564
# of Swivl Video Uploads	170	8.35	4.89

Note. *n* = 170

Correlational Analysis

Using IBM® SPSS, a two-tailed bivariate correlational analysis was performed to examine the relationship between the number of uses of the recording device and the summative T-TESS scores by domain for 4+1 TEACH first-year teachers (Creswell & Creswell, 2018). Pearson *r* correlation coefficients near $\pm .10$ are considered small in relationship strength, near $\pm .30$ are considered medium in relationship strength, and near $\pm .50$ are considered large in relationship strength (Creswell & Creswell, 2018; Field, 2018).

Table 2 provides the correlational analysis for each of the four domains of the T-TESS and the use of the Swivl™ recording device. For the T-TESS Planning domain, there is an approaching moderate, positive correlation between the two variables, $r(170) = .243$, $p = .001$, $r^2 = 5.9\%$. T-TESS Instruction domain has a small, positive correlation between the two variables, $r(170) = .171$, $p = .025$, $r^2 = 2.9\%$. T-TESS Learning Environment domain has an approaching moderate, positive correlation between the two variables, $r(170) = .268$, $p < .001$, $r^2 = 7.2\%$. T-TESS Professional Practices and Responsibilities has a small, positive correlation between the two variables, $r = .189$, $p = .014$, $r^2 = 3.5\%$.

Table 3*Correlational Analysis*

Variables	# of Swivl Video Uploads			
	<i>n</i>	<i>r</i>	<i>r</i> ²	<i>p</i>
T-TESS Planning	170	.243**	.059	.001
T-TESS Instruction	170	.171*	.029	.025
T-TESS Learning Environment	170	.268**	.072	< .001
T-TESS Prof Practices and Responsibilities	170	.189*	.036	.014

Note. *n* = 170

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Figure 1 through Figure 4 provide the scatterplots used to present the correlations between variables.

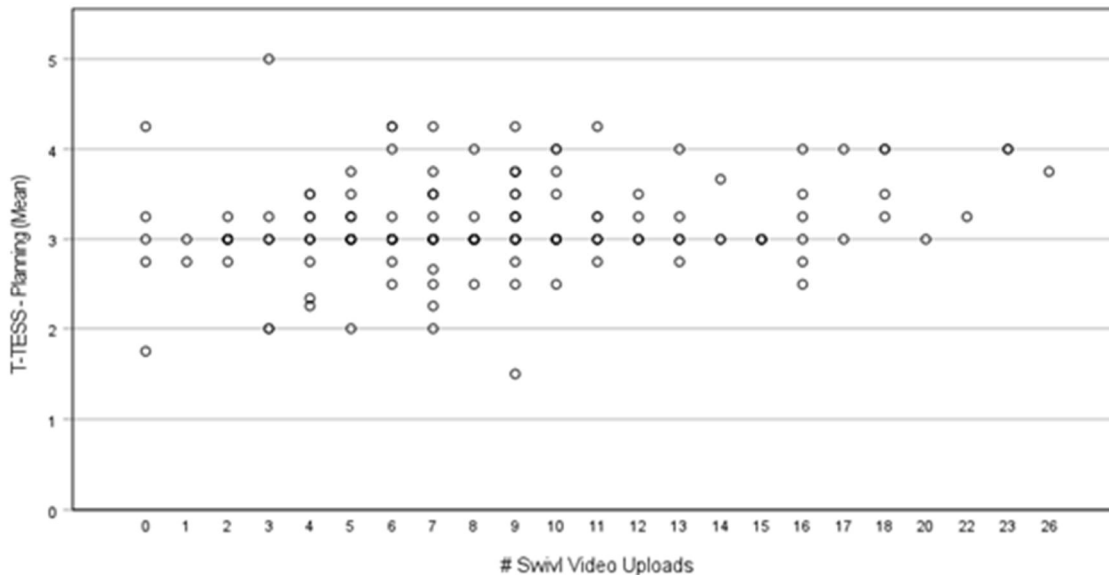
Figure 1*T-TESS - Planning Domain Scatterplot*

