Tennessee Educational Leadership

A TASCD Publication

Tennessee Educational Leadership (TEL) is a peer reviewed journal intended to communicate information, ideas, theoretical formulations, and research findings related to leadership, supervision, curriculum, and instruction. Starting with ***Volume 43***, the ***TEL*** will appear in an online format with national open availability. Distribution will include Tennessee Association for Supervision and Curriculum Development (TASCD) members and others with an interest in supervision/leadership, curriculum development, and instruction at both the university and school-based levels. The journal is nonthematic and aims to promote discussion of a broad range of concepts, theories, issues, and dissemination of the knowledge base for professionals in education.

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Letter from TASCD President Susan Kessler

September 1, 2018

Dear TASCD Members,

There has never been a more important time to be an educator in Tennessee than in 2018. Nearly 600,000 school age children began another school year in our State in the last few weeks and we know from research and best practice that that single most important factor in a child's achievement is an effective teacher.

Those words, "single, most important factor" reverberate within my head as I consider our work. Those are compelling, powerful words. We know that we serve children who range from the wealthiest of the wealthy to the poorest of the poor. Yet, they all need the same thing, an excellent teacher. Whether it is closing gaps in skills or expanding the curriculum to meet their curiosity Tennessee teachers are tasked with giving the children they serve what they need. We do it despite the negative rhetoric, the political agendas, and the "experts" who have never spent a day serving children. We do it not because there is a State standard or board policy that dictates that we do it. We are committed to making a difference in the lives of children simply because it is the right thing to do. It is the crux of our work and that belief serves as the skeleton upon which everything else we do is built.

We are Tennessee educators. At TASCD our mission includes providing high quality professional development for our profession. Our quarterly journal, social media postings and annual summer institute all work for that goal. We are glad that you are here and thank you for being part of our professional network.

From all of us at TASCD, we hope 2018-19 is your best school year ever!

Yours truly,

Susan Kessler, Ed.D.
TASCD President

Message from TASCD Executive Director Steve Simpson

The promise of another school year brings with it many anticipations, surprises, and experiences. Students arriving to school, teachers planning lessons, and administrators crafting visions for their school, all leads to endless possibilities for a successful school year. What story will you write? What words, smiles, frustrations, and experiences will you write upon your students every day you see them in your buildings? Tara Brown during our 2018 TASCD Summer Institute challenged educators to find out the "story behind the story" of each student and person we come in contact with. Discover the student's why. What makes them who they are or why they act the way they do? How well do I know my students, staff, or parent/community? Josh McDowell said "rules without relationships equals rebellion." Also, Theodore Roosevelt said people "don't care how much you know until they know how much you care." Use the beginning of the year to get to know your students, educators, and parent community members. Get to know their "story" and build relationships with them all. The more time we invest in our students, parents, and staff to build relationships, the stronger the bond between those members. TASCD hopes you write your story well this year, and wishes you success as you build your relationships within the staff, students, and parents throughout your districts. Later this year we will be honoring one great TASCD teacher and one great TASCD administrator for their educational efforts. Information will be out soon how to nominate a TASCD educator/administrator. TASCD would like to recognize our members for their outstanding accomplishments in education, and celebrate those successes together with others across our state. Continue to build relationships, celebrate your successes, and write a wonderful "story."

All best,
Steve Simpson
TASCD Executive Director

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Invitation to Submit Manuscripts

Review process: Authors will receive acknowledgment regarding receipt of their submission. Manuscripts that meet ***TEL*** specifications will be peer-reviewed. Except for the cover page, ***TEL*** requires that you omit any identifying information to ensure a blind review.

Submission requirements: Authors should email an electronic version of the manuscript to Dr. Thomas Buttery, butteryt@apsu.edu.

Style: Authors should use the "Publication Manual of the American Psychological Association" (APA) (6th edition). Number all pages, but please do not include a running head.

Length: Manuscripts, including references, tables, charts and figures normally should not exceed 15 pages; however, we recognize that length of articles varies according to topics.

Word-processing: Format manuscripts via Microsoft Word Times Roman font and double-spaced, 12-point text, with one-inch margins. Authors should use tabs and indents instead of spaces to standardize the format. Please place tables, charts, and figures at the end of the manuscript.

Cover page: Include the following information:

1. Title of the manuscript
2. Date of submission
3. Author's name, mailing address, business and home telephone numbers, institutional affiliation and address, email address, and fax number.
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5. Biographical information that identifies your title, where you work and area(s) of scholarship. Please limit this information to 30 words per author.

Abstract: A concise 100-word, double-spaced narrative should be included at the beginning of the manuscript.

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The *TEL* Journal is a peer-reviewed publication of the Tennessee Association for Supervision and Curriculum Development. The mission of the *TEL* Journal is communication of information, ideas, theoretical formulations, and research findings related to leadership, supervision, curriculum, and instruction. The points of view of authors are not necessarily reflective of the association or journal editors. Authors are responsible for the accuracy of information and legal use of all materials within their manuscripts.

Analyzing edTPA Scores to Improve Program Curriculum

John C. Mooneyham East Tennessee State University

With the implementation of the edTPA as a licensing requirement for many states, Educator Preparation Programs (EPPs) are continually looking for ways to improve their students' performance on this assessment. By leveraging data from past edTPA submissions, EPPs can identify areas for improvement using simple Excel calculations and data analytics tools without a large investment of time and resources. Sharing these insights with content and clinical faculty allows instructors and supervisors to tailor instruction to the needs of their students as exemplified in the data and outcomes analyzed in this paper.

Educator preparation programs (EPPs) across the nation have varying requirements for program completion and certification for teacher licensure. In addition to completing coursework and practicum hours, most EPPs also require the satisfactory completion of high-stakes exams and/or teacher portfolio assessments (TPAs). Stanford University and the American Association of Colleges for Teacher Education (AACTE) formed a partnership to develop and share one such assessment known as the edTPA. The edTPA is a performance-based, subject-specific assessment and support system used by more than 600 teacher preparation programs in more than 40 states to emphasize, measure and support the skills and knowledge that all teachers need from Day 1 in the classroom. It builds upon previous work on assessments of teacher performance and research regarding teaching skills that improve student learning (SCALE, n.d.).

The edTPA portfolio project requires students to develop one unit of three to five lesson plans and all materials for instruction, planning, and assessment within their residency placement, video record the implementation of that unit, and analyze the results of one assessment from the unit to assess the effectiveness of their instruction. Students submit materials, video evidence, student work samples, and written rationales to address prompts in support of their planning, instructional, and assessment decisions. The submitted portfolio is assessed by trained scorers who award up to 75 points for the entire portfolio, organized into the three sections valued at 25 points each. In order to score the maximum amount of points within some individual rubrics, secondary criteria must be met. These secondary criteria are found on four of the fifteen rubrics, and once met, allow students to receive a score of 4 or 5 instead of 3. The focus on three of the four rubrics with secondary criteria for teacher-candidates to justify their decisions and actions in their task commentaries through a connection to relevant research or theory acquired in courses for their program, independent reading, or elsewhere (SCALE, 2018, p. 13).

As of Fall 2017, 18 states have either adopted statewide policies requiring a performance assessment for aspiring teachers or are actively considering such a step. After transitioning to operational status in Tennessee in the fall of 2013, the results of edTPA are now available for state licensure or certification consideration, for program completion decisions by institutions, or as part of institutional accreditation. By 2019

the Tennessee Department of Education (TDOE) will require all teacher-candidates to achieve a score of 42 or above on the edTPA to be eligible for licensure (Tennessee Department of Education, 2017).

EPPs continue to explore ways to better prepare teacher-candidates to perform well on this important assessment. While these assessments serve as benchmarks for program completion, they also afford programs a data-rich overview of how their instruction aligns with current practices in teacher education (Darling-Hammond, 2010; Evans, Kelly, Baldwin, & Arnold, 2016). Peck, Singer-Gabella, Sloan, and Lin (2014) cite multiple studies suggesting that this data can be the impetus for change and improvement at the program level. As the authors of one study expressed, "As states have moved toward the adoption of new policies requiring edTPA, institutions of higher education have been faced with the need to provide intensive faculty professional development and to consider extensive curricular redesign to ensure candidates are prepared with the professional knowledge and expertise to succeed" (Bhatnagar, Kim, & Many, 2017, p. 25). It must be realized that opportunities for learning are embedded in the process of adopting these standardized assessments beyond those at the teacher-candidate or faculty level (Peck & McDonald, 2013).

A copy of a presentation obtained from an August 2016 meeting of the TDOE's Educator Preparation and Licensure Subcommittee discusses edTPA's educative purposes, stating that the portfolio assessment is designed to inform policy on licensure, program completion, and accreditation. Further on, the need is stated for analyses of performance across multiple levels including statewide analyses to inform policy and research as well as EPP analyses to inform program design (Tennessee Department of Education, 2016). Therefore, the purpose of this paper is to inform EPPs of one simple, yet effective way of analyzing their collective edTPA data for program improvement and to provide an example of how a descriptive analysis of that data can be used. While an inferential analysis of such data might yield insights for a more detailed intervention, by simplifying the aspect of the analysis to include only descriptive metrics, the onus of this undertaking is greatly reduced. By examining annual data from this very detailed assessment, educational leaders can work with departments and programs to enact beneficial changes to curriculum and practices without devoting time, faculty, and resources to more intensive analyses.

My EPP implemented the edTPA as a graduation requirement in 2013 and continues to seek out ways to improve scores overall, within specific tasks, and within individual rubrics. One way to identify areas for improvement is to analyze scores on individual rubrics in order to adjust the curriculum to address these shortfalls. Specific areas for improvement have been identified by comparing the individual rubric scores of groups isolated by location, composition, and instructional staffing. Given the wealth of data that is accumulated after the completion of the edTPA, my EPP is asking a question that most EPPs are asking at this point in the academic year: What do the edTPA scores from this year tell us about our program, and how can we use this data to improve our curriculum to benefit our students? Essentially, "The edTPA also allows teacher preparation programs the opportunity to self-assess" (Burns, Henry, & Lindbauer, 2015, p. 19), but what are the actual steps needed to inform their assessments and decisions?

The results from last year's edTPA submissions indicated that students in our EPP needed more support and instruction to satisfy the secondary criterion relating theory and theorists to their planning, instructional,

and assessment decisions. The First Year Experience Survey: Information Literacy in Higher Education, comprehensively reviewed by Highcliffe, Rand, and Collier (2018), found that for first-year students at four-year schools evaluating sources for reliability was the greatest challenge while the next two most challenging aspects were a lack of awareness of available resources and the ability to identify appropriate sources for an assignment (p. 2). The same survey described students at two-year schools as lacking prior information literacy experience in using an academic library or completing research projects (p. 2). Since all of the data for this study came from students who transfer to our EPP from local community colleges, a course of action was developed where students would receive information literacy instruction and support on methods to seek out and evaluate quality reference materials used in their commentaries in an effort to provide as much scaffolding as possible and surround the student teachers with support (Burns, Henry, & Lindbauer, 2015).

Methods

Program Structure

Students complete their edTPAs in the Spring semester through a course related to their teacher residency. However, students begin working on the edTPA late in the Fall semester and are also required to include a connection to theory or theorists on portions of their lesson plans for supervised observations.

Since the lesson plan template includes a component on connecting their decisions to research and theory, the residency supervisor provided additional support and instruction to candidates with the intent that the skills necessary to address these aspects of the lesson plan would to be applied in satisfying similar criteria on the edTPA commentary questions related to specific rubrics.

Intervention

As part of post-teaching feedback sessions, supervisors encouraged students to maintain a working bibliography of the sources they used to support their planning decisions as they developed their formal lesson plans. This bibliography was improved during the seminar course as the seminar instructor directed students to additional resources available online or through our university. Discussions on evaluating the appropriateness of using particular sources for their edTPA submissions were also included as part of the Spring semester edTPA Seminar course. By providing guidance on how and where to access peer-reviewed journals and other publications, students would be able to connect their planning decisions to authentic, quality reference materials.

This practice was carried out by identifying sources cited by students on past lesson plan submissions and comparing them to sources of similar topics obtained by using search engines such as Google Scholar and databases available through our institution's library such as ERIC and JSTOR. The seminar instructor explicitly showed students the procedures for accessing these materials using their own login credentials and through guided discussion, students were able to identify the characteristics of appropriate and inappropriate reference materials. Students attained a better understanding of where and how to locate and utilize preferred reference materials over sources such as Pinterest or blogs by examining characteristics such as length, peer-reviewed status, presence of data to support claims, and publication type.

A cohort group that mirrored the approximate size and instruction of the group receiving the additional guidance was available for comparison. The scores of students receiving instruction on using our

institution's research databases and other resources (Group S 2018) would be compared with student scores from the 2017 submissions at that location and to those of the similar cohort group (Group M) for the current and previous year on rubrics 3, 10, and 15. The four tables below represent the scores of students in subgroups from the overall 2017 and 2018 data the institution received. Since the satellite locations have small cohort sizes the students were easy to identify, and their data was moved into four smaller, and more easily comparable tables. Table 1 represents the scores Group S received in 2018. The 2017 scores of students from Group S are labeled Table 2. In order to compare scores longitudinally to Group M, their 2018 and 2017 scores are illustrated in Tables 3 and 4, respectively.

