



Public Schools=Best Choice: Share the Excellence



Journal
of the
**Effective
Schools
Project**
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2018



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Journal of the Effective Schools Project

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Director's Note

Journal of the Effective Schools Project

Dear Readers:

The 2017-18 Effective School Project seminars inspired member campuses to share the excellent things happening in public schools. This year's theme was: *Public Schools = Best Choice: Share the Excellence*. In our ESP seminars this year, we explored how to create excellence through positive classroom management techniques with Spencer Henry. We engaged with Patrick Briggs as he taught us about achievement gaps and meeting the needs of at-risk students. We did a deep dive into Biliteracy with Cheryl Urow, and we experienced a shift in our thinking about engaging learners with Jon Anotnette. It was an absolutely amazing year. I am a 30-plus year veteran in education, and I learned so many game-changing educational tools this year. This line-up of presenters was one of the best in my 17 years of participating in ESP. It was awesome!

The year culminated with the annual ESP Planning Retreat set to a theme of *Celebration* to kick off our 30th year of serving our public school partners. As usual, you did not disappoint. The costumes were thrilling and innovative. The games were full of laughter and fun, and we shared and grew with one another. It was absolutely powerful!

It is a great honor and privileged to work with The Effective Schools Project. I am continually moved and inspired by the passionate, committed educators who are members of this collaborative learning community. It is our goal to provide ongoing professional development for educators so they may continue to serve students. This year's journal focuses on the success stories of educators dedicated to continuing the excellence of public schools. Enjoy!

I am proud to work with so many amazing educators.
Thank you for the incredible work you do.

Sincerely,

Pam Winn, EdD, Director
Jim Boyd Effective Schools Project



Editor's Note
Journal of the Effective Schools Project
"Public Schools = Best Choice: Share the Excellence"

Dear Readers,

The Effective Schools Project is dedicated to improving school effectiveness, raising student achievement, and providing professional development to pre-service and in-service educators. The articles in Volume XXV of the JESP share experiences, expertise, and research focused on public schools and sharing excellence in education.

As the new editor of the JESP, I am privileged to work with Dr. Pam Winn and Dr. Robin Pate as Assistant Editors. Our team is dedicated to providing practitioner-based articles, which enrich and engage readers in the profession.

Two former students were recognized as Tarleton Stars: Jayden Reynolds (Morgan Mill ISD) and Katelyn Veteto (Comanche ISD). Each shines as an exceptional teacher who has mastered the art and science of teaching, impacting the lives of countless students. We are so proud of their accomplishments and contributions to the profession.

The Book Shelf by Dr. Miller-Levy highlights books supporting this year's theme. This portion of the journal is a favorite. Please review the books connected to our theme: *Public Schools = Best Choice: Share the Excellence*.

The *Journal of the Effective Schools Project (JESP)* is also available online. Readers are able to view all past articles (1992 to present) at *JESP's* website <http://www.tarleton.edu/esp/Journal/index.html>. To view past articles select: "**View Copies of the Journal of the Effective Schools Project.**" Submissions to the journal may be submitted online at <http://the.jesp.org>.

The articles included in this volume (XXV – *Public Schools = Best Choice: Share the Excellence*) provide insight into innovative ways to engage students and help students excel while promoting public schools. Teaching is a calling of the heart; the purpose of this journal is to celebrate successes and inspire educators to continue their commitment to students and excellence.

Sincerely,

Julie M. Howell

Julie Howell, Ed.D., Editor
Journal of the Effective Schools Project



AVID: I Am a Believer

Stephanie Schinnerer

Why am I a believer?

I have seen it transform students not only academically but in their personal lives as well. I have not been able to stop advocating for it or talking about it to other educators since leaving the classroom a couple of years ago.

What is “it”?

AVID, Advancement Via Individual Determination, is a global nonprofit organization dedicated to closing the achievement gap by preparing all students for college and other postsecondary opportunities. Established more than 35 years ago with one teacher in one classroom, AVID today impacts nearly 1.5 million students in 46 states and 16 other countries/territories. (What is AVID?, 2018, Online Documents section, para. 1).

Before relocating to Glen Rose, Texas, I was an educator in Plano ISD. My experience over twenty-five years included every grade level 3-8. I did not realize that the last five years would not only be life changing for my students, but also for me as an educator. I became the AVID Coordinator/Elective Teacher at a Title I middle school.

Something you should know about my career is that every four to six years, I was eager to try something new and switched either grade levels or subject areas between math/science and general education. I embraced change and believe this is the main reason I remained motivated through two and a half decades of teaching. It was a way of “keeping on my toes” and being out of the comfort zone required

me to continue learning and provided me with a sense of replenishment while the diversity refreshed me with new experiences.

The same was true when asked to step in as the new AVID Coordinator. I began that position by attending the AVID Summer Institute in Dallas and knew after the first day of attending sessions that AVID was something special. Later in the week when listening to students’ stories and teachers’ testimonies of working with these students, I was convinced that this was a perfect fit for me.

The first year was uncomfortable as any change often is and by the third year, I was adding my own touches to promote AVID culture in our classroom and receiving school wide participation. During the fifth year, it was evident that our school was an “AVID-ized” school. Of course, this did not happen without the involvement and support of administration and encouragement of teachers that were willing to implement AVID strategies. Each year teachers volunteered to attend the Summer Institute in each academic strand and the number of teachers and participation continued to grow.

The process of students becoming part of the AVID family begins with applying for the program, then an interview and teacher recommendations. The “profile” of an AVID student consists of the following but is not limited to:

- Students that are academically “in the middle to upper middle”
- Students that have a GPA of 2.5 or greater

- Students in an “under-represented” group perhaps racially, culturally, or economically
- Students from single parent homes
- Parents that are not college educated

The AVID Program begins in 7th grade with learning valuable skills as basic as properly shaking the hand of an adult and introducing themselves. College readiness skills continue through 12th grade with a majority of students already accepted to a college/university before graduation .

AVID Secondary starts with an elective class for one period a day, where students learn organizational and study skills, work on critical thinking and asking probing questions, get academic help from peers and college tutors, and participate in enrichment and motivational activities that make college seem attainable. (AVID Secondary, 2018, Online Documents section, para. 1).

While AVID is an elective class, organizational skills and critical thinking sound like your typical goals to aspire although when these skills take place in the AVID classroom.....it is so not the same!

The binder they are required to keep often recognizes AVID students. In fact, creativity in designing their binder with decorative duct tape to keep it more durable and to add a personal flare separates it from all others. The order requires pencil pouch first containing specific items, then the planner that students write in each period containing either assignments or the learning target, all papers are three-hole punched and placed in the rings, and remaining sections divided by subject/period. Loose



8th Graders design a new set of AVID letters when school begins. The previous year's is added somewhere in the school so that each grade level and other locations throughout the school have reminders to incorporate AVID strategies.

papers not allowed in the binder promote success in locating assignments and homework. Weekly checks conducted by peers or the elective teacher keeps students vigilant in keeping organized.

Did I mention that AVID students must enroll in an honors class?

Hired tutors of the district facilitate students during the AVID elective class two days a week. These tutors consist of college students, retired certified teachers, or stay home mothers/fathers that have a college degree. AVID tutorials require preparation before entering the classroom in which a student identifies an area or concept that is lacking understanding and complete a TRF (Tutorial Request Form). This form requires students to think through a problem, write down the known, and carry out the steps as far as they are able. Whenever the understanding stops refers to the "Point of Confusion". Students typically require support in mathematics/science and begin a tutorial session by presenting their problem on a white board in front of their peers. A group consists of

a ratio no larger than 1:7. A student begins by providing a 30 second speech (focusing on public speaking) and presents the information until they reach their point of confusion. The group, including the tutor never tells the student or teaches the student how to reach a conclusion. The group members and presenter respond and ask higher-level questions reflecting their understanding of Costa's levels of inquiry. This process continues until guided through the problem and the student reaches a solution. Once finished, the student repeats all of the steps and writes them on the white board to check for understanding.

During this time, all students in the group are taking three column notes so that they have a reference for homework and class work that follows. The tutor facilitates in keeping the questions flowing and taking notes for the presenter. This becomes common practice and students take ownership of learning and understanding the problems and procedures of mathematics/science or other curricular areas. The strategies utilized in AVID

tutorials leads students to be successful in an honors class and often allows the student to add a second honors class the following year due to better practices and confidence.

Speaking of confidence, when these students first enter the AVID classroom this characteristic is mostly nonexistent. A sense of belonging is generally lacking, and an uncertainty of being successful academically and even perhaps socially seems to loom throughout the classroom. Although around the month of January, EVERYTHING seems to change.

Team building activities or guest speakers from the community often take place in the AVID classroom on a Friday. Some guests I invited included:

- Plano Police Officer - told his personal story of abuse as a child and overcoming obstacles
- Collin County Community College Dental Hygienist Students – teaching dental care through visual and hands-on activities
- Motivational Speakers – told their personal stories resonating with

student demographics
 Plano Recycling Representative - advocating repurposed recycling items
 Bank Employees - taught an 8 week curriculum on finances
 Joe Foss Institute – military veterans educating students/sharing experiences
 Conflict Resolution – presentation to foster peer/family awareness in different scenarios

Through team building and experiencing other student and adult life stories, walls begin to crumble and trust within the AVID family begins to form. The students in 7th grade AVID remained with me for 8th grade too. Therefore, bonds, friendships and a sense of togetherness becomes associated as the “AVID family”.

The other two days of the week are curriculum based with reading and writing, but these too are implemented the “AVID Way”.

AVID bases curriculum on the term WICOR.

- W=Writing
- I = Inquiry

- C = Collaboration
- O = Organization
- R = Reading

Very rarely will you encounter an AVID classroom where collaboration is not taking place. After having been together for a full year in 7th grade, during 8th grade these students are mostly proficient in organization, study skills, exuberating more confidence and public speaking in front of their peers, encouraging one another as difficulties erupt, and sincerely having a safe place during the day that provides a sense of belonging and family.

Reading and writing does not have a stigma of boredom because these subject areas are implemented using strategies such as, Philosophical Chairs, Jigsaw, and Socratic Seminar. These strategies involve marking the text, developing higher-level questions, referring back to the text to support reasoning, debating, using relevant topics to utilize the writing process, and collaborating to generate and process learning.

Another area in which large quantities of time is given includes Cornell note taking. This strategy also incorporates collaboration, the re-writing and adding of notes to give the student insight of where the gaps are in their learning. Opportunities provided for students to converse with each other and to promote clarity where there are gaps in the learning process increases retention. Writing summaries, including levels of inquiry, and learning how to decipher what information to write down from a teacher’s class becomes a common practice for AVID students.

By the time these students are in the midst of their 8th grade year, a very apparent transformation has taken place. Students take ownership of their learning, peer projects and numerous opportunities to collaborate build confidence in public speaking skills and no longer have a “death grip” but instead create a fun way to express oneself. A sense of belonging formed through team building, counting on one another for support and sharing difficult situations academically as well as personally consistently

7th- 8th grade AVID students design these letters and display them in each grade level’s hallway to spread these strategies school wide.



build trust and friendships. In surrounding themselves with like-minded peers, goals of going to college and having the confidence and determination to believe they can be successful is a reality.

I am fortunate to have been part of a school system where every middle school, high school, and senior high school had established AVID Programs. Each spring, all of the AVID students gathered at a high school stadium and celebrated being an AVID Family. Being in the midst of over 2,500 AVID students in one location celebrating seniors as they would run onto the football field declaring what college/university they had been accepted was a reassuring moment for all AVID students. Selected seniors shared what AVID had meant to them and the stories of overcoming the obstacles faced by each one to reach the goal of going to college.

Then making way across the parking lot to the Plano Soccer Park, 7-12 grade students would interact with one another in playing soccer, football, visiting while spending time eating a picnic lunch and never noticing the mix of age or mix of schools, but enjoying the sights and sounds of an AVID Family.

I miss the AVID classroom although I have been able to share my passion of the program with other colleagues at Tarleton State University. In doing so, I shared my experience with Granbury ISD and Dublin ISD, which implemented the AVID Program this school year. Recently the Curriculum and Instruction Director of Granbury ISD told me she had a parent pull her to the side in the grocery store to have a conversation about how AVID has changed her son's life. There was a time in my career that I could not talk about my AVID students without getting emotional. It had nothing to do with sadness

but everything to do with the impact AVID promoted in my students' lives and the transformation it made in front of my very eyes. AVID changed the way I taught and the way that I developed relationships with my students. I continue to stay in contact with some of my former AVID students and the pictures and letters that I receive hang in my office. The AVID classroom is a remarkable opportunity for any student and provided me with the most rewarding experience as an educator that will always remain with me.

References

AVID Center. (2018). *What is AVID?* Retrieved from <http://www.avid.org/what-is-avid.ashx>

AVID Center. (2018). *AVID Secondary*. Retrieved from <http://www.avid.org/secondary.ashx>

About the Author:

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A Creative Approach to Literacy Instruction

Beth Garcia, Christy Reed and Teri Bingham

Adolescent literacy has become a hot topic in recent years. With the birth of the Young Adult (YA) genre and popular contemporary texts, many adolescents have begun reading as a way to be included in the social aspect that surrounds books such as Harry Potter, The Hunger Games, and Divergent. While there are millions of adolescents who identify as struggling or reluctant readers, being a second language learner and attempting to read content area literacy texts compounds the issues and requires a different approach to literacy instruction. The research presented here considers a creative approach to literacy instruction for adolescent second language learners. Framed through the Reader's Response Theory, the Transactional Theory, and the Sheltered Instruction Method, the researchers conducted a case study by presenting a popular, contemporary series book in the YA genre to an adolescent English Language Learner (ELL). The series book acts as a type of repeated reading thus establishing background knowledge in the reading of the first book. Subsequent books in the series activate this prior knowledge and allow the ELL reader to better comprehend the text, which encourages him to engage with the storyline and have a unique transaction. Triangulated data sources revealed that using Sheltered Instruction methods increased literacy skills to comprehend and engage with a text. This innovative approach can likely be transferred to similar classrooms containing ELL readers to help them not only establish necessary literacy skills but also encourage them to begin to see themselves as competent readers.

Introduction

Throughout the years, research has shown the tendency for students' reading outside of school to decline as they age (e.g., Ruddell & Unrau, 2004). In an effort to prevent this decline, secondary English Language Arts (ELA) teachers have tried to find new means to engage their students in reading. According to Guthrie and Humenick (2004), "When students are deeply engaged in text interaction and motivated to understand over lengthy periods of time, their achievement in reading comprehension increases" (p. 352). Since students are often engaged in texts that they find interesting, teachers can select texts that "keep up with the excitement and interest of teens" (Lesesne, 2007, p. 79).

Ruddell and Unrau (2004) stated, "Texts have gone far beyond the traditional book in a book bag" (p.

1049). Appleman (2007) suggested, "In the interest of keeping our classroom a viable space for student engagement, we have to consider whether some of our literary chestnuts may be too anachronistic, or precious, or irrelevant to offer to adolescents in the twenty-first century" (p. 146). Guthrie and Humenick (2004) asserted that students "are more likely to comprehend texts that they find interesting than texts they do not rate as interesting" (p. 343). Lesesne (2007) further argued that "as teens continue to push the boundaries of their worlds; the book they want to read will mirror their interests, their needs, and their questions" (p. 79).

The researchers were specifically interested in focusing on an English language learner during the reading of these series books due to the increase of ELLs in United

States classrooms. According to the National Center for Education Statistics (NCES) (2017), in the 2014-2015 school year, 9.4 percent (4.6 million) of the students in the United States were English Language Learners. Due to their limited knowledge of the English language, "English learners often feel like outsiders, particularly in a regular English class" (Aguilar, Fu, & Jago, 2007, p. 113). Teaching students, especially ELLs, how to engage in and comprehend texts should be a priority for every teacher. The purpose of this study aimed at determining creative approaches to literacy instruction for adolescent ELLs.

Theoretical Framework

The theory that guided this research endeavor was three fold considering The Reader's Response Theory (Rosenblatt, 1938; 1956), The Transactional Theory (Rosenblatt, 1978), and Sheltered Instruction theories (Echevarria, Vogt, & Short, 2010). Through the lens of Rosenblatt's Reader's Response and Transactional theories, the researchers considered creative ways in which a second language learner might understand and transact with a popular, contemporary series book. "Reader's response critics assert that many interpretations of a particular text are possible, and they challenge many of the long-held assumptions about reading instruction and evaluation, especially questioning their normative orientation" (Lynch-Brown & Tomlinson, 2011, p. 239).

Gavelek et al. (1996) found that a source of conflict stemmed from state mandated curriculum. Traditionally, school curricula in the US have focused on the core subjects and traditional texts to inform and teach adolescents, which has not

offered much opportunity for teachers to include new and multi-literacies for student growth. Additionally, many students used different forms of literacy outside of school; however, the knowledge they gained from the use of multi-literacies was not being transferred to the academic setting, and students were not given choice in what types of literacy they engaged in at school (Gavelek et al., 1996). Newkirk (2002), as well as Oliver and Lalik (2000), found that through the study of pop culture texts, students could apply these critical thinking skills, which had a direct transfer to analyzing more traditional, academic texts.

A natural progression from the Reader's Response movement moves one to next consider the Transactional Theory (Rosenblatt, 1978). Through this theory, Rosenblatt (1978) demonstrated that once a reader responded emotionally to a text, a transaction occurred between that reader and that text. While Knickerbocker and Rycik (2006) insisted that, the conversations students had about the texts they read helped them attain better reading comprehension and learn content more efficiently. In a study by Del Nero (2017), the researchers considered using Gothic texts to engage readers. The study revealed that regardless of their backgrounds, "all of the participants constructed meaningful aesthetic transactions with the classic and popular culture texts. This outcome aligns with research noting the danger of restricting students' reading to canonical texts (Del Nero, 2017, p. 559). These novel findings indicated "the need for all teachers to include in the classroom texts that the students deem "good reads" (Del Nero, 2017, p. 559). A framework for literacy education is constituted in these fundamental ideas where a lifelong love for literature may be instilled

in reluctant or struggling adolescent readers.

Alvermann (2011) concluded that understanding how adolescents used popular culture and how they identified with it as the first step in teaching adolescent literacy; however, the next issue became the question of transfer--Could students transfer their highly advanced literacy skills from popular culture to a more traditional and academic classroom? Alvermann (2011) implied that teachers needed to "bridge the gap" between reading popular culture texts and academic texts by explicitly teaching how to apply the literacies students used in popular contemporary texts to the more traditional reading found in academic settings. Sefton-Green (2003) agreed with this artistic notion and described a co-existence between traditional and popular texts.

One way to "bridge the gap" is to consider Herrera and Murry's (Spartz, 2007) delineation of the differences among an approach, method, strategy and technique. An educator's imaginative approach to teaching includes the set of principles, beliefs or ideas about the nature of learning which then guides classroom practice. This concept becomes the umbrella that houses methods, strategies, and techniques, as they must align with the specific beliefs and principles of the approach. A method is more of a systematic way of doing something that is procedural and includes specific strategies and techniques used to make learning concepts clear.

In conjunction with the Socio-Cultural Approach, the Sheltered Instruction Observation Protocol (SIOP) model (Echevarria, Vogt, & Short, 2010) was included as an appropriate method to instruct a second language learner in the nec-

essary literacy skills to first understand the text so that he could then respond and transact with it on a personal level. The SIOP model includes eight interrelated components to assist second language learners in the task of learning content through the English language. These components include lesson preparation, building background, comprehensible input, strategies, interaction, practice/application, lesson delivery, and review/assessment.

Literature Review

This study illustrates the benefits of allowing students to read novels they find interesting. This innovative perspective challenges the idea of teachers using only classic literature or textbooks as the course curriculum. When adolescents are encouraged to read novels they find enjoyable, it increases the likelihood they will continue to read independently. It is through independent reading that students undergo transactional experiences with literature (Moje, Overby, Tysvaer, & Morris, 2008). These encounters engage the learners so they want to participate in creative literacy activities. Learners have increased willingness to read when they are given choice (Pitcher et al., 2007), and it is developmentally appropriate for adolescents to experiment with a variety of identities to determine how they want to define themselves. As they read about characters who may be facing similar situations, teens can recognize a variety of consequences and outcomes without personally experiencing them (Hall, 2011). Reading cultivates adolescents' critical thinking skills as they process the characters' profiles and dilemmas.

