

*ArATE Electronic Journal*  
**Volume 10, Number 1**  
**Spring 2020**

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# **Interpreting Evidence of Impact: Utilizing Visible Learning and Professional Learning Communities in Teacher Education Programs for Continuous Improvement**

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## **Abstract**

Professional learning communities (PLCs) have been endorsed as an effective method to develop educators and change schools (Moser, 2019). PLCs in higher education could be equally valuable (Moser, 2019). This study was designed to examine how PLCs can be used at a public four-year higher education institution located on four separate campuses in the teacher education department and related programs for continuous program improvement. Faculty involved in the study completed a pre- and post-survey depicting their self-perceived beliefs and attitudes regarding professional practice before and after participating in PLCs. Data were analyzed using descriptive statistics for all five themes addressed in the survey after participation in PLCs. The results suggest that faculty perceptions were more positive after participation in PLCs.

## **Introduction**

### **What are PLCs?**

Professional learning is a continuous process that is both self-guided and active in nature (Curwood, 2015). It requires participants to learn, grow, practice, and reflect on their actions and of those around them. While participant learning is the primary goal in this process, the outcome is to be experienced by others. Professional learning can be optimized when participants work in groups, or communities, to maximize resources, access to information, and support one another. In schools and education organizations, professional learning occurs most effectively in professional learning communities. A professional learning community (PLC) is a whole group endeavor where educators are committed to working collaboratively in continuous cycles of inquiry and action research to achieve better results for the students they instruct (Dufour, 2004). Group members are dedicated to regular meetings around themes associated with effective teaching practices and enhancing student learning, through experimentation, analysis, reflection, with all teammates growing and improving their teaching and positively impacting student learning as the top priority (Roth, 2014). The purpose of this quantitative study was to examine how professional learning communities (PLCs) can be used in teacher education and related programs for continuous program improvement. Particularly in questions, how do teacher education department faculty use results from professional learning communities to inform professional practice for continuous improvement?

## **Literature Review**

### **The Work of PLCs**

PLCs have one main charge before them: to regularly work together to continually improve and grow in meeting students' needs through shared ideas, values, and efforts (Hilliard, 2012). Through this charge, PLCs can strategically work through their personal and team instructional weaknesses to positively impact student learning in the classroom via a real and systemic change process. In the silo that is classroom teaching, this is no easy task. It demands professional learning communities to establish a clear and understood focus, that is about

students and shared by all team members. This clear focus on students' learning needs necessitates the teachers' learning needs (Brodie, 2013). Likewise, the primary purpose of PLCs is to enhance teacher effectiveness for all students' benefit, with the ultimate outcome of PLCs to be felt by students (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006).

To complete the work effectively, PLCs need to answer three critical questions: what is it we want our students to learn; how will we know when each student has learned it; and, how can we improve on our current status of student achievement (Feger, 2005). These questions guide the meeting to meeting work while ensuring the focus remains on message, which is our students need to learn more and at higher levels. When the core focus is on student learning, it helps educators' thinking shift from making sure courses are taught to ensuring students learn, or better yet, a shift from focusing on planning to improve to a culture of actual improvement (Eaker & Sells, 2016). To better focus on student learning and answer those three critical questions, educators must gather student formative assessment data and analyze that data through the lens of professional practice. Utilizing formative assessment data is most effective as it provides information to both students and educators about the current level of student content understanding. In fact, Marzano believes that formative assessment is one of the most powerful tools in a teacher's tool belt (Eaker & Sells, 2016). After all, the quality of a school is only as good as the quality of its educators (Dufour, 2004).

### **Why PLCs?**

Professional learning communities have been pushed for more than 20 years as an effective method to provide professional growth for educators and structural transformation in K-12 settings (Moser, 2019). In a synthesis of studies on PLCs, Vescio and colleagues found that learning communities promote collaboration between faculty, a focus on student learning, a sense of authority for participants, and a commitment to continuous learning (Roth, 2014; Terry, Zafonte, & Elliott, 2018). With such a solid research base, it is easy to see why schools and educators believe PLCs are a viable tool for overall school improvement. PLCs offer the structure, the time, and the method for getting the real work done.

The research proposes that educators learn best in collaborative settings (Wayman & Jimerson, 2014). However, the latest studies suggest that teaching still remains a mostly isolated vocation, with limited opportunities for teachers to learn as a cohesive group (Feger, 2005). This continues to be a barrier in our schools, hindering large group or whole school reforms from taking root and growing to full-scale reform. Utilizing PLCs can be a game-changer for the professional as a whole. Participation in a PLC offers opportunities for educators to build relationships with their peers and allow them to appreciate what they can offer in terms of instructional skills and abilities (Bedford & Rossow, 2017). Through PLCs, educators can share what they are doing that is working in a low-risk, high-value environment. PLCs can be a way for insulated professionals to work with their colleagues in those essential behaviors that lead to developing relationships and improving skills (Bedford & Rossow, 2017).

Moving toward full implementation of PLCs in organizations is not easy or without opposition. PLCs are a change in mindset, moving away from traditional teaching practices of working in isolation to more collaborative and collective teaching practices that focus on student learning that ultimately can alter a school's culture (Kociuruba, 2017). Some educators will not understand the need for such a shift in thinking. Some educators may view this as yet another initiative that will fail in the end and, therefore, not worth the time and effort to join full-force. The capacity of a PLC comes from the use of best practices in our teaching, measuring our efficacy and impact, and team members committing to ongoing improvement as determined by

the success of students (Eaker, 2016). Educators should be encouraged that PLCs could be the answer to their feelings of isolation and lack of administrative support to be effective in the classroom.

### **PLCs in Higher Education**

The PLC model has afforded a road map for K-12 schools and, with some adaptation, could provide university faculty an effective means for improving student success (Eaker, 2016). The task for colleges and universities: to encourage these institutions that have a history of faculty working in silos to reorganize into groups utilizing collaborative teaming (Eaker and Sells, 2016). A plea for PLCs in higher education has been declared an effective means to enrich faculty development and raise student learning outcomes (Moser, 2019).

Fifty years of research shows access to college has more than doubled since 1980 while graduation rates remain at around 50%, with barely more than half of all four-year college students in the United States earning a bachelor's degree within six years (Eaker & Sells, 2016; Eaker, 2016). It is alarming to many that graduation rates remain stagnant while enrolling so many more students into degree programs. There is growing dissatisfaction with higher education over the lack of students obtaining degrees despite tuition increases, showing that increasing the cost of a degree does not positively correlate to degree completion (Eaker, 2016). This is causing the government to rethink what measures are used to evaluate accountability for higher education institutions. Some states are now rewriting funding formulas to link funding to student retention and graduation rates rather than students enrolled (Eaker & Sells, 2016).

University teaching can be lonely, colleagues working together very little, which can lead to feelings of isolation (Roth, 2014). Academic freedom and competitive scholarly work often result in faculty who are more hesitant and secretive about their classroom teaching, promoting isolation and hindering professional growth (Roth, 2014; Trust, Carpenter, & Krutka, 2016; Terry et al., 2018). Research work often involves robust networks of support, while classroom teaching lacks such collaboration (Cox, 2004). Creating and sustaining PLCs in higher education affords professional growth opportunities for faculty who focus more on their scholarship and struggle in their teaching (Roth, 2014).

### **Visible Learning Tenants**

The VL story contends that learning is maximized when educators see teaching and learning through students' eyes, and when students become their own teachers (Hattie, 2015). Know thy impact—in all teaching situations, the fundamental question needs to be, "how will I know my impact today?" (Hattie, 2015). This focus on impact ties in fantastically with PLCs collaborative approach to analyzing student work in order to improve professional practice. Visible learning is less what teachers do in their teaching, but more how they think about their role. It is their way of thinking about teaching and learning that are most critical (Hattie, 2015). Faculty must push beyond merely collecting data, creating reports, and asking students to complete surveys, but become exceptional analysts of the evidence regarding their impact (Hattie, 2015). Improving student learning and thereby positively impacting overall graduation rates gravitates to the importance of developing university faculty to become more effective classroom teachers (Hattie, 2015).

## **Research Methodology**

### **Research Design**

The purpose of this quantitative study was to examine how professional learning communities (PLCs) can be used in teacher education and related programs for continuous

program improvement. We were seeking to understand how programs can use results from PLCs to inform professional practice and how participant's self-perceived beliefs and attitudes regarding professional practice change as a result of participation in PLCs. The research question for this study was as follows: How do teacher education department faculty use results from professional learning communities to inform professional practice for continuous improvement?

### **Participants**

The research was conducted at a public four-year higher education institution located on four separate campuses. A survey research design methodology was employed. Thirty-eight full-time faculty currently working in the teacher education department participated in PLC teams established by the department chair, and fifteen of those faculty completed the pre-survey and fourteen completed the post-survey following one semester of PLC implementation. While all department faculty participated in PLC teams, sixteen participants agreed to participate in the research study. There were fifteen faculty that completed the pre-survey and fourteen faculty that completed the post-survey. Of research study participants, four were male, and twelve were female. Eleven survey participants were full-time faculty with doctoral degrees in education and education-related fields. Five survey participants were full-time instructors with master-level degrees in education and education-related fields. Of particular interest to the researchers, half of those surveyed are in the bookend period of their higher education tenure: three with three years or less in higher education and five with thirty or more years in higher education.

### **Instrument**

The participants responded to a survey adapted by the researchers from an online source (*PLC Questionnaire*, n.d.) The survey was completed online anonymously through Google Forms. The survey contains thirty-one quantitative statement items, with two qualitative open-response questions added to the post-survey, which allowed participants to comment regarding participation at their discretion. The quantitative statements used a Likert-scale style with four options: strongly disagree, disagree, agree, and strongly agree, to gauge the participant's level of agreement or disagreement with the statement. These statements were to aid in determining themes based on the participant's self-perceived beliefs and attitudes regarding professional practice in areas related to shared leadership (data-based decision making, initiating change, access to key information), shared vision (collaborative processes, common vision), collective learning (collegial relationships, open dialogue, analyze student work), shared personal practice (coaching and mentoring, providing feedback, focus on improving student learning), and supportive conditions (culture of trust and respect, fiscal resources available, time for collaboration) (*PLC Questionnaire*, n.d.).

### **Procedures**

During the fall 2019 semester, faculty involved in the study completed a pre-survey expressing their self-perceived beliefs and attitudes regarding professional practice as a means for continuous improvement in the teacher education department and related degree programs. Next, PLC teams were established by organizing around course groups (like courses with different teachers on all campuses), content/track groups (STEM, reading pathway, for example), and program groups (Elementary Education, Reading Masters, and others). PLCs met at least two times over the semester using tenants from both professional learning communities and visible learning as a means to evaluate the impact on student learning, to discuss curriculum, analyze student work, develop formative assessments, and other related content. At the conclusion of the fall 2019 semester, faculty involved in the study completed a post-survey

depicting their self-perceived beliefs and attitudes regarding professional practice after participating in at least one PLC team.

**Data Collection and Analysis**

The participants were asked to complete a survey online on Google Forms, and the collection was anonymous and unpaired. All participants were invited to complete the survey. Of the participants in the study, fifteen completed the pre-survey, and fourteen completed the post-survey. At this early stage of the overall study, quantitative data was analyzed using descriptive statistics due to limited participant sample size and short time frame of implementation and participation in PLCs. Qualitative data from the post-survey was not analyzed.

**Results**

The research question for this study was as follows: How do teacher education department faculty use results from professional learning communities to inform professional practice for continuous improvement? Participants in the study completed a pre- and post-survey expressing their self-perceived beliefs and attitudes regarding professional practice as a means for continuous improvement in the teacher education department and related degree programs. Table 1 shows the descriptive statistics data for all five themes addressed in the survey for both the pre- and post-survey administrations. The four options for participant perception were grouped from four to two possibilities, strongly disagree/disagree and agree/strongly agree, to aid in data analysis. Theme means, overall means, post-survey standard deviations, and sample sizes are included in the table.

Table 1  
*Pre-Survey and Post-Survey Data Review*

Themes	Strongly Disagree/Disagree			Agree/Strongly Agree				
	Pre-survey	Post-survey	Difference	Post SD	Pre-survey	Post-survey	Difference	Post SD
Shared Leadership	36.50%	24.20%	-12.30%	1.05	63.22%	74.50%	11.28%	1.05
Shared Vision	39.96%	30.12%	-9.84%	1.52	60.02%	68.73%	8.71%	1.34
Collective Learning	45.76%	32.99%	-12.77%	1.73	54.06%	66.73%	12.67%	2.50
Shared Personal Practice	52.16%	48.55%	-3.61%	3.19	47.72%	50.90%	3.18%	3.19
Supportive Conditions	40.00%	40.16%	-0.16%	2.66	66.02%	59.16%	-6.86%	2.66
<i>Overall M, SD</i>			<i>-7.74%</i>	<i>2.03</i>			<i>5.80%</i>	<i>2.15</i>

Note: Pre-survey n=15;  
Post-survey n=14

The Collective Learning theme had both the most notable percentage decrease in disagrees and the most considerable percentage increase in agrees from the pre- to the post-survey, with -12.77% and 12.67%, respectively. This theme addressed the following statements on the survey:

1. Faculty members work together to seek knowledge, skills, and strategies and apply this new learning to their work. (Disagrees decreased 32.7% and agrees increased by 32.5%.)
2. Collegial relationships exist among faculty members that reflect a commitment to program improvement needs. (Disagrees decreased 26.7% to zero and agrees increased 26.4% to 99.7% total.)
3. Faculty members plan and work together to search for solutions to address diverse student needs. (Disagrees increased by 3.3% and agrees then decreased by 3.2%.)
4. A variety of opportunities and structures exist for collective learning through open dialogue.
5. Faculty members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.
6. Professional development focused on teaching and learning. (Disagrees increased by 2.8% and agrees decreased by 3%.)
7. Faculty members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.
8. Faculty members collaboratively analyze student work to improve teaching and learning. (*PLC Questionnaire*, n.d.)