Figure 1 provides data for the T-TESS Planning domain. This scatterplot shows that teacher residents who uploaded six or more video recordings, more than not, received a score of 3 (Proficient) or higher for this domain. The correlational data for this domain showed an approaching moderate, positive correlation between the two variables, $r(170) = .243$, $p = .001$, $r^2 = 5.9\%$. These results indicate that 5.9% of the T-TESS Planning score can be attributed to the number of videos uploaded. Although there is an approaching moderate correlation, the results were lower than anticipated. It is reasonable to suggest that because of the rigorous qualifications required to be admitted into the 4+1 TEACH program, program participants can be considered high achievers, possibly impacting the overall results. The categories within the T-TESS Planning domain include *Standards and Alignment*, *Data and Assessment*, *Knowledge of Students*, and *Activities*. Characteristics expected of program participants scoring a 3 (Proficient) or higher in this domain include that they should be proficient with the ability to align lessons to state standards, create alignment between goals and objectives, implement technology integration, and use activities, assessments, and materials that incorporate diverse learner needs and that are relevant to all learners. Appropriate time management should also be evident. In addition, program participants should be able to assess student learning and use collected data to modify instruction to meet learner needs, including drawing on prior knowledge, addressing gaps in learning, providing clear instructions to ensure learners know expectations, creating instructional groups to meet learner needs, and challenging learners to think critically and apply knowledge (TEA, 2022b).

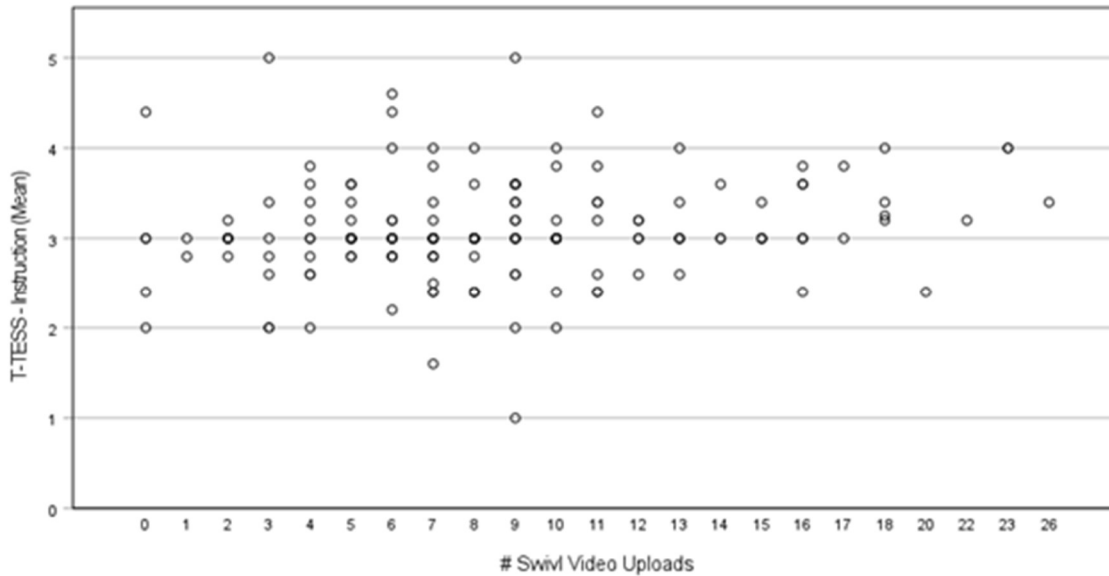
Figure 2*T-TESS - Instruction Domain Scatterplot *

Figure 2 provides data for the T-TESS Instruction domain. This scatterplot shows that program participants who uploaded six or more video recordings, more than not, received a score of 3 (Proficient) or higher for this domain. The correlational data for this domain showed a small, positive correlation between the two variables, $r(170) = .171$, $p = .025$, $r^2 = 2.9\%$. The results indicate that 2.9% of the T-TESS Instruction score can be attributed to the number of videos uploaded. The Instruction domain has the lowest attribution percentage. These results were much lower than anticipated. It is reasonable to suggest that because of the rigorous qualifications required to be accepted into the 4+1 TEACH program, that program participants can be considered high achievers, possibly impacting the overall results. The categories within the T-TESS Instruction domain include *Achieving Expectations*, *Content Knowledge and Expertise*, *Communication*, *Differentiation*, and *Monitor and Adjust*. Program participants scoring a 3 (Proficient) or higher in this domain should be proficient with the ability to achieve learner mastery on concepts, address learner misconceptions, and provide instruction in a manner that challenges learners. They should also have proficiency with the ability to integrate objectives across disciplines and plan instruction that encourages learners to use diverse types of thinking (research-based, creative, analytical, or practical). Communication between program participants and students should provide opportunities for both written and oral communication, clear communication should be evident, peer collaboration should be utilized, and probing questions should be used to elaborate and clarify learning. Differentiation is evident within instructional methods to ensure learner needs are addressed. Learners' social and emotional needs are addressed, learner confusion about content knowledge is corrected, and the quality of student participation and performance is regularly monitored. Student behavior, engagement, and understanding are actively monitored to ensure mastery is achieved (TEA, 2022b).