Hopper (2005) found that children developed as readers based on their choices of texts; she also determined that adolescents read to

experiment with roles and to help form identity. Additionally, Moje, Young, Readence, and Moore (2000) identified that the most salient consideration was to engage marginalized readers in literacy tasks by appreciating their interests and experiences. The researchers realized that critical literacy skills did not simply emerge, but educators had to guide students in looking for the underlying message or the way in which a text was presented (Moje et al., 2000). "Offering youth high-quality adolescent literature, in addition to canonical texts of English language arts, does appear to make a difference in young people's reading lives" (Moje, 2008, p. 146). In short, students read to identify, learn, glean information, and relate to their own lives. "Their reading and writing practices foster communication, relationships, and self-expression among peers and family members; support their economic and psychological health; and allow them to construct subjectivities and enact identities that offer them power in their everyday lives" (Moje et al., 2008, p. 149).

One viable strategy to help students learn to transfer literacy skills from popular culture to an academic setting is through the use of mentor texts. Skinner (2007) described mentor texts as "print-based texts from which students have the explicit intention of learning and applying something about writing" (Alvermann, 2011, p. 345). Alvermann (2011) insisted that it was important for educators to help struggling and reluctant readers begin bridging these gaps because there were constructive literacy aspects found in adolescents' use of popular culture texts. These kinds of exemplars were used to teach basic reading and writing skills, and students could learn through the use of technology and multime-

dia. Alvermann (2011) concluded there was a connection between formal and informal learning, and the lines between the two worlds were becoming increasingly blurred.

Comparable to Skinner's (2007) study concerning mentor texts, Black (2007) conducted a study on English Language Learners using the *Harry Potter* series books as a model text. Black (2007) coined the term "fanfiction," which was "a term for stories that fans of an original work write by using the settings, characters, and plot from the original to imagine and create different situations that sometimes include curious remixes across genres and media" (as cited in Alvermann, 2011, p. 548). In this study, ELLs conducted conversations and engaged in multiple forms of discourse. Similarly, Guthrie and Humenick (2004) stated, "Providing the opportunity and expectation for collaboration during reading and writing activities increases intrinsic motivation" (p. 346). Interestingly, ELL's exhibited their innate learning ability to tap into prior knowledge and developed schemas about the *Harry Potter* books. Alvermann (2011) expressed this experience by the English Language Learners as a favorable interaction with literacy; ELL's had a "space" where they could interact with the text and each other in a valuable literacy experience.

Similar to Rosenblatt's (1978) Transactional Theory, Moll and Gonzalez (1994) proposed that readers interpret texts by using their prior knowledge on the subject. Popular culture texts provided background knowledge and allowed students to scaffold new academic learning by using schema from popular culture texts as their base of knowledge. Moll and Gonzalez (1994) realized that

"these children (and their communities) contain ample resources, which we term 'funds of knowledge,' that can form the bases for an education that addresses broader social, academic, and intellectual issues than simply learning basic, rudimentary skills" (p. 441). Their study primarily concerned Mexican-American and African-American children. Moll and Gonzalez (1994) began with the premise that within the community there were resources that could help students in the academic setting.

Ultimately, the researchers created a literacy model where they connected texts and the social world. Their goal was to help students make connections from the text to the real world by using their "funds of knowledge," and, in turn, comprehended literacy on a deeper level. Moll and Gonzalez (1994) emphasized that when students could draw from their background knowledge, they were ready to enter imaginary worlds found in literature. These researchers stated, "Students can learn how to make use of funds of knowledge from their communities to address new issues or problems found in the literature, or use the knowledge from the literature to rethink issues in the community, thus providing alternatives for thinking that would otherwise not exist. Developing these imagined worlds facilitated by literature are an extremely important function of literacy" (Moll & Gonzalez, 1994, p. 453). Moll and Gonzalez (1994) also considered identity and literacy issues concerning culturally and linguistically diverse children; it is imperative for teachers to recognize the relevance that ELL adolescents bring to the classroom and tap into these rich funds of knowledge (Moll & Gonzalez, 1994). Kirkland and Jackson (2009) found that adolescents

could use advanced literacy skills when dealing with popular culture texts they found engaging even if they were considered to be struggling or reluctant readers. In fact, some were even considered experts on topics that they found engaging (Alvermann et al., 2007).

Young and Ward (2010) found that series books were also recognized as helpful for instruction because of the social aspects that surrounded series books. Adolescents heard their friends and the media discussing a popular series, and they desired to belong to this same social group. "Researchers have noted that the sense of belonging to a group and the talk that surrounds the discussion of such books promotes reading comprehension, engagement, and identity" (Young & Ward, 2010, p. 68). They pointed out that "light reading" promoted fluency and vocabulary development, and struggling readers learned to view reading in a more positive light (Young & Ward, 2010). From these developments, students became more capable and willing readers. Alvermann (2011) argued that series books helped struggling readers by using a repetitive format, so they did not have to focus all of their reading energy on decoding the text; however, using popular, contemporary literature was also vital to reaching reluctant readers. Clearly, adolescents had to be shown how to transfer these skills from the realm of popular culture to academia, yet once background knowledge was established, transfer to the new learning through scaffolding was more probable.

Purpose of the Study

The purpose of this study is to first determine some of the ways in which English Language Arts (ELA) classroom teachers can assist adolescent second language

learners to begin comprehending literature assigned in class. Secondly, the researchers want to identify creative strategies to successfully engage ELLs in literacy, so they begin to define themselves in a more positive light as readers and enter what Smith (1987) calls the "Literacy Club."

Methodology

Case Study

Because the researchers wanted to determine ways in which ELA classroom teachers can assist adolescent second language learners in comprehending literature assigned in class, the researchers decided to perform a case study over a second language learner. Borg and Gall (1983) state, "The case study report involves an investigator who makes a detailed examination of a single subject, group, or phenomenon" (as cited in Erlandson, Harris, Skipper, & Allen, 1993, p. 163). Observations conducted in the classroom and detailed notes made in a reflective journal allowed this detailed examination to occur. According to Lincoln and Guba (1985), "the case study allows for thick description that puts the reader vicariously into the context and allows him or her to interact with the data presented" (Erlandson et al., 1993, p. 40). Through the use of multiple data sources collected, the researchers intend for readers to visualize the context and findings of the study.

Participants

Validating the transformational proposition creative teaching strategies play in improving ELLs' literacy was an essential component in this study. Paramount to this element of the study was to find a classroom teacher familiar and comfortable with innovative instructional techniques. The researchers identified a local high

school English teacher, Ms. Epping (pseudonym), who was already using Young Adult (YA) series books to engage her adolescent learners and was skilled in providing sheltered instruction for ELLs. In Ms. Epping's English II classes, she deliberately and seamlessly customized numerous scaffolding techniques to facilitate struggling readers. She epitomized the instructional techniques the researchers required during this study. Abiel (pseudonym), an ELL, was currently labeled as Limited English Proficient and loathed reading because of his perceived inadequacies with the requisite skills. Abiel and his parents were informed in writing about this study and signed informed consent documents. This reluctant reader was well suited for the purpose of this research.

The reading curriculum in Abiel's class included *The Hunger Games*, the first book in this trilogy. The participant had to commit to read one more novel in the trilogy of his own choice and was un-coerced.

Data Sources

Using a qualitative data analysis model to ascertain progress, the principal investigator compiled data from differing means: formal interviews with Abiel, classroom observations while the students were reading *The Hunger Games*, and field notes. Ms. Epping provided the principal investigator with samples of Abiel's writing, homework, class assignments, essays, and tests corresponding to the novel. To detect a correlation between adolescents reading a YA series book and letter grades, the classroom teacher provided anonymous published course grades from previous years when her students read canonical novels and textbooks.

Interviews. The principal inves-

tigator conducted 45 minute, semi-structured interviews with the participant at three distinct points of the research study. Rather than using formal questions during each of the dialogues, the PI engaged Abiel in a personable, relaxed conversation of open-ended questions. To provide a comfortable climate during the interview process, it is beneficial to allow the conversation to be flexible and malleable (Rossman & Rallis, 2003). This socio-communications style, associated with sociolinguistics and discourse analysis (Gee, 2001), allowed the participant to provide feedback through his narrative. Ascertaining the viewpoint of an ELL's personal story was germane to the study.

Observations. Using observations appealed to the PI and lent itself to this study as it allowed interactions to be examined first hand. Recognizing these exchanges and behaviors are significant to inform teaching practices. Meiers (2007) explains, "All educational research is primarily directed towards improving learning by informing policy and teaching practice" (p. 50). Throughout the semester while the students read *The Hunger Games*, the PI conducted 15 formal observations of Ms. Epping's English class. During these observations, the PI gleaned insights into the Abiel's ordeals. Using the curriculum established for this series book, Ms. Epping initially started reading the book aloud to the students discussing the characters, setting, and plot. This allowed the students in the class, especially reluctant readers, to have enough comprehension to enjoy transactional experiences with the text. The students also participated in classroom activities, collaborative efforts, and later began to read the remaining chapters on their own.

All observations were recorded in

a researcher's journal using descriptive language. These observations, interviews, records, and data were employed to triangulate the data for credibility. Erlandson et al. (1993) posits that journals used during observations "supports not only the credibility but also the transferability, dependability, and confirmability of the study" (p. 143).

Documents and records. Documents and records were used as a source to triangulate the various data sources. The documents included homework, class assignments, and tests over the novel, *The Hunger Games*. Access to the teacher's gradebook was given to the PI to identify the influence of the innovative teaching approaches on the ELL participant's motivation and participation as the semester progressed. To be selected as a participant, Abiel, had to agree to read another book of his choice in the trilogy. Thus, tracking the grades throughout the semester was vital to the results of the study. Documents add value to research by contributing another dimension (Briggs, Morrison, & Coleman, 2012). After the reading of the first book in the trilogy, an analysis of the participant's grades on homework and test scores throughout the semester revealed increased progress and advancement in reading skills. An anomaly was noticed by the PI when evaluating the grades. Some grades were missing because occasionally students did not want to stop reading long enough to complete the assignment and consequently missed the due date.

Data Analysis

This study illuminates the contrast of engaging a struggling ELL reader with contemporary adolescent literature to prior reading experiences with typical literature used in English teachers' classrooms.

One purpose of this study was to determine the degree to which the participant's perspective is altered by using popular culture novels coupled with scaffolded, sheltered instruction. Snapshots of progress were recorded during three distinct interviews to identify if the learner was undergoing a change in opinion about reading and converse about his transactional interchanges during the process. Themes surfaced as the data was coded and these themes were used to sort and analyze the participant's comments. Improvement in his grades on tests, homework, and in class assignments demonstrated the academic benefits of providing young adult genre books to increase adolescents' desire to read. As the participant encountered transactional experiences with the book, he began to enjoy reading.

Findings

ELLs Need of Literacy Support

When Abiel found out he was reading *The Hunger Games* book in his sophomore English class, he reacted in typical adolescent fashion by moaning and complaining along with the rest of his peers. As a second language learner, reading and writing on grade level were difficult for him, so reading a novel of 384 pages was a daunting task. Initially, Abiel hoped to merely rent the movie and not have to engage in any literacy practices at all. "I've already seen the movie to this; I'd rather just watch the movie because they always make more sense than these books; they are too long, and they have too many words" (Author, 2017). After a short period of reading *The Hunger Games* with contextual support provided by his classroom teacher, Abiel began making statements such as, "I think I would start reading more on my own if I had more books like *The Hunger Games*" (Author,

2017). At the conclusion of reading *The Hunger Games*, the class did watch the movie. When asked to compare reading the book to watching the movie afterwards, Abiel shared, "I think the movie should have gone with the story like how Katniss really gets the pin; that's all messed up. I mean they should have done it like in the book. The book is better" (Author, 2017). This poignant statement illustrates the depth of progress this student made concerning literacy and his attention to detail in the reading of the text.

Literacy Support for Second Language Learners

Throughout the reading of *The Hunger Games*, Ms. Epping, the classroom teacher provided a positive learning environment and a great amount of literacy support for all students especially Abiel as a second language learner. Additionally, Ms Epping utilized the Sheltered Instruction Observation Protocol (SIOP) method of instruction, (Echevarria, Vogt, & Short, 2010). This method supports second language learners in content area learning by providing comprehensible input, context, and a variety of scaffolding experiences and materials to help make the learning understandable. Dynamic teaching using visual aids, manipulatives, and pre-teaching vocabulary words are important in this method, and the teacher commented, "I like using the SIOP model because it is simply good pedagogy for all students. It helps my second language learners, my visual students, struggling students, regular students, and even students with special education needs. I don't have to come up with separate lesson plans for each group since this method is beneficial for all students" (Author, 2017). Researchers have argued that "the learning environment has a powerful influence on students' motiva-

tion to engage in learning" (Langer, 2004; Marshall, 1992, as cited in Alvermann, Unrau, & Ruddell, 2013, p. 1048).

To begin the book, the classroom teacher started reading the book to the students. Appleman (2007) claims, "There is no better way to hook kids than to read them the first chapter of a book" (p.146). Ms. Epping performed voices and read with prosody. This helped to engage Abiel from the beginning. "The voices she does when she talks about the characters and reads to us. She explains it better than just reading the book; she makes sure we understand what is going on" (Author, 2017). Abiel also learned the technique of visualization by the modeling provided by the classroom teacher. "Ms. Epping helped me understand the books more when she read parts of the book, and we all talked about it. She would help us picture what was going on, and I would understand by listening to her" (Author, 2017). To add variety sometimes, the students would read in small, collaborative groups utilizing Krashen's *i+1* theory (Krashen, 1987) where the teacher paired students one ability level above or below each other as to not create frustration between the groups. Appleman (2007) suggested that "students sometimes do a better job of asking each other questions about books than their teachers can, and they can sometimes have more fun talking about books without us" (p. 147). At other times, students read the book independently. Later in the semester, after the students were engaged in the text and when students at varying levels were desiring to read faster or slower than the teacher or groups, Ms. Epping allowed the students to read individually.

Another noteworthy finding that

emerged from this research is the idea of building background knowledge for all students through the use of series books as they can act similarly to repeated readings. Guthrie and Humenick (2004) claim, "Students find text interesting if they possess background knowledge about it" (p. 344). One way Ms. Epping built background knowledge was by showing YouTube videos of the Appalachian and Rocky Mountain ranges to provide students greater background knowledge on the setting in the book. Most students were unfamiliar with these mountain ranges and struggled with visual imagery. After building this background, Ms. Epping had the students create their own PowerPoint presentations researching and thus building background knowledge on the Appalachian Mountains and coal mining, so they would understand the setting of the book more. Ms.Epping shared, "The PowerPoints gave us a grade, and it has made the reading more relevant" (Author, 2017). When the students read a portion of the novel concerning symbolism, Abiel initially struggled to understand the hope symbolism represented by the dandelion. Ms. Epping used guided thinking and higher-order questioning techniques to lead him to the answer instead of merely telling him what the dandelion represented. For example, she guided Abiel by saying, "Think about it. She [Katniss] is starving and looking for food. The next day it's a little warmer, and she sees the first dandelion growing out of the ground" (Author, 2017). Abiel immediately gasps, "Oh, because spring is coming, and that will make it easier for her to find food" (Author, 2017).

Abiel admitted to struggling with texts due to unfamiliar words, names, phrases, and settings. As a second language learner, he did

not have some of the same background knowledge as his peers, so he initially struggled with decoding the text. After reading *The Hunger Games*, Abiel independently started reading the second book in the trilogy, *Catching Fire*, and shared that he already knew the characters, settings, and many words in the second book due to his reading of the first. Thus, background knowledge was built by reading the first book, and he benefitted from the support received from his classroom teacher. Abiel was asked if he thought his learning in *The Hunger Games* book would transfer to other books; he replied, “I think they transfer from book to book, and I get better because you already know something when you see it again, and you don’t have to figure it out because you already know that [background]. It helps me with language too because I learn some words, and then I see them again, so I already know what they mean” (Author, 2017). When he endeavored to read subsequent books in the series, he was able to scaffold from this background knowledge and apply it to reading the other books. “I learned that I get into these books [*Catching Fire* and *Mockingjay*] more because I read the first one and was interested in it, now when I read these, I get them” (Author, 2017).

This was a drastic change from his initial comments about merely wanting to watch the movie in hopes of completing the assignment quickly and without much effort. However, as a new member of the literacy club, he still did not know how to choose texts independently that engaged and motivated him to continue reading. He recognized the on-going need for support by his teacher in this area of literacy by mentioning, “I would like to read what Ms. Epping tells me will be good because

she chooses good books like this one [indicating *The Hunger Games* book] unlike the other teachers. They choose boring books like *The Odyssey*; that book is boring” (Author, 2017).

Entering the Literacy Club

Frank Smith, a contemporary psycholinguist, presented the metaphor of the “Literacy Club” (1987) representing the social aspects of literacy and the connectedness people feel as they view themselves as readers versus those who view themselves in the light of a non-reader. Entrance into this theoretical club is based solely on a person’s own perception as being a reader, and the goal for every literacy educator is to help his or her students enter this club. Initially, Abiel had been denied entrance into the “Literacy Club” due to his struggle with academic reading in English; however, throughout the process of reading *The Hunger Games* books, he became an active member.

In an attempt to help other readers similar to him, Abiel was asked what could make adolescents read more today; he responded, “Read more? Make it more interesting like *The Hunger Games*. I mean the movie was interesting, but the book is so much better. A lot of times teachers tell us that we are going to love some book, and that it’s cool, but they always overrate it. I don’t like that. I like how Ms. Epping started reading to us and let us decide if we liked the book or not” (Author, 2017). Initially, Abiel discussed his desire to only watch the movie of *The Hunger Games* believing that he could understand this medium better as it provides built in context and comprehensible input, vital factors in the sheltered instruction approach; however, once these necessary components were added to his literacy instruction, his preferences

changed greatly. Abiel also considered the best way to help other struggling and reluctant second language learners view themselves as readers and engage more with novels by stating, “Make it fun and don’t push too much” (Author, 2017).

Implications

ELLs Need of Literacy Support

As a second language learner, the participant in this study needed literacy support to understand the assigned text, *The Hunger Games*. The classroom teacher utilized Sheltered Instruction methods and guided readings to assist him in visualization techniques to make the story more comprehensible. Abiel stated that he pictured the events in his mind after his teacher showed him how to do this through her guided reading; then, he used these visuals to help him recall events and details of the text.

According to Tompkins (2010), visualizing is a cognitive strategy, “that readers use to construct meaning” (p. 12). The visualization technique also helped the participant to understand the text on a deeper cognitive level. Furthermore, the participant in this study discovered that reading subsequent books in the series acted like repeated readings, and when Abiel read the other two books in the series, he had background knowledge from which to scaffold. He knew many vocabulary words and the structure of the text and understood the characters on a personal level. This is reminiscent of McGill-Frazen and Botakis’s (2009) study, which asserted that the repetitive language, syntax, and style in series books provide support for reluctant readers.

Similarly, Kurkjian and Livingston (2005) articulated, “All of the books within a particular series or

collection share consistent external features...they also share internal features, such as descriptive writing, compare/contrast, problem/solution, and sequential styles” (p. 592). “As children progress through a series, the predictability of the external and internal characteristics allows readers to learn to negotiate various aspects...delighting in the content and deepening conceptual understanding” (Kurkjian & Livingston, 2005, p. 592). Abiel recognized that what he learned in *The Hunger Games* transferred to the following books in the series much like repeated readings. This made decoding for a second language learner easier and faster; he explained that he did not have to work as hard in the latter books in the series to understand, decode, and relate to them.

Entering the Literacy Club

Considering this narrative inquiry through the lens of Rosenblatt’s Transactional Theory (1978), an interesting progression of occurrences took place throughout the semester of reading *The Hunger Games*. As this second language learner began to understand the text with support from his teacher and the use of Sheltered Instruction, he became engaged with the storyline. As Abiel became engaged with the plot and characters, he became motivated to read more and independently completed reading the subsequent two books in the trilogy.