The Supportive Conditions theme was just the opposite. From the pre- to the post-survey, this theme increased in disagrees by .16% and decreased in agrees by 6.86%. This theme addressed the following statements on the survey:

1. A culture of trust and respect exists for taking risks.
2. Time is provided to facilitate collaborative learning and shared practice. (Disagrees increased by 4%.)
3. Fiscal resources are available for professional development and training. (Agrees decreased by 16.2%.)
4. Appropriate technology and instructional materials are available to faculty members. (Agrees decreased by 15.7%.)
5. Communication systems promote a flow of information among faculty members. (Agrees increased 18%.)
6. Data are organized, made available, and easily accessible by any faculty member. (*PLC Questionnaire*, n.d.)

Notable data from the pre- to the post-survey in the other three themes are as follows:

1. In Shared Leadership, statement three (Opportunities are provided for faculty members to initiate change.) had the most notable decrease in disagrees at 16%, and the most substantial increase in agrees at 15%.
2. In Shared Vision, statement two (A collaborative process exists for developing the shared vision among faculty.) decreased in agrees 9.6%. Statement four (Faculty members talk with each other about their situations and the specific challenges they face.) increased in agrees 12.1%.



3. In Shared Personal Practice, statement three (Faculty members informally share ideas and suggestions for improving students learning.) decreased in disagrees by 12.7% and increased in agrees 11.7%.
4. In Shared Personal Practice, statements five (Both individual faculty and teams of faculty have the opportunity to apply new learning and share the results of their practice.) and six (Faculty members regularly share student work to guide overall program improvement.) both increased in disagrees by 2.8% and 18.3% respectively. (*PLC Questionnaire*, n.d.)

### **Discussion**

The findings from this study, while limited, are intriguing. The goal of implementing PLCs is to provide opportunities for faculty to work collaboratively, maintain an open dialogue, initiate change, develop a shared and common vision, analyze student work, and foster trust and respect among its members. It would seem that many of these goals were accomplished, as noted in the survey results. Shared Leadership and Collective Learning both show significant gains moving disagrees to agrees with, which indicates those surveyed felt more equipped and encouraged to take on leadership tasks and be actively involved in decision-making processes as a result of participation in PLCs. Those surveyed indicated that faculty regularly talk to each other about the challenges and situations they face, which seems to suggest that open and two-way communication is a standard felt by many in the department. Overwhelmingly as evidenced by the survey results, collegial relationships exist among faculty members, and these relationships support faculty in seeking knowledge of new skills and strategies to apply to their classroom teaching.

While many positives came to light when analyzing the survey results, there were some deficient areas brought to light that still need to be addressed through further implementation of PLCs and studies that ensue thereof. Participants indicated that there is a failure of faculty to work together to address the diverse needs of students. Faculty may work together to address specific learning needs but may fail when it comes to attending to student needs outside of classroom learning. Also, survey participants perceive the department is not providing enough professional development that focuses on teaching and learning as well as time devoted to sharing and analyzing student work. As higher education faculty must allot time for scholarly work and service to the university as well as teaching, with teaching often suffering or overlooked as a result, it is easy to understand how the administration could overlook or ignore the needs professional growth relating to the classroom. Lastly, survey respondents said that financial resources for professional development and training and time for collaboration are lacking, thereby inhibiting the supportive conditions needed to inform professional practice positively.

Whereas research indicates that higher education faculty are often hesitant and secretive about their classroom teaching, which leads to isolation and hinders professional growth, that does not seem to be the case with the survey population in this study (Roth, 2014; Trust, Carpenter, & Krutka, 2016; Terry et al., 2018). The positive survey results are promising in such early stages of research. These results are meaningful in that they show an overwhelmingly positive perception toward working in PLCs in higher education. Although this research represents a small population and short time window of implementation, the results are encouraging and uplifting in continuing to move forward with the structure PLCs provide to support the work of program improvement. They are emboldening to continue with PLC

implementation and become more influential in the strengths and improve upon areas still lacking.

### Conclusion

Researchers suggest that PLCs in higher education, in particular, teacher education degree programs, can provide sustained professional learning and growth and can positively impact programs and student learning (Sheehy et al., 2015). This is an ongoing study that will hopefully lead to culture change in teacher education and ultimately positively impacts the student's learning in the classroom. Further research needs to be conducted on a larger scale, with more participants, and over a more considerable period of time. Additionally, a qualitative study based on the two open-response questions at the end of the post-survey could be collected and analyzed to address more specific and personal perceptions that may be isolated to individual faculty or small groups of faculty.

### References

- Bedford, L. A., & Rossow, K. A. (2017). Facilitating professional learning communities among higher education faculty: The Walden Junto Model. *Online Journal of Distance Learning Administration*, 20(2).
- Brodie, K. K. B. ac. z. (2013). The power of professional learning communities. *Education as Change*, 17(1), 5–18. <https://doi.org/10.1080/16823206.2013.773929>
- Cox, M. D. (2004). Introduction to faculty learning communities. *New Directions for Teaching & Learning*, 2004(97), 5–23. <https://doi.org/10.1002/tl.129>
- Curwood, J. S., Tomitsch, M., Thomson, K., & Hendry, G. D. (2015). Professional learning in higher education: Understanding how academics interpret student feedback and access resources to improve their teaching. *Australasian Journal of Educational Technology*, 31(5), 556-571.
- DuFour, R. (2004). What is a "professional learning community"? *Educational Leadership*, 8, 6.
- Eaker, R. (2016). A tsunami is headed for higher education. *All Things PLC*. <https://www.allthingsplc.info/blog/view/326/a-tsunami-is-headed-for-higher-education>
- Eaker, R., & Sells, D. (2016). *A new way: Introducing higher education to professional learning communities at work*. Solution Tree: Bloomington, IN.
- Feger, S., & Arruda, E. (2008). Professional learning communities: Key themes from the literature. *The Education Alliance*. [https://www.brown.edu/academics/education-alliance/sites/brown.edu/academics/education-alliance/files/publications/PBS\\_PLC\\_Lit\\_Review.pdf](https://www.brown.edu/academics/education-alliance/sites/brown.edu/academics/education-alliance/files/publications/PBS_PLC_Lit_Review.pdf)
- Hattie, J. (2015). The applicability of visible learning to higher education. *Scholarship of Teaching and Learning in Psychology*, 1, 79. <https://doi.org/10.1037/stl0000021>
- Hilliard, A. T. (2012). Practices and value of a Professional Learning Community in higher education. *Contemporary Issues in Education Research*, 5(2), 71–74.
- Kociuruba, J. P., Jr. (2017). Teachers' perceptions of Professional Learning Communities and their impact on school culture [ProQuest LLC]. In *ProQuest LLC*.
- Moser, J. A. (2019). The distance, diminished: An exploratory study of a fully online professional learning community in higher education [ProQuest Information & Learning]. In *Dissertation Abstracts International Section A: Humanities and Social Sciences* (Vol. 80, Issue 3–A(E)).

- PLC Questionnaire. (n.d.). Retrieved from <https://www.surveymonkey.com/r/FM7XDRZ>.  
Source of questionnaire: Huffman, J.B., & Hipp, K.K. (2003). Reculturing schools as professional learning communities. Lanham, MD: Scarecrow Education.
- Roth, S. M. (2014). Improving teaching effectiveness and student learning through the use of faculty learning communities. *Kinesiology Review*, 3(4), 209–216.
- Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional Learning Communities: A review of the literature. *Journal of Educational Change*, 7(4), 221.  
<https://doi.org/10.1007/s10833-006-0001-8>
- Terry, L., Zafonte, M., & Elliott, S. (2018). Interdisciplinary Professional Learning Communities: Support for faculty teaching blended learning. *International Journal of Teaching and Learning in Higher Education*, 30(3), 402–411.
- Trust, T., Carpenter, J. P., & Krutka, D. G. (2017). Moving beyond silos: Professional learning networks in higher education. *The Internet and Higher Education*, 1.  
<https://doi.org/10.1016/j.iheduc.2017.06.001>
- Wayman, J. C., & Jimerson, J. B. (2014). Teacher needs for data-related professional learning. *Studies in Educational Evaluation*, 42, 25–34.  
<https://doi.org/10.1016/j.stueduc.2013.11.001>

# **Theoretical to Practical Implications of Using Storybooks: A Mixed Methods Approach**

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## **Abstract**

This research study determines the implications for practice that reflect the major tenets of educational theorists and their associated theories. Research-based literacy strategies through the use of storybooks are implemented as the basis of instruction for retaining the tenets of educational theorists and their associated theories for participants. Modeling the use of storybooks to understand and retain educational theories to application through research-based best-practice strategies for pre-service teachers can benefit K-12 students. Thirty-five preservice teacher participants completed a pre-test/post-test survey and answered interview questions for a mixed-methods empirical approach. Through the use of storybooks and research-based best-practices for teaching reading, participants obtained an understanding of major developmental theories for developmentally appropriate practice as evidenced through the results of a paired sample t-test and qualitative interview responses.

## **Introduction**

This research study sought to determine the empirical results of retaining educational theories and theorists by 35 pre-service teacher education students as a foundational basis for practical application of best teaching practices in the K-12 classroom. A series of research-based strategies for use in the classroom for increasing literacy development among struggling readers are presented to support student's retention and learning of educational theories and theorists. Specific strategy areas are aligned to specific skills for literacy development, indicating the effectiveness in implementation of these approaches. These literacy strategies, through the use of storybooks, are implemented as the basis of instruction for retaining the educational theories and theorists among the participants.

## **Literature Review**

Storybook reading has proven an effective method for improving literacy skill development, including comprehension skills. Comprehension is the essence of reading. Without it, students are unable to gain necessary knowledge, leading to struggling in numerous areas of academia. Simple techniques can be implemented in the classroom which encourage and support student's ability to more effectively comprehend text.

### **Storybook Reading in the Classroom**

Storybook reading is a key component of the literacy environment, proving to be the best way to develop literacy skills including comprehension (Neuman & Roskos 1993; Teale 1986). Teachers can incorporate storybook reading into the classroom for the purpose of increasing literacy development in all students while specifically targeting struggling readers. Specific strategies, such as explicit print referencing, scaffolding, dialogic reading, word elaboration, and specific instructional techniques, can be incorporated into the storybook reading event in order to further increase the literacy development and comprehension of text for struggling readers (see Appendix A).

### **Explicit Print Referencing**

One strategy teachers can use while engaging in storybook reading with students is the use of explicit print referencing. “Explicit print referencing is an intervention that is structured specifically to increase...print awareness” (Lovelace & Stewart 2007, 18). Teachers can use verbal and nonverbal cues during the storybook reading event to explicitly reference print concepts which have proven to increase student’s knowledge of print concepts (Lovelace & Stewart 2007). Teachers can use preplanned, scripted input regarding the concepts of print during the storybook reading event in order to increase literacy development including comprehension (Lovelace & Stewart 2007). Teachers can pre-plan comments and direct students’ attention to specific concepts of print through commenting, tracking, and pointing (Lovelace & Stewart 2007). Teachers should prepare scripted input for the use of print concepts. An additional technique teachers can use to increase the effectiveness of the storybook reading event is the use of scaffolding techniques.

### **Scaffolding Techniques**

The use of an array of scaffolding techniques increases the effectiveness of the storybook reading experience while providing support to learners (Block 2003; Skibbe, Behnke, & Justice 2004; Teale 1983). Phonological awareness skills increase significantly for struggling readers through the use of scaffolding techniques during storybook reading (Skibbe, et al. 2004). An array of scaffolding techniques can be used while reading storybooks to struggling readers for the purpose of increasing literacy skills (Skibbe, et al. 2004). Specific responses for the purpose of scaffolding learning can be used throughout the storybook reading event, prompting the struggling reader to further increase literacy skills including comprehension (Skibbe, et al. 2004). Coupling scaffolding techniques with dialogic reading techniques have proven to be particularly effective in increasing language development for struggling readers.

### **Dialogic Reading**

The storybook reading event is most effective when coupled with dialogic reading strategies (Whitehurst 1992). “Dialogic reading...is a particular type of shared book reading that includes strategies [such as] questioning and responding to children while reading a book” (Doyle & Bramwell 2006, 444). Dialogic reading techniques have proven to significantly increase literacy development in all students (Liboiron & Soto 2006).

Liboiron and Soto (2006) indicate “that dialogic storybook reading creates a language-rich, interactive context...” that supports literacy development including comprehension (86). Teachers can use the following techniques during dialogic storybook reading in order to increase literacy development for struggling students: (a) print referencing; (b) cloze procedure; (c) expansion; (d) binary choice; (e) pointing, gesturing, and cueing; (f) questioning (Liboiron & Soto 2006). Another technique teachers can use to increase literacy development during the storybook reading event is word elaboration (Justice, Meier, & Walpole 2005).

### **Word Elaboration**

Through word elaboration during the storybook reading event, teachers can increase word recognition skills for struggling readers (Justice, et al. 2005). Repeated exposure to words coupled with word elaboration has proven to significantly increase word recognition skills among struggling readers (Justice, et al. 2005). In order to adequately provide word elaboration, teachers should pre-select specific words in the story for elaboration (Justice, et al. 2005). The words chosen should be words which students will have repeated exposure to throughout the week in a variety of ways (Justice, et al. 2005). Through the use of word elaboration techniques, teachers can increase word recognition skills in struggling readers. A final technique for

increasing literacy development for struggling readers is through the use of scripted lessons during the storybook reading event.