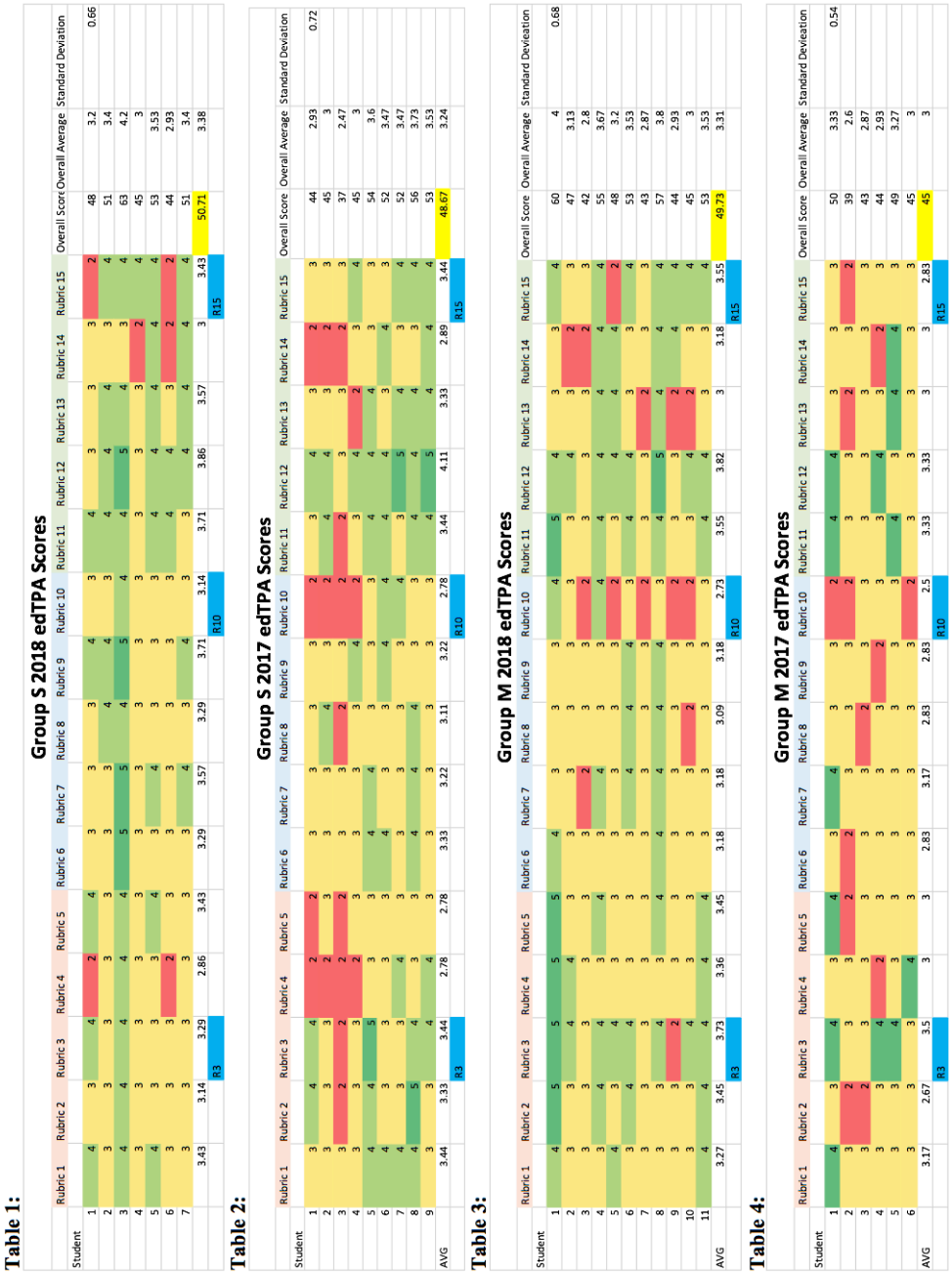

Table 1: Group S 2018 edTPA Scores

Student	Rubric 1	Rubric 2	Rubric 3	Rubric 4	Rubric 5	Rubric 6	Rubric 7	Rubric 8	Rubric 9	Rubric 10	Rubric 11	Rubric 12	Rubric 13	Rubric 14	Rubric 15	Overall Score	Overall Average	Standard Deviation
1	4	3	4	2	4	3	3	3	3	4	3	4	3	3	2	48	3.2	0.66
2	3	3	3	3	3	3	5	5	4	5	4	4	4	4	4	51	3.4	
3	4	4	4	4	4	4	5	5	4	5	4	5	5	4	4	63	4.2	
4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	45	3	
5	4	3	3	3	4	3	4	3	3	3	3	4	4	4	4	53	3.53	
6	3	3	3	2	3	3	3	3	3	3	3	4	4	3	2	44	2.93	
7	3	3	3	3	3	3	4	3	3	4	3	4	4	4	4	51	3.4	
	3.43	3.14	3.29	2.86	3.43	3.29	3.57	3.29	3.71	3.71	3.14	3.86	3.57	3	3.43	50.71	3.38	
			R3							R10					R15			

Table 2: Group S 2017 edTPA Scores

Student	Rubric 1	Rubric 2	Rubric 3	Rubric 4	Rubric 5	Rubric 6	Rubric 7	Rubric 8	Rubric 9	Rubric 10	Rubric 11	Rubric 12	Rubric 13	Rubric 14	Rubric 15	Overall Score	Overall Average	Standard Deviation
1	3	4	4	4	2	2	3	3	3	3	2	3	4	3	3	44	2.93	0.72
2	3	3	3	2	3	3	3	3	4	3	4	4	3	3	3	45	3	
3	3	2	2	2	2	3	3	2	3	2	2	3	2	2	3	37	2.47	
4	3	3	3	2	2	3	3	3	3	4	2	4	2	3	4	45	3	
5	4	4	4	3	3	3	4	4	3	3	3	4	4	3	3	54	3.6	
6	4	3	3	3	3	4	4	3	4	4	4	4	4	4	3	52	3.47	
7	4	3	3	4	3	3	3	3	4	4	4	5	5	4	4	52	3.47	
8	4	4	5	4	3	4	4	4	3	3	4	4	4	3	4	56	3.73	
9	3	3	4	4	4	3	3	3	3	3	3	5	5	4	4	53	3.53	
AVG	3.44	3.33	3.44	2.78	2.78	3.33	3.22	3.11	3.22	2.78	3.44	4.11	3.33	2.89	3.44	48.67	3.24	
			R3							R10					R15			

Table 3: Group M 2018 edTPA Scores

Student	Rubric 1	Rubric 2	Rubric 3	Rubric 4	Rubric 5	Rubric 6	Rubric 7	Rubric 8	Rubric 9	Rubric 10	Rubric 11	Rubric 12	Rubric 13	Rubric 14	Rubric 15	Overall Score	Overall Average	Standard Deviation
1	4	5	5	5	5	4	3	3	3	3	4	5	4	3	4	60	4	0.68
2	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	47	3.13	
3	3	4	4	3	3	3	2	3	3	2	2	3	3	2	3	42	2.8	
4	3	4	4	3	4	3	3	4	3	3	4	4	4	4	4	55	3.67	
5	4	3	4	3	3	3	3	3	3	2	2	4	4	4	2	48	3.2	
6	3	4	4	3	3	3	4	4	4	4	3	4	4	4	3	53	3.53	
7	3	3	3	3	3	3	3	3	4	3	3	5	3	2	3	43	2.87	
8	3	3	4	4	4	3	4	4	4	3	4	5	4	4	4	57	3.8	
9	3	3	2	3	3	3	3	3	3	2	2	3	2	2	4	44	2.93	
10	3	3	4	4	3	3	3	2	3	3	3	4	4	3	4	45	3	
11	4	4	4	4	4	3	3	3	3	3	3	4	3	3	4	53	3.53	
AVG	3.27	3.45	3.73	3.36	3.45	3.18	3.18	3.09	3.18	2.73	3.55	3.82	3	3.18	3.55	49.73	3.31	
			R3							R10					R15			

Table 4: Group M 2017 edTPA Scores

Student	Rubric 1	Rubric 2	Rubric 3	Rubric 4	Rubric 5	Rubric 6	Rubric 7	Rubric 8	Rubric 9	Rubric 10	Rubric 11	Rubric 12	Rubric 13	Rubric 14	Rubric 15	Overall Score	Overall Average	Standard Deviation
1	4	3	4	3	4	3	4	3	3	3	2	4	3	3	3	50	3.33	0.54
2	3	2	3	3	2	2	3	4	3	2	3	3	2	3	2	39	2.6	
3	3	2	3	3	3	3	3	3	2	3	3	3	3	3	3	43	2.87	
4	3	3	4	2	3	3	3	3	2	3	3	4	3	2	3	44	2.93	
5	3	3	4	3	3	3	3	3	3	3	3	3	4	4	3	49	3.27	
6	3	3	3	4	3	3	3	3	3	3	2	3	3	3	3	45	3	
AVG	3.17	2.67	3.5	3	3	2.83	3.17	2.83	2.83	2.5	3.33	3.33	3	3	2.83	45	3	
			R3							R10					R15			

Analysis

In order to analyze the data, all identifying markers were removed to reduce the size of the charts and to refrain from compromising student privacy. A descriptive analysis of the data was used to determine a baseline for this comparison and subsequent studies. Additionally, since the goal of this particular analysis was to focus on the performance of an entire cohort group an inferential analysis was not utilized. In short, the goal was not to necessarily determine the scope of the impact of the interventions, but to identify any indication that the interventions had an impact at all so that a more coordinated approach could be taken at the departmental level.

Since the data collection our EPP receives is pre-sorted to display individual rubric scores for each teacher-candidate, the next step in this process was to identify individuals belonging to the comparison groups and create spreadsheets to code the data. The data was coded with simple colors using an automated, basic Excel function, which color-codes like scores and allows viewers to easily identify clusters of similar scores on individual rubrics. For the purposes of this study, the stoplight color scheme was used. Red was used to identify outliers below a score of 3, while Green and Dark Green identify scores above 3. All scores of 3 were coded with yellow.

Results

The average overall scores for both cohorts on the edTPA rose by 2.04 and 4.73 points in 2018 compared to 2017. Since the entire college also made changes in their curriculum, the shared lesson plan template, and assessment artifacts during the most recent Residency year, it is difficult to parse out individual influences on overall scores. This data comparison has also illuminated other areas of concern on individual rubrics tied to specific prompts unrelated to this study that clinical faculty will be informed of prior to the beginning of the next Residency year.

Analyzation of the scores for both cohort groups, yielded the following results. In rubrics 3 and 15, there was a slight drop (0.15 and 0.01 points respectively) in performance when comparing Group S scores from 2017 to those from 2018, and a small increase (0.98 points) in overall performance between the 2018 group that received intervention (Group S) and the group that did not (Group M). The 2018 scores on rubric 10 did increase overall somewhat, but the percentage of students meeting the initial criteria for this rubric was the most noticeable increase. An analysis of the individual rubrics resulted in the following findings.

Rubric 3 (R3). The average score on R3 decreased from the previous year, however, no student scored below a 2 meaning that every student satisfied the primary criteria for the rubric. In the Group S 2017 group, one student did not meet these requirements and received a score of 2 for this rubric. One anomaly to note here is that the 2018 average Group M score on this rubric was 0.44 points higher than the average for Group S. I'm unsure of how to explain this, but feel that I should mention the overall average score from Group M increased almost 5 points (4.73 points) in 2018 compared to 2017. A rising tide raises all ships, possibly.

Rubric 10 (R10). There was a slightly more significant increase (0.36 points) in the average scores on R10 when comparing the 2017 Group S scores to the 2018 scores. However, the greatest gain seems to be in the number of students meeting the requirements for a score of 3 on the rubric. In the 2017 group, four of the nine students (44%) scored a 2 on this rubric,

compared to no student scoring below a 3 from the 2018 group.

When comparing the 2018 Group S to the 2018 Group M on this rubric, Group S scored 0.41 points higher on average. The number of students scoring below a level 3 in Group M was also five of eleven (45%). However, since students must meet initial level 3 criteria before research and theory are considered these students may have submitted work with relevant research and theory but may not have met the initial criteria to put them in a position to profit from these details.

Rubric 15 (R15). There was a negligible loss (0.01 points) on the 2018 Group S average for R15 when compared to the 2017 group. However, similar to rubric 10, the overall number of students achieving higher scores on this rubric increased from 2017. Previously, only four of nine students (44%) scored above a 3 on this rubric, while the number of students meeting that threshold in 2018 was five of seven (71%). Additionally, submissions that scored below a 3 were assessed on criteria unrelated to the use of research or theory in their submissions, and primarily on their analysis of student learning to influence the direction of their instruction moving forward.

Limitations

This study is limited by a variety of factors. In an ideal scenario, all sections of courses would be taught in a manner similar enough to reduce the effects individual instructors have on such outcomes. Since this study was not conducted in an ideal scenario, some of these factors did, and will continue, to influence edTPA scores. Another factor limiting the validity and usefulness of this data is that the secondary criteria of these rubrics did not factor into the scores of students who did not meet the primary criteria. Students may have submitted responses that satisfied the secondary criteria, but that cannot be known at this point because the process for scoring the portfolios does not allow scorers to award points above a 3 or 4 if the primary criteria are not met. Additionally, students may have supplied great research or theory in their responses without leveraging such resources to the satisfaction of the scorer, as the criteria call for students to make connections, support principals, and justify changes using the research and/or theory.

Conclusions

To conclude, every EPP that has implemented a TPA in some capacity should be analyzing the data they receive from their students' submissions. Even at the individual instructor or supervisor level, valuable insights can be gained from informal data comparisons that take little time and effort to complete. While the outcomes may not reveal specific areas for improvement at the coursework level, it is likely that patterns will emerge for students receiving similar instruction, and over a longer period of time and with more data to analyze, these patterns will exhibit the story of how students performed and how the EPP responded to those performances. As Ratner and Kolman (2016) report,

> we have found that the edTPA has given us a more precise and thorough understanding of what our students know and are able to put into practice concerning planning, instruction and assessment. We have developed concrete insights about how our courses have succeeded, as well as failed, to prepare candidates for teaching in authentic classroom contexts; we feel more determined—and sense similar urgency from our participants—to augment and refine our teacher preparation practices to ensure that graduates of our programs

> are truly ready to become teachers of record (p.22).

By engaging in these kinds of analyses, EPPs can ensure that they are presenting their faculty with opportunities to learn from the data and collaborate on possible changes to their programs. In a study on how three teacher education programs in California used the data from the implementation of a TPA, the PACT, a number of insights about program outcomes were attributed to the analysis of the PACT data (Peck & McDonald, 2013). They go on to describe how one program director observed the way the analysis of the data "functioned to motivate change more powerfully than any other accountability policies" (p. 25). Similarly, in addition to calling for further investigation into the relationships of pre-service teacher preparation and performance, the Evans, Kelly, Baldwin, and Arnold (2016) study also posits that information from the edTPA can be a source of information for program improvement.

Particularly, EPPs that serve transfer students may need to consider factors that limit the experience their students may have with resources or research skills. Data comparisons of the variety described above, conducted to make comparisons between transfer students and those enrolling as first-time-freshmen, could potentially help in identifying score variations described in this paper or those related to other aspects of teacher preparation. By examining and leveraging this kind of data, content area and clinical faculty can obtain a clearer picture of areas in need of improvement related to individual edTPA rubrics and create professional development opportunities to address specific needs and ultimately produce more effective first-year teachers. As practitioners in such an important field, we owe not only our students, but their future students, the benefit of using all of the tools and data at our disposal to continually improve our programs and practice.

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Signature Strategies for Training the Next Generation of Teachers

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Preparing new teachers for the rigors of 21st century teaching is daunting. As veteran teachers retire, teacher education program facilitators must adapt to the ever changing and increasing demands that new teachers face. The Middle Tennessee State University Residency I program for secondary education focuses on three signature strategies to help prepare teacher candidates for the challenges ahead: Problem-Based Learning, guidance from multiple program facilitators, and continuous guest lectures from our surrounding district partners. These three interlocking strategies ensure that our teacher candidates survive and thrive not only during student teaching but also throughout their careers.