The participant fell in love with *The Hunger Games* series because its themes were universal to adolescents, the characters were well developed, and the storyline was engaging. Interpreting the affective pull that the YA series *The Hunger Games* had on this adolescent participant through the lens of Rosenblatt’s Reader Response Theory (1938, 1956) is remarkable. Alt-

hough the participant had different tastes, interests, experiences, and cultural background than his peers, he was still able to engage and transact with the same text. This observation was simple to understand; he had an aesthetic literary experience, which was evidenced by his physical reactions to portions of the book. For example, he became extremely emotional as the class read about Rue’s death scene and shouted out his thoughts and feelings to the book as the teacher read it. “Student interest has been shown to correlate with cognitive processes such as deeper text processing of text learning when other factors such as text length, text genre, background knowledge, and text difficulty were statistically controlled” (Taboada, Tonks, Wigfield, & Guthrie, 2013, p. 592).

Limitations

Limiting the case study to one student allowed the researchers to provide greater depth during the investigation and increased the time commitment to glean insights during the conversations with the participant. The single limitation was ascertaining the perspective of one ELL’s experiences. By including more students that fit the criteria for participating, more real life experiences and views could be captured. A consideration for future research would be to find a school that could provide more ELL’s who are struggling with reading and are in an English class with a teacher who utilizes YA literature and groundbreaking instructional strategies.

Conclusion

For second language learners to enter the metaphorical “Literacy Club” (Smith, 1987), they must first understand and transact with a text at a level nearly comparable to that of their English speaking peers. Results of this study indicate that using popular, contemporary

series books in conjunction with sheltered instruction techniques may be the catalyst needed for adolescent second language learners to not only enter the “Literacy Club,” but also to continue reading independently seeing themselves as readers and understanding content based and literary texts. The use of popular, contemporary texts provides the social aspect needed to engage the readers while the use of the series books can act as repeated readings to help build background. This new background knowledge can later be activated as prior knowledge during subsequent books in the series. These strategies assist students in building literacy and vocabulary knowledge, which can then be used for scaffolding to new and more complex literature. For optimal student learning it is essential for classroom teachers to model this type of pedagogical transfer. Educators can help bridge the literacy gap among ELL students by implementing similar practices and using texts such as the one presented in this study.

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An Analysis: The Resource Management of Public Schools in Michigan

Phillip Caldwell and Rajah Smart

In Michigan, charter and traditional public schools receive approximately the same operational funding, according to a recent analysis which found that the school resource allocation average for charter school spending represented nearly \$800 more per pupil annually on administration and \$1100 less on instruction (Arsen and Ni, 2011). The purpose of this study was to analyze whether education management organizations (EMO) and its schools are more efficacious than similar self-managed (hereafter, non-EMO) schools using student performance on the Michigan Student Test of Educational Progress (M-STEP) in grades three through eight. To determine if relationships exist between schools that have EMO and non-EMO schools in Michigan, this study investigated differences in student performance between locale and school types. The study used the data from grades three through five on the math and English language arts (ELA) M-STEP from 2014-2016. A factorial analysis of variance (ANOVA) using a 3 x 2 factor design examining the effects of locale and differences between EMO and non-EMO schools. The outcome of the investigation yielded no statistical significance between EMO and non-EMO school's student performance on the M-STEP; and no cause and effect relationship between locale and student performance on the M-STEP.

METHODOLOGY

Problem Statement and Research Questions

Does the variance of resource allocation by school type and locale yield statistical significance relative to student performance in Michigan public schools? The research questions for this study were the following:

1. *Is there a significant difference between the EMO and non-EMO schools M-STEP scores in English language arts (ELA) and math in grades three through five?*
2. *Is there a difference in M-STEP scores for grades three through five ELA scores based on the locale and school type (EMO and non-EMO)?*
3. *Is there a difference in M-STEP scores for grades three through five math scores based on the locale and school type (EMO and non-EMO)?*

For this study, the following hypothesis was developed:

- H₀: There is a no significant difference in performance on M-STEP based on locale between the EMO and non-EMO schools.
- H₁: There is a significant difference in performance on M-STEP based on the locale for the EMO and non-EMO schools.

Research Design

After obtaining the means from the analysis, an independent-samples t-test was used to determine the difference in the mean of scores for math and ELA, grades three through five, and whether the scores differed between the EMO and non-EMO schools. The locale of the school was included to compare the EMO and non-EMO performance. The data was used to perform a factorial analysis of variance to determine whether there is

an interaction effect between the school's locale and the school type (EMO and non-EMO), and its influence on the M-STEP scores.

Research Techniques

Across the research questions, M-STEP data from grades three through five were collected to discover differences in the scores for math and ELA from years 2014 through 2016. The sample includes n=96, and elementary schools ranging from grades three through five. The EMO and non-EMO schools in Michigan are distinguished by urban (n=40), suburban (n=44), and rural (n=12). The raw scores are collected for EMO schools (48) and a sample of non-EMO schools (48) with similar characteristics. The M-STEP raw scores for only two years of data (2014-2016) are combined for math at grades three through five, as well as ELA at grades three through five. There are only two years of scores because the M-STEP has only been in implementation since 2014-2016. The 2016-2017 scores were not available at the time of the study. The score means for non-EMO and the EMO schools in the areas of math (MG) and ELA (EG) were compared at each grade level. The data collected from the descriptive analysis is used to perform a 3 x 2 factorial analysis of variance (ANOVA). The ANOVA compares the effects of the groups to determine whether there is an interaction effect between the locale and school type, and its influence on the math and ELA M-STEP scores.

Data Collection Sources and Techniques

The study is solely quantitative and uses various collection databases. The quantitative research sources include student data collected from the Michigan Department of Education's, Center for Educational Performance and In-

formation (CEPI), the Michigan Student Data System (MSDS), and the Educational Entity Master (EEM). These databases contain all student data relevant to the study (i.e., locale and M-STEP data).

Along with the M-STEP data, the EEM was used to verify a sample of similar non-EMO to compare based on locale. The query for the locale was initially conducted using a 10-mile radius around each the EMO school to find similar non-EMO schools. Unfortunately, the query was changed to the intermediate school district (ISD) area or a wider area because schools near the EMO schools are different in configuration. The EEM helped map the locale and run the query for similar schools in the ISD area.

Data Analysis Techniques

Using the scores from grades three through five on the math and English language arts (ELA) M-STEP from 2014-2016, the study used the data to understand the difference between the EMO and non-EMO schools. The scores were combined over the two-year span to provide an average score for grades three through five performances on the math and ELA assessments. Once the Mathematics and ELA grade level means were calculated for the EMO and non-EMO schools, an independent samples t-test was conducted to determine if a difference exists between the means of the two independent groups on the M-STEP. The factorial analysis of variance (ANOVA) was used to understand the interaction effect between the

independent and dependent variables. The factor of locale included urban, suburban, and rural. The factor of school type included the EMO and non-EMO. The analysis used a 3 x 2 factor design to examine the effects of locale between EMO and non-EMO schools. Also, the analysis determined if the effect of locale on the M-STEP depends on the school type. The study sought to determine whether there is a significant interaction. The obtained value was set at .05 (i.e., $p < .05$) to determine the statistical significance of between-subjects' effects.

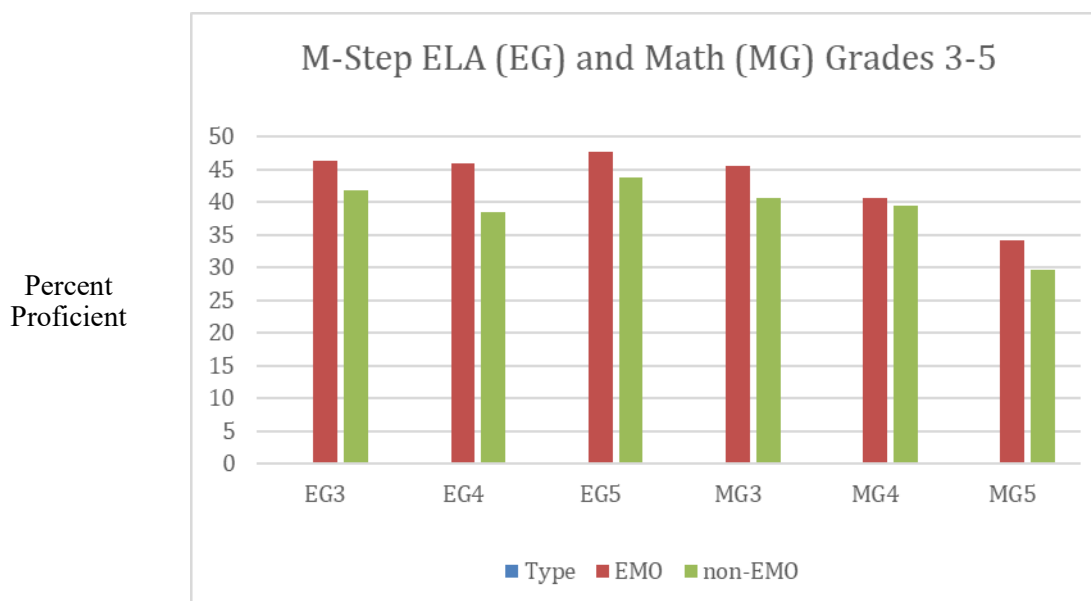
Analysis and Findings

Research Question 1: *Is there a significant difference between the EMO and non-EMO schools M-STEP scores in English language*

Table 1: M-STEP ELA (EG) and Math (MG) Grades 3-5

	EG3	EG4	EG5	MG3	MG4	MG5
Type						
EMO	46	46	48	46	41	34
Non-EMO	42	38	44	41	39	30

Table 2: M-STEP ELA (EG) and Math (MG) Grades 3-5 Score Average



arts and math at grades 3-5?

After performing the t-test for M-STEP ELA and math grades three through five, it was found that there is no statistical significance and small practical significance for ELA and math assessments. Specifically, there was no statistically significant difference in mean scores between EMO and non-EMO schools EG3 through EG5, even though the scores for EMO were slightly higher. EG3 result is, $M = 4.35$, 95% CI [-4.16 to 12.86], $t(94) = 1.016$, $p = .312$ or $P > .05$, $d = .21$. EG4 result is, $M = 7.6$, 95% CI [-.87 to 16.07], $t(94) = 1.783$, $p = .078$ or $P > .05$, $d = .36$. Lastly, EG5 result is, $M = 3.94$, 95% CI [-.87 to 16.07], $t(94) = 1.783$, $p = .078$ or $P > .05$, $d = 0.18$.

There was no statistically significant difference in mean scores between EMO and non-EMO schools MG3 through MG5. The result for MG3 is, $M = 4.94$, 95% CI [-3.91 to 13.79], $t(94) = 1.108$, $p = .271$ or $P > .05$, $d = 23$. MG4 result is, $M = 1.13$, 95% CI [-8.48 to 10.73], $t(94) = .233$, $p = .817$ or $P > .05$, $d = .05$. MG5 result is, $M = 4.44$, 95% CI [-3.95 to 12.82], $t(94) = 1.051$, $p = .296$ or $P > .05$, $d = .21$.

Research Question 2: Is there a difference in M-STEP scores in grades three through five ELA based on the locale and school type (EMO and non-EMO)?

A two-way analysis of variance (ANOVA) was conducted to examine the effects of school type, and locale on M-STEP ELA grades three through five mean scores. The M-STEP scores for EG3 through EG5 showed no significance between EMO and non-EMO schools (type) and locale using the 2 x 3 factorial analysis. Based on the results, grades three

through five show no significant difference, which indicates the EMO schools are no better or no worse than non-EMO schools.

Research Question 3: Is there a difference in M-STEP scores for grades three through five math scores based on the locale and school type (EMO and non-EMO)?

The ANOVA was conducted to examine the effects of school type and locale on M-STEP math grades three through five mean scores. The M-STEP scores for MG3 through MG5 showed no significance between EMO and non-EMO schools (type) and locale using the 2 x 3 factorial analysis. Based on the results, grades three through five show no significant difference, which indicated the EMO schools are no better or no worse than non-EMO schools.

Conclusion

First, the study yielded no significant difference between EMO and non-EMO schools. One school type (EMO and non-EMO) did not outperform the other in student performance. These findings are similar to Zachary (2014) who examined two different types of grade level configurations to determine if students performed differently and the degree of growth on reading and math tests (Zachary, 2014). No significant interaction could be found between school type and year using the 2 x 3 factorial analysis. While the outcome was not statistically significant, the study did discover a common trend between both school types of scores dropping at the sixth-grade level. This study shows math scores gradually decreased from grade three to grade five for both EMO and non-EMO schools.

However, urban locale individually had a significant effect on stu-

dents' performance for both EMO and non-EMO schools. Of course, urban children are more than twice as likely to be living in poverty than those in suburban locales. Likewise, urban students are more likely than suburban or rural students to receive free and reduced lunch, which explains a common phenomenon in education (U.S. Department of Education, 2017). Suburban and rural locales had no statistical significance compared to one another, but urban compared to suburban and rural yielded a statistically significant result. The combined effect of type and locale has no statistical significance on overall student performance. This finding corroborates a previous study (Joseph, 2014) that reported no significant effect of locale. School proprietorship was a greater factor in students' performance rather than locale and school type.

Limitations

Urban locale yielded a significant statistical outcome, whereas as suburban and rural did not. The result showed a limitation in the study. Examining the population variables not limited to special education, English language learners, race, and economically disadvantaged would provide greater context to variables that influence student performance. While the sample between the EMO and non-EMO schools were equal, the populations of special education and English language learners are higher in non-EMO schools and low in the EMO schools after analysis of school-level data. This factor may affect the outcome scores on the M-STEP test.

Data collection was a challenge. The M-STEP test is difficult to use for determining growth because Michigan may alter the assessment again. Because of this issue, many authorizers suggest that their respective charter schools concen-

trate on the Northwest Evaluation Association (NWEA) data versus the M-STEP because it has been changed and will more than likely be updated. The contention of charters is there is no ability to establish growth. Education management organizations and non-EMO schools use the NWEA. The data between those two tests could provide another source of performance data. Unfortunately, the researcher could not access the data for this study.

Recommendations for Further Study

Further research can compare the types of schools, but examine the salient variables in a school that may influence student performance or predicts student performance based on multiple independent variables. Those variables are not limited to funding, special education percentages, English language learners, economically disadvantaged, staffing, truancy, etc. This study examined the type of school and locale. A deeper consideration of the population specifics can expose more influences or relationships within the EMO and non-EMO schools and inequities in each system.

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Childish Things: An In-depth Look Into What Should Constitute an Early Childhood Education

John R. Reed

This paper examines current trends in early childhood education and curriculum. Taking into consideration the current status of assessment in the public school setting, this paper is aimed at addressing, in particular, four main components of the early childhood educational setting to include: developmentally appropriate methods, cognitive development, social development, and play as essential. Also, this paper is aimed at continuing the conversation into the importance of quality ECE settings that are dedicated to educating young children, holistically; that if policy or research is to dictate how early childhood educators educate, that again, these four main components are at the forefront of any and all policy.

Introduction

Poverty and educational-unpreparedness is an all too real experience for the American public. You need only ask a public school teacher what he or she thinks on the subject—you'll likely be told anecdotes regarding students coming to school, never having seen a doctor or dentist, never having been read to and or having various medical and cognitive deficiencies due to the circumstances of their birth (Gramling, 2015). To combat this crisis, educational policies were enacted to give this population of students a chance at overcoming the obstacles in their early lives; programs such as Head Start. Head Start began in the 1960s and provides the basic needs for children, ages birth to five years, with the services and support to help them and their families to become school-ready, and since then, Early Childhood Education (ECE) research and publications have been on the rise with one predominating theme: How to best support children during their early stages of development.

In recent years, President Obama announced his educational reform plan, Universal Pre-K, which would extend governmentally-

provided preschool services from primarily serving low-income families living in poverty, to serving both low- and moderate-income families (Bouie, 2013). This national, educational-agenda has only catapulted the platform for which ECE practitioners, researchers, and publishers may spread their message: Early Childhood Education matters and is important.

Though this proposed-reform has helped to advance the conversation concerning ECE to the forefront of public politics, discussions concerning ECE haven't been placed on hold since the 60s; much research has been continually published, and knowledge, disseminated.

A study conducted by Barnett in 2011 estimated that in the United States alone, between 35 and 45% of first-time kindergarteners are ill-prepared to succeed in the school-setting. The aim of this study was not only to illuminate the present-day struggles that our "traditional" public-educational system faces when children enter school, but also to shed light on the "struggles" that this ever-so, deeply engrained system places on our

young children.

In response to this two-sided educational dilemma, a focus, as mentioned before, has been placed on increasing the access to high-quality preschool, and early childhood education in general, for every child in hopes to close this school-readiness gap (The White House Blog; Roach, McGrath, Wixson, & Talapatra, 2010). By providing high-quality early learning experiences to all of our children, we as a nation will be making an investment in our futures as documented through research.

By grade three, children who aren't at reading level are six times less likely to graduate from high-school than their on-level peers (The White House Blog). Children who have access to high-quality early education are more likely to do well in school, find good jobs, succeed in their careers, and overall, is an essential solution to reverse the uncharacteristically high trend of our nation's high-school dropout rates (NAESP, 2011). Simply put, though at times research distorts it: a strong foundation in education and learning experiences during the early years of a child's life, has a profoundly significant impact on his or her future endeavors, and *that* foundation and *those* early learning experiences must be structured in such a way that they connect and lay a smooth foundational pathway for which future educators may build strong understandings upon (Kauerz, 2006).

Though we know and understand well that ECE is significant to a child's future, the past and recent push in early education research is multifaceted when dealing with the *how* to improve and provide this essential educational experience; more assessments, less assessments, better teachers, whole-group or small, more kids, less

kids, and X, Y or Z. Concerning that elusive *how*, this article is aimed at helping to define and characterize it, holistically, in hopes of promoting a shift away from assessment driven early education of what *children should* do, to an early education that focuses on what an individual *child* is *developmentally ready* to do.

Holistic Education

A holistic approach to defining early childhood education takes into consideration four main tenants: developmentally appropriate methods, social development, cognitive development and readiness, and play. These four facets are of central importance to early childhood education, and thus by taking them into consideration when developing curricula and policies, our public education can then begin to develop standards and assess for accountability that reflects substantial research that are both attainable and appropriate for both young children and teachers of young children, alike (Aubrey & Ward, 2013; Gramling, 2015; NAESP, 2011; Roach, McGrath, Wixson, & Talapatra, 2010; Lamy, 2013).

Essentially, a holistic education, would be aligned with a continuum of research-based, age appropriate standards for young children that include a focus on social, emotional, cognitive, language and physical development, and creative learning, as well as school-readiness skills (NAESP, 2011). Not only would this holistic early education have a strong focus on the developmental needs of a child, but would also focus on teachers and teacher training. This would incorporate effective training in social and emotional development and integration of mental health into child care, education, and other key educational systems and programs (Lamy, 2013;

Crusto, Whitson, Feinn, Gargiulo, Holt, Paulicin, Simmons, & Lowell, 2013; Royea & Appl, 2009).

Developmentally Appropriate Methods

Developmentally appropriate in the early childhood setting simply refers to aligning assessments and teaching to what a child is physically and cognitively ready to do. As all early childhood professionals know, development occurs in a predetermined sequence, developmental milestones may occur earlier or later in each individual child than is typically expected, and there is little that can be done to speed up the achievement of these milestones (Gramling, 2015). Thus, in our traditional educational format, standardizing assessments in the ECE setting according to what we *want* them to know and do, is ineffective; teaching and if warranted, assessment, must be aligned to what each *individual child* is able to do; not to what we want or expect children *as a whole* to do.