### **Scripted Lessons**

Scripted instructional activities during the shared storybook reading event, struggling readers show a significant increase in phonological awareness skills when used (Ziolkowski & Goldstein 2008). Teachers can use specific scripted instructional techniques during storybook reading in order to increase phonological awareness. In order to effectively promote literacy development in struggling readers, teachers should incorporate specific strategies during storybook reading events. Teachers can use explicit print referencing, scaffolding, dialogic reading techniques, word elaboration, and scripted instructional strategies while reading storybooks to students (see Appendix A). Through the use of these techniques during storybook reading, teachers can effectively increase the development of literacy skills, including comprehension, for students.

## **Research Methodology**

### **Research Objectives**

1. Recognize how theories and research in development and learning are related to educational practice with storybooks.
2. Articulate the major assumptions, ideas, vocabulary or principles of major developmental psychologists prominent in education psychology.
3. Discuss the essential features of effective teaching using storybooks

### **Participants**

Participants in this research study were enrolled in an educational psychology course that is one of the first courses students take in the teacher education program at a comprehensive regional university in the Southeastern United States. Pretest and post-test surveys were administered at the beginning and end of the semester respectively. Moreover, participants were explained the study and a letter for signed consent was obtained. There were 35 students in the class who voluntarily participated in the research. Each participant was given a one-page survey to reflect on course content related to major educational theorists. Additionally, students were interviewed for further elaboration. The focus of the course content regarding the theorists was using the major tenets of the theories for the implication of practice in K-12 school settings as teachers. The survey was administered in the classroom for all 35 participants.

### **Demographics**

Table 1

*Demographics by Race and Gender*

	Race/Gender
African-American males	3%
Caucasian males	8%
African-America Females	6%
Caucasian Females	83%
Other	0%

*Note:* N=35 Undergraduates in Southeast United States

The demographic population attending the regional comprehensive university in the Southeast United States that serves as the setting for this study remains unchanged. According to

the US Statistics Comprehensive Census Data by State, the location of the university reflects a general population of 47% male and 53% female. In addition, demographics by race indicate 64.9% white or Caucasian, 30.6% black or African America with the remainder as Native Americans, Asian, Pacific Islanders and two or more races.

It is not unusual for a classroom of college students in a teacher education program at a comprehensive regional university in the Southeast to be comprised of a majority of white or Caucasian female students. While the demographics of this study may be seen as a limitation, it would be advantageous to replicate this study with a more representative population of the entire Southeast. There are eleven educational institutions in the State University System and many others across the region.

### **Method**

The use of storybooks was the methodology for introducing the theorists and theories presented in the course curriculum. The research-based best-practices for teaching reading skills were implemented during the use of storybooks in the course curriculum. Through the use of the strategies, the instructor modeled best teaching practices while presenting course content on educational theorists and theories. During the study, there were 35 pre-service teachers exposed to using storybook strategies to serve the dual purpose of modeling research-based best practices for early readers and to retain major developmental theories.

Specific storybooks were chosen which best represent educational theorists and the associated theories (Appendix B). The presented research-based best-practices were implemented through the use of these storybooks to teach the tenets of educational theory. Further, specific storybooks aligned to reading strategies were also used to model best practices in teaching reading (Appendix A). Through coupling storybook reading research-based teaching strategies to present major education theorists as a foundation, the researchers help to ensure the success of new teachers in the university course while preparing pre-service teachers to meet the needs of K-12 students in their classrooms.

Participants completed a pre-survey indicating the participant's recognition of specific educational theorists. In addition, pre-interviews were conducted to more in-depth detail regarding participants knowledge and understanding related to the educational theorists and theories. The researchers then implemented the use of storybooks coupled with best practices related to literacy instruction for teaching the educational theorists and theories. Following the use of this instructional approach, the participants completed a post-survey to indicate current recognition of the educational theorists along with post-interviews to elaborate on current knowledge of these theorists and related theories.

### **Data Analysis**

#### **Survey Results**

The participants completed a pretest and posttest survey indicating their familiarity of educational theorists. The results of the pretest and posttest surveys are provided in Table 2.

Table 2  
*Results of Pre-test Familiarity and Posttest Implications*

Have you heard of the theorists before?	Pretest Results		Posttest Implications	
	Yes	No	Yes	No
Piaget	64%	8%	71%	29%
Vygotsky	5%	5%	77%	23%
Gardner	2%	8%	69%	31%
Skinner	6%	6%	80%	20%
Bandura	4%	4%	74%	26%
Bruner	2%	9%	66%	34%
Maslow	5%	5%	71%	29%

Note: N=35 College students enrolled in Educational Psychology

Since this study involves a treatment, using storybooks for content knowledge in educational psychology, a pre-test/post-test design was used for this research. Therefore, a repeated-measures analysis, dependent samples t-test will be used to see if participants' knowledge base significantly changes from before and after using storybooks as a teaching strategy. A main advantage of pre-test/post-test designs is that associated repeated-measures tend to be more powerful and require smaller sample sizes (Creswell 2014). The same participants are measured on the variables of interest, observed, and interviewed at multiple points in time. Thus, the data collection and analysis were triangulated for a mixed-methods research design.

A paired t-test is used to determine any statistical differences between the pretest and posttest survey results. This paired t-test calculates the statistic for a given set of paired data samples. A paired t-test is used when the variable is numerical in nature and the same participants are used twice as in a pre-procedure and post-procedure. The test group statistic for this study is 12.46 with the mean of all paired differences of 45.14. The standard deviation is 9.58 with the standard error of 3.62 with this paired sample.

### Qualitative Interviews

Interviews were conducted of the participants to obtain further investigation and understanding of the participants understanding of the educational theorists. Specific comments obtained from the participants during the interview are provided, related to the educational theorists.

#### Pre-Test Interview Results

One student stated, "I took *Human Growth and Development* but I don't remember enough to answer the questions." Another student said, "I have taken psychology twice and I have no idea of any of these people." However, sixty-four percent of the undergraduate students in an Educational Psychology course had heard of Piaget. There is a degree of confusion noted in the pre-test survey between the psychology courses offered in lower division college courses with educational psychology taught in the education degree program.

Not every student who had heard of Piaget understood the tenets of his theory though. One student stated, "Conditioned learning, dog bell and salivation," in response to the interview



question. It was anticipated that not all of the students interviewed would be familiar with the seven educational theorists listed in the survey. Resulting answers were varied.

However, eleven percent of the students interviewed listed “brain development.” Some students actually stated, “cognitive brain development.” While others said, “What goes on in the brain” or “how they think” referring to children. One student actually articulated “assimilation/accommodation” as prior knowledge regarding Piaget.

Common terms used to indicate prior knowledge of Skinner were (a) behaviorism, (b) reinforcement experiments, (c) understanding behavior, (d) skinner box, and (e) conditioned response. Skinner was the second most recognized theorist listed in the survey. However, only six percent recognized Skinner as opposed to the sixty-four percent who indicated a familiarity with Piaget.

Maslow was the only other theorist that received any recognition by the students surveyed. While only five percent of the participants were familiar with Maslow, the limited information they offered was a little more accurate. Several of the students mentioned, “Maslow’s Hierarchy of Needs.” Also noted was, “Success comes only after the necessities of a person are met.” Another student listed, “The priority of a child’s needs.”

### **Post-test Interviews**

#### ***Piaget***

Most of the participating students indicated that it is important to be aware of the theorists and the theories that they developed to help teachers become better. One student explained it by saying, “Knowing about the four stages of learning so you know when you teaching.” Another student stated that, “knowing how to approach your age group of students” is important for good teaching. Other students talked about schemas as a concept learned about Piaget. A participant noted that, “using schemas to figure out what students already know about a subject,” is something that he learned.

#### ***Vygotsky***

Vygotsky was presented along with Piaget in the same chapter of the course text. Students were generally able to articulate how Piaget and Vygotsky were similar but also were able to separate how they were specifically individual. The concept of social cultural was the overarching thematic emergent theme as an outcome of the interviews. A participant said, “Using prior knowledge to build on new knowledge,” in reference to Vygotsky. Students were able to give teaching practices regarding Vygotsky’s theories in the following examples

“Social interactions”

“Using kids in the classroom to help other kids with math”

“Kids calling out spelling words for practice”

“Using smarter kids to help lower kids”

“Struggling reader with an advanced reader”

“Use peers to tutor each other”

“Using groupwork”

#### ***Gardner***

Howard Gardner as another one of the theorists included in this study. Students indicated knowledge by saying, “Let students use their knowledge to access knowledge.” Another quote is, “Be able to recognize individual strengths and weaknesses in your students.” In addition one student quoted, “Diverse teaching strategies for diverse students.” The implications for practice were mentioned in the following ways.

- “Everyone has a strength somewhere”
- “Everyone learns differently”
- “How we act is how we learn”
- “Everyone excels in different subject areas”
- “Use multiple ways of teaching”
- “Make sure to use all learning styles”

### ***Skinner***

Skinner was more familiar to the students in the course seemingly due to the general psychology course they may have taken in their first two years of college. While many students indicated familiarity of the Skinner Box initially, they were able to attribute rewards and punishments to conditioning. This concept is explained by the participating students in the following examples.

- “Use star stickers for good students”
- “Enforce the classroom rules”
- “Positive reinforcement”
- “Reinforce learning”

“Making sure students know the rules and rewarding them for following it,” was explained by one student regarding Skinner. Another one stated, “Teaching good behavior and learning from the bad.” Yet another participant quoted, “Use effective classroom management to promote good behavior.”

### ***Bandura***

Bandura was a popular student theorist with the students and they seemed to enjoy learning the words “self-efficacy.” One student stated, “Let your students know that they are able to do anything they put their minds to.” “Give opportunities for all kids to have a turn and feel successful,” was quoted by a study participant. Actions for implications were mentioned by the following examples.

- “Provide opportunities for success”
- “Use students’ abilities”
- “Teaching students positive attributions”
- “Teach students to become efficient without outside help”
- “Ensure equality”

### ***Bruner***

Bruner was one of the least known theorist at the beginning of the semester. However, many good examples were provided by the students to promote Bruner’s theories in the classroom. Going on field trips was an emergent theme regarding implication for practice. A participating student responded, “Take them on field trips and give them experiences.” Another spoke about, “Constructing knowledge by having experiences.” Museums, science labs, settings for natural history, using hands-on activities, and using the Internet for virtual field trips were all mentioned by the study participants.

### ***Maslow***

Maslow was presented further into the course, however, students understood that meeting the needs of children is basic for learning. One person elaborated that teacher should, “Recognize students’ needs and provide them [needs] to maximize academic success.” Also quoted was, “Make sure students have the basic needs if not then work with them.” Another participant stated that teacher should, “Give students love and provide a sense of belonging.” Specific strategies for following this theory were to build on knowledge, build on past lessons, help

students reach personal goals, make sure the classroom is safe and to guide students to love themselves.

### **Conclusions**

The 35 participants were students of an introductory educational psychology course as one of the first courses in the teacher education degree plan. These student participants volunteered to complete a pretest/posttest survey and participate in interview questions to describe any knowledge gained by completing the course. The use of storybooks was the methodology for introducing the theorists and theories presented in the course curriculum. Research-based strategies for using storybooks in their own classrooms was modeled through the presentation of the course content. Important implications from the major educational theorists as a foundation and the use of storybooks can ensure the success of new teachers and in-turn for K-12 students in their classrooms.

### **Discussion**

Statistically, a paired t-test was used to calculate the set of data samples with a pre-procedure and post-procedure design. The test group statistic for this study is 12.46 with the mean of all paired differences of 45.14. The standard deviation is 9.58 with the standard error of 3.62 with this paired sample. There were thirty-five pre-service teachers exposed to using storybook strategies to serve the dual purpose of modeling research-based best practices for early readers and to retain major developmental theories for developmentally appropriate practice.

Qualitatively, students positively identified strategies for implication in the classroom regarding the major theories of the theorists presented in the introductory educational psychology course. Storybooks used as methodology to present the theorist and accompanying theories also provided modeling for teaching K-12 students using storybooks. Included in this manuscript is an easy reference chart to depict the reading strategies (Appendix A). In addition, a chart is included to list storybooks and implications of practice that may be used as methodology in an educational psychology course (Appendix B). Teacher educators can use these storybooks coupled with the research-based best-practices to model effective reading strategies while incorporating instruction on educational theories.

### **References**

- Block, C.C. (2003). *Literacy difficulties: Diagnosis and instruction for reading specialists and classroom teachers*. Boston: Allyn & Bacon.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.
- Doyle, B.G. & Bramwell, W. (2006). Promoting emergent literacy and social-emotional learning through dialogic reading. *The Reading Teacher, 59*, 554-564.
- Justice, L.M., Meier, J., & Walpole, S. (2005). Learning new words from storybooks: An efficacy study with at-risk kindergartners. *Language, Speech, and Hearing Services in Schools, 36*, 17-32.
- Neuman, S.B. & Roskos, K.A. (1993). *Language and literacy learning in the early years: An integrated approach*. Orlando, FL: Harcourt Brace & Company.