We face nationwide challenges when trying to recruit and train the next generation of teachers. According to Perda (2013), more than 42% of new teachers leave the profession within their first five years. Teacher educators must help aspiring teachers prepare for the rigors and realities of 21st century teaching. Miller and Wilson (2010) note that frequent field experiences are crucial to helping new teachers survive and thrive in their own classrooms, and these vital field experiences occur naturally in teacher residency programs. Built on the medical residency model, teacher residency programs provide students with immersive experiences and yield higher teacher retention rates than traditional teacher preparation programs with 80-90% of residency graduates teaching in the same district after three years and 70-80% after five years (Guha, Hyler, & Darling-Hammond, 2017). At Middle Tennessee State University, the residency program is divided into two semesters. Residency I precedes student teaching and houses a variety of content areas as well as K-12 and 7-12 licensures. In the secondary division of Residency I, we serve as the nexus between content areas at our university, ensuring that all teacher candidates receive a high-quality curriculum and experience. The residency program also provides intensive fieldwork in the schools with district partners, accented by three signature strategies: problem-based learning, guidance from multiple program facilitators, and iterative guest lectures from our surrounding district partners.

Problem-Based Learning (PBL) and Teacher Training

Many teacher preparation programs in Tennessee use Problem-Based Learning (PBL) strategies to help teacher candidates acquire and hone crucial skills. In the MTSU model, we complement our candidates' field experiences with a weekly seminar class, one rooted in Problem-Based Learning (PBL) where students solve real-time problems rather than receiving content knowledge through lecture. Our four PBL simulations are spaced across an entire semester and demand higher order thinking and collaborative teaming. Brown, Roediger, & McDaniel (2014) note that through spaced and interleaved practice, learners can transfer and synthesize new knowledge and skills

form one simulation to the next (p. 48-49). Figure 1 illustrates how our PBL progression helps candidates carry new knowledge and skills from one simulation to the next.

Figure 1 outlines how we leverage the power of PBL to ensure teacher candidates' success on edTPA through *desirable difficulties*, "short-term impediments that make for stronger learning" (Brown, Roediger, & McDaniel, 2014, p. 68). With real-world PBLs tied to edTPA tasks, facilitators then align the appropriate field exercises, seminar discussions, and mini-lessons to the edTPA-PBL progression.

Our progression spans an entire semester. The PBL scenarios are introduced and practiced during the weekly seminar and then extend beyond the seminar through links to specific debriefing field exercises. For example, one PBL scenario asks students to discuss how to handle conflict between faculty members; in the field that week, students will be prompted to reflect in their observation journals on faculty conflicts they may have witnessed and propose potential solutions to be shared during the seminar that evening.

Our PBL scenarios explicitly revolve around the challenges of being a new teacher and are based on actual experiences from teachers in our partner districts. For example, PBL experiences include: being a new member of a Professional Learning Community (PLC), navigating school culture, preparing for teacher evaluations, and maintaining a healthy work-life balance. Balancing work and life while being a new teacher has been a prominent concern for our teacher candidates, and residency facilitators must listen to and act upon candidates' concerns to help retain new teachers.

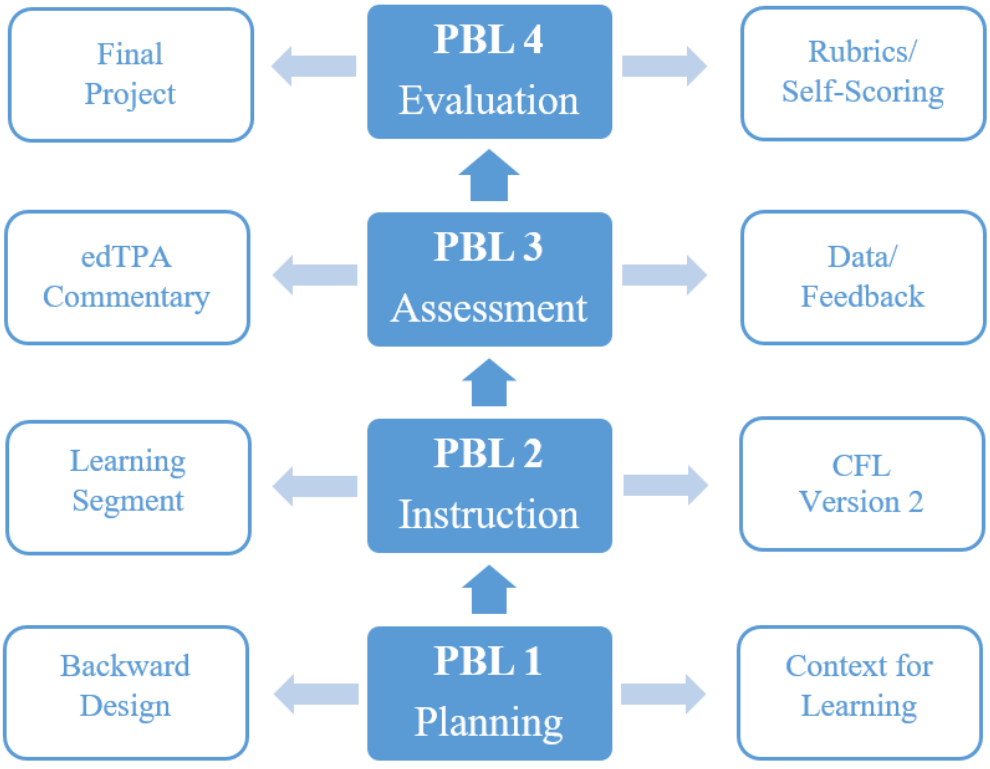

Figure 1. MTSU Residency I edTPA-PBL Progression

Therefore, our Residency I PBL scenarios are a key facet of our teacher residency program that provide teacher candidates with real-life problems to navigate. Students often realize, at the end of the semester, that schools are complex ecosystems with many working parts. They also notice the big-picture thinking embedded in PBL and are better equipped to make those connections. These connections fully emerge when the teacher whom we based the PBL scenarios on discusses her experiences as a novice teacher. This visiting speaker represents a highlight of the Residency I PBL experience offering students the opportunity to connect a real person to the problems they have been researching and encountering throughout the semester.

Multiple Facilitators

Residency I teacher candidates work in tandem with multiple facilitators from a variety of K-12 teaching and administrative backgrounds. With four facilitators in the room during seminar, our candidates receive "just in time" intervention while designing edTPA lesson plans and sharing field observations (Lezotte & Snyder, 2002, p. 34).

Each facilitator brings a unique background and content area specialty that is immediately accessible to individual candidates. For instance, our four secondary education facilitators offer expertise in history, English language arts, technology integration, and K-12 administration. The facilitators' wealth of knowledge and experiences provides candidates opportunities to discuss best practices such as the power of formative assessment and timely feedback as well as the realities of teaching such as stress management and extracurricular responsibilities.

Residency I facilitators also accompany students to the field at least one day a week for an entire semester. This immersive experience allows students to observe various teaching styles in multiple content areas. One facilitator attends each school and supervises four to twelve students depending on student enrollment and faculty workloads. Each student is also assigned to a mentor's classroom within their content area specialty to observe and practice teach. According to Ingersoll, Merrill, and May (2014), teachers with more training that included practice teaching, observing other classroom teachers, and reflecting on feedback of their own teaching were far less likely to leave teaching after their first year. Teachers whose preparation programs included observation of classroom teaching were 65% less likely to leave teaching after their first year than the teachers who did not have this type of preparation (Ingersoll, Merrill, & May, 2014).

Each week after the students observe and teach, our facilitators conduct on-site debriefing sessions that encompass a wide range of topics including feedback sessions and guest speaker presentations from specialists within the schools. Sometimes, teacher candidates attend Professional Learning Community and data meetings. One student explained during a debriefing session that practicing the roles of a PLC helped him to overcome his social anxiety, and he found a family within the group.

Developing strong connections between multiple faculty facilitators and teacher candidates is critical to fostering authentic relationships throughout and beyond our Residency I program. One student reflected upon how he appreciated that facilitators cared for students beyond academics; he noted that our facilitators truly want to help them be exemplary teachers and get hired. Indeed, facilitators attend weekly school visits alongside our candidates to not only guide the candidates but also to recruit on-site mentors and facilitators who can

provide insight in the field and clarity during the weekly seminars. These partnerships, when established and cultivated early, help our students secure teaching positions that best suit their backgrounds and personalities, which hopefully helps these novice teachers stay longer in the profession.

District Partner Guest Speakers

The MTSU Residency I program helps develop authentic partnerships between universities and local school districts that provide teacher candidates with a variety of mentors to support their emerging skills and abilities. During seminars and debriefing sessions, guest speakers from our district partners provide valuable insight into the demands of teaching in the 21st century. These district partner speakers include school superintendents, Response to Intervention and Instruction (RTI^2) coordinators, instructional specialists, assessment coordinators, data analysts, supervisors, administrators, technology coaches, special education teachers, and K-12 classroom teachers. Teacher candidates inundate the speakers with questions about being a new teacher or classroom management, and the professionals respond with valuable strategies and candid examples. A teacher candidate who was homeschooled explained how much she valued the guest speakers and being in the field so that she could visualize and understand more about how high schools operate daily. Another teacher candidate reported that during a visit from an assistant principal in the field, he was provided a checklist for securing a teaching position after student teaching.

Our district partners, including Rutherford County Schools and Murfreesboro City Schools, use these opportunities to establish early connections with teacher candidates to foster relationships that are essential to teacher retention. For example, the annual Rutherford County Schools Job Fair is a great opportunity for our candidates to converse once again with the guest speakers we recruit for weekly seminar visits. These early and authentic relationships are crucial to helping our candidates not only get hired but survive the realities of teaching full-time. When reviewing studies of teacher burnout, Nagy and Takacs (2017) found that social support protected teachers from emotional exhaustion and depersonalization. Support from colleagues and competent supervisors decreased teacher burnout (Nagy & Takacs, 2017), and early career mentoring programs helped new teachers stay longer (Guha, Hyler, & Darling-Hammond, 2016). In light of teacher candidates' experiences as well as the research on teacher retention, MTSU Residency I program facilitators are strengthening current mentoring protocols through face-to-face and digital mentoring to ensure that teacher candidates successfully transition into their own classrooms.

Conclusion

The MTSU Residency I model for secondary education, which precedes student teaching, helps our teacher candidates face the challenges of teaching through our interlocking signature strategies. Our PBL simulations are grounded in the real-life experiences of MTSU Residency I facilitators, guest speakers, and teachers from our partner districts. We actively revise and adapt our simulations to mirror what teachers are facing right now in Rutherford County. Moreover, we are constantly seeking ways to strengthen our relationships with surrounding districts to develop perennial partnerships focused on a shared mission: to ensure that MTSU teacher candidates survive and thrive not only during student teaching but also throughout their careers.

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Prime Lessons for Successful Educational Leadership

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Prime Lessons for Successful Educational Leadership offers educational leaders 19 suggestions for how to successfully work with colleagues in a complex environment. Successful educational leaders blend leadership and management in order to have smooth day-to-day routines that tie into achieving an overarching vision. Educational leaders should create written processes and always seek to improve them. They should stay calm, period. And they should make or facilitate decisions after consideration of multiple viewpoints. These suggestions and more will help the new or veteran educational leader reflect on their own practice in order to become a more effective leader.

A few years ago, I attended an educational leadership presentation at which the presenter compared leadership to management. Leadership, he said, meant casting the vision, setting the target, and ensuring the direction of where we were all to go. Management, he said, meant carrying out day-to-day operations; management was important to ensure smooth functions, but those who focused on day-to-day operations were managers, not leaders. His words reminded me of my studies of educational leadership at university; Gerzon (2006) said that managerial leaders have limitations, because they "…pursue only the interest of their group, compartmentalize their values, do not think systematically, are paralyzed by conflict, … and accept existing boundaries" (p. 32). And yet, school and district leaders are expected to be both effective managers and effective leaders. Gerzon (2006) noted that "competent managers… do much to make the world work and to make our lives pleasant and productive." In my experience in educational leadership, it is possible to be grounded in the day-to-day operations of management while acting as a leader. Carrying out the vision takes place through the establishment and implementation of processes and mindsets that ensure that the day-to-day operations of the school or school district are a representation of the vision itself while seeking to avoid compartmentalization and other managerial limitations. According to Fullan (2001), "leadership is needed for problems that do not have easy answers" (p.2). Oftentimes, solving those challenging problems requires stepping within and without the bounds of day-to-day tasks, working together with teams of varying perspectives, and modeling behaviors that effectively navigate organizational, procedural and personal complexities.

Successful educational leadership requires a blend of leadership and management; the following 19 suggestions provide examples of specific actions, behaviors, and mindsets that can set up an educational leader for success in both arenas. These suggestions are intended to create a space for reflection. Which of these do you agree with? Which of these do you disagree with? Based on your reflections, are there any areas in your managerial or leadership practice that you would change? Or do any of these suggestions validate what you already do?

1. Every morning, think of one thing you are looking forward to during that day. As an educational leader, it is important to have a positive mindset, no matter the

circumstances that you face. It can be easy to allow yourself to think about the negative aspects of the work or about the problems you or your school are facing, but starting off the day with a positive mindset can help shift the challenges and put them in perspective.

2. Have a growth mindset about yourself and others. Growth mindset studies have been in existence for years. Carol Dweck (2006) is the pioneer of growth mindset. She explained that children, faced with hard puzzles, had "…the kind of mindset that could turn failure into a gift" (p. 4). The general idea behind having a growth mindset is that intelligence is not fixed but can be grown through effort. The program Advancement via Individual Determination (AVID) has demonstrated quite a bit of success in reducing the achievement gap through teaching first generation college students how to use the growth mindset to challenge themselves. One ah ha moment I have had as a result of AVID training is to apply the growth mindset towards myself and to my colleagues as well as to our students. For example, one idea I have had since middle school is that I am not creative. That fixed mindset has prevented me from experiencing quite a range of creative and artistic opportunities. Changing my own attitude about my own creativity allows me to open doors on life experiences. It also helps me model a growth mindset to students and to have a generosity of spirit to colleagues who may not see themselves as capable in areas such as technology or mathematics. When you hear yourself or your colleagues say something that starts with "I cannot" or "I am not", notice the fixed mindset in action, and work to change it.

3. Hire people who know things that you do not know and learn from them. One mistake I often see in leadership is a tendency for leaders to be threatened by people who report to them who are more capable or knowledgeable than they are in a given area. The truth is that it is impossible for a person to specialize in everything. The team is stronger if there are multiple areas of expertise represented. Be confident! Again, have a growth mindset and learn from the people on your team; you will never know it all.

4. Transformation does not only come from within; it comes from setting up the conditions for others to try out their ideas too. One of my favorite examples of this concept comes from our district's digital technology initiative. The digital technology initiative set out with a vision to "empower all students with equitable access to digital learning opportunities; to innovate, design, collaborate, and ultimately succeed in local and global communities of the future" ("Access OR," 2018). When we started the digital technology initiative four years ago, we as a district allowed room for innovation for teachers and students. Now, four years later, we have seen transformation of libraries into Maker Spaces, a NASA space partnership at one of our middle schools, a Microsoft Showcase school at another of our middle schools, and projects such as an art/history partnership in which students researched historical photographs, recreated them artistically, created videos to explain them, and put together a traveling art show to teach the entire community what they learned. None of these specific experiences were imagined when we started our digital technology initiative, but they were all given the space to grow through allowing innovation to occur. Many times, when we hear leaders talk about transforming education, they are referring to a transformation into a picture that they see in their heads; that is important, but it is also important to allow others the space to transform too. Others may come up with ideas that were unimaginable to you but possible and inspirational to them.