In the classroom, teachers should foster shared activities with peers, with play being a central role in their development (Ramani & Brownell, 2014; Isenberg & Quisenberry, 2002; Wyman, Cross, Brown, Qin, Tu, & Eberly, 2010). During these peer interactions, children learn new skills, motivate each other to face challenging situations, and assist one another in practicing existing abilities, and in the context of play, cooperative interactions are essential to young children's cognitive development. A final thought here comes from Zubrycki (2011): If you expect every five year old to be able to read and drill them on reading skills, the ones who don't get it are defined by the schools and by themselves as failures. Our methods of teaching young children shouldn't be focused on what chil-

dren are expected to do at the end of a literary unit; our teaching should be based on what our children are ready to do, developmentally, and children shouldn't be faulted for their momentary inabilities. Early childhood educational thought concerning assessments and teaching needs to change from *what this child doesn't know*, to *what can he or she do at the present moment?*

Social Development

Social development for early children is defined as a child's ability to cooperate with peers and as the ability to show empathy, express feelings, and share generously (About Education, 2015). Concerning ECE, there is now strong evidence that the roots of social-emotional difficulties lie in children's earliest years and that early identification and intervention is the most effective strategy for fostering positive development in this area (Aubrey & Ward, 2013). Furthermore, it is estimated that one in ten children and adolescents in the United States suffer social and emotional disorders severe enough to cause some level of impairment (Crusto, Whitson, Feinn, Gargiulo, Holt, Paulicin, Simmons, & Lowell, 2013). For young children, as with the development of any content-area concept, developing socially can be difficult and differs from child-to-child, and if an early childhood education doesn't pay attention to the need to foster positive development in this area, serious disorders may occur. It is imperative that any ECE curriculum or policy incorporate social development into its standards and expectations, if not, then a child's future formal-education may be in jeopardy.

As social organisms, humans have a basic need to belong and feel part of a group and to learn how to live and work in groups (Isenberg &

Quisenberry, 2002). For social development in the early childhood educational setting, a focus would be on the positive development of a number of social-emotional skills such as: confidence, concentration and persistence, attending to and listening to instructions, solving social problems, and effectively communicating emotions (Ostrosky & Meadan, 2010). In the classroom, activities and learning would and *should* provide rich experiences for children to practice managing their emotions, working through problems, and sharing ideas and power with others (Zubrycki, 2011; Nelson & Mann, 2011).

Cognitive Development and Readiness

Cognitive development and readiness, in regards to ECE, refers to fostering critical thought and brain development: thinking. In many classrooms, teaching young children has become much of a one-way mode of communication, a banking-model of education if you will. In his book, *The Great Disconnect in Early Childhood Education: What We Know vs. What We Do*, Gramling (2015) identifies varying modes of communication and teaching in the present day classroom, advocating the need to change from teachers *telling* students in a one-way model, to teachers *communicating* with students in a two-way model. Here, teachers are to engage in adult-like, authentic communication with young children, instead of the all-too-common, “oh, yea. That is pretty” when a child scribbles lines across a sheet of notebook paper. Gramling further states the need to allow our children to speak and engage in deep conversations, mentioning how language doesn’t occur linearly or incrementally; it is not taught, but it is learned unconsciously by children through experiences to rich discourse.

Additionally, language plays a key role as children initiate and maintain friendships at the same time as they represent and explore the physical world and create imaginary scenarios (Hoyte, Torr, & Degotardi, 2014; Hakuta, Santos, & Fang, 2013). In the ECE classroom, children need to speak; they need to use language with other students and with adults in meaningful contexts. If more authentic communication occurs in the early years of children, we as teachers can influence their abilities in school, down the road. Kartal (2007) and Sticht (2011) maintain the notion: literacy follows oracy, so teachers who foster young children’s listening, speaking, vocabulary, and knowledge are also fostering success in schools.

Play as Essential

Probably the less researched aspect of early childhood education, but quite possibly the most important is play (Smirnova, 2011). All too often, teachers and administrators and policy-makers get caught up in rushing our children through the stages; hurriedly rushing them to write, to read, to grow up. But we aren’t allowing them to be children, to be young-children. One main advantage of play is that it opens the way for initial emotional orientation in the meanings of human activity; the social-creation and construction of awareness of one’s own place in a system of relationships (Hedges, 2014; Hoyte, Torr, & Degotardi, 2014). For children, they are already having to navigate their emotions, understand others, and on top of those, they are entering a world where everything within their grasp is new. Some children are better navigators than others, some develop faster than others, but they are still children and we as educators need to let them be children.

Conclusion

I describe this article as an attempt to change. Here I mean to say that I am attempting to change the prevalent thought concerning how we educate our young children; I am *advocating* for a change in what *we* do in our early education classrooms. Many view teaching and education as essentially uniform; a five year old and a teenager are both people, so let’s teach them the same, let’s assess them the same. In my kindergarten classroom, I have students who are great readers, fully able to communicate their thoughts and ideas, both orally and in written form. And, I also have students who are struggling just to understand what a book is and how to read it, let alone how to *be* a person in a room, in a society full of different people and personalities. For me, as an early childhood educator, my hope for all my students is that they are great readers, great writers, and that they comprehend addition and subtraction. My personal goal for my students is that they leave my classroom in June with a better understanding of who they are, that they can communicate their ideas and feelings, as well as others, that they enjoy working with others and love school, and finally, that I have left them with positive, life-long experiences that they’ll take with them through adulthood and beyond. Personally, I believe that there are many early childhood educators who have different ideas about what constitutes ECE, so much so that it could be a detriment to our children. I feel that Gramling (2015) said it best: Childhood happens once. It is our responsibility to make sure we make the most of it for our children. Hopefully, this article helps in advancing this conversation; that it begins a trend in thought.

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Flipping the Script on Flipped Classrooms: A Call for Increased Discussion, Evaluation and Understanding

Kevin Williams

A large amount of money is spent each year on training public school teachers in the use of technology and little is known about the overall impact these expenditures make on the education of our students. This article explores perceptions of Principals in the effectiveness of flipped-classrooms in their districts and the potential disconnect between teacher's performance evaluations and time and money invested in training including what administrators see or look for in the evaluative process.

Introduction

A substantial amount of money is spent each year to train teachers in Texas. Much of this funding is focused on increasing teacher effectiveness in the use of technology. While expenditures (in both time and money) are intended to help usher in the increased emphasis of new pedagogical platforms, such as flipped classrooms, data collected for this paper suggest that a disconnect exists between spending on in-service, professional development and other training for Texas teachers and on the latest technological advances such as the utilization of flipped classroom strategies. Evaluation methods employed by school leaders are intended to review performance of teachers in their classrooms, yet upon examination of the evaluation metrics, no direct connection exists between the training efforts and the output in the classroom. The disparity between the training and development budgets and the outcomes school administrators review in the evaluation process became evident in a recent survey completed with Texas school principals. The purpose of this paper is to provide results from a comprehensive survey of school principals and to illustrate how those results suggest a disconnect between the amount of

time and money invested in training and what those administrators see or look for in the evaluative process.

Case of Linda

Linda teaches eighth grade history and is in her third year. Her passion and enthusiasm for teaching and learning is very high. Luckily, her principal encourages creativity in teaching and has funded her trainings at two conferences where Linda is able to attend sessions on Flipped Classrooms. The cost for the conferences totaled \$3,500. Additionally, Linda needed some new technology in her classroom amounting to \$1,500.

From an accounting perspective, the school has invested \$5,000 in materials and professional training, in addition to time off to learn and then implement her flipped classroom. How can she and her supportive principal ascertain if this was a wise investment? Further, how can Linda and her principal understand if the impact of such expenditures and all of her efforts are having a positive impact on student learning?

While education cannot be boiled down to accounting spreadsheets, analysis of outcomes is important. Linda's efforts, attention to the details of improving her students'

educational experience, and her administrator's support somehow need to be captured in data. Of course, Linda's expenditures are not unique. In Texas, engaging in trainings, in-services and increasing information technology to serve new generations of technologically savvy students is increasingly important.

Expenditures

In 2015, approximately \$6.6 billion was spent on information technology in U.S. education institutions between K-12 and higher education (McCandless, 2015). McCandless (2015) stated that Texas education was the second highest information technology consumer in the U.S. with \$1.2 billion in spending. Clearly, Texas invests heavily in information/educational technology for education institutions.

Meador (2017) states that there are 1,031 public school districts in the state of Texas that include 9,317 public schools with over 300,000 teachers. In regard to expenditures related to in-service trainings, Sawchuk (2010) reported that "school districts rarely have a good fix on how much they actually spend on such training—or on what that spending buys in the way of teacher or student learning." Sawchuk further suggests that most urban districts spend between \$6,000 and \$8,000 per teacher per year on trainings. Conservatively speaking, the State of Texas spends \$1.8 billion on in-service, professional development, and trainings each year. In total, Texas school districts spend approximately \$3 billion dollars a year on information technology and trainings each year.

Topical content for in-service days, professional developments and trainings vary; however, a large number *are* aimed at integrating technology into learning. A specific type of technology infused class-

room teaching is a flipped classroom. Flipped classrooms, sometimes referred to as flipped learning, has emerged as a major pedagogical approach in recent years. In general terms, *“Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter”* (Flipped Learning, 2014). Simply put, a teacher who uses a flipped classroom sends the lectures, readings, informational content, etc. home with the students (typically through the use of technology as the means of information transmission) and the classroom, then, is reserved for integration of the concepts studied at home through reflective discussions, individual work, group exercises, etc.

With increased use of flipped classrooms and funding toward trainings and information technology support for this type of instruction, it would appear to be in the best interest of both teachers and administrators to assess the outcomes of flipped classrooms and understand the costs associat-

ed with such activities. Further, it appears critical that teachers be assessed and evaluated more specifically in relation to the use of a flipped classroom. The current evaluation form and process does not specifically assess or evaluate either the use of technology or the implementation of a flipped classroom.

Evaluating Teacher Performance

The goal of evaluations on classroom teachers is to support and enhance professional growth (Danielson and McGreal, 2000). Recall that Texas spends approximately 1.8 billion a year funding for trainings, in-services, and professional development. Such expenditures are intended to help teachers increase their skills, knowledge and acumen in the educational process. Interestingly, there appears to be a mismatch between the expenditures and the evaluations.

In Texas, classroom teachers are evaluated by an appraiser. Appraisers are often school district administrators, principals and assistant principals. Such appraisers must follow a four-domain rubric developed by the Texas Education Agency. The four domains are: planning, instruction, learning environment and professional prac-

tices/responsibilities. Figure 1 below, adapted from TEA (2016), provides TEA’s examples of domains.

Smartly, TEA leaves the rubric broad enough to allow for individual teacher differences. Specifically, however, is the fact that the use of technology and the inclusion of a flipped classroom pedagogical approach are not present. Therefore, while the spending continues to increase in Texas schools/districts on the use of technology, and the use of flipped classrooms continues to rise, there is no directive from TEA to evaluate teachers on the use of such modalities.

How, then, do Linda and her principal assess her use of technology and her flipped classroom? Can her efforts be assessed separately from simply being a teacher? Can her principal determine if such expenditures were warranted? Recognizing the potential gap between expenditures, evaluations, use of flipped classrooms and education in the state of Texas, a survey was created to posit questions to current Texas administrators to understand their perceptions on a myriad of topics, including the use and utility of flipped classrooms in their school. Results from the survey follow.

Survey Populations and Findings

Using the Texas Education Agency’s online database, *AskTED*, all Texas Principals email addresses were compiled. A survey was then emailed to approximately 8,300 actively employed Principals in the state of Texas. The survey yielded 416 attempts with 293 completed responses, producing a 70% completion rate.

In 2014-2015, there were 8,126 employed Principals in Texas;

Figure 1: T-TESS Rubric

<p><u>Planning</u></p> <ul style="list-style-type: none"> -Standards and Alignment -Data and Assessment -Knowledge of Students Activities 	<p><u>Instruction</u></p> <ul style="list-style-type: none"> -Achieving Expectations -Content Knowledge and Expertise -Communication -Differentiation -Monitor and Adjust
<p><u>Learning Environment</u></p> <ul style="list-style-type: none"> -Classroom Environment, Routines, and Procedures -Managing Student Behavior -Classroom Culture 	<p><u>Professional Practices and Responsibilities</u></p> <ul style="list-style-type: none"> -Professional Demeanor and Ethics -Goal Setting -Professional Development -School Community Involvement

5,079 or 62.5% were female, and 3,047 or 37.5% were male. Respondents to this survey were very similar to the state gender demographics. Survey participants consisted of 61.99% female, 37.53% male (.48%) preferred not to reveal their gender.

Participants were asked to indicate their agreement level to six statements using a Likert scale consisting of strongly disagree, disagree, neither, agree and strongly agree. The weight distribution for the scale is: 1-strongly disagree, 2-disagree, 3-neither, 4-agree, and 5-strongly agree. The weighted averages indicate the level that participants as a group felt about the given statement. Figure 2 shows the distribution of the Likert scale answers to each statement along with their respective weighted average.

The distribution of scores across the scale indicate participants considered each question individually. For example, while 139 (46%) of the participants indicated they believed that teachers understood what a flipped classroom was, only 48 (17%) indicated that teachers often flip their classrooms. Further, over half of the participants (203 out of 301) were uncertain about whether students benefited from flipped classroom as compared to 33 who did not agree that

students benefited and 65 who did. The data also states that only 16% of the participants believe that teachers flip their classrooms, while 21% believe that students are more successful when flipped classroom experiences exist. Staggeringly, only 13% of participants believe that student's grades improve due to the flipped classroom experience.

Discussion

The results of the survey indicate that two out of every three principals were uncertain as to whether a flipped classroom positively impacted student success. Further, *only* two out of 10 agreed that flipped classrooms caused students to be more successful. Is this a referendum on flipped classrooms or a lack of knowledge of principals? Linda's principal was supportive, but how did s/he know the true impact?

An even larger number of respondents indicated that they were uncertain if flipped classrooms actually had a positive impact on student grades. Only 13.5% actually agreed that such a change in mode of instruction had a positive impact. One question these data highlight is to what degree do teachers like Linda actually educate their principals on changes in grades?

Only 16% of respondents indicated

that teachers actually flip their classrooms. This may be accurate, or, because flipped classrooms can take many different forms, it may suggest a lack of understanding by administrators. Interestingly, nearly half of the respondents (46%) reported that teachers do, in fact, know what flipped classrooms are. Does this data, if accurate, combined with the reported number of principals reporting that teachers actually flip their classrooms (16%) suggest that many teachers do not see the value in flipping their classroom?

Considering the amount of funding that goes toward flipping classrooms, it seems prudent that increasing the connections and communication across the expenditures, implementation and evaluations of flipped classroom efforts by teachers.

Conclusion

As evidenced by the excessive amount of tax dollars on training and professional development of its teachers, Texas is committed to supporting the latest technological advances in the classroom. However, the results of this survey of almost 300 Texas principals would indicate that many of them do not see evidence of these resources translating to the classroom. Educators should probe deeper into these statements and questions in

Figure 2: Survey Response Representation

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Total	Weighted Average
Teachers understand what a flipped classroom is and how to 'flip' a classroom.	5.63% (17)	24.83% (75)	23.51% (71)	40.4% (122)	5.63% (17)	302	3.16
Teachers often flip their classrooms.	14.29% (43)	44.85% (135)	24.92% (75)	14.95% (45)	1% (3)	301	2.44
Students enjoy the flipped classroom experience.	2.66% (8)	8.31% (25)	52.82% (159)	30.56% (92)	5.65% (17)	301	3.28
Students have the technology to be successful in the flipped classroom.	10.3% (31)	24.25% (73)	16.61% (50)	33.89% (102)	14.95% (45)	301	3.19
Students are more successful when teachers flip classrooms.	2.66% (8)	8.31% (25)	67.44% (203)	16.94% (51)	4.65% (14)	301	3.13
Student grades have improved since flipped classrooms have been introduced in schools.	3.67% (11)	7.33% (22)	75.33% (226)	12.33% (37)	1.33% (4)	300	3

an attempt to confirm the impact of training on the classroom. If districts are spending money on professional development for their teachers and administrators, these expenditures should be closely tracked, and evidence of implementation of the technological strategies should be reported. Lastly, evaluations should be more specific, especially as it relates to uses of technology in the classroom. The state of Texas invests heavily into technology for education; perhaps we should provide greater feedback to our state on how education is benefiting.

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Preservice Teachers' Noticing in a Nontraditional Calculus Course: A Case Study

Rebecca Dibbs and Jennifer Reynolds

Since calculus is the first course most preservice secondary teachers take, this course provides a unique opportunity to engage future teachers and model ways of helping all students strive for success in their future classrooms. However, little is known about what preservice teachers notice about the instructor's actions in a classroom before their educational coursework. The purpose of this study was to investigate which features of course design students noticed in a non-traditionally taught calculus course. Although there appeared to be a relationship between the preservice teachers' noticing and the relative impact of a course feature on their grade, the eight participants were also considering how to incorporate these features into their future classrooms.

Undergraduate introductory calculus courses offer a unique opportunity for secondary mathematics educators. Since this course is often taught four or five days a week, most sections are scheduled in the morning; hence, it is likely to be the first college class preservice teachers ever attend. How this course is taught can leave a strong impression of how mathematics should be taught and recruit more teachers to the field. However, there is currently a mass exodus of STEM education students directly after introductory calculus (Bressoud, Rasmussen, Carlson, & Mesa, 2014), in part because of traditional lecture-based pedagogy (Ellis, Kelton, & Rasmussen, 2014).

Further inquiry into why students turn away from STEM education after this critical first course indicates that students who feel engaged in the course are more likely to persist past the first, critical course (Ellis, Kelton, & Rasmussen, 2014). In the analysis of the recent national survey results, students who left STEM majors reported feeling unable to ask questions in class, that their instructor does not care about their learning, and that they did not know how to

seek help (Ellis, Kelton, & Rasmussen, 2014). If introductory calculus can be taught that is engaging for all students, we can help to motivate our pre-service teachers to excel and lay the foundations for their future methods courses for engaging their own students.

One curriculum with the potential for increasing student engagement is CLEAR Calculus. CLEAR Calculus is a free, supplemental lab-based curriculum (Oehrtman, 2008) where students complete a difficult weekly lab designed to build their conceptual understanding of limits throughout the semester (Author 1, 2015). A typical lab would ask the student to approximate the distance a Mars Rover travels using linear approximation with a velocity function that cannot be integrated analytically, then make and justify several mission-related decisions about controlling the rover. The remaining days are primarily lecture. This mix of inquiry-based learning and traditional instruction helps students transition to more inquiry orientated classes without extreme culture shock for students coming from traditionally-taught, testing focused high school classes and paved the way for more unstruc-

ture course designs in the future. However, there is little research about what pre-service teachers notice and respond to in such an introductory course. This research question was: What are the features of CLEAR Calculus to which students notice attribute any changes in their learning habits and definition for mathematical success? By understanding what pre-service teachers notice and respond to in content courses at the beginning of their program, we obtain a baseline for their noticing before they enter the teacher preparation program, which enriches the available knowledge about teacher noticing.

Literature Review

The current national average DFW rate in introductory calculus is 24.4% (Voigt, Rasmussen, & Apkarian, 2017). As a result of failing introductory calculus, students pursuing a STEM degree often leave the field citing the lectures were traditional and uninspiring, encouraging memorization instead of comprehensive application and understanding (Seymour, & Hewitt, 1997).

By engaging the class in a lab-based structure, encouraging group work, and whole-class discussions, students are more likely to retain information (Ellis, Kelton, & Rasmussen, 2014). Formative assessment can be utilized in the form of the CLEAR Calculus curriculum to ensure this retention among students (Oehrtman, 2009). Hutcheson, Pampka, and Williams (2011) found that students use the instruction experience of their first year of mathematics courses to decide to continue or discontinue their pursuit of a STEM degree.

The major area of research in mathematics education in the 1990's was the problem with introductory college calculus reform

(Oehrtman, 2008). The most successful calculus reform to emerge from this reform movement was the Treisman Model of instruction (Ganter, 2006). Traditional calculus instruction provides most students with a very superficial understanding of procedures, whereas it may equip only a few for further studies (Oehrtman, 2008). Oehrtman (2008) suggests a solution that would aid students with their comprehension: engagement in multiple activities that reveal and encourage the abstraction of a common structure. By presenting all calculus concepts through a similar framework, students develop a more organized understanding of limits than they do in a traditional calculus course (Oehrtman, 2009). In a typical lab, students are asked to approximate the water pressure of a dam (Figure 1). The first row would represent the pre-lab. Students are required to find the approximating by drawing a picture, graphing the data, finding the value algebraically, and again numerically (Oehrtman, 2008).