- Skibbe, L., Behnke, M., & Justice, L.M. (2004). Parental scaffolding of children's phonological awareness skills: Interactions between mothers and their preschoolers with language difficulties. *Communication Disorders Quarterly*, 25(4), 189-203.
- U.S. Statistics (2019) Comprehensive census data by state. Retrieved January 20, 2019 from <https://www.infoplease.com/us/florida/demographic-statistics->
- Whitehurst, G.J. (1992). *Dialogic reading: An effective way to read to preschoolers*. Retrieved May 24, 2009, from <http://www.readingrockets.org/article/400>
- Ziolkowski, R.A. & Goldstein, H. (2008). Effects of an embedded phonological awareness intervention during repeated book reading on preschool children with language delays. *Journal of Early Intervention*, 31(1), 67-90.

**Appendix A**  
**Storybook Reading Teaching Techniques and Skill Development**

<i>Teaching Technique</i>	<i>Specific Skill Developed</i>
Explicit Print Referencing	Print Concept/Awareness
Scaffolding	Phonological Awareness
Scripted Instructional Activities	Phonological Awareness
Dialogic Reading Techniques	Oral Language Development
Word Elaboration	Word Recognition Skills

**Appendix B**  
**Storybook Alignment**

<i>Storybooks by Author</i>	<i>Theorist</i>	<i>Tenet of Theory</i>
Henkes (1996) Lilly's Purple Plastic Purse	Piaget	Ages/stages of development
Lionni (1970) Fish is Fish	Vygotsky	Social Cultural Learning
Cousins (1999) Where is Maisy?	Skinner	Positive reinforcement Operant conditioning
Shannon (1999) David Goes to School	Bandura	Self-efficacy School Rules
Carle (1991) The Very Hungry Caterpillar	Maslow	Hierarchy of needs

## Appendix C

### Book List

- Fox, (2001). *Whoever you are*. New York: Voyager Books
- Henkes (2006) *Lilly's purple plastic purse*. New York: Harper Collins Publishers
- Hunter, A. (1998). *Possum and the peeper*. Boston: Houghton Mifflin.
- Carle, E. (1991). *The very hungry caterpillar*. New York: Scholastic.
- Coles, R. (1995). *The story of ruby bridges*, New York: Scholastic.
- Cousins, L. (1999). *Where is maisy?* Cambridge, MA: Scholastic.
- Lionni, L. (1970). *Fish is fish*. New York: Alfred A. Knopf.
- Munsch, R. (1986). *Love you forever*. Scarborough, ONT: Firefly Books.
- Polacco, P. (1994). *Thank you, Mr. Falker*. New York: Oxford University Press.
- Root, P. (2003). *One duck stuck*. New York: Penguin Random House.
- Shannon (1999). *David goes to school*. AZ: Blue Sky Press.

## **Comparison of Junior and Senior Physical Education Majors' Activity**

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### **Abstract**

Teachers are expected to be role models for their students, and persons aspiring to be health and physical education teachers should, more than any other teacher, model a healthy lifestyle. The purpose of this study was to determine if there is a significant difference in the daily number of steps of junior and senior physical education majors and if they meet the 10,000 step per day goal suggested by the Mayo Clinic. Thirty-three health and physical education majors in a nationally accredited teacher preparation program participated in the study by wearing Fitbit Charge activity trackers for one week during the semester. At the end of the week, the step data were applied to an independent t-test. There were no significant differences between the step data of junior and seniors ( $p = .33$ ); however, the average number of steps for both groups was over the recommended 10,000.

### **Introduction**

No one would hire an English teacher who did not use proper grammar during an interview or while teaching a class. By the same token, it is important for physical education teachers to be good role models for their students especially regarding health-related physical fitness (Baghurst, 2015; Gold, Petrella, Angel, Ennis, Woolley, 2012). The Society for Health and Physical Educators (SHAPE) of America demonstrates the importance it places on this concept by devoting a standard that includes Physical Education Teacher Education (PETE) candidates achieve and maintain "health-enhancing levels of fitness" (SHAPE America, 2017). In this study, physical education majors in their junior year are primarily taking upper level health and physical education classes, but students in their senior year are involved in internships in the schools. Do the PETE candidates achieve the recommended 10,000 daily steps? Are they able to maintain the recommended number of steps when they are out in the schools during their internships? This information will help guide PETE programs in how to assure their candidates meet this SHAPE standard and are physically fit role models for their future students. The purpose of this study is to determine if there is a significant difference ( $p < .05$ ) in the daily number of steps of junior and senior PETE candidates at a SHAPE nationally accredited program and to determine if candidates meet the 10,000 step per day goal suggested by the Mayo Clinic (2020).

### **Review of Literature**

#### **Physical Education Teachers as Role Models**

In today's society, people have role models who they look up to when they are pursuing a goal. In schools, these role models are teachers who students take as examples of how to act. For physical education, students tend to look up to teachers who are physically fit as role models,



because they personify the ideal healthy-looking and physically-able person that society favors. Physical education teachers are expected to be fit as part of the standard set by SHAPE America's *Coach's Code of Conduct* (NASPE, 2009). Physical education teachers influence learning and athletic performance, because students perceive fit physical education teachers as capable and knowledgeable in their field; whereas, the unfit teachers were deemed unreliable (Baghurst, 2015; Gold, Petrella, Angel, Ennis, & Woolley, 2012). Being a fit physical education teacher increases job prospects, because employers are less likely to hire a physical education teacher perceived as overweight or unfit (Baghurst & Bryant, 2012; Cardinal & Cardinal, 2001; Staffo & Stier, 2000). Jenkins, Caputo, and Farley (2005) similarly found school principals were less likely to hire significantly overweight physical education teachers even if their GPAs were excellent.

Physical education teachers can take initiative to become fit by taking small and manageable steps. Students appreciate seeing their teacher participating in activities with them despite the condition the teacher is in, as this can further build rapport between the students and the teacher (Baghurst, 2015; Smuka, 2012). Smuka (2012) found physical education teachers participating with their students increased students' physical activity levels. In general, physically fit physical education teachers serve as role models for students to become fit themselves.

### **SHAPE America's Standard Two**

SHAPE America is targeted to instill physical literacy within school-aged children so that they are able to stay physically active throughout their life. SHAPE America also functions to "provide a framework for teachers to use in developing curricula and lesson plans" (SHAPE America, 2014; Roetert, Kriellaars, Ellenbecker, & Richardson, 2019, p. 58). With SHAPE America, five national standards were erected as pillars for this concept. For the purpose of our research, we focused on the National Standard Two. As stated in Standard Two, "physical education candidates are physically literate individuals who can demonstrate skillful performance in physical education content areas and health-enhancing levels of fitness" (SHAPE America, 2017). This denotes that physical education teachers should themselves be physically literate in order to be able to guide and lead the coming generation into becoming healthy and physically active individuals. Physical education teachers should have a certain level of health-related fitness to become the role models needed for the younger generation.

### **Activity Trackers and College Age Students**

The use of activity trackers, such as the Fitbit, Apple Watch, Jawbone, and Samsung Galaxy Fit, are on the rise as people are more conscious about health-related diseases and illnesses. Researchers have demonstrated these devices' validity and reliability (Evenson, Goto, & Furberg, 2015; Lee, Kim, & Welk, 2014; Takacs et al., 2014; Tully, McBride, Heron, & Hunter, 2014), and now people are less hesitant in purchasing these devices to help track their activity levels. The devices are a convenient and relatively easy way to promote physical activity, because they allow people to monitor their fitness progress. Using activity trackers is popular among college students for numerous reasons (innovative designs, social circles, desire to track fitness, etc.). Also, in addition to monitoring physical activity, students often use these devices to monitor their sleeping patterns (Kinney, Nabors, Merianos, & Vidourek, 2019; Purta et al., 2016). Interestingly, some college students reported activity trackers as a form of positive, nonjudgmental social support, and self-efficacy improver (Gowin et al., 2019).

Researchers hypothesize college students' physical activity levels could increase with the use of an activity tracker, even if it is just a mild increase (Razon et al., 2019; Sharp &

Caperchione, 2016). However, this is not always the case as shown in a study conducted by Schaben and Furness (2018) where despite wearing activity trackers, college students' physical activity (denoted as step count) did not change and positive changes in body measurements did not occur over the 12 weeks of the research study. Nevertheless, activity trackers are still becoming a popular device used by college students to primarily track their physical activity levels.

### **College Students' Activity Levels**

With college being a busy time in a person's life, activity levels tend to diminish, especially as the semester progresses and the student receives more work, assignments, and tests. This gives students less time to de-stress and exercise or perform even simple physical activities. Various researchers studied college student activity levels and factors that can influence their physical activity levels and patterns. A study conducted by Chow & Choi (2019) showed that the physical activity levels of art students were higher than those of students from other disciplines (health sciences, business studies, sciences, and social sciences), even though the majority of the participants (55.3%) were from the health sciences discipline. The authors suggested that this was due to the other disciplines having more credits to complete compared to the art discipline and thus, giving the other disciplines more stress and less time to perform physical activity. The results of the study also indicate that physical activity had a significantly positive weak correlation with mental health ( $r = 0.258$ ,  $p < 0.01$ ), but no correlation with resilience. This suggests that efforts to be physically active are influenced by the presence of stress, because psychological stress is "a predictor of less engagement in physical exercise and, thus, of a more sedentary lifestyle" (p. 8). The authors suggested that freshmen tend to have lower activity levels, because they lack team structures or social networks that would encourage them to increase their activity levels (Chow & Choi, 2019). Similarly, Bopp, Wilson, Papalia, and Bopp (2019) state students reported to be more active in their senior year than during their freshman year. The authors further reported students noted time-management, lack of motivation, and social networking had a role in their lower physical levels during their freshman year.

In a study conducted by de Luna Filho et al. (2016), it was shown that physical activity levels decreased as the term/semester progressed. The study also showed that students taking physical education courses had a higher percentage (81.3%) for being classified as active and very active. Even this group of students, however, showed a decrease in physical activity levels as the semester progressed. The study suggested that students of the physical education courses had experiences in the field of physical activity or sports as most of these students were athletes and "are seeking to specialize in this area to continue working, as technical or physical trainers" (p. 5). The authors also suggested that physical education students (lower classmen, upperclassmen, and masters degree) tend to be less physically active after graduation than prior to it (de Luna Filho et al., 2016).

Another study conducted by Kemper and Welsh (2010) at a historically African American college, showed that 28% and 41% of the participants met the recommendations for moderate and vigorous physical activity, respectively, and most students "reported positive outcome expectations for physical activity" (p. 327). The authors suggested that the ability to have perceived behavioral control was a significant predictor of physical activity among African American students (Blanchard et al., 2008). However, even though these African American students felt positive about physical activity, the majority of them still did not meet the recommended levels. Kemper and Welsh (2010) also suggested that high expectations for

physical activity may lead to better adherence to physical activity but conversely may also contribute to lower adherence because of “false hope” that is not realized.

Overall, the results of these studies showed that the activity levels of college students tend to decrease as the semester progresses due to more external stress and less time available to perform physical activities and tend to increase as they progress from their freshman to senior years. These studies have also suggested that factors such as student’s major, social network, and ethnicity may play a part in influencing the physical activity levels of college students (Bopp, Wilson, Papalia, & Bopp, 2019; Chow & Choi, 2019; de Luna Filho et al., 2016; Kemper & Welsh, 2010; Kim, 2017).

### **Methods**

Thirty-three junior (n = 17, males = 11, females = 6) and senior (n = 16, males = 11, females = 5) health and physical education majors taking MWF PETE classes or interning volunteered to wear a Fitbit Charge HR for a school week. Students in the MWF classes were given and began wearing the Fitbits during their Monday class with instructions to wear them continuously except while swimming or showering. These participants turned in the Fitbits on Friday of that week during the same class. Student interns participating in the study were given the Fitbits by their supervising teacher and asked to wear the Fitbits continuously the following week again with the exception of swimming or showering. Interns returned the Fitbits either the next time they were on campus or when their supervising teacher observed them next. We collected Fitbit step data from days Tuesday through Thursday of the week students wore the trackers by syncing the Fitbits and using the Fitbit Software Program. All data were collected in a two-week time frame with an equal number of juniors and seniors wearing the Fitbits each week. The university’s Institutional Review Board approved this study.

### **Results**

The means of the three-day average of junior and senior students’ steps were 10,941.67 and 12,858.35, respectively. We applied the step data to an Independent t-test using an SPSS Statistical Package. The results of the analysis indicated there was no significant difference ( $t = -1.002, p = .33$ ) between the junior and senior students’ steps.

### **Discussion**

The results of this study found no significant difference between the activity levels of junior and senior PETE candidates. The review of related literature found freshmen college students tended to have lower activity levels than upperclassmen but those researchers did not compare the activity levels of junior and seniors (Bopp, Wilson, Papalia, & Bopp, 2019; Chow & Choi, 2019). The time span and maturity level between junior and senior PETE candidates may not be great enough to demonstrate a significant difference. However, the results also indicate that even when off campus and interning in the public schools working with students, majors continue to be positive role models regarding daily physical activity. Both the junior and senior PETE candidates in this study averaged over the 10,000 steps as recommended by the Mayo Clinic (2018) helping to demonstrate the subjects “achieved and maintained a health-enhancing level of fitness” as stated in Standard Two of SHAPE America (2017).

## Conclusion

There is no significant difference ( $p > .05$ ) in the activity level of junior and senior PETE candidates. Junior and senior PETE candidates meet the step goal of 10,000 steps per day as recommended by the Mayo Clinic. Using activity trackers or cell phones may be a viable method in helping PETE programs determine if their candidates are meeting the criteria of SHAPE's Standard Two throughout the program. With the availability of wellness platforms such as Count. It ([www.countit.com](http://www.countit.com)) which allows the data from a variety of wearable activity trackers and cell phones to be tracked and recorded makes the administrative feasibility much greater than in the past.