5. When making a decision, bring people of varying perspectives to the table. As an educational leader, people will look to you to make or facilitate decisions. However, if you are not fully informed of the implications of the decision or of the complex realities that are creating the need for the decision in the first place, you will not be able to make or facilitate an effective decision. You may have tendencies to favor one kind of philosophy or personality over another, but do not let that blind you to other perspectives that may assist you in making the best decision. My favorite way to do this is to call a meeting with people who represent many differing viewpoints, then work towards a consensus. Goleman (2015) tells us that "a team's leader must be able to sense and understand the viewpoints of everyone around the table" (p. 17). Sometimes, it takes multiple meetings, but if we remain true to the objective, we can learn from each other. According to Dufour & Marzano (2011), effective leaders "…are eager to initiate dialogue, and they develop formal and informal strategies for soliciting the perspectives of others" (p.43). When conducting this kind of meeting, it is important to include people who may express doubt or hesitation about the purpose of the meeting. As Fullan (2001) noted, effective leaders view dissent "as a potential source of new ideas and breakthroughs" (p. 74). I have noticed that when people of varying perspectives are committed to a common objective, after working through differing opinions and experiences, we ultimately come to a consensus that is much more effective than any one of us would have individually created.

6. Create written processes and always seek input to improve them. In education, we do not create written processes enough. We do things a certain way because we do things a certain way, but if someone has a question, it is difficult to explain the logic, the details, and how various stakeholders are impacted. If you take the time to write down a process and seek input to improve it, however, you will have a commonly understood, always evolving process that can take place whether or not you are there personally. As Gerzon (2006) noted, "fix the process, not the problem" (p. 222). In our school district, we have created processes for Response to Intervention, gifted education, student placement, our writing initiative, and others, based on state expectations and research-based models but adapted to our local realities and including answers to questions that our community may have. This advice can be considered the "What if I got hit by a bus?" solution; if I were hit by a bus, could the work continue? It certainly could if processes were written down.

7. Make sure that the work is meaningful and manageable. People will come to you as an educational leader and say something like, "We must do X because…" If what comes after the word "because" is meaningful, then it is worthwhile to take a look at whether or not what is being requested is manageable. In our district, we have this conversation endlessly when it comes to district assessments, for example. A particular reading assessment may be incredibly meaningful, but if it is not manageable, it cannot get done. Thus the question turns to "How can we make this manageable?" On the other hand, what if someone wants to do something easy that is manageable but it is not meaningful? If it is not meaningful, it is not worth the time it takes to do it, even if it is easy to do.

8. Learn from examples and non-examples. We have all had times in our lives when we have found it easy to work with someone and when we have found it difficult to work with someone. When I find it difficult to work with someone, I like to think about what that person is doing that I

want to be sure to avoid doing myself; I can learn from that person's non-example. Similarly, if I enjoy working with someone, I like to think about what that person is doing that I want to emulate; I can learn from that person's example. I also like to think about how I am acting as an example and as a non-example with other educational leaders. For example, I tend to be thorough and consider many points of view when I make a decision; those attributes might be something that I would like to continue to model. However, I tend to bore people with technical questions. Before I walk into a large meeting with the Tennessee Department of Education, I tell myself not to be the non-example and to avoid public, technical questions. Sometimes I succeed and sometimes I fail, but I try to remember that my actions can be examples and non-examples just as others' actions are to me.

9. Eat a dinosaur one bite at a time. It can be easy to get overwhelmed with a daunting task. When an undertaking that appears impossible overwhelms you, it is easy to remain stationary and avoid action. In that circumstance, the best thing to do is to accomplish one small thing. Then accomplish another small thing. Then accomplish yet another small thing. By taking on this daunting task one small piece at a time, before you know it, you have made progress. According to Hedges (2012), "…people make incremental change, gain some confidence and perspective, and then try the next goal. It's much more comfortable for people to envision a tangible, discrete step than to jump to a faraway place they've never been before" (p. 152).

10. When taking on a big task, there will be waves, just try to avoid tsunamis. Let us say it is testing season and you have a new testing coordinator. Of course, there will be bumps in the road as the new coordinator learns a new task, not to mention the inherent complexities of testing season even with a veteran testing coordinator. However, it is important to avoid horrible, disruptive problems (tsunamis). In order to prevent tsunamis, be organized, plan ahead, and communicate strategically and clearly. When there are small problems along the way, focus on correcting them and moving on. Try not to blow small problems out of proportion, because there will be waves. When you keep your eye on the scale of the challenge, then you can avoid being overwhelmed.

11. Be structured but flexible. One of the most annoying professional experiences is reporting to a micro-manager. Very few people like to have someone looking over their shoulder every two seconds and not trusting them to do their job. As a leader, therefore, it is important to avoid becoming a micro-manager. You do need to create structure and organization; as Hackman (2002) states, "…having no structure can be every bit as debilitating as having too much" (p. 93). Just allow flexibility within the structure. For example, if you are scheduling professional development and you want all teachers to attend, nevertheless, you will likely have some absences. How are you going to handle that situation? Will you plan for makeups or will you fuss and fume when there are absences? You are working with people and things are never as straightforward as they seem like they will be when you plan them. Be organized, but be ready to be flexible when it counts. Your flexibility and your simultaneous commitment to the underlying purpose of what you are trying to do will be appreciated.

12. Ask why. Explain why. Seeking why something is done the way it is done is a sign of emotional intelligence; according to Goleman (2015), effective, motivated leaders "…are persistent with their questions about why things are done one way or another" (p. 14). When I am told to do

something without any explanation as to the reason behind it, I generally seek the reason before getting fully on board. Knowing that I will have a hard time getting on the bus if I do not understand the reason to get on the bus, I make it a point to ask why. Sometimes it is uncomfortable to do this, but it is worth the discomfort. Considering that I feel that way myself, I try to consider that others may feel that way if I am asking them to do something. Oftentimes, when we explain why we are doing something, people can offer suggestions about how to do it better or offer different perspectives that we may not have considered. Explaining why leads to better implementation of the desired activity. In addition, having this mindset of inquiry followed by attentive listening to the answers can help us learn beyond the boundaries of our worldview (Gerzon, 2006). As Brown (2018) clarifies, daring leaders "…take the time to explain the 'why' behind strategies, and how tasks link to ongoing priorities and mission work. Rather than handing down black-and-white mandates stripped of story, they hold themselves responsible for adding texture and meaning to work and tying smaller tasks to the larger purpose."

13. Remain calm, period. No problem is solved more effectively when people get upset, distressed, and overwhelmed. To the contrary, problems are magnified when people get upset, distressed, and overwhelmed. As Gerzon (2006) noted, "effective action requires stillness" (p. 106). I can remember a stressful meeting with angry participants; I dreaded the meeting ahead of time and consoled myself with the thought that it would be over soon. During the meeting, I kept repeating to myself the slogan, "Never let them see you sweat". After the ordeal was over, someone asked me how I stayed calm. I might not have felt calm inwardly, but I projected calmness outwardly. That calmness cooled the energy level of the meeting and, although it was not pleasant, it was better than it could have been. Remember that you are modeling calm to the rest of the team. According to Goleman (2015), "No one wants to be known as a hothead when the boss is known for her calm approach. Fewer bad moods at the top mean fewer throughout the organization" (p.12). Remain calm, period. When you do, things will work out more smoothly than they otherwise would have worked out, and you can go jog off that stress after work in a healthier outlet than spreading your stress around you.

14. Never write an email in anger. Let me say that again: **never** write an email in anger. If you look at number 13, the point was to remain calm, period. Email is a classic environment in which people act in ways that they would not act in person. Do not send that email that you wrote in anger. If you must write it, save it in your drafts, wait 24 hours, and have someone read it with you before you send it. It comes across as highly unprofessional when someone sends an email in anger. Remember what Hedges (2012) said, "Sending emails in anger doesn't accomplish anything; in fact, it ruins connection and can even get you fired" (p. 134). Do not be that person. If someone favors you with an email that they wrote in anger, I recommend responding very professionally and certainly not in kind. Rise above their anger. They probably would not have said all of that to your face, and they should not have sent it in the first place. If you respond professionally, the person who comes across as unprofessional is the author of the angry email, not you. If you have accidentally sent an email in anger, I recommend a heartfelt apology and a commitment to never do it again.

15. When you are frustrated by a seeming lack of progress, look back one year and compare where you are now to where you were then. When we are passionate about accomplishing something, we want it to

happen immediately. However, accomplishing tasks oftentimes requires listening to others, taking things one step at a time, and considering new information. Thus, accomplishing tasks can often take longer than expected. If you look back one year ago and ask yourself if you have made progress compared to then, it will help keep your improvement or lack thereof in perspective.

16. Separate person from product. You are not a district's initiative. You are not a written process. You are not an administrative procedure. You are not State Board policy. If someone becomes frustrated with one of those things or others like them, they are not frustrated with you. Separate who you are from these kinds of work, administrative, or political products. Try not to take it personally if someone complains about these things; listen to them and see if there is something you can do to address their actual concern. Maybe they would have a great improvement to suggest to a process or product; remember that many work frustrations are not personal. People get frustrated because there is too much to do in too little time and they chafe against various requirements (especially if they do not understand why the requirements are necessary). Try not to get angry with someone or to take it personally when they state their concerns. You are much more than processes and procedures.

17. If you asked someone to do something, be sure to thank him or her for doing it. This one seems easy to do, but it can be hard to remember to do this when dashing from one thing on your plate to the next. Keep a list of people you need to thank, and work through that list, even if you get to it late. They will appreciate it, they will know they were valued, and you will feel good. I personally like to write notes to people who do something that I appreciate. There are many ways to celebrate what people do. Find one you like, and make it a point to remember to do it.

18. Remember that the thing you are worried about today is probably not the thing you will be worried about tomorrow. I hear so many times about people who stay up at night mulling over their worries. I am guilty of that myself. I try to remind myself that there will be a new problem tomorrow; that helps me keep today's problem in perspective. Is what I am worrying now about more special than the problem I will have tomorrow? Maybe not. Maybe I just need to get some sleep.

19. Every evening, think about one thing you appreciate from the day you just had. Just as it is important to start the day in a positive frame of mind, it is also important to end the day in a positive frame of mind. There are some days that have been so challenging that I have to really reflect before I come up with something good that happened that day. Those days, it helps me to remember how fortunate I am to have a roof over my head, clean, hot water coming from my faucets, and other things that are easy to take for granted. Most days, I can come up with some great things that happened during the day that can balance the more difficult parts of the day. I recommend that you try it too; being a positive leader starts with having a positive mindset.

I call these nineteen ideas prime lessons for successful educational leadership, not only because 19 is a prime number, but also because applying these suggestions can help you make quality decisions and provide quality leadership in your school and district. As educational leaders, we are offered the opportunity and the duty to positively influence the precious students we are there to serve. What happens in the classroom every day for every student is of upmost importance. Also important are the systems and structures of our school and district as

well as the behaviors and mindsets that we as educational leaders exemplify.

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Time for the Science Paradigm
A Stalwart Shift – Not a Tepid Tweak

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A formidable responsibility falls on all leaders of school policy to balance the preservation of essential, curricular elements and processes with the implementation of necessary strategies for emerging content and skill sets. Properly positioning the structural fulcrum under the shifting weight of competing priorities demands that leaders exercise honest appraisals of the extant socio-economic landscape and educational architecture. Examining the intersections among the new Tennessee (TN) science standards, edTPA assessments, educator preparation programs, Tennessee Educator Acceleration Model (TEAM) evaluations, and actual time allotted to science in classroom practice, I attempt to identify areas of congruency as well as inconsistencies.

Ishmael, the Socratic sage in the philosophical novel by Quinn (1992), compares vision to a river and institutional programs to sticks that thwart the current. What is required, Ishmael suggests, is not a slowing of the flow but a change in the river's direction. Paradigmatic shifts are only achieved, of course, after employing more energy and insight than what is required to simply modify existing programs or to swap one insufficient program for a similar, renamed agenda. Irez and Han (2011) submit that significant educational change, in any society, appears to be a difficult process due to the scope of deconstruction and reassembling of structures, practices, and resource distribution patterns as well as basic beliefs and attitudes.

Nollmeyer and Bangert (2017) report that the new frameworks for science education do, indeed, represent a paradigm shift for teachers and school systems challenged with implementing three distinct structural dimensions with seamless integration. The National Research Council (2012) and Next Generation Science Standards (NGSS) Lead States (2013) acknowledged the reality of the paradigm shift inherent for most teachers adopting the new framework, and Wilson (2013) predicted the need for major investments to deliver adequate professional development (PD) on the scale required for teacher confidence in the conceptual shifts. Naturally, a fundamental transformation in the approach to assessments from simple, single-dimension tests to performance evaluations will follow but may lag (Pratt, 2013).

Despite the challenges that lie ahead, the arrival of the new paradigm in science education is warranted and, perhaps, past due. An unacceptable deficiency in scientific literacy exists among adults across the American population (Cronin and Messemer, 2013). A study by Brainard (2008) indicated that a mere quarter of American adults are scientifically literate, and Duncan (2007) similarly reported that over 215 million Americans were incapable of adequately understanding a story about science in a daily newspaper. Perceptions of science literacy may vary from simple knowledge of content to functional use of concepts in problem-solving to the valuation of science and technology in modern society and economics. The importance of strengthening each level of scientific literacy for both

national and global interests is clearly demonstrable.

More advanced societies are those with the most advanced science institutions, indicating that science and national progress are causally linked, and economic growth is positively impacted by scientific advances which are dependent on quality science education (Drori, 1998). Barro (2013) showed that "scores on science tests have a particularly strong positive relation with economic growth" (p. 302). Currently, the top 24 of 25 jobs are directly related to a background in Science, Technology, Engineering, and Math (STEM) with 36 of the top 50 jobs tied to STEM backgrounds according to U.S. News & World Report (2018).

Beyond economic growth, STEM education is one of the most important of the eight Millennium Development Goals for decision-making in all populations and for improving standards of living while reducing burdens on the environment (Heuer, 2015). Additionally, some contend that democracy itself and its judicial systems are developed and nurtured by a more scientifically literate citizenry (Breyer, 2000, par. 25; Carr, Thomas, Porfilio, & Gorlewski, 2016; Domitrovich, 2017; Yacoubian, 2018). At stake in broad improvements to science literacy across all populations is nothing less than our children's ability to make wise personal decisions and to lead in a competitive global economy (National Research Council, 2015).