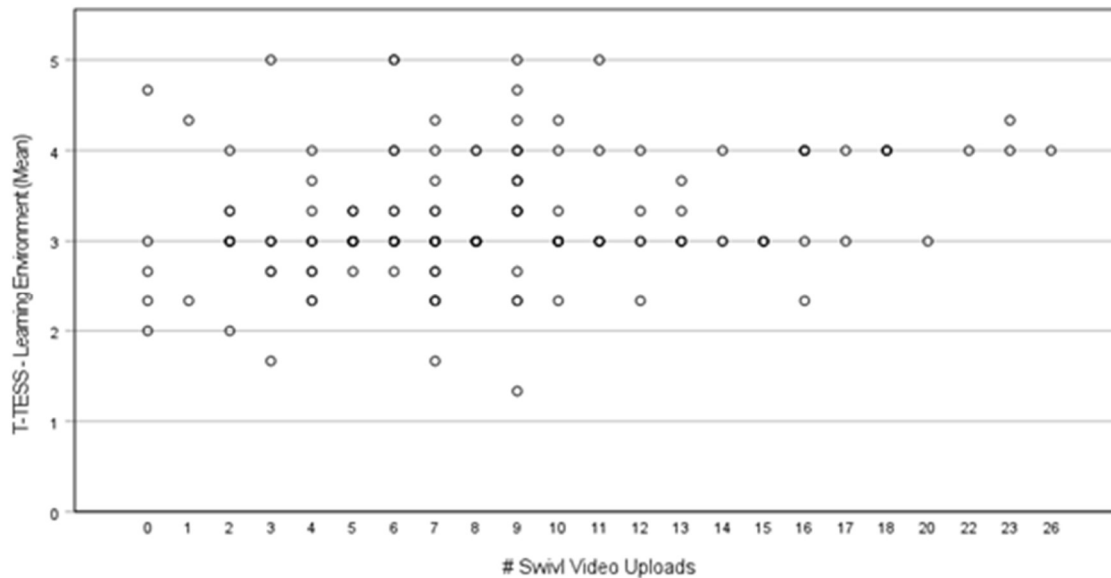
Figure 3*T-TESS - Learning Environment Domain Scatterplot*

Figure 3 provides data for the T-TESS Learning Environment domain. This scatterplot shows that program participants who uploaded six or more video recordings, more than not, received a score of 3 (Proficient) or higher for this domain. The correlation data for this domain show an approaching moderate, positive correlation between the two variables, $r(170) = .268$, $p < .001$, $r^2 = 7.2\%$. As the researcher, I can conclude that 7.2% of the T-TESS Learning Environment score can be attributed to the number of videos uploaded. Although this domain has an approaching moderate correlation, the results were again lower than anticipated. It is reasonable to suggest that because of the rigorous qualifications required to be admitted into the 4+1 TEACH program, that program participants are considered high achievers, possibly impacting the overall results. The categories within the T-TESS Learning Environment domain include *Classroom Environment*, *Routines and Procedures*, *Managing Student Behavior*, and *Classroom Culture*. Program participants scoring a 3 (Proficient) or higher in this domain should be proficient with implementation of routines, procedures, and transitions that are clear and efficient. Learners should be provided with the opportunity to manage materials and work both individually and with peers, requiring minimal teacher direction. The classroom should be safe, inviting, and organized, allowing learners an optimal learning environment to be engaged and active in the learning process (TEA, 2022b).

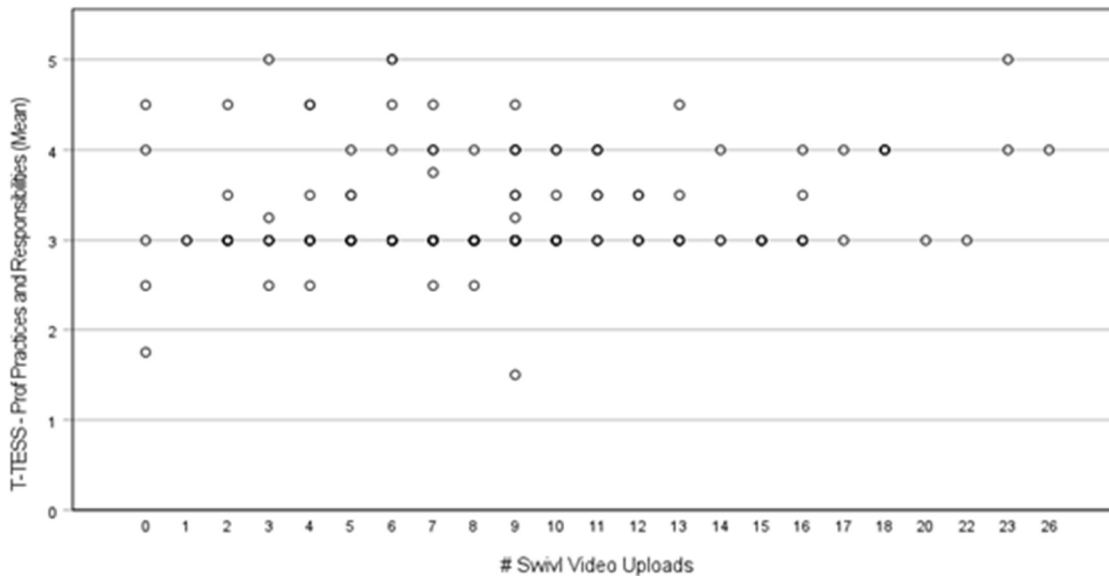
Figure 4*T-TESS - Professional Practices and Responsibilities Domain Scatterplot*