## References

- Baghurst, T. (2015). Rationale for and practical ways to model health and fitness as physical educators and coaches. *Strategies*, 28(3), 46.
- Baghurst, T., & Bryant, L. (2012). Do as I say, not as I do: Improving the image of the physical education profession. *Strategies*, 25(4), 11-13.
- Blanchard, C., Fisher, J., Sparling, P., Nehl, E., Rhodes, R., Courneya, K., & Baker, F. (2008). Understanding physical activity behavior in African American and Caucasian college students: an application of the theory of planned behavior. *Journal of American College Health*, 56(4), 341-346.
- Bopp, M., Wilson, O. W., Papalia, Z., & Bopp, C. (2019). Freshmen physical activity habits and senior fitness levels: Examining a healthy transition to college. *Medicine And Science In Sports And Exercise*, 51(6)129-129.
- Cardinal, B. J., & Cardinal, M. (2001). Role modeling in HPERD: Do attitudes match behavior? *Journal of Physical Education, Recreation & Dance*, 72(4), 34-39.
- Chow, S. K. Y. & Choi, E. K. Y. (2019). Assessing the mental health, physical activity levels, and resilience of today's junior college students in self-financing institutions. *International Journal of Environmental Research and Public Health*, 16(17), 3210.
- Count. It (2020). Retrieved from <https://www.countit.com/#/>
- de Luna Filho, E. B., Silva, F. T. M. D., Santos, A. D. C., Nascimento, L. S. D., Rabay, A. N., Dantas, F. F. O., & Lima, A. M. J. D. (2016). Level of physical activity in college students. *Manual Therapy, Posturology & Rehabilitation Journal*, 13, 0-0.
- Evenson, K. R., Goto, M. M., & Furberg, R. D. (2015). Systematic review of the validity and reliability of consumer-wearable activity trackers. *International Journal of Behavioral Nutrition and Physical Activity*, 12(1), 159.
- Gold, R., Petrella, J., Angel, J., Ennis, L., & Woolley, T. (2012). The qualities of physical education teachers based upon students' perceptions of physical appearance. *Journal of Instructional Psychology*, 39(2), 92-104.
- Gowin, M., Wilkerson, A., Maness, S., Larson, D., Crowson, H., Smith, M., & Cheney, M. (2019). Wearable activity tracker use in young adults through the lens of social cognitive theory. *American Journal of Health Education*, 50(1), 40-51.
- Jenkins, A., Caputo, J., & Farley, R. (2005). Physical description and job attainment in physical education. *Physical Educator*, 62(2), 96-102.
- Kemper, K., & Welsh, R. (2010). Physical activity behaviors of students of a rural historically black college. *Journal of American College Health*, 58(4), 327-334.

- Kim, T. Y. (2017). Comparison of health level and physical activity between Korean and other countries female college students. *Iranian Journal of Public Health*, 46(11), 1586-1588.
- Kinney, D., Nabors, L., Merianos, A., & Vidourek, R. (2019). College students' use and perceptions of wearable fitness trackers. *American Journal of Health Education*, 50(5), 298-307.
- Lee, J. M., Kim, Y., & Welk, G. J. (2014). Validity of consumer-based physical activity monitors. *Medicine & Science in Sports & Exercise*, 46(9), 1840-1848.
- Mayo Clinic (2018). 10,000 steps a day: Too high? Too low? Retrieved from <https://www.mayoclinic.org/healthy-lifestyle/fitness/in-depth/10000-steps/art-20317391>
- National Association for Sport and Physical Education. (2009). *A coach's code of conduct*.
- Purta, R., Mattingly, S., Song, L., Lizardo, O., Hachen, D., Poellabauer, C., & Striegel, A. (2016, September). Experiences measuring sleep and physical activity patterns across a large college cohort with Fitbits. *Proceedings of the 2016 ACM international symposium on wearable computers*, 28-35.
- Razon, S., Wallace, A., Ballesteros, J., Koontz, N., Judge, L., & Montoye, A. (2019). Perceptions of physical activity tracking devices: A survey analysis. *Physical Educator*, 76(1), 258-284.
- Roetert, E., Kriellaars, D., Ellenbecker, T., & Richardson, C. (2017). Preparing students for a physically literate life. *Journal of Physical Education, Recreation & Dance*, 88(1), 57-62.
- Schaben, J., & Furness, S. (2018). Investing in college students: The role of the fitness tracker. *Digital Health*, 4, 2055207618766800.
- SHAPE America – Society of Health and Physical Educators. (2014). *National standards & grade-level outcomes for K-12 physical education*. Champaign, Illinois: Human Kinetics.
- SHAPE America–Society of Health and Physical Educators America. (2017). *2017 National standards for initial physical education teacher education*.
- Sharp, P., & Caperchione, C. (2016). The effects of a pedometer-based intervention on first-year university students: A randomized control trial. *Journal of American College Health: J of ACH*, 64(8), 630-638.
- Smuka, I. (2012). Teacher role model and students' physical activity. *Polish Journal of Sport and Tourism*, 19(4), 281-286.
- Staffo, D. F., & Stier, W. F., Jr. (2000). The use of fitness tests in PETE programs. *Journal of Physical Education, Recreation & Dance*, 71(5), 48–52.
- Takacs, J., Pollock, C. L., Guenther, J. R., Bahar, M., Napier, C., & Hunt, M. A. (2014). Validation of the Fitbit One activity monitor device during treadmill walking. *Journal of Science and Medicine in Sport*, 17(5), 496-500.
- Tully, M. A., McBride, C., Heron, L., & Hunter, R. F. (2014). The validation of Fitbit Zip™ physical activity monitor as a measure of free-living physical activity. *BMC research notes*, 7(1), 952.

# **Effect of Visualization and Animation in a Slide-based e-Learning Video Presentation**

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## **Abstract**

Although research suggests including dominant visual images in a slide-based e-learning video presentation may offer benefits to learners, it is not clear whether the complete absence of text or addition of animation adds or detracts from the positive effects on engagement and learning. Participants in this study were directed to watch one of four e-learning presentations all designed with a dominant congruent image but with text and animation variations. A MANOVA was conducted to assess differences on participants' comprehension and perceptions across these four presentation conditions. Results indicated that there were no statistically significant differences in comprehension and perceptions among the four groups. The findings suggest that any variation of the simplified visually-rich presentation style is effective.

## **Introduction**

Whereas traditional teaching methods taught in face-to-face contexts is still a dominant practice in higher education, an increasing number of universities are relying on e-learning as a means to connect with students and amplify the impact of teaching and learning. E-learning has the capability of improving student achievement and helping to bridge the gaps in access between students who have physical proximal access to knowledge and those who do not (Hillier, 2018).

E-learning is an ever-increasing component of higher education offerings in the United States and serves as a key means of sharing conceptual knowledge and increasing interaction among faculty members and their students (Mahdizadeh, Biemans, & Mulder, 2008). Within this framework of virtual instruction, higher education faculty have a wide range of technological resources to use in developing instructional resources that help students gain a greater conceptualization of material in the e-learning environment. One such resource is slide-based presentation software (also known as slideware) that allows the user to present information in a variety of ways, from text presented in simple bullet-pointed lists to interactive multimedia with complex designs. Slideware applications (e.g., Microsoft PowerPoint, Apple Keynote, Google Slides) have been a staple of business presentations and higher education faculty lectures for over 30 years. Although these applications are considered easy to use through predesigned templates, themes, and animation sequences and offer generally immersive experiences that engage students (Aspersion, Laws, & Scepanzky, 2002; Szabo & Hastings, 2000), many have criticized slideware as encouraging overly simplistic, disengaging, and even misleading lectures (Bly, 2001; Creed, 1997; Kewney, 2007; Masie, 2006). Even so, slideware is still the prevalent means of disseminating information in university lectures (Johnson & Christenson, 2011).

What is uncertain is how slideware presentations translate in the e-learning environment, by which the instructor uses a slideware presentation as part of his or her online lessons, either through a learning management system (LMS) or sent to students directly. The inclusion of slide-based presentations in an e-learning environment may be presented as a viewable presentation with or without narration or sent as a presentation file for the students to navigate on their own. The former option most resembles a video presentation in that the slide page

animation effects, as well as any transition effects, form a moving image. In fact, two of the leading slideware applications, Microsoft PowerPoint and Apple Keynote, contain a feature by which the instructor can narrate while navigating the slide presentation and subsequently export the narrated slide presentation as a video with the audio narration. This can prove particularly useful in an e-learning context by which the instructor has the opportunity to offer instructional resources that are more dynamic or interactive than solely static text-based documents.

### **Theoretical Framework**

Slide-based presentation software can offer much in the way of designing not only slide deck presentations but also videos that incorporate animation and sound, including narration. The process for creating e-learning videos involves a simple export of the slideware file as an audiovisual file, which is fundamentally a movie file (e.g., MOV, MP4). However, creating an e-learning video from slideware poses a problem specific to slideware applications. There is support for the notion that learners benefit from slide decks (a generic term for digital slide presentations created through slideware) designed in accordance with proven multimedia learning principles, yet instructors overwhelmingly choose to structure their slide decks within the contained parameters of the default settings in their chosen slideware application (Clark & Mayer, 2011; Tangen, et al., 2011). Some instructors may customize their slides slightly by adding a comic or clip art that has a tangential relationship to the topic of each slide, but the slide decks still remain, to a large extent, text-based documents presented in bulleted format. This abundance of information presented textually and with generally insignificant image supplementation, combined with spoken narration, may lead to decreased learning due to cognitive overload (Clark & Mayer, 2011; Mayer, 2005). However, Johnson and Rubin (2011) found that integrating text with graphics can produce increased student outcomes. These findings have been echoed by professional slide designers, inasmuch any text should be limited to a brief sentence rather than as a sentence fragment or lengthy bullet points (Alley, 2009; Anderson & Williams, 2013; Atkinson, 2008; Bozarth, 2013; Garner & Alley, 2013; Reynolds, 2011). Therein lies the core issue: what should comprise a slide-deck presentation within an e-learning environment to positively impact student outcomes?

Whereas users can choose different slide designs and customize the layout of their presentation slides, these are secondary options and require a conscientious design strategy that deviates from the set designs offered in the default templates. While the modality principle of multimedia design encourages the use of accompanying visual media, research indicates that images only make up 33% of slide decks provided as college-level textbook supplementary materials. This percentage drops to 10% if one only considers the slides that contain explanatory images (image-congruent) rather than simply situationally interesting images (image-noncongruent) (Garner & Alley, 2010).

What's also not entirely clear is how much text should be included on each slide. Research suggests that using one sentence of text rather than several sentence fragments (particularly as a bulleted list) or a large amount of text on a slide improves learning retention (Alley, 2009; Atkinson, 2008). Johnson and Christenson (2011) found that the use of slides featuring a dominant congruent image and a sentence fragment (what they call the Simplified-Visually Rich Approach) increases student interest over common-practice slides, at least some of the time. It should be noted that while Johnson and Christenson (2011) articulated the Simplified-Visually Rich Approach as only incorporating complete sentences, they used a single sentence fragment for each slide in the 2011 study. While this oversight may lead to some

confusion, the more salient question is, does the existence of any text on slides matter when there is a dominant congruent image accompanying spoken narration?

As it pertains to e-learning, the modality principle of multimedia instructional design states that verbal communication should be presented as spoken narration rather than as printed text when there are accompanying graphics or images (Clark & Mayer, 2011). A proponent of this design approach is the notable presentation designer Garr Reynolds, author of *Presentation Zen* (2011), who stresses simplicity in design. In this vein, it may be worth considering how well slides with spoken narration do with no text at all.

Another consideration not explored in earlier studies incorporating the minimalist design approach (e.g., Simplified-Visually Rich, Assertion-Evidence) is the role animation has regarding the text or visuals. Excessive animation in slide decks used in e-learning is discouraged because of its tendency to overstimulate learners (Clark & Mayer, 2011; Garner, Alley, Gaudelli, & Zappe, 2009; Reynolds, 2011). What has not been studied to this point is the effect of subtle animation of the dominant image during spoken narration. A common form of subtle animation is the Ken Burns Effect, named after the documentarian Ken Burns, who uses the effect extensively. The Ken Burns Effect is a slight panning and zooming of a full screen image that accompanies spoken narration.

### **Purpose of the Study**

This study will be the first to compare the effectiveness of a minimalist slide deck design incorporating single sentence fragments accompanying a dominant congruent image and a design that includes only a dominant congruent image with no text. A further permutation will compare the effectiveness of slides featuring static dominant congruent images and slides featuring dominant congruent images that incorporate a subtle animation (Ken Burns Effect). The slide presentations accompanied spoken narration. The following research questions guided this study:

1. Is one's content knowledge influenced by the type of slide-based visual presentation given, specifically with respect to the presence or absence of text and/or subtle animation?
2. Do participants have higher perceptions of slide-based presentations with or without text and/or subtle animation?

### **Method**

#### **Participants**

The participants for this study consisted of 187 undergraduate teacher education students in a Southern regional university, and the study spanned from Fall, 2016 to the Spring, 2017. Notably, 28 participant responses were removed from the study because of failure to complete the research survey. Participant responses that had a duration of under 300 seconds were removed because of the likelihood that the participant did not watch the entire presentation (which ran three minutes and 53 seconds). Participants were recruited in education courses using formal presentations describing the study's aim, procedures, benefits, and risks. Most participants were under the age of 25 (85%) and females were more represented (78%). The majority of the students were White (87%), followed by Black (8%), Hispanic (1%), Asian (2%), American Indian/Alaskan Native (1%), and Race/ethnicity unknown (1%). Students were classified mainly as Juniors (48%) and Seniors (40%). Table 1 includes demographic characteristics for all participants.