The Contradictions

Fundamentally, sufficient numbers of well-prepared science teachers comfortable with constructivist and inquiry-based approaches to the national science education frameworks are key to building national literacy in the sciences. Herein lies the problem, in Tennessee and across the nation. Different but related factors converge to thwart progress toward genuine acceptance and implementation of the science paradigm.

A generic issue in overall teacher recruitment and retention must be recognized. An annual 20% increase in teacher demand is expected in the U.S. over the next few years while enrollments in teacher preparation program have fallen 35% nationwide in the last five years (Sutcher, Darling-Hammond, and Carver-Thomas, 2016). Darling-Hammond (2017) revealed data showing a shortage of qualified science teachers in 43 states for the 2017-18 school year. The shortage of science teachers in Tennessee has been consistently documented since the 2006-2007 school year (U.S. Department of Education, 2017). The trends of declining success to recruit and retain teachers would involve a broader societal discussion; however, some insights may be gleaned by examining the problems specific to the development of qualified science teachers and vibrant science programs in schools.

Contradiction One

Next Generation Science Standards Lead States (2013) lists Tennessee as one of the 26 lead states in the development of the Next Generation Science Standards (NGSS). Nevertheless, in 2016, Tennessee chose to not adopt those standards. Fortunately, state-specific K-12 science standards based on the national frameworks for science and closely aligned to the NGSS were developed with implementation in public schools beginning in the 2018-2019 school year. The Tennessee science standards scaffold knowledge and skills from kindergarten through twelfth grade and provide progression charts to guide the deepening development of concepts. The approach appears well-orchestrated for sequential growth to occur in children across grade levels. The implementation is, nevertheless, a paradigm shift for most

middle and high school science teachers and nearly all elementary teachers.

The issue is compounded by the fact that K-5 teachers in Tennessee can only obtain licensure in the focus areas of literacy or math, the two subject areas prioritized on high-stakes testing. A primary reason for the inability of K-5 candidates to become better equipped in science teaching is that Tennessee requires the edTPA performance assessment to acquire teacher licensure. For K-5 teacher candidates, the only subject area assessments are in literacy and math.

Therefore, educator preparation programs (EPPs) devote the bulk of their efforts into equipping teacher candidates for those two subject areas alone. Science, social studies, and other disciplinary content is assumedly gained by candidates during their general education courses, but little weight is generally given to those disciplines in the EPPs. As a science education methods instructor, the overwhelming message heard and demonstrated by K-5 teacher candidates is that they do not feel confident in their science content knowledge nor do they feel ready to implement the three-dimensional (3-D) approaches currently expected.

The contradiction is revealed in implementing a science framework that requires proficient instruction at the earliest grade levels in order to work effectively in the later grades while providing little or no mechanism to produce quality elementary science teachers. Time and resources for PD are limited in most schools, and the likelihood of periodic, internal trainings being adequate to cause the paradigm shift is questionable. Teacher practices associated with improved student performance can be positively influenced by PD opportunities (Fischer et al., 2018). Lumpe, Czerniak, Haney, and Beltyukova (2012) reported that students' science achievement could be predicted by the amount of time teachers spent in a research-based PD program.

National trends indicate that institutional support and focused time given for science education in elementary schools is limited as the curriculum continues to be aligned with priorities for performance on high-stakes testing (Smith & Nadelson, 2017). Under the current licensure constraints, however, the only options are PD opportunities or graduate education in a program focused on enhancing science content and 3-D pedagogy.

Insufficient training of elementary science teachers and inadequate support for full implementation of the science standards in grades K-5 will only compound the problems faced by frustrated middle school and high school teachers expecting students to arrive with baseline sets of skills and knowledge.

Equally important to teacher PD might be science PD for school administrators. Too often, teachers spend time and their districts spend money for PD workshops where teachers fill their teaching toolboxes with fabulous science activities and strategies only to be restricted by policies from the central office. It is essential that administrators, who may not have a strong science background, gain a deeper understanding of the nature of science, the new frameworks, and what authentic science instruction looks like in the classroom … or outside.

Contradiction Two

The new Tennessee three-dimensional science standards require teachers to integrate the science and engineering practices (SEPs) with cross-cutting concepts (CCCs) to help students gain deeper understandings of disciplinary core ideas (DCIs). Exploring just one dimension, the following are just a few of the science and engineering practices in which teachers are expected to engage their students:

- Asking Questions and Defining Problems

- Developing and Using Models
- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Constructing Explanations and Designing Solutions
- Engaging in Argument from Evidence

A contradiction is evident when the dominant instructional model still found in many schools across Tennessee is direct instruction. While, perhaps, having a place in some or all subjects at various points during a learning segment, this model has very limited use in inquiry-based, 3-D science education. From reading the few SEPs listed above, the need for a constructivist instructional model should be obvious. Still, even as the new standards are being implemented, direct instruction reigns in many classrooms. When veteran teachers are asked why, in the face of new 3-D standards, a fast-paced dissemination of factoids is still the norm, the common response reflects a fear of poor scores on standardized test assumed to be focused more on information than process.

Mikeska, et al. (2017) reported that instructional practice, generic and subject-specific, of **science** teachers which allowed student-centered engagement in investigations led to improved student outcomes. Both student achievement scores and attitudes toward science were found to be highest among students who were allowed by their teachers to draw conclusions on data derived from their inquiry activities (Jiang and McComas, 2015).

For teacher candidates, the constructivist models learned in a science methods class are often enthusiastically introduced in their practicum or student teaching experiences only to be rejected by either supervising teachers or the administration. Feeling defeated, the novice teachers can become reticent to use research-based and state-mandated strategies simply because the school has not yet made the shift. Stumbling blocks placed before rookie teachers may significantly slow the cultural conversion needed to move modern science education to its proper position.

Contradiction Three

Good science requires failure, examination of the factors causing failure, and continued exploration. Coincidentally, the edTPA assessment for teacher candidates is also weighted heavily on evaluating how the candidate prompts students to ask higher order questions, to facilitate discussion and reflection, and to use feedback to modify instruction. Good teaching that leads to genuine learning requires time.

If the state requires a minimum score on the edTPA assessment and this instrument requires student engagement, reflection, social interaction, and opportunities to learn from failure and retry, then the pacing guides built around direct instruction cannot suffice. If the state requires science to be taught in more engaging ways, integrating the three dimensions, and allowing for failure and repeated designs and experiments, the rigidity of the traditional school structure must be relaxed.

The apparent contradiction is seen when teacher candidates, exerting their best efforts to follow the edTPA rubrics and incorporate engaging, 3-D science strategies find themselves in an awkward dilemma as they are given highly prescribed lessons and told they must stay on the precise pacing schedule of the school. Both the edTPA and TEAM evaluation rubrics score candidates on their ability to monitor student progress through feedback mechanisms to modify or repeat instructional activities; however, the reality reported is that they are never actually given time to use feedback in any meaningful way.

Teacher candidates must achieve a passing score on the edTPA to be licensed in

Tennessee and help stymie the teacher shortage. As they are gaining experience in the field, a different set of rubrics on the TEAM evaluation is being used to assess their teaching. At the same time, science methods professors are asking teacher candidates to implement research-based strategies that align with the new Tennessee science standards; however, these strategies may not align precisely with either the edTPA or the TEAM evaluation. Candidates frequently report that teachers (and some administrators) tell them that once they finish the edTPA, the science methods class, or other requirements, that the candidates "will never have to do that again."

The contradictions in messages creates stress among the candidates. Tension runs high among today's teacher candidates and may, in part, be attributed to the uncertainty of which model to follow. Subsequently, the same tension from ambiguity and uncertainty may, in part, account for the low retention among novice teachers.

Contradiction Four

As of 2013, instructional time for science instruction in the elementary grades had declined over the previous two decades to an average of 2.3 hours per week (Blank, 2013). Student achievement results from math and reading are always included in high-stakes accountability calculations while other subjects have been minimized due to assessment and accountability policies (Judson, 2013). In a national study, Sowder and Harward (2011) found that only a third of elementary teachers spend any time at all on science learning. Through classroom observations and post-field candidate reflections, it would appear that the data from the above studies is fairly accurate today in many Tennessee schools. Commonly, the reports from candidates in the field reveal that science is taught every other week at the end of the day for, perhaps, 30-40 minutes. The science lesson too often consists of merely a reading lesson about science.

Implementation of the new Tennessee science standards is now expected in grades K-12 public schools throughout the state. The framework requires genuine student engagement. Students moving to the upper grades will not be prepared if expectations for science are not being met in the early elementary classrooms. Fewer college students will be prepared for their science classes, and, worse still, the level of scientific literacy among American adults will continue to decline.

Under the current state standards, a contradiction exists when authentic, 3-D science experiences are not offered as an integral part of the curriculum in kindergarten through high school in the building of every district. The contradictions presented do exist and reflect the historical inertia in educational institutions; however, the status quo is not inevitable and substantial reform is possible.

Suggestions

The common denominator to each of the contradictions in effectively implementing the new science standards is "time." Time for more pedagogy and content in the EPPs. More time for PD in the schools and with partner institutions. Time for constructivist approaches, exploration, failure, reflection, and experimenting again with different designs. Time for modifying instruction based on observations and student feedback. More time allotted in the curriculum and pacing guide to simply "do" science.

To address the state of science education and public scientific literacy in Tennessee, a cultural change that embraces a different vision will be necessary among school leaders if any reform is to be effective

on a sustainable basis. Lee, Cheng, and Ko (2018) contend curriculum reforms are not sustainable or effective without cultural changes. The teachers are limited in their efforts without the appropriate organizational structure and growth mindset established by the administration.

Reading, writing, and math will certainly continue to hold a prime position in elementary schools. The importance of these fundamental skills is undisputed. There are questions, however, about how to accomplish literacy and math goals in more meaningful ways that make all learning relevant to all learners. Time for integrated K-5 science can be a useful approach to proficiency in learning science and reading comprehension that will prepare students for subsequent success in higher grades (Pearson, Moje, and Greenleaf, 2010; Romance and Vitale 2012; Clark and Lott 2017).

School leaders are faced with numerous challenges and must balance many priorities. Sometimes, however, the challenge is not how to rank order the academic priorities; rather, it is how to most effectively merge them in ways that are meaningful and relevant to the students – the future citizenry. All of the subjects are important. None should be left out, yet the school day and school year are defined by time constraints. If the goal is truly a more peaceful, productive, and healthy citizenry, how do we preserve those essential, curricular elements and processes while implementing essential strategies for emerging content and skill sets needed in a new and changing era? The answer cannot reside in a former paradigm of fast-paced inculcation of siloed concepts narrowed by fearful concerns over perpetuating institutions. The answer cannot rest on tweaking existing programs that hang to life only by periodic resuscitation.

To avoid Einstein's definition of insanity, school leaders must occasionally do something different. Embrace a tectonic shift as opposed to painless nudge. The new science frameworks expect that schools "teach" science more like scientists "do" science. Properly understood, "doing" science involves a tremendous amount of reading, mathematics, social interactions and social studies, creative arts, and all other disciplines that eventually become so organically engrained in our everyday work and life. Currently, there are inconsistencies between the ways we prepare teachers and how we allow teachers to work … inconsistencies between the essence underlying new initiatives like the science standards and the way we often seek to meet the minimum requirements with the least investment.

Instead of recycling old approaches that do little to address improvements in reading and math, time for other disciplines, behavioral problems, student motivation, and community support … perhaps, the leadership in schools could embrace the future and try "time for the science paradigm."

With honest efforts to integrate the disciplines with relevant, scientific inquiry and engineering design projects, teachers and students alike may find new reasons to come to school.

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An Analysis of 21st Century Urban Middle School Teachers' Dispositions of Their Principals' Facilitation of Student Conduct in TVASS Designated Schools

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The purpose of this study was to investigate urban middle school teachers' dispositions regarding their principals' role in managing school conduct in TVASS (Tennessee Value-Added Assessment System) designated schools. The sample in this study included 180 educators from a metropolitan school district in northcentral Tennessee who took part in a state-wide assessment on teaching and learning conditions, more specifically the construct of managing student conduct. Overall, participants from TVASS designated schools indicated a significance in four out of seven student conduct statements favoring respondents from schools designated as *good/very good growth*.

Much of the research in the 21st century advocates the school principal as the instructional leader – one who "focus on improving student achievement" (Sergiovanni & Green, 2015, p. 61). As an instructional leader, principals "excel at getting teachers and other to follow them" (Sergiovanni & Green, 2015, p. 90). In order for principals to effectively enact the Professional Standards for Educational Leaders (PSEL) Standard 5, *community of care and support for students* in their schools, they should "monitor progress within the workplace, and ensure that organizational rules, regulations, and procedures were (sic) followed" (p. 39). Albeit, school leaders should yield when ensuring compliance and accountability and creating strict organizational structures. The goal is to put structures in place that develop and sustain supportive leader-teacher relationships. With such empowering relationships between the leader and teacher built upon trust and respect, collegiality and a collaborative culture ensues providing a stronger commitment towards student achievement and success.

While the overall task of educating youth lies with the classroom teacher, the behavior of students, particularly in urban middle schools remains of top priority for school administrators. Sprick (2013) explains that, "half of new teachers will leave the profession within a few years" due to "discipline problems and lack of administrative support for dealing with discipline" (p. 1). The enforcement and management of school conduct cannot be accomplished singularly. It is the role of administrators and teachers working collaboratively in the implementation of the rules of conduct for students. Teacher efficacy begins with principals descriptively explaining and providing informative feedback and support to teachers (new and seasoned) in a supportive environment on such discipline procedures, student rights, and school conduct. Moreover, when student conduct rules are enforced at the beginning of the school year, the same student conduct rules must be revisited and consistently enforced throughout the rest of the school year.

However, when rules are not consistently enforced and/or different rules

exist from classroom to classroom, a break-down of clear expectations for student conduct exists, leading to interruptions in the learning process and unexpected student misbehaviors. Such disruptions in the learning environment are partly a result of poor classroom management. Classroom management, according to Hoy and Hoy (2013), "…is to maintain a positive, productive learning environment, relatively free of behavior problems" (p. 225). Many experts believe there is a direct link between student conduct and academic achievement or performance. In fact, Osher, Dwyer, Jimerson, and Brown (2012) contend that "student support, school safety, and academic achievement… are interactive and interdependent" (p. 25). If so, the social interaction between principals and faculty in the teaching and learning environment should be supportive and goal-oriented. The standards and expectations of student conduct for a positive and productive learning environment should be clear to all stakeholders, including students. When feedback and communication between principals and teachers does not occur in the learning and teaching environment, student achievement and success is likened to change affecting the school climate and culture. This change in the school climate and culture increases teacher hostility and non-committal of tasks. Teacher morale and motivation are lessoned leading to a sense of "isolation, privatism (a lack of social interaction deprives [sic] teachers of opportunities to help and seek help from others…), and isolation" (Sergiovanni & Green, 2015, p. 328-329). To intercede upon such less influential outcomes and improve teacher behaviors associates with student achievement and performance, the goal of this study is to examine urban middle school teachers' dispositions regarding their principals' role in managing school conduct in Tennessee-Value Added Assessment System (TVASS) designated schools.