Figure 4 provides data for the T-TESS Professional Practices and Responsibilities domain. This scatterplot shows that program participants who uploaded six or more video recordings, more than not, received a score of 3 (Proficient) or higher for this domain. The data for this domain show a small, positive correlation between the two variables, $r = .189$, $p = .014$, $r^2 = 3.5\%$. The results indicate that 3.5% of the T-TESS Professional Practices and Responsibilities score can be attributed to the number of videos uploaded. Similar to the other three domains, the results were lower than anticipated. Again, it is reasonable to suggest that because of the rigorous qualifications required to be admitted into the 4+1 TEACH program, program participants can be considered high achievers, possibly impacting the overall results. The categories within the T-TESS Professional Practices and Responsibilities domain include *Professional Demeanor and Ethics*, *Goal Setting*, *Professional Development*, and *School Community Involvement*. Program participants scoring a 3 (Proficient) or higher in this domain should be proficient with professional conduct as it relates to the Code of Ethics and Standards for Texas teachers, set short and long-term professional goals, exhibit a growth mindset soliciting professional growth opportunities that align with professional goals, actively communicate with parents, and participate in outreach programs that foster the mission and goals of the district in which they teach (TEA, 2022b).

Implications and Recommendations for Future Research

This study's findings indicate a statistically significant positive correlation between the number of uses of video recording and T-TESS evaluation scores. This evidence suggests that the frequency of use of video recording devices is positively correlated to novice teacher performance scores. While the findings of this initial study indicate a statistically significant positive correlation between the uses of the video recording device and the summative T-TESS evaluation scores, further research is necessary to determine if strengthening the variations in the use of the video recording device can increase the effect of the correlation between the two variables.

Teacher performance is evaluated within every school district. The variations in appraisal components, tools, methods, and procedures pose challenges to the accessibility, flexibility, and authentic feedback necessary for teachers' professional growth (Deci, 2009; Fradkin-Hayslip, 2021; Jiang & Luppescu, 2015; Wiliam, 2016). These challenges may be mitigated by implementing a video recording device in the evaluation process to foster a more cohesive teacher-evaluator interaction. Further research is recommended to evaluate the specific, authentic feedback process used in conjunction with the video recording device. This research did not examine the data related to the specific feedback provided by mentors during the video recording process. However, data suggests that with the approaching moderate correlational relationship for T-TESS Planning and T-TESS Learning Environment domains, and a small correlational relationship for T-TESS Instruction and T-TESS Professional Practices and Responsibilities, if the qualitative data is reviewed, further evidence might be uncovered to strengthen the relationship between variables.

While the sample size, $n = 170$, of the study population exceeded the suggested sample size, $n = 138$, identified using the power analysis, G-Power 3.1.9.7 statistical software, recommendations to increase the number of the target group of teacher residents is advised. The small sample size combined with the rigorous criteria 4+1 TEACH residents met prior to admission may have stifled the results. Conducting research that represents a larger novice teacher population might provide additional support of the correlation between the two variables. In addition, expanding research to include first-year teachers that teach within more diverse school demographics might also be explored.

Conclusion

Long-standing research has established a connection between teacher autonomy, motivation, and job satisfaction. Having the ability to make independent choices, being in control of instructional related issues, and sharing in the decision-making processes are all present in an environment that fosters these connections (Deci, 2009; Fradkin-Hayslip, 2021; Goe et al., 2008). The use of a video recording device in the evaluation process of first-year teachers could provide them with a collaborative tool to be intentional in the evaluation of their pedagogical practices. Further research is necessary to investigate possible ways a video recording device could be used to improve the mentoring process. Authentic feedback data was not evaluated in this study; however, it is recommended that a qualitative analysis be performed to examine the data related to the specific feedback provided by mentors during the video recording process. If the qualitative data are reviewed, further evidence might be uncovered to strengthen the relationship between variables.

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