Table 1  
*Demographic characteristics of participants (N=187)*

Characteristic	n (%)
<b>Gender</b>	
Male	41 (21.93)
Female	146 (78.07)
<b>Race/ethnicity</b>	
White/Caucasian	162 (86.63)
Black/African American	16 (8.56)
Hispanic/Latino	1 (.53)
Asian	4 (2.15)
American Indian/Alaskan Native	3 (1.6)
Race/ethnicity unknown	1 (.53)
<b>Age</b>	
Under 25	159 (85.03)
25-30	20 (10.70)
31-35	2 (1.07)
36-40	1 (.53)
41-45	0

Over 45	5 (2.67)
Classification	
Freshman	5 (2.67)
Sophomore	17 (9.09)
Junior	90 (48.13)
Senior	75 (40.11)

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### **Procedure**

Four e-learning presentations on a topic related to educational development theory were created using the Apple Keynote slideware application and then converted to video. Four conditions (dominant congruent image with text, dominant congruent image without text, animated dominant congruent image with text, and animated dominant congruent image without text) were all accompanied by the same spoken narration. Participants were randomly assigned to watch one of the e-learning presentations. Each participant then responded to a survey indicating their self-perceived attention during the presentation. Included in the survey were items that assessed the participants' comprehension of the content. This is in alignment with the Kernbach, Eppler, and Bresciani (2015) study in which participants were evaluated on their attention and recall to graphic representation of information rather than bulleted lists of information.

### **Instrumentation**

A 36-item Qualtrics survey was created to examine how various presentation styles influenced participants' comprehension and perception. This instrument was adapted from Kernbach, Eppler, and Bresciani (2015), who focused their study in a business context on attention, agreement, comprehension and retention. The survey utilized in this study was adapted to fit an educational context with preservice teacher candidates, and focused on participant comprehension and perceptions. Survey items 1-5 included demographic questions. Items 6-7 examined their perceptions and familiarity with technology and a specific educational theory on a scale from 0-100. Items 8-13 included a pretest that measured students' prior knowledge of a specific educational theory which were followed by a slide deck presentation. After watching one of the four presentation styles, participants completed items 14-18 to rate their impression of the presentation and narration using a sliding scale of 1-100. These items helped us evaluate participant agreement and attention. Students then completed items 19-26 that consisted of a posttest of the presented educational theory allowing measurement of participant comprehension and perception. This section was used to examine their comprehension of the content. Finally, items 27-29 were included to evaluate participants' views of the educational theory and its applicability in an educational setting.

## Data Analysis and Results

Comprehension (i.e., posttest minus pretest scores) and perception (participants' impression of presentation scores) were generated for the four groups: dominant congruent image without text (no text, no animation), dominant congruent image with text (with text, no animation), animated dominant congruent image without text (no text, with animation), and animated dominant congruent image with text (with text, with animation). Participants earned one point for each correct answer on the pretest and posttest, so their scores could range from 0 to 6. Participants' comprehension ranged from .71 (no text, with animation) to 1.53 (with text, no animation), showing an approximate one-point increase from their pretest to posttest in all four groups. Perception means were the highest for *with text, no animation* (85.74) and *with text, with animation* (85.26). Perception means ranged from 82.50 (no text, no animation) to 85.74 (with text, no animation). Overall, participants in the *with text, no animation group* had a higher perception of this presentation style and showed a higher growth in comprehension.

Multivariate analysis of variance (MANOVA) was conducted to assess differences on participants' comprehension and perception across four presentation conditions. Results indicated that there were no statistically significant differences in comprehension and perception among the four groups ( $p=.38$ ). Group means and standard deviations for each variable are included in Table 2.

Table 2

*Means and standard deviations of comprehension and perception by presentation style*

Measures	No Text, No Animation <i>n</i> =48		No Text, With Animation <i>n</i> =46		With Text, No Animation <i>n</i> =51		With Text, With Animation <i>n</i> =47	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Comprehension	1.13	1.34	.71	1.77	1.53	1.66	1.05	1.84
Perception	82.50	12.75	83.19	12.36	85.74	11.76	85.26	12.40

## Discussion

Results indicated that there was no statistically significant difference between the groups in relation to the participants' overall perceptions of the video presentations. Because of this result, we can conclude that within the simplified visually-rich presentation format there is no difference between including a text fragment and excluding any text in short online instructional slide presentations. It should be noted that the groups who viewed the videos with the Ken Burns animation effect rated their perception slightly higher on the 100-point scale than the groups with no animation. Although the results were not statistically significant to infer group differences, this is an area that requires further inquiry.

The levels of comprehension between groups were not statistically significantly different, however the effectiveness of the presentation was not mute. Prior to viewing one of the four videos, each participant was asked to rate on a 100-point scale their experience with and understanding of the specific theory covered in the presentation. The average score of participants' comprehension after viewing the short video was 53.47. This indicates that although the bulk of the participants had little to no experience or understanding of the content, after viewing the video once, these preservice teachers gained understanding about the content presented in the simplified visually-rich format, no matter if text fragments were included or the Ken Burns animation effect was used.

Overall, the findings from Johnson and Christensen (2011) can be confirmed in that the simplified visually-rich presentation format is effective in an e-learning context and that the inclusion of text fragments and the Ken Burns animation effect in an e-learning presentation are generally have no consequential effect on student achievement, as long as there is audio narration to accompany the presentation.

This study provides timely and essential information for teacher educators in both face-to-face and online learning environments. Preservice teachers are tasked with learning an abundance of information, and the use of slide deck visualization is the foundation on which much of the information is presented. Finding the most effective use of visualization and narration for teaching preservice teachers through online presentations impacts how future teachers develop their own knowledge and pedagogies. Additionally, as K-12 educational contexts change and move online, it is essential for teacher educators to model the most effective practice. These findings confirm the value of the simplified visually rich presentation format and its impact on preservice teachers learning in online contexts.

### **Limitations**

These findings are limited by the size and composition of the sample used in this study. These findings may not be generalizable to other presentations outside the program area covered in this study, nor may they be generalizable to courses that are not designed for undergraduate study. Furthermore, the overwhelming demographic represented in this study were white females under the age of 25, so applicability to minority populations is still in question.

It is critically important that the results of this study are considered in the context of the technology that exists now. Electronic mediums are fluid, and the impact of the evolution of these mediums, whether in audio or video quality or distribution method, must be considered.

A further limitation is the presentation method, which was limited to a slide presentation using a simplified visually-rich style (with four variations) presented in video form. This style precludes dynamic control of the presentation by the presenter, but it is notable that the control of the presentation shifts heavily to the viewer, who can go forward or backward in the video at will. The results of this study cannot be applied to a face-to-face presentation style for this reason.

### **For Further Study**

Noting the lack of significance among the four variations of the simplified visually rich presentation format, one may ask what else one can derive from this study. Perhaps variations in narrative styles may have impacted the significance, and studies should focus on delivery style, such as vocal intonation and pitch. Also, would the inclusion of an avatar or synchronized video of the narrator in a thumbnail in the video impact student attention or even comprehension?

Further study is specifically encouraged in the area of face-to-face presentations in which the presenter engages with the audience in a more dynamic way than an online video. While the variation in presentation slide format did not yield any significant differences in attention or comprehension, it would also be valuable to consider if the format impacted other areas, such as motivation or engagement.

### References

- Alley, M. (2009). *The craft of scientific presentations: Critical steps to succeed and critical errors to avoid*. New York: Springer-Verlag.
- Anderson, J. S., & Williams, S. K. (2013). Pecha kucha for lean and sticky presentations in business classes. *Journal of the Academy of Business Education*, 14. Retrieved from Google Scholar.
- Atkinson, C. (2008). *Beyond bullet points: Using Microsoft Office PowerPoint 2007 to create presentations that inform, motivate, and inspire*. Redmond, WA: Microsoft Press.
- Bly, R.W. (2001). The case against PowerPoint. *Successful Meetings*, 50, 51-52.
- Bozarth, J. (2013). *Better than bullet points: Creating engaging e-learning with PowerPoint*. John Wiley & Sons.
- Clark, R. C., & Mayer, R. E. (2011). *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*. John Wiley & Sons.
- Creed, T. (1997, May). PowerPoint, no! Cyberspace, yes. *The National Teaching and Learning Forum*, 6(4). Retrieved from [http://www.ntlf.com/html/pi/9705/creed\\_1.htm](http://www.ntlf.com/html/pi/9705/creed_1.htm)
- Garner, J., & Alley, M. (2013). How the design of presentation slides affects audience comprehension: A case for the assertion—evidence approach. *International Journal of Engineering Education*, 29(6), 1564-1579. Retrieved from Google Scholar
- Garner, J., & Alley, M. (2010). Rethinking PowerPoint slide design in the psychology classroom: Learners' needs should come first, The Higher Education Academy's Psychology of Learning and Teaching Conference, Edinburgh, UK.
- Garner, J., Alley, M., Gaudelli, A., & Zappe, S. (2009). Common use of PowerPoint versus Assertion-Evidence Structure: A Cognitive Psychology Perspective, *Technical Communication*, 56, 331-345.
- Hillier, M. (2018). Bridging the digital divide with off-line e-learning. *Distance Education*, 1-12. doi: 10.1080/01587919.2017.1418627
- Johnson, D. A., & Christensen, J. (2011). A comparison of simplified-visually rich and traditional presentation styles. *Teaching of Psychology*, 38(4), 293-297. doi:10.1177/009862831142133
- Johnson, D. A., & Rubin, S. (2011). Effectiveness of interactive computer-based instruction: A review of studies published 1995- 2007. *Journal of Organizational Behavior Management*, 31, 55-94.
- Kernbach, S., Eppler, M., & Bresciani, S. (2015). The use of visualization in the communication of business strategies an experimental evaluation. *International Journal of Business Communication*, 52(2), 164-187.
- Kewney, G. (2007, April 16). Missing the PowerPoint of public speaking. *The Register*. Retrieved from [http://www.theregister.co.uk/2007/04/16/death\\_by\\_powerpoint/](http://www.theregister.co.uk/2007/04/16/death_by_powerpoint/)
- Mahdizadeh, H., Biemans, H., & Mulder, M. (2008). Determining factors of the use of e-learning environments by university teachers. *Computers & Education*, 51, 142-154.
- Masie, E. (2006, October). *Learning in a flatter world*. Keynote address at the IEEE international

- Professional Communication Conference (IPCC), Saratoga Springs, NY. (Transcribed by D. Farkas.).
- Mayer, R. E. (2005). *The Cambridge handbook of multimedia learning*. New York: Cambridge University Press.
- Reynolds, G. (2011). *Presentation Zen: Simple ideas on presentation design and delivery*. New Riders.
- Szabo, A., & Hastings, N. (2000). Using IT in the undergraduate classroom: Should we replace the blackboard with PowerPoint? *Computers & Education*, 35, 175-187.
- Tangen, J. M., Constable, M. D., Durrant, E., Teeter, C., Beston, B. R., & Kim, J. A. (2011). The role of interest and images in slideware presentations. *Computers & Education*, 56, 865-872.

# **Teacher Education for Cameroonian Educators: Exploring the Possibilities**

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## **Abstract**

This paper examines efforts of one West Central Arkansas university in assisting a PK-6th grade school in the Global South located in Cameroon, Africa. The school, Ray of Hope Academy, educates students without special learning needs and those with special learning needs including autism. Due to these unique efforts in Doula, Cameroon, the university worked with Ray of Hope Academy to conduct an on-site exploratory project to determine specific needs of the school for which the university could potentially assist. Through this exploratory effort, the university's faculty representative determined particular needs of the Ray of Hope Academy and examined the feasibility of virtual and onsite efforts involving the university's students and faculty to assist this school in the Global South.

## **Introduction**

Teacher education in the Global South has received increased attention in recent years particularly as the world has become progressively more connected via Internet and mobile device usage even in remote areas in the Global South (Tao, 2016). The Global South contains most of the countries the United Nations (2020) term "Least-Developed Countries (LDC)." Even countries that do not fall into this LDC category still struggle with educational pursuits in the Global South including economic, resource, and training limitations (United Nations, 2020). This difficulty is particularly apparent in schools where students with special learning needs are a point of emphasis (Opoku, Mprah, McKenzie, Sakah, & Badu, 2017).

When considering any teaching effort, including those efforts in the Global South, a foundational key to teachers' success in the classroom is the pedagogy they employ. How teachers select and apply a pedagogy system or blend of many systems is one of the issues addressed in a review and analysis of teacher success in a given environment (Barrett & Tikly, 2012; Tao, 2016; Wedin, 2010). Justification of an examination of teacher practices includes the possibility of increasing understanding of teachers' behaviors and understanding how teacher views, experiences, and values will lead to their prioritizing and valuing of knowledge within their classrooms (Tao, 2016). Arriving at an in-depth understanding of the processes that shape teachers and their pedagogy will result in a more complete appreciation of pedagogical issues related to teaching and teacher training.

## **Review of Related Literature**

One continent in the Global South, and the one of emphasis in this paper, is Africa. Common problems that have been documented in teaching environments in the countries of Africa include high levels of absenteeism, reliance on teaching methods that favor lower levels of knowledge, superficial understanding of subject matter on the part of teachers, and decreasing quality of education within the classroom to stimulate the economy related to private tuition and tutoring (Benavot & Gad, 2004).