During the CLEAR Calculus labs—such as the one described in the previous section—the instructor walks about the classroom conducting the informal formative assessment, guiding the students through the labs; the pre- and post-lab assignments are formative assessments. Research on non-cognitive factors involved with students’ learning suggest that the

use of formative assessment in the classrooms help students perceive their teacher as caring about them and encourages ownership of student learning (Back & Wiliam, 2009; Author, 2014).

The theoretical perspective used in this study Mason's (2011) framework for levels of noticing. There are four levels of noticing: not noticing, barely noticing, marking, and recording. At the lowest level, and event cannot be remembered by a participant, even with probing questions. Something that is barely noticed can be recalled in a limited manner with probing questions. An event that was marked can be recalled with some detail with minimal prompting, and recorded events are those that a learner found to be the most critical, and are membered in the most detail.

Methods

This study took place at a mid-sized rural research university in the South with approximately 11,000 students. There are 40.6% of the students at this university who are non-white, and 60.3% are female. The students who participated in this study were enrolled in introductory calculus in the fall 2015 semester.

Each week in a CLEAR Calculus course is comprised of the same schedule for each day: on Monday, students were given new material and a pre-lab to begin working on

for the lab completed in class on Tuesday. The pre-lab, due before class on Tuesday graded on completion, required students to complete the Unknown Value of the approximation framework (Figure 1) and to identify a quantity that could be used to approximate the unknown value.

After obtaining Institutional Research Board approval, we selected an introductory calculus course of primarily first-year STEM education majors to conduct our study. During the first three weeks of the semester, we obtained research consents from the participants and selected twelve pre-service secondary teachers (mathematics, physics, and chemistry) to obtain a sample of maximum variation in majors and current calculus grades (Patton, 2002). We interviewed until data saturation was reached (Patton, 2002), and coded the data using the four categories described in the theoretical perspective.

Findings

Our participants were remarkably consistent in what aspects of the class they did and did not notice. No participant could recall anything specific about the days in class that were primarily lecture and they reported that those days were the same as any other mathematics course. “I don’t know,” Kyler responded after being asked if he could remember everything

Figure 1. Typical CLEAR Calculus Lab (continued on following page)

Context 2: NASA has determined that asteroid 1999 RQ36 has a 1 in 1000 chance of colliding with Earth on September 24, 2182*. The force of gravity, g , in Newtons (N) between two objects is inversely proportional to the square of the distance, s , separating them. The constant of proportionality is GmM where G is the “universal constant of gravity” $6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$ while $M = 5.97 \times 10^{24} \text{ kg}$ and $m = 1.4 \times 10^{11} \text{ kg}$ are the masses of the earth and the asteroid, respectively. Approximate the instantaneous rate of change of the gravitational force between the Earth and 1999 RQ36 with respect to distance when the two objects are 10,000,000 m apart.

Initial configurations to represent: $s = 8 \times 10^6$, 1×10^7 , and 1.2×10^7

Suggested graphing window: $5 \times 10^6 \leq s \leq 1.5 \times 10^7$ and $0 \leq g \leq 2.5 \times 10^{12}$

Lab Preparation: Answer the following questions *individually* and bring your write-up to class.

- A. Draw a *full-page* picture of the physical context in three different configurations (specified in the context description) *overlaid*. This will help illustrate how the relevant quantities are changing in the region of interest. You will redraw and add to this picture during class.
- B. What happens to the changes in the dependent quantity (volume, gravitational force, or mass of Iodine-123) as the independent quantity (radius, separation distance, or time) is incremented by constant amounts? Is your rate of change constant, increasing or decreasing?
- C. Draw a *full-page* graph showing the relationship between the two quantities involved in the instantaneous rate that you are asked to approximate. Add a point for each of the configurations you drew in your picture from A. Represent the changes in both quantities on your graphs as the length of short line segments. You will redraw and add to this graph during class.
- D. On your picture *and* your graph illustrate and label the changes in the relevant quantities to support your answer to B (using both Δ -notation and numerical values).

Lab Instructions: Work with your group on the problem assigned to you. We encourage you to collaborate both in and out of class, but you must write up your responses *individually*.

1. Compare your picture of your physical situation with the others in your group. Using the best ideas from your group, redraw a *full-page* picture of several *overlaid* snapshots showing
 - a. The system at the moment for which the instantaneous rate is requested
 - b. Other configurations from your lab preparation
 - c. Changes in relevant quantities labeled (using both Δ -notation and numerical values) to support your answers in the lab preparation.You will return to your picture to include additional information.
2. Compare your graph showing the relationship between the two quantities in your rate with the others in your group. Using the best ideas from your group, redraw a *full-page* graph showing
 - a. Several points corresponding to the moment for which the instantaneous rate is requested and three or four other configurations
 - b. Algebraic and numerical representations of the quantities at the points included in Part a
 - c. Changes in the quantities starting from the moment at which you need to determine the instantaneous rate (using both Δ -notation and numerical values)You will return to your graph to include additional information.
3. In this question, you will provide details about *what you have been asked to approximate*.
 - a. Describe what you have been asked to approximate using language from your context.
 - b. Define a variable to represent the unknown value algebraically. What units will be attached to it?
 - c. Represent the unknown value that you are approximating on your graph. Label it with your chosen variable. What attribute of the object that you added to your graph corresponds to the unknown value you are approximating?
4. In this question, you will provide details about *approximations* to your instantaneous rate.
 - a. Compute 3 average rates of change that approximate the requested instantaneous rate.
 - b. Using language about your context, explain the physical meaning of one of your average rates of change.
 - c. Write an algebraic expression showing someone how to compute these average rates in general.
 - d. Represent the 3 approximations on your graph. Label them with numerical values. What attribute of the things that you added to your graph corresponds to the approximation values?
5. In this question, you will identify both *underestimates* and *overestimates* for the requested instantaneous rate.
 - a. If you have not already found both underestimates and overestimates and represented them on your graph, do so.
 - b. Using only language about your physical context (not your graph), explain how you know these are in fact underestimates and overestimates.
 - c. Explain how your explanation from Part b can be seen on both the picture of the situation and on the graph.
6. In this question, you will identify and represent the *errors* in your approximations.
 - a. Give an algebraic representation of the errors for both an underestimate and an overestimate.
 - b. Explain how these errors are represented graphically. Add and label the errors on your graph.
7. In this question, you will identify and represent the *error bounds* in your approximations.
 - a. Find an error bound for one of your approximations. Justify your answer.
 - b. Explain how this error bound is represented graphically. Add and label the error bound on your graph.
 - c. What is the resulting range of possible values for your instantaneous rate? Explain how this range is represented graphically.

different about lecture days. It's math. I come in, take notes, and go home." All but one participant (11/12) agreed that they did not notice anything done during lecture days.

Taylor was the only student who remembered anything about the lecture portion of the class, even after probing: "During the derivative chapter, we had to sing songs every day to learn the product, quotient, and chain rule. Other than that it was pretty much regular math.

Although only Taylor could barely recall the lectures after probing, there was one other aspect of the class that nine participants could barely recall after probing: the post-labs. A typical exchange is given in the transcript from Cameron's interview below:

Interviewer: What do you remember about the days when you don't have labs?

Cameron: Nothing, really. It's just regular math those days.

Interviewer: Is there anything you can remember about the lecture days that was different from other math classes you have had in the past?

Cameron: We usually talk about the lab on Thursday. [My instructor] answers questions and stuff.

Interviewer: Like a question and response session?

Cameron: No, from the post labs. I never do a good job on mine, but maybe other people ask good questions.

The lectures themselves and the post lab assignments made little lasting impression on the pre-service teachers; every student marked the labs as an important feature of the course. While only one context in one lab was recalled

in any great detail (Figure 1), participants found the labs in general to be the distinguishing feature of the course. "The labs are what make this course different from other mathematics classes," Michael explained, "Working in groups was something I hadn't really done in a math class before this class." Lana concurred:

The labs are what make this class different. Before this class math was easy. I came to class, and then I got it. I got really frustrated, because in here I just didn't get it. I had to learn how to work, and how to study, and how to ask for help...I don't really remember anything about any of the labs, other than the asteroid problem. Just that they were hard enough to make me realize that I couldn't keep going in college like I did in high school.

Since students couldn't remember details about any of the labs without probing, and could only recall the asteroid problem and the bottle lab when prompted, the labs can be considered a marked event rather than a recorded event. There was, however, one recorded event.

When we asked participants what, if anything about their experiences in their calculus class might be relevant to them as future teachers, two events were mentioned. Chase and Sarah, both of whom were sophomores and had at least one parent who taught both discussed how group work was graded so that no one received an undeserved grade:

I think the labs are too hard for high school students, even in AP [calculus]. Sometimes, they were too hard for me. But I liked that the group work was not due the next day, and that everyone turned in their own assignment. It

was nice that no one got a free ride. I think I can use that to make group work go better when I try it in my classroom.

—Chase

While Chase and Sarah were more familiar with the teaching profession and had the introductory education course before taking calculus, the other ten participants, all of whom were freshmen, discussed the test correction policy in the course. Students could earn up to half of the points the lost on a test back if they could correct all of their problems and write at least two sentences about each problem where they lost points that identified what original errors.

The participants who discussed the test corrections did so with no probing questions and at great length. "I think the thing about this class that I will remember the most as a teacher are the test corrections. I always get really nervous during tests, but I knew that there were test corrections, it helped me calm down. I got another chance," Ricky explained. Jared agreed, but for different reasons, "I think the test corrections will be useful to me when I was a teacher. In this class you write and write and write. I didn't like it at the time, but after the class was over, I realized that I really learned the material." The other theme mentioned by participants with the test corrections was the consequence for corrections: students earned zero points back if there were any mistakes on the corrections. "I liked that mistakes cost us points," Lacey explained about the test corrections, "It taught me to be careful. I can use that in my classroom to be more careful in math before they get to college."

Discussion

Overall, the test corrections and the labs were the two features of

the CLEAR Calculus course that our participants noticed. While few participants thought that the labs could be applicable in their future classrooms, the test correction policy was one most students felt that they could adopt in their future practice. It is worth noting that the activities that students noticed and recalled in the most detail were also the ones worth the most points in class; the post labs were graded on completion and there were no particular assessment activities immediately associated with the lectures. As we prepare our future teachers, the engaging but challenging labs helped participants to change work habits, and all of our preservice teachers found at least one class policy of potential value in their careers as future educators. Overall, this study gives teacher educators a baseline for what preservice teachers notice in a classroom, and suggests that preservice teachers may benefit from explicit discussions of pedagogical decisions in content courses.

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Project *ASPIRE*: Access and Support for Principals in Rural Education

Maria de Lourdes Vilorio, J. Elizabeth Casey, and Selina V. Mireles

Access & Support for Principals in Rural Education (ASPIRE), an Early-phase project. addresses: a) recruitment & retention of teachers, especially in STEM fields, b) limited resources typically accessible to urban schools (e.g., dual-credit classes, AP classes), & c) community engagement. The exploratory study has not yet been funded, but the importance of addressing the unique needs of rural schools is imperative. Ensuring that rural school principals receive support and training to transform outcomes for all stakeholders is one that must be addressed beyond south Texas. Rural school systems across the U.S. may initiate similar projects to enhance the educational system. ASPIRE's goal is to develop a measurable field-initiated process, ASPIRE Model to prepare principals as effective agents in campus-internal intervention systems, using action research, statistical analysis, & transformational leadership. The ASPIRE team will engage principals in the ASPIRE Model by: a) implementing introductory summer workshops (Summer Aspirations) to assist principals with analysis of campus assessments; b) guiding principals' analysis of existing assessment data points; c) analyzing data via web-conferencing; & d) establishing a clearinghouse of research-based interventions.

The use of students' test score data to measure principal and teacher performance is a standard practice for school district administrators in urban, suburban, and rural schools across the nation. In the United States, about 12 million students attend rural schools, which equates to one quarter of K-12 students in the country (Johnson, Showalter, Klein, & Lester, 2014; Johnson, Showalter, Klein, & Lester, 2015). When considering persons acting as in-school change agents for students' academic success, research indicates that the quality of principals and teachers matters (Lochmiller, 2014; Shoho & Barnett, 2010); and this is especially important in areas with large populations of Hispanic students, where students may struggle to meet basic standards on state testing. Lichter, Parisi, and Taquino (2010) point out that "rural Hispanic populations are often rendered invisible and forgotten in policy discussion, even as they have come to dominate local demographic trends

in growing numbers of small towns across the nation" (p.514). This directly affects rural school principals, who are tolled with a high degree of visibility due to the small communities in which they work; and they often "feel isolated in their efforts to create positive change because they are tasked with greater levels of responsibility that non-rural principals, despite lower salaries, and the lack of assistant principals and support staff" (Cruzeiro & Boone, 2009, p. 243).

At a national level, the Rural School and Community Trust (RSCT) has spearheaded efforts to create policy reports that analyze the current conditions and contexts of rural education across the United States. Principals across the country face challenges, but depending upon a district's location, those challenges can be significantly different. One state in particular, Texas, may soon have over one million students in rural

school districts, the first state in the nation. In reality, "Texas has more schools in rural areas than any other state in the United States" (TEA, 2017, p.7). Texas Commissioner of Education, Mike Morath, recognizes the challenges that Texas rural school districts face. Therefore, via a proactive resolution, he formed the Rural Schools Task Force (RSTF) composed of 20 Superintendents, one from each of the educational service centers across Texas. Nationally, on April 3, 2017, the RSTF released four rural school districts' priorities which include: 1) increasing teacher recruitment and retention efforts; 2) creating pathways to implement House Bill 5/ career and technology education; 3) building capacity on technical education support; and 4) support for rural school districts for access to grants and contracts (TEA, 2017, p. 7).

Statement of the Problem

The Texas Plan for Equitable Distribution of Highly Qualified Teachers (TEP) (TEA, 2015) describes steps that the Texas Education Agency (TEA) has put into action to ensure economically challenged students and English language learners (ELLs) have access to highly qualified teachers. This ambitious and proactive plan is meant to address the disparities that exist in such a geographically and racially diverse state. Results of a thorough, statewide teacher quality metrics analysis, conducted by TEA and entitled the *Equity Gap Analysis*, indicated that ELLs and economically challenged students in Texas were disproportionately being taught by a higher percentage of inexperienced teachers than students who attend schools with lower concentrations of ELLs and/or low socio-economic status (SES) students (TEA, 2015). In addition, TEA (2015) revealed that inexperienced teachers teaching

low SES and ELL students were also unqualified.

Regretfully, “the distribution of unqualified teachers by student minority status and poverty status showed that there were higher percentages of unqualified teachers in schools with high concentrations” (TEA, p. 11, 2015) of low SES and ELL students. Furthermore, the results of the third metric indicated that Texas ELLs and low SES students were more likely to be taught by out-of-field teachers in comparison to students who attended schools with low minority student concentrations. Finally, results of the fourth TEP metric related to teacher absences revealed that “there were higher percentages of teachers with more than 10 absences in schools in the lowest student poverty quartile than in the highest student poverty quartile” (TEA, p. 15, 2015).

Furthermore, rural school principals may experience duties that go beyond their expectations. Certainly all principals expect to manage school finances, recruit and retain highly-qualified teachers, and identify instructional supports. However, rural school principals in Texas may deal with ensuring appropriate transportation, which may involve driving the bus route, and/or distributing school breakfast or lunch (TEA, 2017). In some instances, Texas rural school principals have to teach classes when a teacher is absent and there are no substitutes available; so it is no surprise that they do not have time to be aware of and/or apply for important federal grants like the Rural Education Achievement Program (REAP), or state advocacy organizations like the Texas Rural Education Association.

Rural School Challenges

The RSCT has published its eighth report entitled *Why Rural Matters*

2015-2106: *Understanding the Changing Landscape* (Johnson, Showalter, Klein & Hartman, 2017) to address the challenges that rural schools continue to face. Rural schools’ unique needs include: (a) recruitment and retention of teachers due to a lack of available housing; (b) scarce social amenities; (c) lack of spousal employment opportunities; and, (d) competition in near-by urban schools (Johnson, et al., 2014; 2015). Along with the RSCT report, REAP (2015) identified two similar rural schools challenges: (a) a lack of personnel and resources to compete effectively for federal competitive grants; and, (b) formula allocations in amounts too small to be effective in meeting the financial challenges faced by rural schools.

Teacher Retention

It is vital that principals across the United States are able to retain highly-qualified teachers to enhance students’ academic growth, but this may be more difficult in rural areas (Parsley & Barton, 2015). Rural school principals need support and research-based solutions that may include allocating cooperative time for teachers to share their knowledge with one another, and/or creating a community of practice; that is, offer useful meaningful feedback that increases professional capacity within the school building (Darling-Hammond, 2015). Rural school principals need to stay away from top-down initiatives and focus on retaining talented teachers by allowing them to collaborate, plan, and learn together via flexible scheduling.

Nevertheless, the challenge of finding adequately trained teachers is exacerbated in rural, hard-to-staff schools based on teachers’ feelings of isolation (Fry & Anderson, 2011; Sutton, Bausmith,

O’Connor, Pae & Payne, 2014). As Fry & Anderson (2011) noted, “the inherent physical and social characteristics of rural communities can result in novice teachers in rural areas experiencing unique and perhaps more profound isolation” (p.1). Studies report that nation-wide, teacher attrition is anywhere between 30%; and this statistic is higher in rural school districts (Andrews & Quinn, 2005; Darling-Hammond, 2003) to 50% (Ingersoll & Smith, 2004; Smith & Ingersoll, 2004). Thus, Project Access and Support for Principals in Rural Education (ASPIRE) is timely and necessary to identify effective supports for rural school principals in achieving the goals set by the TEA.

Ingersoll, Merrill, & Strucky (2014) forewarn that the existing teacher and principal pipeline will not meet the national demands for highly qualified teachers in high-needs fields like Science, Technology, Engineering and Mathematics (STEM) and special education. Moreover, the Coalition for Teacher Quality (CTQ, 2016) recommended the need for policymakers to: (a) “invest in programs that meet local workforce needs; (b) support high-quality, early opportunities for secondary students to explore teaching as a potential career path; (c) expand investments in grant and loan forgiveness opportunities for prospective teachers; and, (d) diversify the workforce” (p.3).

Rural School Culture

Fry & Anderson (2011) concluded that rural school teachers need to develop place-based consciousness and preparation via a “pragmatic analyses of school culture, including the unique social dynamics of rural schools, and emphasize the importance of understanding community, including rural communities” (p. 12). Due to the already

limited personnel resources that rural school districts face, providing a mentor to novice teachers can burden the already taxed schedules of experienced rural school teachers. However, researchers have concluded that effective mentoring programs can support beginning teachers and lead to increased rates of retention (e.g., Darling-Hammond, 2003; Ingersoll, 2012; Ingersoll & Strong, 2010; Smith, 2007; Smith & Ingersoll, 2004).

The CTQ (2016) presents a “Grow Your Own” option for hard-to-staff schools. This aligns with the findings of Reininger (2012), who noted that more than 60% of individuals interested in choosing a teaching career prefer to remain in their local community, especially teachers of color. Some states like Ohio, Arizona, and Mississippi have established programs to recruit and retain teachers in specialized areas like STEM and special education (CTQ, 2016). Rural school teachers who are not familiar with the community need to learn the specific culture not only of their new school, but also of the rural community itself (Eppley, 2009). Some schools have created a collaboration (Bauch, 2000) between these systems to better understand the needs of novice teachers, implementing individualized theory-to-practice strategies to support rural school teachers who already wear different instructional hats.

Potential Solution: Project ASPIRE

Project ASPIRE, which is currently under grant-funding consideration, is an Early-phase project under Absolute Priorities 1 (Supporting High-Need Students) and 5 (Improving the Effectiveness of Principals). The goal of Project ASPIRE is to develop a field-initiated model that prepares rural

school principals to establish campus-internal intervention systems using action research, statistical analysis, and transformational leadership. The ASPIRE project team has identified eight South Texas rural school districts as project partners, with some districts participating during the first phase and all districts participating during the second phase.