Literature Review

The preface to Sprick's (2013) work on classroom management began with a reminiscent of program implementation to improve reading and math performance. The author explains that while the program implementation showed gains in an urban secondary school, student behavior within these classrooms was a peak area that was not addressed to actualize student achievement. Sprick (2013) describes the problematic classroom environment as "out of control…students were tardy for class…student behavior during classes was often inappropriate" (p. xxiii). Sprick (2013) adds that "transforming schools" of "chaos and disengaged students" into a productive learning and teaching environment that leads to an increase in student achievement involves an implementation "of a systematic approach to student motivation and classroom management" (p. xxii-xxiv). Adelman and Taylor (as cited in Osher, Dwyer, Jimerson, and Brown, 2012) supports Sprick's stance on productivity in the learning and teaching environment by stating, "Because students need appropriate support to facilitate learning and address the barriers to learning, successful schools often have high levels of academic emphasis in combination with student support" (p. 26). Osher, Dwyer, Jimerson, and Brown (2012) conclude that there should be a clear academic focus to support teaching and student learning. This includes: instructional leadership, effective pedagogy, well-trained teachers, and an explicit focus on teaching and learning (Osher, Dwyer, Jimerson, and Brown, 2012, p. 29).

Discipline, according to Oxford Dictionaries, n.d. (as cited in Brown, 2016, p. 3) is that which, "the practice of training

people to obey rules or a code of behavior, using punishment to correct disobedience". In essence these rules or codes of behavior are forms of student conduct. When applying what discipline means in an educational context, Brown (2016) asserts that discipline is, "a set of rules regarding behavior and conduct, the control of student behavior in conformance to these rules, and the training of students in the skills to perfect their moral character and self-control" (p. 3). According to Hoy and Hoy (2013) rules are "statements specifying the expected and forbidden actions in class" (p. 229). More specifically, "they are the do's and don'ts of classroom life" (Hoy & Hoy, 2013, p. 229).

Each school district is required to have a code of conduct. This code of conduct regulates, in the context of K-12 schools, student behavior and such consequences of violations of the code of conduct. Foremost, each school administrative team (principals, assistant principals, deans, and the like) or leadership team (parents, stakeholders, teachers, administrators, counselors and the like) of some kind, within many of American school systems, generally determine the type of "backup of system of consequences and rewards (detention, school sponsored parties, etc.)" (Payne, 2006, p. 3). To maintain a sense of order and implement an effective code of conduct involving rules and rights of students, Hoy and Hoy (2013) suggest that "students need to be taught the behaviors that the rule includes and excludes".

Indeed, managing urban classrooms in the 21st century is complex and "many students- all with differing goals, preferences, and abilities" (Hoy & Hoy, 2013, p. 14) coincide within the existing environment. But, in order to establish and maintain student engagement with few interruptions, a positive and encouraging learning environment must exist. A mutual, positive co-existing relationship must exist between teacher and student. The existing relationship includes consistency, goal attainment, and a strong commitment from school leaders in supporting such teacher-student relationships. Sprick (2013) adds that when "clear expectations are directly taught to students" teachers will "spend less time dealing with disruption and resistance and more time teaching" (p. xxvi). The author adds that in order to increase student engagement that leads to an improvement in student achievement, the approach must be "proactive, positive, and instructional" (p. 1). Sprick (2013) concludes that a proactive approach involves a prevention method for classroom management. The author states that a positive approach includes building a relationship with students. Finally, Sprick (2013) adds that an instructional approach involves providing clear expectations and revisiting expectations throughout the year.

While there are many best practices and approaches in creating an environment conducive to positive student behavior (conduct), any type of transformation that occurs within the school begins with the leader. Green (2017) advocates that the structure of a school is based upon the leader's beliefs, ideas and vision. The leader's decision-making skills have a direct impact on the climate of the school. According to Tagiuri, (1968) as cited in (Green, 2017), the climate of the school is "the total environment of the school" (p. 104). Thus, as Green (2017) highlights, "the perceptions of individuals and the determination made regarding life in the schoolhouse…influence their [stakeholders] opinions of the climate of the school" (p. 105).

In order to address the role of the school leader in creating positive and supportive school climates, an updated set of standards have been implemented in colleges of education that guide the role school leaders should play in effectively leading 21st century schools. School leaders are guided by 10

Professional Standards for Educational Leaders (PSEL) developed by members of the National Policy Board for Educational Administration (NPBEA) replaced the Interstate School Leader Licensure Consortium Standards (ISLCC) of 2008. These 10 standards specifically state what school leaders should not only know, but be able to do to increase student achievement and success in schools. More specifically, Standard 5 states: Effective educational leaders cultivate an inclusive, caring, and supportive school community that promotes the academic success and well-being of *each* student. According to Green (2017), effective leaders "build and maintain a safe, caring, and healthy school environment that meets the academic, social, and physical needs of each student" (p. 19). Green (2017) adds that effective leaders, "cultivate and reinforce student engagement in school and positive student conduct" (p. 20). To enact such effective leadership skills, school leaders must communicate with all stakeholders, inclusive of the inner community (i.e., teachers, staff, counselors, and the like) and the outer community (i.e., community members, parents, guardians, and the like) who have a direct vested interest in the education of students within the school.

Principals should have a clear understanding of the diverse community they serve. Notably, a majority of urban schools are made up of diverse races and ethnicities, each with their own set of values and beliefs regarding schooling of their children and discipline. Hoy and Hoy (2013) references a *culturally responsive management* style in which student's "ethnic, racial, social, and linguistic backgrounds" are taken into consideration" (Gay, 2006, p. 364).

To support teachers and meet the needs of such diverse urban communities in which many principals serve, one particular style, amongst many, that principals' behaviors should exhibit includes a democratic, inclusive style of leadership. This involves, as Green (2017) explains, a "two-way communication" whereas "followers are viewed as equals and group interaction is encouraged" (p. 43). When principals choose to utilize such democratic leadership style, all stakeholders feel their legitimate voices are equitably heard and "organizational goals are achieved" (Green, 2017, p. 75). Herein, Hoy and Hoy (2013) acknowledge that "teacher's performances in schools are in part determined by the climate in which they work" (p. 319). The organizational climate of the school is in-part determined by the perceptions of the teachers who work within the school environment. These assertions regarding the school climate have a direct impact on the effectiveness of the school. In such, Sergiovanni and Green (2015) exclaim, "that principal behaviors have a direct effect on the school's overall climate" (p. 205).

Teacher performances are also determined by the academic success of students. In the state of Tennessee, the Tennessee-Value Added Assessment System (TVASS) measures student growth from yearly achievement tests given in grades one through eight and all end of course subjects (Tennessee Department of Education, n.d. a). TVASS scores also count for 25 percent of the school's overall evaluation score. Each school is provided a school-level evaluation score that is ranked from 0 to 5. The growth rank is based upon a growth measure assigned for a particular grade and subject. A "1" in the growth rank indicates the lowest progress group (bottom 20% of schools in the state); whereas, a "5" indicates the highest progress group (top 20% of schools in the state). According to the Tennessee Department of Education (n.d. b), there are several benefits of TVASS: (1) Monitor the progress of all groups of students from low-achieving to high-achieving, ensuring growth opportunities for all students; (2) Measure

student achievement as a result of the impact of educational practices, classroom curricula, instructional methods, and professional development; (3) Make informed, data-driven decisions about where to focus resources to help students make greater progress and perform at higher levels; (4) Modify and differentiate instruction to address the needs of all students; (5) Align professional development efforts in the areas of greatest need; (6) Network with other districts/schools that may yield different growth results, and (7) Identify best practices and implement programs that best meet the needs of their students.

When combining teacher perceptions (student conduct) and school-level growth measures, school leaders are provided a clear, transparent assessment of their school's culture. That is, principals' behaviors are assessed in how effectively they "work collaboratively with staff to develop a list of student behavioral expectations and staff responses that staff members implement consistently" (Desravines, Aquino, & Fenton, 2016, p. 18). Although many studies focus on teacher perceptions of student conduct, few studies have focused on how teachers perceive the leadership role of their principals in the management of student conduct in urban middle schools. To fill this gap, this quantitative study focuses on urban middle school teachers' perceptions regarding their principals' role in managing student conduct, particularly in TVASS designated schools.

Theoretical Framework

This research is guided by Hackman and Oldham's (1980) theory of job enrichment (job characteristics model). The theory of job enrichment is based upon three psychological states critical to motivation and job satisfaction (Sergiovanni & Green, 2015). These psychological states include: experience meaningfulness, experience responsibility, and knowledge of results (Sergiovanni & Green, 2015).

Experience meaningfulness specifically focuses on "the extent to which an individual perceives his or her work as being worthwhile or important by some system of self-accepted values" (Sergiovanni & Green, 2015, p. 334). Experience responsibility involves "the extent to which a person believes that she or he is personally accountable for the outcomes of effort" (Sergiovanni & Green, 2015, p. 334). According to Hackman, Oldham, Johnson, and Purdy (1975), as cited in Sergiovanni and Green (2015) knowledge of results refers to "the extent to which a person is able to determine, on a fairly regular basis, whether or not performance is satisfactory and efforts lead to outcomes" (p. 334).

The job characteristics model identifies five job characteristics that develops into the three psychological states (Lunenburg, 2011). These job characteristics require: (1) Different activities in carrying out the work and the use of a variety of teacher talents and skills (skill variety); (2) Teachers to engage in tasks identified as whole and comprising identifiable pieces of work (task identity); (3) Teachers to have substantial and significant impact on the lives or work of other people (task significance); (4) Substantial freedom, independence, and direction be provided to teachers in scheduling work and in deciding classroom organizational and instructional procedures (autonomy); and, (5) Teachers to be provided with direct, clear information about the effects of their performance (feedback) (Sergiovanni & Green, 2015, p. 335).

Based upon the theory of job enrichment, or more specifically, the job characteristics model, when principals provide teachers the opportunity to work collaboratively towards completing tasks and reaching goals, teachers feel committed to the

organization. Sergiovanni and Green (2015) support this statement about motivating teachers by explicating the goal is "to help teachers feel that their job is meaningful, to enable them to learn the actual outcomes of their efforts, to provide them with feelings of control and responsibility for results, and to help them become part of a social unit" (p. 336).

Research Questions

The study is guided by the following research questions:

1. How do dispositions regarding urban school teachers of TVASS designated schools of *No/Some* growth compared to that of urban school teachers of TVASS designated schools with *Good/Very Good* growth differ regarding their principals' roles in managing school conduct?
2. Are there any significant differences between the two groups?

Method

The researcher submitted two questions to be answered by this study. In order to answer the research questions, this study used a quantitative methodology that facilitates an analysis of the variables in the study. The researcher determined that a non-experimental approach utilizing descriptive statistics would be the most appropriate for a secondary data analysis study. The secondary data analysis performed in this study involved integrating data from two data sources: 1) item-level responses retrieved from the spring 2015 TELL MNPS survey and 2) the school's current TVASS designation dichotomized as No Growth and Some Growth by the Tennessee Department of Education. The survey for this study is the Teaching, Empowering, Leading and Learning (TELL) Metro Nashville (MNPS) Survey (New Teacher Center, 2012). The TELL Survey provides analyses of "school teaching and learning conditions" (TELL MNPS, 2015, p. 1). The 2015 TELL MNPS Survey utilized eight different indices referencing topics ranging from time to instructional support. However, this research study will only examine the teaching and learning conditions construct of student conduct and related impact on school climate issues of a safe, orderly environment.

Sample Population

Respondents in this study were a sample of 180 urban school teachers from five randomly selected middle schools all located in a large urban metropolitan district in northcentral Tennessee. The TELL MNPS was administered in February 2015 to all school-based licensed educators in the large urban school district. Only campuses with "the 50 percent response rate threshold" (TELL MNPS, 2015, p. 3) were reported. According to the official TELL Tennessee website, over 5,000 respondents provided data from 88% elementary schools, 74% middle school, and 74% high school district sites (TELL MNPS, 2015). In terms of responding institutions, more than 80% of the schools surveyed met the requirements to receive individual school-level data reports.

Instrumentation

Different in some particulars from versions of the TELL administered at other times in other places, the TELL MNPS 2015 nevertheless provided an accumulating body of evidence that testified to the instrument's psychometric quality. To be sure, some degree of informal or *prima facie* evidence of the validity of the TELL was derived from its longevity and wide-spread usage. To the

same point, however, more formal evidence derived from initial efforts to ensure the instrument's "content validity" and later efforts to establish its "construct validity." With respect to its content validity, TELL capitalized on two sources: 1) a wide-ranging literature review of the role of working conditions on teacher dissatisfaction and mobility and 2) an analysis of School and Staffing Survey data focused on areas identified as driving teachers' satisfaction and employment decisions. In terms of its construct validity, a 2013 Research Brief published on the TELL Tennessee website alluded to the work of Swanlund (2011) in confirming the factor structure of the instrument and in using "Rasch model person separation reliability and Cronbach's alpha" to verify that the TELL was capable of producing consistent results across participant groups" (NTC Validity and Reliability Report, 2013, p. 3). In sum, for purposes of measuring teacher perceptions of the working conditions directly or indirectly fostered by the leadership of their schools, the TELL MNPS 2015 would appear to be a generally accurate tool that produces consistent results. As with previous research studies involving the TELL (see for example, Johnson, Kraft, & Papay, 2012), the present study does not use all of the TELL items but rather uses a category, Managing Study Conduct, "policies and practices to address student conduct issues and ensure a safe school environment" (TELL MNPS, 2015, p. 2).

Data Analysis

Descriptive variables of *TVASS designation* were coded dichotomously for the respective research study. TVASS designated schools were coded and defined as schools with *no/some TVASS improvement* (growth rank 0 – 2) versus schools with *good/very good TVASS improvement* (3 and above). Schools having *no/some growth* TVASS designation were dichotomously coded as "1" and those with TVASS designation of *good/very good growth* TVASS improvement were codes as "2". To compare group data, the researcher performed an independent-samples t-test. A descriptive analysis was performed on the sample group to obtain a clear understanding of the group. Cross-tabulations involving four cells were created for each item addressed by the instrument. Standard deviations were determined during data analysis and reported as well. An effect size was calculated. The results of the analysis procedures were interpreted and evaluated for implications.

Findings

Urban teachers' responses of principals' management of student conduct by *No/Some Growth* and *Good/Very Good Growth* TVASS designation is pertinent to some aspect of creating a safe and orderly environment. The seven "managing student conduct" items read as follows:

1. Students at this school understand expectations for their conduct.
2. Students at this school follow rules of conduct.
3. Policies and procedures about student conduct are clearly understood by the faculty.
4. School administrators consistently enforces rules for student conduct.
5. School administrators support teachers' efforts to maintain discipline in the classroom.
6. Teachers consistently enforce rules for student conduct.
7. The faculty work in a school environment that is safe.