In some instances, the international community has attempted to provide supplies and guidance to education systems in countries of Africa (Tao, 2016). These efforts have included providing training in teaching methods that are more student-centered (Cooper & Alvarado,

2006) or various strategies to increase opportunities for learning by increasing student time on task (Abadzi, 2007). In addition to these approaches, there have been attempts to examine the education process from the perspective of the teacher. However, the findings in this research lead to conclusions that fail to support the idea that all teachers abide by a “universal set of educational goals and values” (Tao, 2016, p. 3). Contributing greatly to the variance among teaching approaches is the lack of teaching material, excessive workloads, and substandard classrooms and housing (Tao, 2016).

Each of these distinct factors coalesces under the topic of “teacher motivation.” In instances in which researchers have indicated teachers display a lack of motivation or low levels of motivation, these have been shown to be concurrent with factors indicative of poor conditions for teaching. Although there has been no support for a cause and effect relationship, there does appear to be some correlation. In identifying these various factors that impact teacher quality, it is possible to arrive at a more complete understanding of the common qualities that constitute teacher quality (Tao, 2016).

One area in which the Global South, including countries in Africa, particularly struggles in education is in its efforts to teach students with special learning needs (Tao, 2016). This includes learning disabilities such as autism, which is a point of emphasis in this present narrative within the context of the Global South.

### **Autism Spectrum Disorders**

Autism Spectrum Disorder (ASD) is a disability in which individuals experience communication delays (both expressive and receptive), difficulties with social interactions, and a variety of other cognitive and behavioral anomalies. The manifestation of ASD varies among individuals in terms of intensity and expression. The current standard for diagnosis and definition of ASD is the *Diagnostic and Statistical Manual of Mental Disorders* (fifth edition) (DSM-5) of the American Psychiatric Association (2013). Autism Spectrum Disorder affects males and females of all ethnicities, nationalities, socio-economic status, and ages (Abubakar et al., 2016; Alli et al., 2015; Bakare et al., 2015).

There is a growing body of professional literature addressing educational needs (Bakare et al. 2015; Arrah & Swain, 2014; Bamua et al., 2017; Mngo, & Mngo, 2018), vocational needs (Abubakar et al., 2016; Meiring et al., 2016), health needs (Bakare & Munir, 2011), and physical activity needs (Assah et al., 2015; Assah et al., 2011; O’Connor & Dieringer, 2014) for individuals with ASD. It is evident that individuals with ASD benefit from programming that involves specific, intensive, and repetitive interventions developed from valid assessments (Abubakar et al., 2016; Arrah & Swain, 2014; Majoko, 2016). When teaching students with autism, periodic reassessment is necessary to modify programming as individuals adapt to programming. Many individuals with ASD benefit from life skills, communication, behavior management, social skills, and physical activity in addition to more traditional academic programming.

However, when considering the needs of individuals with ASD residing in areas with less access to appropriate interventions, there is a paucity of research to indicate the effectiveness of programming. People living in LDCs and Global South countries may experience delayed diagnosis (Assah et al., 2015; Bakare, et al. 2015), fewer service delivery resources (Assah et al., 2011; Bamua et al., 2017; Liezl, Shakila, & Samuels, 2017), less opportunity for caregivers to develop communities of support (Alli et al., 2015; Assah et al., 2015), and reduced tolerance from the community or peers (Arrah & Swain, 2014; Majoko, 2016; Meiring et al., 2016). These



factors decrease opportunities for early intervention – a crucial factor in service delivery and success of interventions.

Because the research is clear that early, appropriate programming has a positive effect on outcomes for individuals with ASD it is important that healthcare providers, parents or caregivers, and schools be aware of the best practices for educating individuals with ASD (Abubakar et al., 2016; Arrah & Swain, 2014; Bakare & Munir, 2011; Bamua et al., 2017; Bakare, et al. 2015; Meiring et al., 2016; Mngo & Mngo, 2018). As ASD is a disorder that impacts individuals in many areas across the developmental spectrum, interventions should target all aspects of an individual's life.

With the increase in the prevalence of ASD, there is an increased need to improve the knowledge base about teaching and supporting individuals with autism (Holmes, 2012). Within countries within the Global South, the knowledge base is particularly lacking. For example, a review of published literature on ASD that is cataloged on PubMed revealed that of the 20,000 references retrieved, 27 of the articles dealt with ASD in Africa.

### **Ray of Hope Academy in Africa**

One school attempting to meet the needs of students with special learning needs, including autism, is the Ray of Hope Academy founded by Ernest Ehabé in Cameroon, Africa. According to the United States Central Intelligence Agency (CIA) (2020), Cameroon is a nation approximately the size of California in land mass in West Central Africa. The population includes approximately 2.8 million individuals and includes lower life expectancy, high infant mortality rates, and higher death rate percentages compared to other countries outside the Global South. HIV/AIDS is considered a strong contributor to these lower life expectancy rates. Members of the population communicate using twenty-four different languages with English and French both considered official languages of the country with most individuals speaking French as the primary language.

Further, according to CIA data, the nation experiences many of the difficulties seen in other nations in the Global South. Some of these include: limited water supplies, greater potential of government corruption, food resource limitations, overcrowding in large cities, high rates of unemployment within these urban centers, high incidence of teenage parenting, and limited expenses delineated to its educational pursuits within its schools and limited universities. Additionally, Cameroon faces deforestation, overgrazing of livestock, poaching of animals, overharvesting of food resources, and various waterborne and insect-borne diseases. Cameroon's population majority is centered in the large urban centers within the country specifically within the capital of Yaoundé and Douala.

The Ray of Hope Academy exists within the large urban center of Douala where the population approached 3.7 million in 2020 (CIA, 2020). According to Ray of Hope (2020), Ernest Ehabé founded Ray of Hope Academy after his son was diagnosed with autism in 2014. The school began functioning as a recognized school in Cameroon in 2016 and has seen consistent growth since its inception. The school serves students on a typical developmental continuum and students with special learning needs including those students with autism, behavior disorders, and other special learning needs, which many times are undiagnosed. Ehabé (personal communication, 2020) notes that, although the Cameroonian Ministry of Education delineates service to students with special learning needs within the educational system of the country, the actual training and systemic approach to this effort is lacking. Ray of Hope Academy, therefore, fills an important niche within the country of Cameroon in serving preschool and elementary age children within its school.

To confound the difficulty of a systemic approach to meeting the educational needs of students, particularly those with special needs, the nation lacks the systemic, educational, and economic resources to fully educate its future teachers. This is especially true for teachers who will be tasked with teaching students with special learning needs such as those in the Ray of Hope Academy.

Based upon these perceived needs and upon a personal connection of Mr. Ehab to the university involved with this project (Mr. Ehab studied at the university as an international student in the late 1980s and early 1990s.), the university's college of education pursued efforts to assist Ray of Hope Academy concerning its various needs. Specifically, a college faculty member conducted an exploratory project on-site at Ray of Hope Academy to identify particular needs of the school. The faculty member traveled to Cameroon and spent approximately 7 days in the city of Douala, where he interviewed teachers, completed observations, interviewed parents of children within the school, and interviewed various administrators.

The purpose of this project was to explore potential needs of the school and its stakeholders. The project was also completed in efforts to observe the school, its housing units, and the surrounding environment to determine if facilities were available to house university faculty and students for future research, clinical experiences, and/or to conduct potential online experiences and efforts. Finally, another goal of the project was to determine the need for, and the feasibility of, external grant funding efforts aimed at assisting the school in developing as an educational institution for children and youth with and without disabilities in the Douala community.

Contextually, as related to the needs of Ray of Hope Academy, the informational website and materials note the school was founded in 2016 in Douala, Cameroon with the goal of providing developmentally appropriate educational opportunities for children with ASD. Because of a near total absence of speech therapy and applied behavior analysis, as well as shortages of occupational and physical therapists and the exorbitant cost (\$1,000 US Dollars a month), therapy is well out of reach for the average individual. In Douala the average annual salary is \$5,100 US Dollars.

The school began as a special school catering only to individuals with developmental disabilities. However, it soon became economically impractical to continue operating a school that solely provided services for children and youth with developmental disabilities. In Cameroon, there continues to be a strong anti-disability stigma attached to individuals with ASD. These individuals are often ostracized and cut off from society. In the hope of promoting greater social acceptance of individuals with disabilities, the school opened its doors to any child interested in an English language-based education.

Currently, the school has a student body with approximately 33% of its students with ASD or some other type of developmental disability, 33% on scholarship due to inability to pay the tuition, and 33% paying full tuition. The school materials state there is a student body of just over eighty students in grades Pre-K-6.

A special education resource class is present within the school. The class serves four males and one female student. Three adults work with the students with no adult speaking English (the preferred language of the school). Other classrooms follow scripted lessons which researchers have noted is popular within Global South schools (Tao, 2016).

## Exploratory Observations

During exploratory observations within the school, the university faculty member identified several aspects in agreement with what has been noted by previous researchers and mentioned previously. For example, diagnostic assessments did not exist for use with students to identify specific learning needs, particularly for students with special learning needs including autism. Typically, the school used parents' feedback to *generally* determine what the special learning needs *might* be.

In addition and in agreement with what Tao (2016) and others have noted, neither parents nor teachers demonstrated strong understanding of how to assist or instruct students with special learning needs including autism. Therefore, many times, isolation occurred with students, particularly with autism. In one situation, the university faculty member observed a student with suspected but undiagnosed autism using a DVD player to watch what could be best described as self-help animated videos.

Through interviews with parents, students, and administrators, the university faculty member determined the school operated in much the same manner as many schools within the Global South, with the exception of its mission to assist students with special learning needs. Teachers in both typical and special education settings used methods described by aforementioned researchers involving scripted lessons, teacher-centered approaches, repetitive practices, and authoritarian disciplinary approaches. When working with students with special learning needs, particularly with autism, less understanding and application of supported practice was observed.

One concern noted by Mr. Ehab and other administrators at the Ray of Hope Academy involved the lack of specific training teachers received in Cameroon especially when dealing with students with special learning needs. Of the minimum number of teachers on-site who had received university training, much of this training did not involve clinical experiences but rather involved teacher-centered information presentations thus limiting the training effectiveness.

As noted by the CIA (2020), Cameroon experiences difficulties in education confounded by its lack of resources. Schools, within the country, tend to operate as expected in the Global South with what would appear to U.S. citizens as similar to what occurred in historical U.S. one-room schoolhouses with limited resources. In the midst of this resource-lacking environment and lack of teacher training, the Ray of Hope Academy is desirous of a more effective approach to instruction, assessment, and development of students. Without many of the 21<sup>st</sup>-Century technological tools (e.g., presentation tools, digital applications [apps], 1-to-1 computer uses, etc.), the Ray of Hope Academy makes use of chalkboards to simulate Windows 3.1 screens with windows including assessment items, objectives, and notes for the teaching scripts.

The school does offer "extracurricular" activities as well. Outside the Ray of Hope Academy classrooms, the students can participate on a dirt playground with some exercise equipment (e.g., a trampoline, a small swing set, etc.). In addition, the students can participate in dance activities and special programs (e.g., the popular Christmas Program).

From this exploratory project, the researcher identified three areas of particular need. These involved the need of an assessment system, which did not exist within the school. The school did not have an assessment system to provide data for teachers to use for improving practice and student learning. This need has been identified as essential in attempts to positively impact student learning (Council for the Accreditation of Educator Preparation, 2020).

The second area of need included teacher training. The teachers within the school lacked formal teacher training. Two teachers had received some limited training, but the others had not

received formal training. Therefore, teachers primarily used rote learning approaches with very limited student-centered instruction. This was particularly noticeable with students with special learning needs such as autism.

The final area involved working specifically with students with special learning needs. This seemed to be an area of particular concern since the school desires to serve this population especially well. With the lack of strong special education efforts in the nation, particularly with students with autism, the school needs assistance in this area. Based upon the identified needs through this exploratory project, the university is actively pursuing opportunities to assist the teachers, parents, and school through several efforts.

### **Discussions and Conclusions**

Based on the findings of this exploratory project, one effort of the university involves the pursuit of grant funding to assist with the identified needs of Ray of Hope Academy. A grant has been submitted to fund online and onsite in-service education experiences for teachers, administrators, and parents at the Ray of Hope Academy. Onsite experiences would include pedagogy, recreation skills, assessment, planning, and vocational skills. Through this pursuit, an opportunity also exists for collaboration between the university and the Ray of Hope Academy Farm to improve productivity and farming practices, which can provide additional sustainable funding for the school. This aforementioned effort presently involves a host of shareholders.

Specifically, the College of Education at the university has initiated this effort and pursued a collaborative approach with other colleges and departments toward this effort. In the past two years, faculty members from four colleges within the university and a number of departments within these colleges have met to discuss this effort, review the proposed grant, and discuss ways in which the university may pool its expertise to assist the Ray of Hope Academy in its work to educate students more effectively and particularly those with special learning needs such as autism. In this collaborative effort, participants at the university have met each semester for discussion and have met with Ernest Ehabe, the President and Founder of Ray of Hope Academy, to determine the precise and most-pressing needs of the school at this time.

A second effort involves activities to assist Ray of Hope Academy in developing a quality assessment system. The faculty and administration of Ray of Hope Academy specifically identified this need. Currently, there is no formal process by which students admitted to the school are assessed and tracked through the curriculum. An assessment system consisting of diagnostic, formative, and summative assessments would help teachers and administrators measure student progress, improve student placement, and facilitate diagnosis of educational needs. The anticipated assessment system would include cognitive, psychomotor, and affective assessments for students of different ages and abilities. Such approaches would be particularly beneficial when assessing students with special needs such as autism since a system does not presently exist in much of Cameroonian education.