Participating Districts

According to the National Center for Education Statistics (NCES, 2013), and the Rural Community Trust, Texas is characterized as having the largest rural student population in the nation (Johnson, Showalter, Klein, & Lester, 2014). Texas has 1247 school districts, and of those, 459, or 36%, are rural school districts (TEA, 2017). Demographics for the school districts who have agreed to participate in project ASPIRE surpass Texas averages both in Hispanic and economically-challenged students. The eight school-district mean for Hispanic students is 95.4%, compared to the state average of 33.4%, and 95.4% economically-challenged students compared to the state average of 56.2% (TEA, 2015). Recently, Texas Education Commissioner Mike Morath launched the Texas Rural Schools Task Force, in an effort to bring rural school superintendents together to discuss the educational challenges faced by rural schools. Dan Rogers, Executive Director of the Texas Rural Education Association (TREA), pointed out that “South Texas school districts are still an untapped group due to their isolation” (Personal conversation, 2017). Therefore, it is crucial that researchers focus on how rural school principals can be supported to learn about and access the available resources and platforms. Recently, the RSTF (2017) recommended that “teacher recruitment could potentially be a centralized,

online statewide job application and vacancy matching site” (p.9). However, not all 459 rural school districts in Texas have been able to tap into the available, web-based online resources.

Promising and Innovative Practice of the ASPIRE Action Research Project

The core of project ASPIRE is the development of the ASPIRE Model (Appendix A), which will be used to: (a) identify campus-based needs, and (b) develop campus-internal intervention systems. The ASPIRE Model is based on a continuous improvement cycle (Deming, 2013). Project ASPIRE consists of preparing rural school principals as effective agents in campus-internal intervention systems using action research, statistical analysis and transformational leadership. Successful transformational leaders differentiate supervision, meaning that they do not apply the same supervisory techniques to all (Davis & Darling-Hammond, 2012; Fullan, 2006). The ASPIRE Model, a measurable field-initiated process, is an innovative strategy that has not been implemented with rural school principals in South Texas. The project team will support rural school principals’ efforts at building internal organizational intervention systems that will stimulate continuous academic improvement of high-needs, rural school students from the eight participating South Texas school districts during Phase 1 and Phase 2.

The focus of project ASPIRE is on: (a) the principal, (b) his/her relationship with teachers, and (c) student outcomes. The principal can be considered a malleable factor because a change in leadership and training can affect his/her goals and decision making, thus affecting teachers, as well as student outcomes. Project ASPIRE

proposes to build on what is currently known about principal leadership practices, investigating the relationship between principals, teachers, and student outcomes, thus capturing the essence of the interdependent relationship using the proposed development of this project's innovative ASPIRE Model.

The ASPIRE Model allows for continuous reflection and feedback on each person's efforts throughout the process, which includes all stakeholders: principals, teachers, and students. "Rural education in general has historically faced, and continues to face, more challenges and greater inequalities compared to its urban and suburban counterparts" (Jaeger, Dunstan, & Dixon, 2015, p.1). The logic model (Appendix B) for ASPIRE is a guide that will assist with understanding how the inputs and corresponding outputs will achieve the expected outcomes for the set goal and objectives. ASPIRE project team members will assist and support rural school principals, utilizing the ASPIRE model, in becoming effective leaders and transformational change agents for their rural school campuses. The project team understands that rural schools have unique needs and challenges and that student academic outcomes are based on the school system (Masumoto & Brown-Welty, 2009), which includes superintendents, principals, education and training for teachers, parents, teachers, and students.

Limitations

The exploratory study has not yet been funded, but the importance of addressing the unique needs of rural schools is imperative. Ensuring that rural school principals receive support and training to transform outcomes for all stakeholders is one that must be addressed beyond south Texas. Rural school

systems across the U.S. may initiate similar projects to enhance the educational system. Currently, the research team is preparing to propose a smaller pilot study, with one of the participating school districts, pending the final decision of the larger grant-funding agency. Project ASPIRE, if funded, will span four years; and team members will collect and analyze qualitative and quantitative data on the effects of the intervention on administrative organizations, teacher retention, student academic and behavioral outcomes.

Discussion, Implications, and Conclusion

Although Project ASPIRE is currently under consideration and has not yet been put into practice, the research and findings on the needs of rural school principals and schools is one that must be addressed across the nation. Project ASPIRE has the potential to transform how rural school principals receive support, which in turn allows them to recruit, retain, and support highly-qualified effective educators that act as change agents for enhancing rural school students' (a) engagement with curriculum, (b) exposure to STEM practices, and (C) academic growth. The project team will present research findings from initial pilot study data to the Texas Education Agency (TEA), other rural school districts across the state of Texas, the Texas Association of School Administrators (TASA) and the Texas Association of Secondary School Principals (TASSP). The ASPIRE Model will be shared with institutional colleagues, who can then provide training to rural school districts situated within their areas. The Rural Education Priority Gauge (REPG) ranked states on five indexes: Importance, Student and Family Diversity, Socioeconomic Challenges, Educational Policy Context,

and Educational Outcomes. The project team is in the process of identifying partnership networks with three states, Oklahoma, Arkansas, and Mississippi, which were ranked in the top ten states with the highest needs schools on the REPG (Johnson, Showalter, Klein, & Lester, 2014).

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Remember the S.H.I.F.T.S. to Establish an Effective School Culture

Todd Scott Parker and Candice Dowd Barnes

At the heart of every school's culture are the people who live within it, who create it, who sustain it. When establishing an effective school culture, it is vital that the leader attends to the S.H.I.F.T.S. to ensure each member of the culture is connected to it in a positive way. S.H.I.F.T.S. is a conceptual framework that organizes practices that leaders might consider to cultivate a desired culture. This desired, often collaborative culture, can be achieved when the leader addresses and assesses the sights and sounds, feelings and flexibilities, and soul and swagger of the culture.

K-12 educators have a responsibility to change or enhance the culture in their schools by becoming a bridge for students and staff. They should refrain from becoming obstacles or reflections of what seem unachievable simply because they are not attending to the S.H.I.F.T.S. Ultimately, educators need to acknowledge the S.H.I.F.T.S. in their school to promote positive responses to the climatic changes within that school's culture. This article examines what the S.H.I.F.T.S. are, and why these *shifts* can profoundly influence thinking and action to engage in a type of cultural renovation within a school.

S.H.I.F.T.S. is an acronym for—*Sight, Hearing, Intuition, Feelings, Taste, and Smell*. The lead author conceptualized the framework. It reflects the undercurrents, which if not addressed effectively, will move a school from, what Gruenert & Whitaker (2015) describe as, a collaborative culture to a toxic culture. Later in this article, the authors will explain S.H.I.F.T.S. in detail. The hope is to create an awareness for each component and create an understanding of why each component is important to the promotion of a more collaborative culture. First, an exploration of culture before addressing the S.H.I.F.T.S. is es-

sential to understanding how to develop a desired culture and climate.

Many people believe that culture, especially school culture, means the establishment of policies, professional development and training, along with aggressive top-down management. Policies, procedures, training and other practices, can help to sustain compliance and regulation within the culture. However, compliance is a command action that does not explain what culture is or how to create a culture.

According to the *Online Etymology Dictionary*, culture continues to be defined by the version derived in 1867. Generally, culture was then, and still is, a collection of customs and achievements of a people—a group of people. This same ideology can be applied to a more contemporary society, and certainly within a school context, in which the people cultivate the climatic patterns that feeds the overall culture. The compliance and regulatory elements combined with the rituals, customs, values, and systems of the culture are essential. The members of the culture, however, cement the culture. Therefore, at the heart of any culture are the people, their activities and actions, and their transforma-

tive behaviors (Oyedeji, 2017; Weissbourd, Bouffard & Jones, 2013).

All members of a culture need to feel connected to that culture. Weissbourd, Bouffard & Jones (2013), suggests six considerations that will make a substantial difference in how one develops a healthy connection to a school culture. First, focus on the student-teacher relationship. Be intentional, reflective, and genuine. Second, the staff should model appropriate pro-social behaviors. When students witness staff engaging in strategies to collaborate or manage conflict, it offers the students some explicit examples to influence their capabilities. Third, establish routines and procedures for students and teachers to engage in restorative justice, recovery and conflict management strategies. Fourth, provide opportunities for students to have a voice and choice in the development of the policies, procedures, and practices. Remember that all members should feel connected. Fifth, establish school values that moves away from zero-tolerance for every situation. Implement both “constructive and instructive” methods to address positive behavior guidance instead of punitive action. Lastly, assess the school climate and culture to make informed decisions that will aid in comprehensive, pro-active change. These strategies will more than likely help the members either assimilate, acculturate and adapt to the respective culture and stimulate positive and negative climate patterns within the culture.

The members will engage assimilation—a process of converting something so that it becomes similar. They may also engage in acculturation—the adoption of an alien or foreign culture. This might occur even if that culture challenges a person's belief system. This is

especially true for a compliance-driven culture. However, a major part of the assimilation, acculturation along with adaptation is to create a bridge between the reality—the activity and action of establishing an effective culture, and the rhetoric associated with the establishment of an effective culture (Weissbourd, Bouffard & Jones, 2013).

In either case, each member will make a commitment through his or her actions, activities, and experiences. The goal is to move away from compliance and cultivate a healthy culture that speaks to the members’ senses in a positive way. This is evidenced by thirty years of research, which suggests there is a profound impact on trust, engagement, connection, and academic outcomes when a school’s staff focuses on the mental, physical, safety, and social-emotional needs of students and adults. By doing so, one creates a healthy culture that is supportive of all aspects of relatedness (routines, relationship, rapport, respect, and responsiveness) and social-emotional health for all involved (Oyedeji, 2017; Parker, Barnes, & Kohler-Evans, 2016)).

Therefore, each member of the culture has a level of responsibility to respond through assimilation, acculturation, and/or adaptation to the S.H.I.F.T.S.—Sight, Hearing, Intuition, Feelings, Taste, Smell within that culture, as highlighted in the figure below. This is especially true for school leaders. These *shifts* fall under three primary categories: Sights and sounds, feelings and flexibilities, soul and swagger. The categories will be addressed later in the article.

Each component of S.H.I.F.T.S. addresses a readiness in responding to the way in which the culture moves, feels, and evolves. The

“S”—*sight* in SHIFTS reflects what a person observes, witnesses, and the visuals that speaks to student achievement, collegiality, and perhaps, shared values. This element answers the question, “what does this culture look like?” The “H” reflects what a person *hears*. Again, what one hears might speak to the shared decisions, values, norms, discussions, or communication styles. “I”—*intuition* draws attention to a heightened level of awareness predicated on trust, history, and relatedness. These predictors of intuition link to the next component, *Feel*. The way in which one feels as a part of the culture, or what they feel about how the culture operates, is vital to the willingness of that person to remain within that culture. It might also reflect the level of the individual’s productivity within that culture.

The last two components, *Taste* and *Smell*, may be the most challenging components because there is a direct connection to leadership, risk taking, and productivity of student and teacher. For example, is the leader an obstacle, a collaborator, or an encourager? These indicators can affect if a person finds enjoyment as a member of the culture and the degree to which that

person is attracted to the culture and remains attracted to the culture.

As depicted in the figure, the far left column is a suggestion of what the leader can use to stimulate the current environment to yield a more consistent response, instead of the more common, but not always healthy reaction. For example, the leader would use “relatability” of the current culture’s members to encourage “kinship” more consistently amongst the members. Each component of S.H.I.F.T.S is reflected in three categories that can be used to assess, restore, and grow a productive school culture where the climatic patterns speak to positivity and purpose.

The way in which each member experiences and explores the categories of *shifts*, is in many ways dependent upon the effectiveness of the leader. In revisiting the etymology of culture, the leader is primarily responsible for setting the tone and tenor within that culture that the group of people will adopt. The leader must identify and define the environmental perception to maintain a consistent response from its members. Otherwise, the culture remains reaction-

S.H.I.F.T.S.™			
SENSES	INITIAL REACTION	EXTENDED REACTION/RESPONSE	CULTURAL STIMULATION FOR CONSISTENT RESPONSE
Sight	Looks like	Believability ↔	Perception
Hearing	Sounds like	Propaganda ↔	Conformity
Intuition	Seems like	Chance ↔	Consciousness
Feel	Feels like	Kinship ↔	Relatability
Taste	Tastes like	Indulgence ↔	Enjoyment
Smell	Smells like	Attraction ↔	Esteem

ary to the worst behavior allowed and tolerated by the leader (Gruenert & Whitaker, 2015).

Sights and Sounds

“Perception is reality.” We have all heard this phrase many times before. However, is perception always reality? This phrase becomes more believable the more you hear it, and the more it becomes embedded within one’s social and cultural context, the less likely it is one will challenge rules, what they witness, or the narrative presented to them. Our current social landscape has proven that the convenience of video recording, especially via a cell phone, can easily paint a narrative most people are subject to believe without understanding the full context in which an event might have occurred.

For example, a volatile argument between a teacher and student goes viral. The video clip is two minutes long. As the viewer, you are only witnessing a snippet of an incident. You may have little to no context of what precipitated the incident. This would indicate a school culture driven only by sights and sounds. In this example, a sympathetic outcry would dictate a reaction to that incident, instead of a pro-active response to any other subsequent or similar type of incident. There may also be a propensity to avoid the deeper context surrounding this incident so that there is a more accurate and appropriate response—a response that might include training, recovery, and restoration. As a school leader you have to deploy the principles of restorative justice (peacemaking, mediation, and conflict resolution), to move beyond the simplicity of sights and sounds to ensure that the culture remains healthy and balanced.

Perception is a microcosm of the

reality that one might create primarily based on the sights and sounds around us. Within a school culture, the sights and sounds—what it looks like and what it sounds like, dictate what the people believe without going below the surface of what something looks and sounds like. For example, if a struggling school is preparing for a walk-through from a state entity, the sights and sounds within that building on the day of the walk-through, may not reflect the school’s genuine S.H.I.F.T.S. In fact, many school cultures that solely depend on sights and sounds can float softly like feathers along a quiet breeze, or crash violently against the howls of a thunderstorm.

Feelings and Flexibilities

Sights and sounds identifies, in some ways, are the most obvious characteristics of a school’s culture. It addresses the questions of, what do we see, and what do we hear. However, intuition displays how the consciousness—an awareness of how each member in the culture should be valued and respected. Intuition, at its core, is the insight that members of the culture gain over time to assist in the development and management of their own behaviors. As these members gain deeper levels of self-awareness they are afforded the opportunity for recovery and restoration. This is key to experiencing feelings and flexibilities that will affect culture. This can be true for young people and the adult.

Within a school context, young people grow and learn about themselves and others. They may enjoy the freedom to take risks academically, as well as, socio-emotionally. They may display themselves in a highly expressive manner. Sometimes the way in which a young person expresses his or her feelings might be un-

comfortable or deemed culturally contradictory or unacceptable. This is especially true for brown and black boys whose forms of self-expression and animation are often times misconstrued as aggressive (Lewis, Butler, Bonner, Joubert, 2010). These expressions are satellite signals for kinship embedded within their social and cultural DNA. Quality, effective leadership understands this, and helps others within the culture understanding the context of these expressions that relate to socially and culturally responsive pedagogy. By engaging in this type of practice, the leader, in this example, is allowing the members to adapt. This can be especially effective if modeled properly by the adults/mentors within the current culture.

Even more evident to the feelings and flexibilities of a culture, are the interactions between the adults. Young people have a tendency to tap into their intuition. You could say that they rely upon it to recognize emotional stability in adults. Yet, as adults interact with each other, the social barriers, and sometimes, the bias boundaries that one ascribes to can cloud one’s innate intuition. These obstacles and barriers can sanitize a person’s ability to, as Kohler-Evans and Barnes, (2015) suggests, acknowledge perspectives and belief systems of others. By not encouraging this element of freedom, (acknowledging others values and beliefs and allowing them to do the same for you), it can further disrupt the trust and relatedness discussed earlier.

Exploring these beliefs might expose the bias boundaries that impact a quality culture and climate. Thus, the acknowledgement of the subculture’s feelings and flexibilities allows its members to experience a level of freedom of expression, freedom of thought, and free-

dom to choose, engage, and trust. The leader of a culture has the task of enabling the culture to enrich the intuitions of its members. This creates a whirlwind of respect, engagement and rewarding risk taking within the culture. It can be a way to build and sustain collaboration and help each member become a living example of the soul that drives the culture.

Soul and Swagger

“What’s great about this place?” “What would make me want to brag about this school?” These are some key questions that float amongst the members of a school culture. Remember, those members can include adults as well as students. To answer these questions, you must consider the *taste* and *smell* of a culture. Most of us have a favorite food that we may indulge because it tastes good. If you are a cheesecake fan, you may have your favorite flavor, brand, or restaurant that makes the best cheesecake. You cannot resist it. This analogy can be applied to a school culture. If the members of the culture enjoy being part of the culture, they are more likely than not, to become vested in that culture. They carry the culture and speak about it in the most positive terms.

Likewise, what tastes good usually smells good. The aroma floods one's senses. They tend to return countless times to partake—to indulge. However, if something does not smell right, he or she are less likely to try it, and if they do try it and do not like it, they probably will not ever try it again. School culture works in a similar way. If something about that culture does not smell right, then the members are skeptical of its authenticity.

Within the realm of any culture, its members need to have a reason to brag about its swagger—the cul-

ture’s pulse. A genuine pulse is also something that leadership can rely upon for anchoring the culture during times of climatic change, such as personnel changes and project deadlines.

The soul and swagger can promote recruitment and retention efforts of human talent. When prospective candidates apply for a position, they may pay attention to the pulse running throughout the school. They may have prior knowledge about the school that creates excitement around the possibility of joining the team. Current staff will engage in the same or similar actions. They become a spokesperson for, and protector of, the school’s culture through their actions and behaviors. They have a stake in maintaining and growing an effective culture where their work does not feel like work.

In closing, here are a few considerations to simulate further thoughts about acknowledging and utilizing the *S.H.I.F.T.S.* when establishing and cultivating a school culture.

- Be cautious not to buy in, totally, to the sights and sounds of the current culture that needs to be reconfigured or reimaged. The sights and sounds while important can be fancy finishes without substance.
- Respect the feelings and intuitions that are necessary to move, rejuvenate and/or rebuild the culture. Create a space for mindfulness—a state of accepting and acknowledging feelings, emotions, thoughts and ideas, to flourish beyond the current trend of mindset which can be a closed frame of thinking.
- Enhance the soul and swagger of the existing culture. Apply maximum effort to identify the soul and swagger. Live to create the culture, not just exist

within the culture. Be sure to foster genuine intentions to create positive climatic patterns, instead of offering intentional gestures that might feel more like compliance. Displays of genuineness are important to all members.

- Trusted leadership is more inclined to cultivate the culture for the benefit of it speaking to its member’s senses. Therefore, leadership must show some level of vulnerability to be genuinely trusted. Showing vulnerability also reflects one’s humanity.
- People are much more engaged in a culture in which they have an authentic understanding and appreciation of that culture. It allows one to adapt, assimilate, and/or acculturate to that culture.

Certainly, establishing and cultivating a culture is a full time task and has its energy draining moments along the way. Nonetheless, when a culture is cultivated with fidelity and the *shifts* are addressed effectively, the culture stands as a strong foundation for social and emotional and academic achievement. The level of engagement can, and should, range differently for each members of a culture as they attach themselves to the culture. Establishing the strong and resilient culture requires actions for all involved. It is up to the leader to ensure the members of the culture are not only aware of the *S.H.I.F.T.S.*, but that they also engage in creating context for how the shifts are fully utilized and promote positive climate patterns.

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Service-learning in the Science Content Area: A Case Study on Using a Discrepant Event Demonstration and Critical Reflection with Pre-service Elementary Science Teachers

Puneet Gill

An often-overlooked idea is that science requires the support of community efforts and should promote informal science learning experiences (National Science Teachers Association, 2017). In teacher preparation programs, pre-service teachers should understand science is connected to the community, and not an isolated activity discussed solely in schools. Science can enhance communication skills and mathematics. It also utilizes first-hand exploration of inquiry and process skills (National Science Teachers Association, 2017). This article aims to discuss a case study where elementary pre-service teachers were asked to participate in service-learning experiences at a Boys and Girls Club. Teachers were asked to apply science pedagogical techniques, mathematics, and technology applications alongside discrepant event demonstrations. They were also asked to improve their teaching techniques over a period of a week through the DEAL (Describe, Examine, Articulate Learning) model worksheet (PHC Ventures, 2017). This model enabled them to examine the experience in light of their learning goals, and to “articulate their learning” after the service-learning field experience was complete. This article discusses how teachers can effectively scaffold science pedagogy, STEM (Science, Technology, Engineering and Math) concepts, and technology in a discrepant event demonstration while undergoing a critical reflection process.