Research Question 1: *How do dispositions regarding urban school teachers of TVASS designated schools of No/Some growth compared to that of urban school teachers of TVASS designated schools with Good/VeryGood growth differ regarding their principals' roles in facilitating school conduct?*

To determine whether the TVASS designation of the participants was linked to their tendency either broadly to agree or disagree with questionnaire statements, cross-tabulations involving four cells were created for each item addressed by the instrument. With respect to TVASS designation, participants were grouped as being "No/Some Growth" (38.3%) or "Good/Very Good Growth" (61.7%).

As shown in Table 1, with respect to items 1, 5, and 7, respectively, over 75% of the respondents either strongly disagreed or disagreed with the statements that "Students at this school understand expectations for their conduct" (78.4%); "School administrators support teachers' efforts to maintain discipline in the classroom" (75.2%); and, "The faculty work in a school environment that is safe" (89.0%).

It should be noted that in Table 1, teachers in *No/Some* TVASS improvement schools strongly agreed to item 2, "Students at this school follow rules of conduct" (69.1%) compared to that of teachers in *good/very good* growth TVASS improvement schools (65.5%). Of equal importance in Table 1, teachers in *No/Some* TVASS improvement schools strongly agreed to item 6, "Teachers consistently enforce rules for student conduct" (65.2%) compared to that of teachers in *good/very good* growth TVASS improvement schools (66.1%).

Research Question 2: *Are there any significant differences between the two groups?*

With respect to the item-level means and standard deviation for groups (Table 2), differences were observed. Among groups, it is noteworthy that the means obtained across all seven items were different for both teachers of *No/Some Growth* designated middle schools (M = 2.62, SD = 1.50) and *Good/Very Good Growth* designated schools (M = 2.75, SD = 1.84), favoring *Good/Very Good Growth* designated schools.

In contrasting the-means for groups, only four items proved to be significantly different.

A significant difference in the teachers of *No/Some Growth* designated middle schools and *Good/Very Good Growth* designated school responses with respect to "students at this school understand expectations for their conduct was observed" (t (178) = -3.74, p < .01, d = -0.58); "school administrators consistently enforces rules for student conduct" (t (175) = -2.29, p < .05, d = -0.35); "school administrators support teachers' efforts to maintain discipline in the classroom" (t (176) = -2.72, p < .05, d = -0.42) as was a significant difference in urban middle school teacher responses to the item concerning the faculty work in a school environment that is safe (t (174) = -3.86, p <.05, d = -0.59). In all instances, the differences favored the TVASS designated *Good/Very Good Growth* urban middle school teachers' collective responses.

Table 1
Level of Agreement and Disagreement to Items Concerning Dispositions of Principals' Role in School Conduct by TVASS Designation

Item	No/Some Growth				Good/Very Good Growth			
	Disagree		Agree		Disagree		Agree	
	n	%	*n*	%	*n*	%	*n*	%
1. Students at this school understand expectations for their conduct.	38	55.1	31	44.9	24	21.6	87	78.4
2.Students at this school follow rules of conduct.	21	30.9	47	69.1	38	34.5	72	65.5
3.Policies and procedures about student conduct are clearly understood by the faculty.	20	29.0	44	63.8	33	29.7	78	70.3
4.School administrators consistently enforces rules for student conduct.	32	47.8	35	52.2	30	27.3	80	72.7
5.School administrators support teachers' efforts to maintain discipline in the classroom.	33	47.8	36	52.2	27	24.8	82	75.2
6.Teachers consistently enforce rules for student conduct.	24	34.8	45	65.2	37	33.9	72	66.1
7.The faculty work in a school environment that is safe.	23	34.3	44	65.7	12	11.0	97	89.0

** $p < .01$

Table 2
Results of T-Tests and Descriptive Statistics for School Conduct Items by School Designation

Item	TVASS Designation						95% CI for Mean Difference		
	No/Some Growth			Good/Very Good Growth					
	M	SD	n	M	SD	n		t	df
Students at this school understand expectations for their conduct.	2.46	.901	69	2.95	.779	111	-.751, -.232	-3.74**	178
Students at this school follow rules of conduct.	2.81	.868	69	2.75	.848	110	-.206, .315	.411	176
Policies and procedures about student conduct are clearly understood by the faculty.	2.93	.880	69	2.86	.872	111	-.193, .336	.594	178
School administrators consistently enforces rules for student conduct.	2.58	.890	69	2.90	.898	110	-.592, -.044	-2.29*	175
School administrators support teachers' efforts to maintain discipline in the classroom.	2.59	.863	69	2.96	.892	109	-.636, -.102	-2.72*	176
Teachers consistently enforce rules for student conduct.	2.64	.822	69	2.70	.788	109	-.303, .184	-.483	176
The faculty work in a school environment that is safe.	2.78	.813	67	3.24	.744	109	-.699, -.226	-3.86*	174

* $p < .05$, **$p < .001$

Discussion and Conclusion

The researcher sought to identify urban teachers' dispositions regarding their principal's leadership roles that attribute to a positive school climate, particularly, student conduct. For this study the researcher analyzed the collective responses from teachers within five different TVASS designated middle schools within a metropolitan school district.

The collective findings in this study echo Hoy and Hoy's (2016) and Sergiovanni and Green's (2015) assertions that the school climate is impacted upon teacher effectiveness, performance, and motivation. The school climate is also a factor when weighing in on the leader's ability to sustain

an equitable and effective leadership style when engaging in the creation of a positive school environment. The results suggest that the principal's role in managing student conduct involves embracing the voices of faculty concerns and consistently involving the faculty in the decision-making process – *management processes* (Green, 2017, p. 95).

These analyses have provided strong evidence supporting Osher, Dwyer, Jimerson, and Brown's (2012) postulate that "effective schools foster and support high academic and behavioral standards making achievement within these schools both a collective and individual phenomena" (p. 28). That is, "adult characteristics include the knowledge, skills, beliefs, attitudes, and behaviors of school-based staff. Beliefs and attitudes include adults' sense of their role" (Osher, Dwyer, Jimerson, & Brown, 2012, p. 28). Although, this study was limited to a middle school population, a descriptive analysis revealed that the factors determining teacher's dispositions regarding their principal's management of school conduct were indeed the result of administrative support. Osher, Dwyer, Jimerson, and Brown (2012) contend that "administrative support is vital, including the moral, logistical, and technical support needed to implement these approaches effectively (e.g., principal leadership, monitoring, and coaching)" (p. 28).

Nevertheless, the findings from the present study are of no surprise that schools with *good* or *very good* growth TVASS improvement in comparison to teachers with *no* or *some* TVASS improvement showed considerable positive agreement in regards to their dispositions regarding students' understanding of expectations of conduct, administrative enforcement of student conduct rules, administrative support of teachers' classroom discipline, and faculty working in a safe environment. However, it is worth noting that a slight difference in percentage of teachers from both groups involved a disagreement regarding teachers consistently enforcing student conduct rules in the classroom. Taken together, these results provide evidence that when a comprehensive student conduct plan is not consistent and effectively implemented, there is a direct effect upon school climate. So to speak, "people in schools needed to understand that as changes were made, they needed to be handled, spoken about, and managed by someone who held the respect of teachers" (Liebermann, Campbell, & Yashkina, 2017, p. 16). The results of this study hint at the possibility that teachers are motivated to work in a supportive environment where student and teacher expectations are made transparent, their work matters and decisions made in classrooms regarding student conduct are supported by administration. To this end, Liebermann, Campbell, and Yashkina (2017) exclaim, "Teachers and teaching are vital to educational improvement for excellence and equity; teachers need to be enabled as active agents in the middle of action not passive recipients of external reform" (p. 19). Together, with past studies on student conduct, the current data make a strong case for further investigations into school improvement, school climate, and academic achievement.

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Student-Led Conferencing: An Analysis of Student and Parent Perceptions in One Rural Elementary School

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This article presents an analysis of student and parent perceptions regarding student-led conferencing, an alternative to traditional parent-teacher conferences. Promising practices for communicating student work evidence from one rural elementary school study reveal common perceptions of students and parents regarding student-led conferencing, communication practices, and views about parental support. The perceptions of students and parents from pre- and post-survey questions were analyzed with a Mann-Whitney non-parametric test showing positive results. The implications of these findings give school leaders a foundation of support for successful student-led conferencing implementation that impacts student achievement and promotes stakeholder involvement.

Parents, students, and teachers value academic conversations that demonstrate a shared vision for student learning. Common goals of supporting students by providing quality educational experiences and empowering students to take ownership of their learning contribute to their shared vision. Educators continually search for strategies to increase student achievement, bolster parental involvement, and support systemic change in student outcomes. This article reports student-led conferencing perceptions from one rural school study contributing beneficial research data to educational leaders searching for promising conferencing practices.

Rural Context

School environments contribute to student learning outcomes. Rural schools face unique challenges creating obstacles to teaching and learning, such as low per-capital income, higher per-pupil cost, high poverty rates, population decline, hard-to-staff positions with high teacher turnover, high percentage of inexperienced or poorly educated parents, single-parent homes, geographic isolation, mobility and resistance to innovation (Chalker, 2012; King, 2012; Semke & Sheridan, 2012). Despite these obstacles, rural schools demonstrate positive research results with low teacher-student ratios, higher graduation rates, higher parental involvement, and strong community support (Semke & Sheridan, 2012).

While rural schools report higher graduation rates, keeping students enrolled in school depends on multiple influences. According to one Boston school district study, dropout rates declined due to stronger support in elementary school (AERA, 2018). Demonstrating promising practices for elementary schools has the potential to strengthen the nation's 2,000 poorest performing high schools located in rural areas (Alliance for Excellent Education, 2010). With fewer funding options than urban schools, rural communities struggle to provide quality professional development, instructional support, and programs for linking parents and educators (Henderson, Mapp, Johnson, & Davies, 2007). Teachers must use every available tool and resource to adapt to these challenges and value parents as contributing factors to student success (Shim,

2013, p. 7). Research has examined problems and issues with the current parent-teacher conference practices along with the barriers of rural environments and suggests a shift to greater student involvement in formative assessment in the form of student-led conferences (Gregory, Cameron, & Davies, 2011; Stiggins, 2001).

Student-Led Conferencing Described

School districts address the practice of student-led conferences in rural settings in an effort to discern academic advantages and build collaborative bonds between parents, students, and teachers. As districts search to find innovative ways to circumvent rural barriers, such as time, distance, and resources, schools can begin to build strong parent/school relationships.

Student-led conferences reinforce that atmosphere of cooperation and support. Parents view first-hand the products their children create while the culmination of formative assessment practices is demonstrated during a student-led conference. This portfolio-based conference is a meeting between a parent, or parents, and a student, featuring the student leading the discussion about academic progress. The teacher facilitates the conversation by being available to answer questions from the parents and support the student during the conference. These conferences typically last 15 to 30 minutes and may include multiple academic subjects. The student collects evidence over time to present to the parents. The evidence varies for each student and may include graded work, writing samples, projects, individual assignments, group assignments, and other evidence relative to student progress. Brodie (2014) conducted a student-led conferencing pilot study noting that parents observed sample evidence from portfolios indicating self-awareness of learning, preparation, and academic growth. Giving students a voice in the presentation of their work helped to personalize their educational experience (Brodie, 2014).

In comparison, a traditional parent-teacher conference involves a meeting between a parent, or parents, and a teacher regarding a student's progress, and the teacher leads the discussion. The student may be present at the conference but rarely contributes to the conversation. By not taking a leading role in the conference, the most important educational stakeholder—the student —is disregarded. In a traditional conference, an important piece of the puzzle which represents student learning is missing (Clark, 2012). In contrast, the student-led format offers students the opportunity to take the lead in the conference using their own work evidence; thereby, encouraging ownership and responsibility for quality outcomes.

Preliminary surveys for student-led conferencing (Lambert, 2015), discovered that students gained confidence by practicing conferencing procedures and offering implementation suggestions. Rehearsing the conference prepared students to discuss academic goals along with formative and summative assessment results. "Conferences with students as participants are a natural extension of learning when students have previously self-assessed and set goals. They provide the opportunity for students to reflect on and share what they know about themselves as learners" (Stiggins, Arter, Chappuis, J., & Chappuis, S., 2006, p. 361).

Bailey and Guskey (2001) indicated that students consistently reported increased "confidence and pride, and actually, some amount of surprise in their ability to explain their work, to set goals, and to express their attitudes about school and learning to their parents and other significant adults" (Bailey & Guskey, 2001, pp. 9-10). This support for self-advocacy leads students to "develop

insights into themselves as learners" (Stiggins & Chappuis, 2005, p. 6).

Existent research does provide some insight into the effectiveness of student-led conferences. For example, Buchino (2011) identified parental preference for the student-led conference over the traditional conference format, while Gregory et al., (2011) added that students gain confidence in their academic progress when they experience support, interest, and attention from their audience. This is a win-win situation for the academic success of schools.

Lemmer (2012) reports a need for schools to evaluate the effectiveness of their current conferencing practices. Low cost strategies include a comfortable conference setting, sufficient time opportunities for participation, and privacy for conferences. While the academic importance of parent-teacher conferences may be recognized, the empirical research of parent-teacher conferences is limited (Minke & Anderson, 2003). "Too few studies have been conducted with research questions that investigate the unique and specific effects of the rural setting on family-school connections and outcomes. (Semke &Sheridan, 2012, p. 39).

School Demographics

The rural school sampled in this study includes students from a school serving a community with a population of 2,149. The community's poverty level is 19.8% which is higher than the state average of 15.8%. The school data was drawn from grades 3-6 with a student enrollment of 290. The participating student group was drawn from 23 third-grade students from a school-wide total of 74. The data selected for this study met availability criteria for the research purposes. Table 1 explains the school demographics for the data presented in this article.

Table 1
Rural School Demographics

Characteristics	f	%
Grades 3-6 Enrollment	290	
Economically Disadvantaged	211	72.8
Students with Disabilities	62	21.4
Black/African American	32	11.0
White	248	85.5

Analysis of Perceptions

The methodology of this research study investigated the impact of perceptions relative to the initial implementation of student-led conferences at the elementary school level and resulted in a quantitative analysis of collected data. A sample group of students and parents was taken from a group of 23 third-grade students who attended a student-led conference. All of these participants completed surveys immediately following the conferences. These students and parents also completed a comparison survey following a traditional parent-teacher conference format in the spring.

The Student-Led Conferences Survey for students and parents posed questions to

both groups regarding their conferencing experience. This survey was composed of six questions using a 5-point Likert response scale and three open-ended questions. Each participant was asked to recommend changes to the conference format, identify goals to work toward based on the conference information, and determine the best part of the conference from his or her own perspective. These items were selected to be measured:

> This conference went well.
> My child/I (student) was ready for the conference.
> My child/I (student) did a good job talking about the work.
> My child/I (student) liked the decision to choose the work to show during the conference.
> This conference will help me in my school work/in providing support at home.
> I would like to participate in another conference like this one. (Lambert, 2016, p. 56)

Using ordinal data from a 5-point Likert scale survey with parents and students, analyses were conducted using a Mann-Whitney test as a nonparametric test for significance. The results of students' and parents' responses represented a small sample size without the assumption that populations form the normal distribution. The Mann-Whitney nonparametric test was conducted, assuming the equality of variances, to calculate rankings providing comparative data for determining statistically significant ($p < .05$) differences between students' and parents' perceptions concerning student-led conferences. The results of mean rankings represented in calculations of U and Z scores yielded a p-value for determining statistical significance. There were no significant differences between students' and parent's perceptions concerning student-led conferences. Table 2 consists of complete statistical data for comparisons.

The survey question that closely approached statistical significance involved the level of anticipated support at home/school resulting from the student-led conference. A Mann-Whitney test indicated that the perceptions of the student-led conference regarding the question that the conference experience will help provide better support at home/school was greater for parents ($M = 163.0$) than for students ($M = 138.0$), $U = 60.0$, $p = 0.28$.

Table 2
Mean Rankings for Student-led Conference Surveys

Items	Parents (n = 12) M Rank	Sum of Ranks	Students (n = 12) M Rank	Sum of Ranks	U	Z	p =
This conference went well.	13.00	156.0	12.00	144.0	66.0	-0.60	0.55
My child/I was ready for the conference.	12.50	150.0	12.50	150.0	72.0	0.00	1.00
My child/I did a good job talking about his/her work.	12.13	145.5	12.88	154.5	67.5	-0.37	0.71
My child/I liked the decision to choose the work to show during the conference.	11.96	143.5	13.04	156.5	65.5	-0.65	0.51
This conference experience will help me provide better support at home/do better in school.	13.50	162.0	11.50	138.0	60.0	-1.07	0.28
I would like to participate in another conference like this one.	13.00	156.0	12.00	144.0	66.0	-0.60	0.55

The survey question that closely approached statistical significance involved the level of anticipated support at home/school resulting from the student-led conference. A Mann-Whitney test indicated that the perceptions of the student-led conference regarding the question that the conference experience will help provide better support at home/school was greater for parents (M = 163.0) than for students (M = 138.0), U = 60.0, p = 0.28.

Students and parents attended a student-led conference at the beginning of the year and a traditional conference near the end of the year. In the conference survey near the end of the year, participants were asked to compare the two formats (student-led and traditional) and express a preference. The

results indicated a preference for student-led conferences (M = 4.16) over traditional conferences (M = 3.82). The comparison means for preferences in conferencing formats are included in Table 3.

Table 3
Means for SLC and Traditional Preferences

Spring Conference format	*n*	*M*	*SD*
SLC	9	4.16	.82
Traditional	9	3.82	1.01

Summary of Findings

Research yielded data indicating that parents and students demonstrated a positive response to the student-led conferencing format. Since there was no significant difference in the perceptions of parents when compared to the perceptions of students, it may be concluded that parents and students demonstrated similar perceptions. Positive responses to the survey questions and statistical data that indicated similar perceptions from parents and students provided support for the continued implementation of student-led conferences. Some consideration may be given to the near-significant level of the survey item regarding the perception that student-led conferences impacted the level of support from parents at home and increased student performance at school. Parents and students may have differed in regard to their perceptions of the impact of the conferences as demonstrated by this survey item.

Parental respondents noted positive reactions to including their children in the conference. The parents were proud to hear their children talk about their own work evidence (Lambert, 2016). Responses on the comparison survey regarding conferencing formats indicated a preference for student-led conferences over the traditional format. School leaders may find this current research data valuable as they conduct future research and consider modifications to current conferencing formats.

Implications, Conclusion, and Recommendations

The results of this study bring attention to the impact of student-led conferencing on student and parent perceptions regarding the value of parental involvement in the academic progress of the students, and may support an expansion of conferencing options to the high school level. The format for student-led conferences offers parents a first-hand look at the actual academic evidence from the students, and this provides insight into how they can offer more support at home. The goal of future research should include gathering data from other grade levels in order to further evaluate the significance of the impact of student-led conferences.

Successful implementation of student-led conferencing relies on an organized plan of action from school leaders. Allowing students to practice the conference gives them the opportunity to calm their nerves and organize their artifacts. This also helps them prepare for the spotlight and reduce anxiety. Conducting student-led conferences on a regular schedule will give parents many opportunities to participate. Parents face challenges with work schedules and may need a variety of time choices to attend a conference. Exploring various method of delivery may benefit attendance.

This article presents student-led conferencing data from one rural elementary school indicating perceptions of the value of student-led conferencing. Empowering

students to take ownership of their learning by expressing their educational goals and challenges with valued stakeholders offers a positive outlook for future communication opportunities in rural elementary schools.

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Flexible Seating: Let's Get the Wiggles Out

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Rarely do children (or adults) have the ability to sit still for an extended period of time. Flexible seating has grown in popularity because it provides the opportunity for students to get their wiggles out while they are learning. Many teachers have introduced variety in seating, such as exercise balls, café tables, soft cushions, or stand up desks, to enhance student engagement and learning. While there are some drawbacks to introducing flexible seating in the classroom, educational literature explores the many benefits. Special consideration is critical for setting procedures and introducing new types of seating to students.

Classrooms of today look quite different from the ones of times past. Gone are the rows of desks placed exactly on the same line on the tile floor, each holding space for students to place their books, pencils, and other items (they always fidget with those!). Gone are the straight wooden chairs with a writing surface attached that is not large enough to use efficiently. Gone are the unrealistic expectations that with a quick oral command every student will be sitting up straight, feet on the floor, and totally engaged in learning activities in the classroom.

According to Shalaway (n.d.), there is a long-standing myth that children learn best when sitting up straight in hard chairs. Shalaway (n.d.) explains that research supports the common-sense notion that many students pay better attention and achieve higher grades when they are located in comfortable settings. Now we see classrooms that have unusual seating—beanbags, stools, stand-up desks, exercise balls, floor mats, unusually shaped desks and tables, scoop chairs, overstuffed sofas, and tall café chairs with tables. Using these kinds of seating can create a different but efficient environment for learning.

The use of different kinds of seating in a classroom, allowing students some choice in their preferred seats, is labeled "flexible seating" or "alternative seating." Any seating that steers away from the traditional classroom arrangement (four-legged chair attached/pushed into the desk) can be considered flexible seating, either in part or filling the entire room. Students, teachers, and even parents have worked to create classroom learning environments where students are physically comfortable so that they can more easily focus on the learning tasks before them. Many classrooms' settings have begun to have a "coffee shop" (Delzer, 2016) or "Starbucks" (Havig, 2017) style to enhance learning.

Advantages of Using Flexible Seating

With the use of good classroom management strategies, incorporating flexible seating can help teachers meet the needs of individual students in the classroom. This dynamic use of space allows teachers to adjust the classroom environment to meet goals for the students (Merrill, 2018). When students, uncomfortable sitting in the same location or seat for long periods of time, can move to alternate seats, learning progress can

increase. With accompanying classroom management tools, movements using the alternative seating should occur only when those movements exist within established guidelines. For example, in Mrs. Hartley's classroom, students are encouraged to select a type of chair, stool, or exercise ball when they enter the subject-specific classroom. Although they use the same actual desk each day they are in the class, they have the option to move seats from one location to another in the classroom. Clearly established procedures, rehearsals, and reinforcements have occurred in advance, being sure that students understand that the use of flexible seating is a privilege, not a right for students. The teacher can remove the flexible seating privilege for a student at any time.

Flexible seating allows students to wiggle, fidget, and even change positions (Havig, 2017). According to Merritt (2014), using alternative seating can help develop strategies for all students, including students with and without special needs, to focus better and increase their learning productivity. Classroom seating arrangements can encourage positive academic behavior and prevent disruptive behavior (Wannarka & Ruhl, 2008). When seating is arranged in traditional rows, it does not encourage collaborations or community (Nazeem, 2012). A pleasant environment can help students learn easier, contributing to a communal environment (Fernandez, Huang, & Rinaldo, 2011). When students find the environment comfortable, they generally demonstrate more engagement which then leads to greater achievement. Flexible seating makes it easy to arrange students for group work and encourages working together.

Many experts explain that flexible seating is better for students' mental and physical health. With some freedom of movement, students who are healthier tend to have better focus in the classroom, thus resulting in better academic success (Brackett et al., 2011). Students are able to move more, which helps their physical and mental conditions. Research suggests that traditional seating could affect the development of children by causing issues such as musculoskeletal disorders, bad posture, neck and back pain, and other kinds of health concerns (Harvey & Kenyon, 2013). Since about 75 percent of the total body weight is supported on only four square inches of bone when humans sit up straight in a hard chair, the resulting stress on the body can cause discomfort, fatigue, and the need to frequently change positions (Shalaway, n.d.). Reducing muscle fatigue by putting less pressure on the spine can allow for better concentration (Soloman, 2005).

Disadvantages of Using Flexible Seating

Unfortunately, supplying enough seating for every student to have seating choices can be costly. However, grants and other scholarships have been available to help teachers with the out of pocket expense; many teachers have found success using the fundraising website Donors Choose (https://www.donorschoose.org/). Teachers can also visit second-hand stores (i.e., Salvation Army and Goodwill) to purchase different seating options (Flexible Seating Elevates Student Engagement, 2015). Without desks students are having to shuffle materials to and from a storage space to their desired daily seat. Constantly moving materials contributes to a sense of disorganization in the classroom; the back and forth movement to storage solutions can create a chaotic environment. Encouraging teachers to be just as flexible as the seating arrangements is an imperative, according to Raudys (2018).

Implementing Flexible Seating

Probably more than any other factor, careful implementation and modeling of flexible seating is critical to its success, both for students and for teachers. Invariably, some students will not have had the opportunity to sit on wobble stools, stand at a stand-up desk, or use an exercise ball as a seat. Teaching students how to sit (and how not to sit) on a particular seating option is a critical component, as is explaining the use and purpose of alternative seating patterns. Admittedly, students learn through observation and modeling (Mcleod, 2016). Teaching students procedures by showing them how to use the materials and how to behave in the classroom helps students to learn and make connections with their expected behavior. Wong and Wong (2009) insist that students must be taught procedures during the first two weeks of school. Slowly allowing students opportunities to safely experiment with each of the different kinds of seating is most likely to build student confidence and preferences for different seating.

Establishing rules for the seating must occur from the very beginning, with reinforcement of those rules, implementation of consequences for improper use, and careful supervision for every student (Wong & Wong, 2014). Helping students become comfortable with the seating must include helping them learn to follow the expectations set forth in the classroom. It is critical that students are taught that the use of alternative seating is a privilege in a classroom, not a right for students (Delzer, 2016). Students are expected to demonstrate responsibility and respect with the seating. Allowing students the choice of seating should be removed whenever students present difficulties in seating, participating, and engaging in learning activities.

Individual Seating Options

Minero (2017) insists that every classroom area can be transformed into a learning space. Bookshelves become work stations, and low tables are used for group teaching. Teachers who use flexible seating usually collect different types of furniture and seating options; availability often depends on opportunities for purchase or necessity to create seating options that were not originally intended for classroom use. For example, using beanbags can be one way to enhance a comfortable classroom learning space. Using milk crates turned upside down and placing a cushion atop the crate is an inexpensive and commonplace option for some seating, especially when used at a reading table or for classroom meetings. Using carpet squares or individual small rugs can increase student opportunity for sitting on the floor, also defining the student's personal space. Lap desks purchased locally can quickly create a writing or work surface for students sitting on the floor and needing a firm or raised work space. Similarly, using a clip board is an easily used strategy to assist all students, regardless of their sitting location.

Mobility for furniture purchases should be a consideration for each classroom. Many items are available with casters that lock, allowing movement or stationary placement. Having those kinds of options can be important as teachers modify and readjust their classroom settings to be most functional and supportive of engaged learning by the students. However, it is important to note that movement of items has limitations and expectations is a critical part of maintaining the use of casters or deciding to remove them altogether. A mobile markerboard, for example, can serve as a roving writing surface, place to post information or hold magnets that hold individual papers, but also as a space divider in the classroom. Teaching

students how to properly use an item and clean it should be included in teaching initial procedures in the classroom (Minero, 2017).

There are many options for writing and teaching surfaces, including a wide variety of desks (balt shapes are especially popular since they easily arrange into groups of different sizes and encourage collaboration), kidney tables, round tables, square tables, even tables that sit only 10 to 12 inches off the floor and serve as writing spaces when sitting on the floor. Desks help define personal work space for students, especially when working in groups (Raudys, 2018). Some desks can be used in a way similar to a marker board so that students or teachers can write directly on the desk and immediately wipe it away. Tall stand-up desks can be used to help students focus when they are normally moving around or have difficulty sitting still for a long period. These desks even have swing bars at the bottom which could also be substituted with elastic cords for students in traditional desks who need an acceptable way to wiggle their feet!

Whether used for reading groups, math practice with manipulatives, or remediation teaching with a small group, teachers can use any work surface in a variety of ways, especially if it allows for different size groups and comfortable seating. Often these desks and tables are enhanced by the use of wobble stools, exercise balls, or mushroom stools. Demonstrating and practicing the movement of stools, tables, or desks would be an important addition to the teaching of procedures for all these items.

Seating options frequently include the use of bean bags. While these bags are usually lightweight, it is important that they are filled sufficiently to allow comfortable seating with adequate cushioning; additional filling is inexpensive and easily available for purchase (Havig, 2017). It is important that explanations about the use of bean bags include statements against using anything sharp near or on the beanbag since holes are easily poked in some materials. Classroom rules need to prohibit jumping on the bag or using scissors on the bag.

Mobile student chairs are excellent additions to a functioning classroom. These chairs allow for multiple classroom setups as the chairs are mobile and portable; the chairs can be cushioned and are comfortable. With rolling casters that can be locked, the mobile chairs usually include a storage shelf under the seat and an attached working desk so students can work wherever the chair is placed. Teachers should demonstrate to the students how to sit appropriately in the chair (not lying on it, no standing on it, not jumping, etc.). Teachers should explain to students how to respect the seating and explain that it can be taken away if there is misuse (Raudys, 2018).

Conclusion

Flexible seating is a newer approach to differentiating in the classroom to meet individual students' needs. Freedom of movement, increased physical health, and enhanced student engagement are all benefits to introducing this concept into the classroom. While using flexible seating requires teachers to remain open-minded and turn over some choice to the students, it can be incorporated successfully into the classroom when clear procedures and routines are established. With the wide array of seating options, teachers and students are sure to find a choice that suits each student's needs and learning preferences!

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