Service-learning field experiences extend application of classroom concepts to real world situations, especially in content areas. As it relates to the service-learning conducted in this book chapter, service learning is defined as a pedagogical strategy where students “participate in a credit bearing course which is paired with an organized community service” (Bringle & Hatcher, 2009). It is also characterized as promoting civic responsibility through critical reflection and as a reciprocal learning relationship with the community organization involved. A meta-analysis of 62 studies with over 11,000 students suggests that service-learning promotes advancement in five areas: “attitudes towards self, attitudes towards school and learning, civic engagement, social skills and academic

performance” (Celio, Durlak & Dymnicki, 2011, p. 175).

An often-overlooked idea is that science requires the support of community efforts and should promote informal science learning experiences (National Science Teachers Association, 2017). In teacher preparation programs, pre-service teachers should understand science is connected to the community, and not an isolated activity discussed solely in schools. Science can enhance communication skills and mathematics. It also utilizes first-hand exploration of inquiry and process skills (National Science Teachers Association, 2017).

Changing ideas about the nature of science support this assertion. Scientific literacy is developed

through student “habits of mind”. These “habits of mind” may include acquiring skills to engage in scientific literacy such as “acquiring skepticism, maintaining open-mindedness, evoking critical thinking, recognizing multiple forms of inquiry, accepting ambiguity and searching for data-driven knowledge” (Zeidler et. al, 2005, p. 358).

Pre-service teachers can help develop habits of mind when they are in actual teaching experiences observing children going through these processes. Service-learning field experiences are ideal for developing pre-service teacher habits of mind and showing them science is messy, difficult, and requires the evaluation and application of evidence. This can be accomplished through discrepant event demonstrations, which are investigations with unexpected outcomes that engage curiosity. During community-based discrepant event demonstrations, pre-service teachers are able to change their epistemological understanding of science through critical reflection on pedagogical techniques.

This article aims to discuss a case study where elementary pre-service teachers were asked to participate in service-learning experiences at a Boys and Girls Club. Teachers were asked to apply science pedagogical techniques, mathematics, and technology applications alongside discrepant event demonstrations. They were also asked to improve their teaching techniques over a period of a week through the DEAL (Describe, Examine, Articulate Learning) model worksheet (PHC Ventures, 2017). This model enabled them to examine the experience in light of their learning goals, and to “articulate their learning” after the service-learning field experience was complete.

This article discusses how teachers can effectively scaffold science pedagogy, STEM (Science, Technology, Engineering and Math) concepts, and technology in a discrepant event demonstration while undergoing a critical reflection process.

Literature review

Projects that involve STEM education components and critical reflection can be successfully paired with science based service-learning projects. One such initiative began with the Kennedy Longfellow School (K-Lo) in Cambridge, Massachusetts. The aim of the service-learning project was to integrate life science curriculum with a study of invasive species on biodiversity and connect local students with service-learning initiatives. Lesser, Dunne & Fraszewski (2014) indicate this community project utilized multiple partners: a local community organization that advocated for the inclusion of native species, a community garden group that sustained local urban gardens, a local community center that offered service-learning opportunities for students, and the math and science department of a local college that assisted in curriculum planning. The project included introducing students to a curriculum of environmental issues and native species. It also provided curriculum enhancements encouraging students to conduct biodiversity assessments of the area around the school (Lesser, Dunne & Fraszewski, 2014). Once students identified local issues, they were then asked to focus on the environmental problem and propose solutions. The culmination of the project included a portfolio that contained information related to his/her brochure, calculations of model formation, reflections on group experiences and a presentation of findings (Lesser, Dunne & Fraszewski, 2014). This project

highlighted the importance of the integration of mathematics and science in service-learning projects. The portfolio provided multiple assessment methods that helped students use formative assessments and critically reflect on their experiences and STEM components. Similar instruments such as reflection on group experiences, individual reflections, and the integration of STEM components are an important contribution to the discrepant event demonstration service-learning experience.

Positive experience with science education and service-learning, in conjunction with critical reflection, helps students learn in authentic contexts. In one such study, Ling-Ling (2012) describes a science sustainability service-learning project with 22 student volunteers that aided the set-up of a bioreactor for biogas supply in Chiang Rai, Thailand. The project itself helped students to engage in problem-solving through social situated learning where they contributed to a local community. The students were required to understand the working of a bioreactor and the principle of sustainability as part of this project. The renewable energy resource, biogas, was used to create economic values to villagers living in rural areas. The group of 22 students worked for 8-10 hours a day and were asked to complete an evaluation questionnaire as well as a reflection journal throughout the experience (Ling-Ling, 2012). The students rated the entire experience as valuable. They described connections between problem-based learning and community service learning experiences, and between prior science knowledge and these projects (Ling-Ling, 2012). The reflective questionnaire and journal in this study were valuable components students used to critically reflect on the service-learning experience. Ling-Ling

(2012) indicates students best understood the project through problem-solving and critical reflection where they learned from the community.

Studies indicate implementing service learning via the STEM model could help students obtain STEM jobs in the future. In one project, 6000 plus students engaged in STEM problem-based service-learning projects that focused on teacher development, instructional technology, professional learning communities, and higher ordered thinking skills (Newman, Dantzler, & Coleman, 2015). One of the projects studied examined extreme weather and created community awareness presentations. Another group of projects resulted in the creation of a greenhouse with local partners, the development of an amphitheater, water testing, and community cancer awareness. Overall, the study showed student increases in the areas of academic achievement, civic responsibility, and resiliency. Quality service-learning programs make a difference in reforming science curriculum and helping students achieve science at higher levels in STEM fields (Newman, Dantzler & Coleman, 2015).

In areas of academic achievement, (Longfield, 2009) maintains discrepant events are shown to engage students and promote deep learning. The outcomes in discrepant events are unexpected, allowing student beliefs to be made apparent. Students are then able to analyze previously held ideas using the lesson. In order for discrepant events to be successful, timing and a targeting are critical. Longfield (2009) also emphasizes the need for a hands-on, minds-on teaching approach and discipline specific content. The discrepant event should be introduced so that it is spontaneous yet makes con-

nections to teaching. This can be accomplished by introducing discrepant events either before or after teaching to identify inaccurate misconceptions as a way of targeting the concept. Most importantly, discrepant events should be introduced when students are ready to engage in pedagogical discourse or have a “need to know.” Lastly, follow-up or discussion of the activity after the discrepant event has occurred is critical to its success (Longfield, 2009).

During the discrepant event demonstration, the teaching strategy employed is of critical importance. In one study, student’s cognitive responses during discrepant event lessons was measured (Appleton, 1996). The study suggests the teaching strategy used by the teacher can alter the lesson. Different social settings and rules, the study states, resulted in different discourse patterns. The strategies employed were the Liem strategy where discourse was “followed by normal classroom pattern of teacher initiation-student response and teacher evaluation.” The Friedl strategy “where the pattern was mainly student-student taking turns... with some brief episodes of teacher initiation-student response-teacher evaluation.” Finally, the Suchman strategy where the approach was “Student initiation-Teacher response-Student evaluation” (Appleton, 1996, p.14). This study suggest the method students use to seek information and sources of information are determined from the teaching strategy. The Liem strategy, which is controlled by the teacher, does not maintain mutual understanding of concepts with students, but does provide scaffolding support. Small group context, found in the Suchman and Friedl methods, helps students with mutual understanding of ideas and can lead to the best cognitive development

(Appleton, 1996). This study highlights the need for the following strategies of teaching during discrepant events: teachers should neither confirm nor deny student solutions, the lessons should be carefully structured into units of work, students should interact in small groups, reflect in small and large group discussions, and teachers must ensure students know how information can be applied to the discrepant event demonstration (Appleton, 1996). Experiences that enhance science teaching can promote civic and academic engagement and personal growth of the teacher. The following case study utilizes the DEAL model, a critical reflection strategy, to help pre-service teachers have purposeful and deep reflections on the integration of pedagogical strategies alongside discrepant event demonstrations. The use of this model and the description of this method to teach pre-service teachers in elementary science is the focus of this book chapter.

Methods/Design of Service Learning Event:

In the summer of 2016, 26 pre-service teachers participated in the service learning experience at a Boys and Girls Club. Student ages ranged from 7-14 years old. They rotated between 10 stations of pre-service teachers, each of whom taught a discrepant event. Students worked in small groups of 2 or 3. The pre-service teachers were also asked to apply math skills using excel, follow questioning techniques, and incorporate a scientific literacy concept. The service-learning project was developed to prepare future elementary science teachers on methods for gathering, explaining and representing data in excel using frequency charts, line charts, bar charts, pie charts to compare data. Pre-service teachers demonstrated basic process skills in science that included: observa-

tion, classifying, inferring, estimation, measuring, safety, communicating, classifying, inferring, and predicting (Goldston & Downey, 2012). Pre-service teachers were also asked to develop inquiry-based questions from the following types: problem-posing, comparing and contrasting, measuring and counting, and attention focusing questions (Goldston & Downey, 2012).

Before the pre-service teacher’s participated in the discrepant event demonstrations, the purposes of service-learning and the DEAL model of critical reflection were explained according to the PHC Ventures, 2017 model. Pre-service teachers were also encouraged to write the DEAL model reflections together for deeper reflection. The pre-service teachers then completed the discrepant event demonstrations again the following day, and completed the DEAL model again with partners. Next, they were asked to upload it to Blackboard, an interactive teaching platform. The instructor was then able to assess whether or not understood and applied the pedagogical skills learned in class.

After the two day discrepant event demonstrations, the DEAL model was analyzed to reflect on ways it promoted critical thinking. The concept of service-learning was discussed with pre-service teachers prior to their attending the Boys and Girls Club in order for them to make direct connections between civic learning, academic components, and personal growth in the service-learning model. The DEAL model was analyzed for a group of two pre-service teachers by the instructor as a case study. Pre-service teachers were asked to formally write down what academic components they would teach children. They were also asked to reflect on what scientific literacy

component they would emphasize during the discrepant event demonstration to relate to civic engagement. The critical reflection using the DEAL model aided pre-service teacher personal growth. It allowed critical reflection of the service-learning components and the pedagogical strategies employed during the discrepant event demonstrations. A description of the DEAL model is given below:

The DEAL model

The DEAL model is an approach to critical reflection of service-learning experiences that consists of three steps: “1. Description of experiences in an objective and detailed manner 2. Examination of those experiences in light of specific learning goals or objectives. 3. Articulation of learning, including goals for future action that can then be taken forward into the next experience for improved practice and further refinement of learning.” (Ash & Clayton, 2009, p.41). The descriptive phase outlines where and when the experience took place, who was present, what others did and did not do, and the details of the experience. In the examination phase, pre-service teachers scrutinize their experiences in light of the goals and objectives. The intent is to aid pre-service teachers to think deeper and encourage other questions and issues for further discussion. Finally, the articulation of learning phase consists of four prompts: “what did I learn, how did I learn it, why does it matter, and what will I do in light of it?” The articulation of learning phase is the product of the entire reflection. It helps the learning experience to be recognized and allows the student to express it clearly by placing it in a context. It can articulate learning from either the personal, civic, or academic perspectives. (Ash & Clayton, 2009, p.43; Ash & Clayton, 2004). The next section will

discuss the specific case study analyzed for this book chapter.

Case Study: Elephant Toothpaste: Sam and Maria

During the service-learning event one popular discrepant event demonstration was “Elephant Toothpaste” conducted by Maria and Sam. In this demonstration, the pre-service teachers mixed yeast, dishwashing liquid, and hydrogen peroxide in different concentrations. The yeast released oxygen from the hydrogen peroxide and the mixture extrudes from the bottle as foam. In order to explain this chemical reaction, pre-service teachers recorded data on how long the reaction took and the approximate volume of the foam produced per second. Maria and Sam inferred the rates and time elapsed when different concentrations of hydrogen peroxide were added to the yeast and dishwashing liquid. They then created data tables and graphs to compare the rates of reaction and foam produced. Maria and Sam utilized the I-pads to manipulate and graph this data. The excel app can record and graph data immediately, so that evidence and explanation occur immediately after the demonstration. The flexibility of the I-pad helped pre-service teachers to demonstrate to children different ways of gathering and graphing evidence.

In order to demonstrate their understanding of pedagogical strategies, Maria and Sam created questions which neither confirmed nor denied the children’s assumptions. They also promoted small group discussion and used information from the discrepant event to explain science concepts. Misconceptions were discussed after the event and concepts were elaborated as well (Appleton, 1996; Longfield 2009). The pre-service teachers conducted the discrepant event demonstrations twice and wrote

their reflections using the DEAL model each day. The second day, Maria and Sam were asked to re-reflect for deeper understanding. In the following section, the DEAL model is analyzed in light of the Elephant Toothpaste discrepant event demonstration.

Elephant Toothpaste DEAL model Part I: Describe the experience

In this section, students objectively and with some detail described the experience (PHC ventures, 2017).

The reflection after the first day:

Maria and Sam explained where the event took place and how they began it. They described what pedagogical strategies were used to engage with the pre-service teachers. Materials were also described. The pre-service teachers described what was written on the index cards to help prepare them for the discrepant event demonstration. Finally, pre-service teachers described the context of the discrepant event. They discussed what was set up, who was present, and how the discrepant event demonstrations were timed.

Reflection after the second day:

Maria and Sam discussed the setting of the Boys and Girls Club: the staff, how the tables were arranged, how the staff helped with supplies, and the setting up the discrepant events. The pre-service teachers also went into detail about the necessary materials, such as I-pads and index cards, needed for the discrepant event and their arrangement for maximum visibility. Maria and Sam discussed how they ensured safety by creating a buffer in front of the table with painting tape. They used a plastic tablecloth, gloves, goggles, aprons, aluminum pans, food coloring, mixing spoons, and glass containers. They brought enough materials for 6-7 demonstrations. The methods of

disposal and cleaning supplies and the need for separate demonstration containers was also discussed. Lastly, Maria and Sam described how they would take turns asking and answering questions and pedagogical techniques using the index cards with their partners.

Elephant Toothpaste DEAL model Part II: Examine the Learning

In this section students examined their experience through the learning goals of the classroom (PHC ventures, 2017).

These are the learning goals for the discrepant event demonstrations:

1. Use effective questioning techniques. Basic questions included problem-posing, comparing and contrasting, measuring and counting, and attention-focusing (Goldston & Downey, 2012).
2. Basic process skills included observation, classifying, inferring, estimation, measuring, safety, communicating, classifying, inferring, and predicting (Goldston & Downey, 2012).
3. Discuss scientific literacy in the discrepant event demonstration in a follow-up discussion and address any misconceptions children may have. Pre-service teachers discussed the meaning of scientific literacy prior to the discrepant event demonstration. The definition of scientific literacy for the purpose of this service-learning activity is, “The knowledge and understanding of scientific concepts and processes required for personal decision-making, participation in civic and cultural affairs and economic productivity” (NRC, 1996, p.22).
4. Integrate a math application in the form of one or more graphs utilizing I-pads for immediate examination of evidence.

Examine the learning after the first day:

Sam and Maria described the importance of asking questions and basic process skills to engage pre-service teachers. They also discussed the need for teaching information related to the chemical reaction and for safety during the discrepant event demonstrations. As they discussed safety in this section, they made a connection to the civic engagement ideas. They discussed ways this discrepant event could be used to warn the public about household chemicals and inform the public about hazardous chemicals. They spent a lot of time discussing the need for future teachers to be able to use discrepant events in their teaching practice and some basic process skill that could be integrated.

Examine after the second day:

Maria and Sam discussed how they refined basic process skills, questioning techniques, and science concepts explained in order to conduct the demonstration. Maria and Sam went into detail about how they promoted scientific literacy by discussing the safety of household chemicals. They also went into detail about the importance of neither confirming nor denying evidence about the event, and the use of a problem-posing question to start the discrepant event demonstration. Here, they described how each demonstration improved because of better organization. They also described how they used different concentrations of hydrogen peroxide to change the rate and time the elephant toothpaste came out. This helped with better questions for the children and allowed them to change the rate and time graph right after they changed the concentration of hydrogen peroxide. Pre-service teachers also noted the math and science connections was improved with children. They noted they

needed to ask higher ordered questions because of the feature in excel that allows the graphs to change immediately when new information is entered into the data table. Sam and Maria used these connections to allow children to change the data in the table and to see the rate and time graph change as well.

Elephant Toothpaste DEAL model Part III: Articulate the learning

Pre-service teachers used the following prompts to write about articulating their learning in this section.

- “I learned that”...
- “I learned this when”....
- “This learning matters when”...
- “In light of this learning”... (PHC ventures, 2017)

Articulate learning after the first day:

Maria and Sam discussed the need for promoting science in the classroom and the need for pre-service teachers to understand science concepts explained. They discussed the issue with classroom teachers who only use textbooks and the need to use specific skills to engage pre-service teachers in science as it relates to their everyday lives. They described the need to change the format of the demonstration and the methods of questioning and the importance of this information to children and the community.

Articulate learning after the second day:

Teachers described each of the service-learning goals in detail. Maria and Sam described the importance of teaching children about the nature of household chemicals. They also described what could be done to improve each of the goals for this discrepant event demonstra-

tion. Maria and Sam articulated the need to practice the different concentrations and resulting reaction rates in advance. They highlighted the need for children to actively participate by filling in the table during the demonstration. In this manner, children were able to see how the data effected the rate and time graph. Maria and Sam also articulated the need for safety and to reinforce safety concerns to children. They suggested children sign a safety contract in order to emphasize the importance of safety issues. Other suggestions included use of diagrams and large color visuals to explain oxygen and how soap can “cover it” to cause foam.

Maria and Sam made connections to other discrepant event demonstrations which could be paired with the Elephant Toothpaste discrepant event to target specific misconceptions about oxygen. For example, they suggested a discrepant event which demonstrates air exists in a bottle using an inserted balloon could be paired with Elephant Toothpaste as a complementary explanation. The air pressure discrepant event helps children understand air is present in the atmosphere and has physical properties. In regards to personal growth, pre-service teachers explained the application of the constructivist method in science teaching. They also discussed cognitive disequilibrium after they posed questions to children. Finally, the use of timing to help children critically think and correct misconception was addressed.

Discussion:

Service-learning “is a form of experiential education” and a teaching and learning strategy that involves collaboration in order to promote civic, personal and academic engagement (Ash & Clayton, 2004, p.138). In light of this model of service-learning, pre-

service teachers were asked to reflect using the DEAL model after they conducted discrepant event demonstrations at the Boys and Girls Club. In this particular example, Maria and Sam utilized the DEAL model alongside to reflect on discrepant event demonstrations and to promote service-learning is significant in several ways: 1. Pre-service teachers understood and applied service-learning as it connected to civic learning, academic content and personal growth, 2. Pre-service teachers applied pedagogical concepts to critically think about and alter teaching practices and 3. Pre-service teachers scaffolded discrepant events by making connections to other classmates in order to plan lessons according to information presented.

Pre-service teachers were asked to complete extensive reflections from one day to the next. The time and effort used to describe the projects in the three prompts helped pre-service teachers to articulate with great detail the importance of mindfulness and critical inquiry in student teaching. As shown in the case study, Maria and Sam wrote with much more detail from day one to day two. Between these two days, the professor discussed, with examples, what should be written in each section and re-articulated learning goals for the class. Thus, Maria and Sam wrote about their experiences with rich detail and generated new learning about these experiences. Specific pedagogy like wait time, questioning techniques and timing were also practiced. More importantly, pre-service teachers learned about other discrepant events in class discussions and realized curricular connections that could be used to strategically scaffold discrepant event demonstrations in the future. Thus, as Ash & Clayton (2004) discuss, students articulated learning and provided evidence of stu-

dents learning outcomes. This helped pre-service teachers develop a deep understanding of the issues children experienced.

When pre-service teachers balanced conducting the demonstrations, asking questioning and integrating basic process skills and technology, they better understood the complexity of the issues, what factors contributed to or detracted from their situations and to understand how they could be agents of change in these situations (Ash & Clayton, 2004).

The DEAL model, when used with pre-service elementary science teachers, can be used to effectively promote civic engagement, academic learning and personal growth by enabling pre-service teachers to critically reflect on how their experiences have changed from one experience to another and to help generate new meaning of course content for future use. In particular, pre-service teachers liked the act of doing using constructivist-based philosophy with science demonstrations in order to see cognitive disequilibrium in action. Pre-service teachers also saw explicit connections to these demonstrations and to scientific literacy.

Maria and Sam found connections to safety in household chemical use and also connected this learning to prior knowledge to make connections to civic understanding and scientific literacy. According to Madden, Seifried, Farnum & D’Armiento (2016) a discrepant event demonstration that involves dissolving packing peanuts in acetone can help pre-service teachers develop inquiry-based lessons. Conducting demonstrations with invisible structures can help children model invisible interactions, stimulate curiosity and help students make real-world connections

(Madden, Seifried, Farnum & D'Armiento, 2016). This discrepant event Maria and Sam conducted, elephant toothpaste, similarly helped children visualize the invisible world and how conceptually difficult chemical reactions take place. Children teachers need to make connections between prior knowledge and new concepts being learned. Children are able to engage in science learning when they confront the fallacy of their own misconceptions and explain this new information. This is when learning occurs (Abdi, 2006). Experiences as these, when used with specific learning goals can help students realize proper pedagogical techniques – small group discussions, identifying misconceptions, and neither confirming nor denying solutions, and to support understanding of content in scaffolded ways (Longfield, 2009; Appleton, 1996). Discrepant event demonstrations can also be used to target scientific literacy, to promote application of scientific content to everyday lives and to create a more informed citizenry. Most importantly, this service-learning experience helped pre-service teachers develop a deep conceptual awareness of the pedagogical strategies needed to promote civic competency alongside academic and personal growth as a science teacher. Pre-service teachers envisioned themselves as pedagogues, generated new ways of incorporating concepts for children and developed the confidence to become thoughtful and reflective practitioners.

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About the Author:

Dr. Puneet Gill is an Assistant Professor in the Department of Curriculum & Pedagogy at Texas A&M International University. Dr. Gill teaches aspiring teachers in the Department of Curriculum & Pedagogy. She has published articles relating to STEM education and educational practice in the *National Teacher Education Journal* and in *Sex Education: Sexuality Society and Learning*.

ESP Bookshelf: Grit, Resilience, Persistence, and Determination

Dr. Rebekah Miller-Levy

There were many requested topics for this year's Bookshelf. As I attempted to narrow down the list, I realized all the topics had one theme in common – how can we help our students survive and flourish in extremely difficult conditions. Instead of addressing each request individually, this Bookshelf addresses character traits that help students negotiate a difficult world.

This is a partial bibliography of resource, picture books, novels, and informational texts dealing with grit, resilience, persistence, and determination.

Teacher Resources

Duckworth, A. (2016). *Grit: The power of passion and perseverance.* NY: Schribner. ISBN: 978-1501111105. Children and young people often think success depends on intelligence. Duckworth debunks the intelligence myth with personal experience and research on how passion, persistence, and interest drives success, not intelligence.

Ginsburg, K. R. (2014). *Building resilience in children and teens: Giving kids roots and wings.* NY: American Academy of Pediatrics. ISBN: 978-1581108668. Ginsburg adds to the discussion on student success by proposing that adults help young people develop the “seven crucial ‘C’s – competence, confidence, connection, character, contribution, coping and control.” Includes access to 15 cloud-based videos.

Namka, L. (2014). *Lesson plans for teaching resilience to children.* NY: CreateSpace Independent Publishing. This is a how-to book to help teach the resilience which leads to effort, success, and happiness. Includes practical lessons and strategies ready to use in the classroom tomorrow.

Sanguras, L. (2017). *Grit in the classroom: Building perseverance for excellence in today's students.* NY: Prufrock Press. ISBN: 978-1618216311. Sanguras, a former middle school teacher, helps educators create classroom environments that support excellence in all students, regardless of ability by focusing on grit. Each chapter includes specific examples research presented through classroom vignettes and questions to further discussion.

Schiraldi, G. R. (2017). *The resilience workbook: Essential skills to recover from stress, trauma, and adversity.* NY: New Harbinger Publications. ISBN: 978*1626259409. Although written as a self-paced workbook for adults, *The Resilience Workbook* can easily be modified to use with young people. Includes best practices for developing skills to bounce back from difficult times. Includes specific skills to manage and prevent anxiety and depression.

Tough, P. (2012) *How children succeed: Grit, curiosity, and the hidden power of character.* NY: Mariner Books. ISBN: 978-0-547-56466-1. Tough argues that intelligence, test scores, and genius are not the factors that produce success in life. Instead, he proposes and supports with research the idea that it is perseverance, curiosity, optimism and self-control that help people succeed.

Student Resources (Picture Books)

Bagert, B. (2016). *Captain Perseverance: How I became a superhero.* Juliahouse. ISBN: 978-0996466554. Captain Perseverance uses the skills of grit, perseverance, resilience, and determination to turn from a small boy into a superhero. Graphic Novelish. First book in *The Grit Alliance* series.

Blabey, A. (2009). *Sunday Chutney.* NY: Front Street. ISBN: 978-1590785973. Always the new girl in school because her father's job requires moving often, Sunday rolls with the flow because she likes being along and having imaginary friends. Moving is not so bad because imaginary friends always move too. There is a down side to always being on the move and Sunday knows it but she never lets the down side overwhelm her.

Jordan, D. and Jordan, R.M. (2003). *Salt in his shoes; Michael Jordan in pursuit of a dream.* NY: Simon & Schuster Books for Young Readers. ISBN: 978-0689834196. This is the story of world famous basketball player, Michael Jordan, before he was word famous, before he was even a basketball player. Written by Jordan's mother and sister, *Salt in his Shoes* is an honest look at how "practice, determination, and giving your best" were the keys to Jordan's success.

Judge, L. (2014). *Flight School.* NY: Atheneum Books for Young Readers. ISBN: 978-1442481770. Penguin wants nothing more than to soar like an eagle. Never mind that his body is not built to fly or that no one believes he can do it. Penguin refuses to accept defeat as he searches for a way to fly.

Paley, D. (2015). *Luigi and the barefoot races.* NY: Tilbury House Publishers. ISBN: 978-0884483977. Luigi is not the strongest kid on the block, nor is he the biggest but he does not let that stop him because he is the FASTEST. At least he always has been. What will happen when he faces the biggest racing challenge of his life?

Shepherd, J. (2015). *Perseverance: I have grit!* NY: C. Press. ISBN: 978-0531213797. Part of the Rookie Talk About It series, this book focuses on the importance of hard work, patience, compromise and considering others' point of view. Includes examples of decision making for perseverance, discussion questions, character quiz at the end of each chapter, and a glossary.

Spires, A. (2014). *The most magnificent thing.* NY: Kids Can Press. ISBN: 978-1554537044. No longer satisfied with creating any old thing, a young girl sets out to create the most magnificent thing ever invented. The reader travels along on the journey that includes initial excitement, determination to succeed, the confidence drain of unsuccessful drafts, through the giving up and persevering stage to the final product.

Tatum, B. (2017). *The Adventures of Grit.* NY: Spork. ISBN: 978-1946101501. Grit and his friend, Chicken go on all kinds of adventures and get into impossible situations. Using all his skills of perseverance, determination, resilience, and optimism, Grit helps Chicken enjoy sometimes scary and sometimes difficult adventures without giving up and going home.

Viorst, J. (2014). *And two boys booed.* NY: Farrar, Straus and Giroux. ISBN: 978-0374303020. On the day of the talent show, the boy is ready to belt out his song with vigor and style, however, the closer it comes to being his turn, the more nervous he gets. Includes 10 lift-up flaps with hidden information.

Student Resources (Novels)

Amato, M. (2011). *Invisible lines.* NY: Egmont USA. ISBN: 978-1606841877. Trevor moves to the Projects but is bused to a wealthy school. A computer glitch puts him in advanced science. He loves it. Life at home is tough and school is his way out. For the first time ever, he loves school; however, he is just waiting for someone to figure out the mistake. Includes Trevor's Interactive Science Notebook.

Bauer, J. (2017). *Soar.* NY: Puffin Books. ISBN: 978-0147513151. Jeremiah loves everything about baseball. He loves playing it more than anything. After being diagnosed with a severe heart condition, playing baseball is no longer an option. How does Jeremiah find a new meaning for his life without his beloved sport?

Blejwas, E. (2017). *Once you know this.* NY: Random House. ISBN: 978-1524700980. Brittany's life is hard. There is never enough money, never enough time to be a kid. Always too much worrying about her sick grandmother and scary stepfather. Brittany needs a new plan so she can save herself.

Ellis, A.D. (2017). *You may already be a winner.* NY: Dial Books. ISBN: 978-1101993859. Olivia wants nothing more than to win a sweepstake so she, her mother, and little sister can move out of their ratty trailer and into a house. Entering 14 contests a day, missing school to care for Berkley, and taking care of everyone does not leave much time to be a kid. Can Livy discover that she is braver and stronger than she ever imagined?

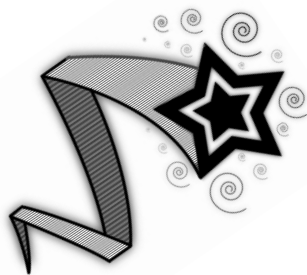
Gardiner, J. R. (2010). *Stone Fox.* NY: HarperCollins. ISBN: 978-0064401326. Willy is faced with the impossible. His grandfather has given up and it is up to Willy to save the family farm. Through hard work, clever

thinking, and a little luck, Willy might just have a chance.

- Hoge, R. (2015).** *Ugly*. NY: Puffin Books. ISBN: 978-0425287750. Robert was born with a tumor smack in the middle of his face and legs that were too short and too twisted. Readers who enjoyed *Wonder* will find another hero in Robert. Includes many photographs of the author growing up and a Q&A in which he discusses bullying, being different, and how he learned to love himself.
- Leal, A.H. (2011).** *Also known as Harper*. NY: Square Fish. ISBN: 978-0312659349. Harper's alcoholic father leaves her family and money becomes a huge problem. She wants nothing more than to win the school wide poetry contest but when they lose their house, the poetry contest is the least of her problems.
- McGovern, C. (2016).** *Just my Luck*. NY: HarperCollins. ISBN: 0062330659. It's not Benny's fault he cannot ride a bike and George can AND Goes is autistic. It might have been Benny's fault his Dad has brain damage from falling on his head even though his mom says it is not. It might be his fault the whole family is stuck in a bad luck spot. Can Benny find his good luck again or is he destined to be unlucky forever?
- Schindler, H. (2014).** *The junction of Sunshine and Lucky*. NY: Dial. ISBN: 978-0803737259. Auggie Jones loves her life living with her grandfather, the town junk man. She does not feel different or poor until the town closes her school and she is bused across town. Suddenly, Auggie feels differently about her life and she does not like it. What will she do to get her comfortable life back?
- Olson, G. (2008).** *Call me Hope*. NY: Little, Brown Books. ISBN: 978-0316012393. Hope's mother is horribly abusive – not with blows, but with words that eat at Hope's self-image. Difficult to read at places because Olson captures the heartbreak of an abused child so well.

Student Resources (Informational)

- Espeland, P. and Verdick, E. (2006).** *Proud to be you: The positive identity assets*. NY: Free Spirit Publishing. ISBN: 978-1575422022. A collection of stories, tips, and ideas to help students build the Positive Identity Assets of personal power, self-esteem, sense of purpose, and a positive view of their personal future. Part of The Adding Assets Series for Kids.
- Moss, W. L. (2010).** *Being me: A kid's guide to boosting confidence and self-esteem*. NY: Magination Press. ISBN: 978-1433808846. A self-help guide for children focusing on the idea success is not only based on intelligence, beauty, or popularity. She focuses on inner self-esteem and building social confidence as the gateway to success.
- Moss, W. L. (2015).** *Bounce back: How to be a resilient kid*. NY; Magination Press. ISBN: 978-1433819223. Why do some people bounce back and others fall to pieces when faced with a difficult situation? Moss shows young people how to become empowered by taking control of their reactions to the world around them. Includes self-assessment quizzes, real life examples, and specific strategies to use for different life events.
- Sullivan, L. (2013).** *How to get unstuck from the negative muck: A kid's guide to getting rid of negative thinking*. SOLNA Investments. ISBN: 978-0985360924. This interactive book uses cartoons and journal exercises to help you learn to process negative thoughts quickly and effectively so children control their own mood.



Tarleton Stars



Tarleton Stars is an award given to current and past Tarleton students based on recognition for outstanding contributions in the classroom. Administrators, faculty members and ESP members are all eligible to nominate candidates for this award. Nominations for 2019 must be submitted to Julie Howell, JESP Editor and received by January 15, 2019.

2018 Tarleton Stars Recipients



Jayden Reynolds is a lifelong resident of Glen Rose, TX, where he graduated high school in 2015. After high school, he enrolled at Tarleton and began studying middle school math education. While at Tarleton, he was involved with Tarleton Educators for the Advancement of Mathematics (TEAM), as well as Renaissance Scholars. Jayden graduated with honors in August of 2018.

Mr. Reynolds was able to graduate two semesters early and participate in the TMATE program, which allowed him to do a year-long internship to complete requirements for teacher certification. He currently teaches 6th, 7th, and 8th grade math, as well as 6th grade world geography at Morgan Mill ISD. Jayden also coaches boys' athletics, which includes football, basketball, and track. Mr. Reynold's goal as a math educator is for students to learn as much as they can about mathematics, while also erasing any negative feelings or misconceptions about math. Jayden is currently enrolled full-time in graduate school at TSU, pursuing a degree in curriculum and instruction.



Katelyn Veteto realized her passion of working with children who have special needs while still in high school. She worked with a young boy with Autism and began researching the disorder on her own. Upon graduation from Bosqueville High School in 2014, she played college softball for one year before suffering an injury. She then made the decision to move to Stephenville and attend Tarleton State University. While there she found a support system, family, and life passion which proved to drive her success. Katelyn fulfilled her dream of working with children who have intellectual disabilities by graduating with a Bachelor of Science degree in Special Education. She credits the support and encouragement of her professors for guiding her into a career path that ignites her passion.

Katelyn now works as a middle school special education teacher and has the opportunity to change the lives of students with intellectual disabilities every day. She gives thanks to Tarleton for helping turn her dream into a reality. She loves her Tarleton family and is blessed to be living her dream through teaching.



On-Line Nomination Form

Describe in narrative, the significant accomplishments of the nominee and why you believe they should be recognized as a Tarleton Star in the 2019 edition of *The Journal of the Effective Schools Project (JESP)*.

Submit nominations on-line to

<http://bit.ly/tarletonstar>

Please send a digital photo to Dr. Julie Howell (jhowell@tarleton.edu) no later than January 15th, 2019.

Remember, nominees must be either a current student or graduate of Tarleton State University.

Preferably, the digital photo of your nominee should be an action in teaching or other working situation.

Call for Papers

The Effective Schools Project (ESP) at Tarleton State University is dedicated to the goals of improving school effectiveness, raising the achievement level of public school students, and improving the professional development of pre-service and in-service educators. Established in 1988, *ESP* seeks to unite the efforts of public school educators and university faculty in striving for continuous improvement.

The official publication of ESP is *The Journal of the Effective School Project (JESP)*. The journal is dedicated to the dissemination of information, ideas, and research among the participants in ESP, as well as other interested educators. Published annually, each issue of the journal focuses on a particular theme, but consideration is given to non-thematic articles.

The theme for the 2019 edition will focus on the power and importance relationships. We are excited to celebrate 30 years of partnerships with surrounding school districts. Action research regarding engagement with the community and students in the classroom are welcome. Therefore, engagement practices considering all students' (PK-12) diverse learning and social needs will allow readers to reflect and consider engagement practices at their respective schools and communities.

Specifically, discourse regarding school choice and the offerings of public schools, making them the best choice for students in K-12 education. We hope to be able to offer practical solutions educators are willing to implement in the K-12 setting.

Volume XXVI 2019

“The Power of Relationships: Celebrating 30 Years of Partnership”

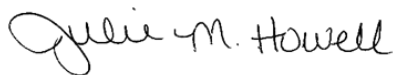
Submission Deadline: January 15, 2019

THE JESP SUBMISSION PROCESS...

JESP has moved all submissions and reviewing to an online system to better meet the needs of the ESP schools and authors who share their work with us. To submit a manuscript for review with *JESP*, please go to <http://www.thejesp.org> and click on For Authors.

Follow all instructions for registering with us and upload your manuscript. You will hear from us soon.

Sincerely,



Julie M. Howell, Ed.D., Editor

Manuscript Submissions

The Journal of the Effective School Project solicits articles dealing with field-based, or action research; descriptions of successful programs or practices designed to promote school improvement or increase student achievement; the application of effective schools research to the design and delivery of educational programs; descriptions of classroom practices or instructional strategies; position papers; reviews of literature; or historical perspectives. Generally, articles selected are those written in an informal, practical, and readable format.

The Journal of the Effective School Project editorial committee will evaluate articles submitted for publication consideration. Manuscripts must adhere to the following guidelines to be considered:

1. **Length:** The manuscript, including references, charts and tables generally should not exceed ten typewritten pages.
2. **Style:** Manuscripts must conform to the *Publication Manual of the American Psychological Association* (2009, 6th ed.).
3. **Cover Letter:** Submit a cover letter explaining the relationship of the article to the theme of the journal. Indicate that the article represents original material and is not currently under consideration by any other publication.
4. **Cover Page:** Include the following information on a separate sheet: title of the manuscript; author's name, complete mailing address, business and home phone numbers, institutional affiliation and address; biographical information about each author (not to exceed 50 words per author).
5. **Abstract:** Following the cover page, submit an abstract of 100 to 150 words and short biography of the contributing authors.
6. **Photographs:** All photos embedded in the manuscript must have participants' permission to be included in the manuscript for possible publication. Students who are younger than 18 years old must have guardian consent for their photographs to be displayed in the manuscript for possible publication. Space is limited. Please submit only 1 or at most 2 photos if your manuscript requires photos.
7. **Figures/Tables/Charts:** Again, due to limited space, a **maximum of one (1)** figure, table, or chart no larger than a standard published page will be allowed.

SEE EXAMPLES OF PAST MANUSCRIPTS:

JESP: <http://www.tarleton.edu/ESP/Journal/index.html>

Authors Register and Submit manuscripts at <http://www.thejesp.org>

After initial review by the editor, articles that meet editorial specifications will be sent to the Editorial Committee. The journal editor reserves the right to make editorial changes, but any proposed changes will be discussed with the primary author prior to publication.



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Journal of the Effective Schools Project



The Jim Boyd Effective Schools Project

Tarleton State University's Effective Schools Project (ESP) has evolved into one of the nation's largest and longest running school improvement ventures. With the Effective Schools research as its foundation, ESP is a school improvement network linking the Tarleton faculty and campus leadership teams from over seventy Texas schools in an ongoing study and dialogue designed to enhance school effectiveness.

Effective Schools Conferences Effective Schools Conferences are at the heart of ESP. This annual series of conferences and seminars provides members with current research and theories, as well as practical methods and strategies from the nation's most prominent educators and reformists. The conference series is organized around a school improvement theme broadly associated with one or more of the correlates of Effective Schools.

Campus Planning Retreat In March, ESP leadership teams are invited to attend a planning retreat. During the retreat, school leadership teams are able to evaluate their school year to date, to reflect on the research and other information received at ESP conferences, to refine their campus improvement plan, and to exchange ideas, goals, and triumphs with other campus teams.

The ESP Journal *The Journal of the Effective Schools Project* is the official publication of ESP. The journal is dedicated to the dissemination of information, ideas, and research among the participants in ESP, as well as other interested educators. Published annually, each issue of the journal focuses on a particular theme, but consideration is given to non-thematic articles.

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For more information about The Jim Boyd Effective Schools Project, please contact:

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817-314-1072
winn@tarleton.edu

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