University faculty members, who are experts in the design of assessment systems, have met to discuss ways in which to assist the Ray of Hope Academy in this effort. In addition, the faculty members have worked with a United States school psychologist, who is an expert in various assessments presently used in schools involving students with special learning needs, to provide additional assistance in the practical matters of creating such an assessment system in a public school in the Global South.

Finally, there is no standardized Individualized Education Program (IEP) or assessment report form used within the Ray of Hope Academy. Used in conjunction with their assessment

system a standardized system of forms will increase measurements of improvements and better measurements of learning objectives. A properly developed report form can facilitate the process of deriving information from parents about the learner that can be of great use for teachers. This is particularly necessary for work with students with special learning needs.

In addition to this aspect, the university is pursuing opportunities to assist teachers with the teaching of students with special learning needs, including autism, via an online sharing of resources and professional development. University faculty members have begun development of resources to accomplish this goal since the Ray of Hope Academy faculty and administrators have the ability to participate in online efforts onsite or offsite via virtual connections.

Through this project, the university hopes to have a positive impact on the educational efforts of teachers in the Global South specifically at the Ray of Hope Academy in Cameroon, Africa. The university also desires to have a positive influence on the perceptions and education of students in this environment who have special learning needs including autism. In the aforementioned educational environment, where education for individuals with disabilities is not a commonplace occurrence, exploratory and collaborative efforts, such as the one discussed here, may assist schools in the Global South such as Ray of Hope Academy to better serve all students it strives to educate.

### References

- Abubakar, A., Ssewanyana, D., & Newton, C. R. (2016). A systematic review of research on Autism Spectrum Disorders in Sub-Saharan Africa. *Behavioural Neurology*, 2016, 1 – 14.
- Alli, A., Abdoola, S., Mupawose, A. (2015). Parents' journey into the world of autism. *South African Journal of Children's Health*, 3, 81 – 84.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Association.
- Arrah, R. O., & Swain, K. D. (2014). Teachers' perceptions of students with special education needs in Cameroon secondary schools. *International Journal of Special Education*, 29(3), 101-110.
- Assah, F. K., Ekelund, U., Brage, S., Mbanya, J. C., Wareham, N. (2011). Urbanization, physical activity, and metabolic health in Sub-Saharan Africa. *Journal of Diabetes Care*, 34, 491 – 496.
- Assah, F., Mbanya, J. C., Ekelund, U., Wareham, N., & Brage, S. (2015). Patterns and correlates of objectively measured free-living physical activity in adults in rural and urban Cameroon. *Journal of Epidemiology in Community Health*, 69, 700–707.
- Bakare, M. O., & Munir, K. M. (2011). Excess of non-verbal cases of autism spectrum disorders presenting to orthodox clinical practice in Africa – a trend possibly resulting from late diagnosis and intervention. *South African Journal of Psychiatry*, 17(4), 118 – 120.
- Bakare, M. O., Tunde-Ayinmode, M. F., Adewuya, A. O., Bello-Mojeeed, M. A., Sale, S., James, B. O., Yunusa, M. A., Obindo, J. T., Igwe, M. N., Odinka, P. C., Okafor, C. J., Oshodi, Y. O., Okonoda, K. M., Munir, K. M., & Orovwigho, A. O. (2015). Recognition of Autism Spectrum Disorder (ASD) symptoms and knowledge about some other aspects of ASD among final year medical students in Nigeria, Sub-Saharan Africa. *BMC Research Notes*, 8, 1 – 8.
- Bamua, B. N., De Schauwera, E., Verstraeteb, S., & Van Hovea, G. (2017). Inclusive education for students with hearing impairment in the regular secondary schools in the North-West

- Region of Cameroon: Initiatives and challenges. *International Journal of Disability, Development and Education*, 64, 612 – 623.
- Barrett, A., & Tikly, L. (2012). *Education quality and social justice in the Global South: Challenges for policy, practice and research*. Philadelphia, PA: Taylor & Francis Group.
- Benavot, A., & Gad, L. (2004). Actual instructional time in African primary schools: Factors that reduce school quality in developing countries. *Prospects*, 34(3), 291-310.  
doi:<http://dx.doi.org/10.1007/s11125-004-5309-7>
- Cooper, J. M., & Alvarado, A. (2006). *Preparation, recruitment, and retention of teachers*. Paris: International Academy of Education.
- Council for the Accreditation of Educator Preparation. (2020). *CAEP consolidated handbook*. Washington, DC: Author.
- Holmes, D. (2012, September 29). *Charles Newton: Changing perceptions of neurodisability in Africa*. Retrieved from [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)61654-7/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)61654-7/fulltext).
- Liezl S.L., Shakila, D., & Samuels, A. E. (2017). Family quality of life of South African families raising children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 47, 1966 – 1977.
- Majoko, T. (2016). Inclusion of children with autism spectrum disorders: Listening and hearing to voices from the grassroots. *Journal of Autism and Developmental Disorders*, 46, 1429 – 1440.
- Meiring, M., Seabi, J., Amod, Z., Vorster, A., & Kern, A. (2016). Transition for adolescents with autism spectrum disorder: South African parent and professional perspectives. *Frontiers in Psychiatry*, 7(93), 1-6.
- Mngo, Z. Y., & Mngo, A. Y. (2018). Teachers' perceptions of inclusion in a pilot inclusive education program: Implications for instructional leadership. *Education Research International*, 2018, 1 – 13.
- O'Connor, J., & Dieringer, S.T. (2014). Effect of humpback whale sounds, didgeridoo, and music on select behaviors of a youth with autism spectrum disorder. *Palaestra*, 28 (1), 10 – 13.
- Opoku, M., Wisdom, K., Mckenzie, J., Sakah, B., & Badu, E. (2017). Lives of persons with disabilities in Cameroon after CRPD: Voices of persons with disabilities in the Buea Municipality in Cameroon. *International Journal on Disability and Human Development*, 16(1), 67-75.
- Ray of Hope Academy. (2020). *Ray of Hope Academy: Cultivating the minds of tomorrow – today*. Retrieved from <https://rayofhope-academy.org/>
- Tao S. (2016). Rethinking teacher quality in the Global South. In: *Transforming Teacher Quality in the Global South*. London: Palgrave Macmillan.
- United Nations. (2020). *Least developed countries*.  
<https://www.un.org/development/desa/dpad/least-developed-country-category.html>
- United States Central Intelligence Agency. (2020). *The world fact book: Cameroon*. Washington, DC: United States Central Intelligence Agency. Retrieved from <https://www.cia.gov/library/publications/resources/the-world-factbook/geos/cm.html>
- Wedin, A. (2010) A restricted curriculum for second language learners – a self-fulfilling teacher strategy? *Language and Education*, 24, 171-183, doi: 10.1080/09500780903026352

# **Professional Development and Student-Teacher Relationships: An Examination of Teaching Assistants and Strategies Used to Improve Relationships**

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## **Abstract**

Graduate level teaching assistants provide instruction to undergraduate students with no prior professional development in teaching strategies or relationship building. The authors provided professional development in relationship building for teaching assistants working with undergraduate students. In this mixed methods study, over 300 students in beginning level courses completed a Student-Instructor Rapport scale before and after their instructors (TAs) received professional development on relationship building, and teaching assistants were asked to complete a pre- and post- teaching survey focused on their experiences building relationships with students, including the strategies used, challenges faced, and goals for building relationships. Providing professional development in relationship building for TAs does have a positive impact on students' perceptions of their relationship with their instructor.

*Key words:* professional development, relationship building, teaching assistants

## **Introduction**

Graduate level teaching assistants (TAs) are becoming more prevalent at the university level. According to the 2017 *U.S. News and World Report*, some larger universities report having 26% of undergraduate classes being taught by graduate students (Wasserman, 2018). However, there are some universities who do not have the resources to provide TAs with extensive training in the “how-tos” of teaching and even less training with the more obscure intricacies, such as relationship building. TAs receive limited to no training in instructional methods and have little experience teaching in a classroom (Civikly & Hidalgo, 1992; Feezel and Meyers 1997 as cited in Cho, Kim, Svinicki, and Decker, 2011). The only requirements are often a bachelor's degree and active enrollment in a graduate level program with a specialty in the field they will be teaching classes. In this research article, the authors show the benefits of using a professional development (PD) session or series to increase students' perceptions of their relationships with their instructors who are TAs. With all of the expectations placed on graduate students and faculty, there is not enough time for adequate training to be built into coursework; however, PD session(s) can help alleviate this problem.

## **Literature Review**

### **Belonging**

The need to belong is a fundamental human motivation. Sense of belonging in educational settings comes with reciprocal and mutually beneficial relationships between the student, the student's peers, and the student's teachers (Goodenow, 1993). Peers, parents, and teachers are the most consistent relationships in a student's life. These relationships have been shown to have an impact on students' education, their feelings towards the school, their social and academic competence at the school, and their overall achievement (Goodenow, 1993). College is a vulnerable time for vast quantities of students because it is a new setting. Many students leave their homes, their friends, and their schools for an entirely new environment.

Students in college only interact with their instructors for approximately two to three hours a week, and the class sizes are often much larger than what they have experienced in high school. Because of the challenges mentioned above, there are more barriers for college students to overcome for them to form relationships with their instructors or for them to feel as if they belong, yet the importance of relationships and belonging remains the same.

This article focuses on school belonging and the social interactions between college students and an instructor. School belonging is related to other positive school experiences. Goodenow (1993) defines school belonging as “the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment” (p.80). Students from all walks of life end up in one institution of higher learning. Many students are subject to different cultural, socio-economic, racial, ethnic and other groups for the first time. It can be overwhelming; however, when there are positive relationships maintained in this system, these relationships act as bridges between and among differences (“A trust gap...”, 2017). When these students and instructors are connected, this can predict positive academic outcomes such as engagement, motivation, academic achievement, etc. (Goodenow, 1993).

### **Teacher/Student Relationships**

In the K-12 literature, meaningful interactions between students and teachers are the more significant predictor of a variety of positive outcomes (Wentzel, 1999). Teachers are a fixed component of the system and can have a substantial impact on students’ sense of belonging within that system. Instructors can help students make connections with their peers and to connect them with the happenings of the school system in general (Uslu & Gizir, 2017). When instructors can provide an atmosphere that promotes not only learning, but the development of social connections, students can form an emotional foundation, and from there they can focus on other needs, such as achievement. Students who have these good relationships are more likely to feel positive about class and school and ask for help when they need it (Killian, 2019).

Researchers know the outcomes of these relationships and the need for them, but what is a good relationship? Good relationships entail teachers showing genuine care for their students and accepting them for who they are. A good teacher is aware, empathetic, and gets to know their students (Killian, 2019). New college students have lost several layers of security when they enter higher education. Students need to know that an instructor is warm and that there is order and security as well. Caring instructors push their students to achieve at high levels. This relationship style benefits students from all walks of life and is a crucial aspect of evidence-based teaching strategies (Killian, 2019).

Self-efficacy has been shown to predict student perceptions of their relationship with their teachers (Summers, Davis, & Hoy, 2018). Teachers’ self-efficacy is characterized by how they feel about themselves, their strengths and weaknesses, values, things they feel responsible for, etc. (Summers, Davis, & Hoy, 2018). To be successful, teachers have to feel confident about their abilities to effectively teach their class.

Students’ perceptions of supportive relationships with their teachers correlate with better academic and social outcomes, for example, participation, satisfaction, self-efficacy, critical thinking, standardized achievement in math and language, increasing attendance, reduced disruptive behavior and higher grades (Cornelius-White, 2008). When teachers believe that their students can achieve, they behave accordingly and push students to reach higher standards (Summers, Davis, & Hoy, 2018).

Summers, Davis, and Hoy (2018) examined 219 middle school students and how self-efficacy predicted their perceptions of their relationships with their teachers. Results indicated



that teachers' expectancy of student success predicted the students' perceptions of closeness with their teacher. Teacher beliefs can impact student outcomes. Overall, teachers with a high expectation of success and high levels of self-efficacy were perceived by students to have a better relationship with their students both at the beginning of the year and throughout the year. Relationships are not just for the student's benefit. According to Hattie (2009), teachers with positive student relationships are also more likely to have positive student achievement results. Good relationships are mutually beneficial for both the student and the teacher.

### **Effects of Professional Development on Relationships**

Duong et al. (2018) implemented PD for middle school teachers using the Establish-Maintain-Restore (EMR), which is an approach to assess teachers' abilities to cultivate relationships with students. Training involved a three-hour workshop and weekly reminder emails encouraging teachers to use the strategies. Also, teachers met in biweekly professional learning communities (PLCs) and reflected on their relational status with their students using the EMR phases. Results indicated that teachers trained on the EMR approach showed a significant change in their relationships with students compared to the control group of teachers.

Specifically, the EMR intervention showed "the strongest positive impact on students with the lowest quality relationships with their teachers at baseline." Other measures of intervention effectiveness indicated students were significantly less disruptive and had greater academic engagement time. These results suggest that PD with middle school teachers significantly changed student-teacher relationships. Assadi and Murad (2017) found that PD increased teachers' knowledge and skills. Also, teachers felt the program contributed to their relationship with the school as well as with the students (Assadi & Murad, 2017). Although several studies targeted middle school students, the researchers included these because of their relevance to student-teacher relationships.

### **Professional Development**

Teaching assistants are often under-trained in all aspects of teaching. There is a lack of time and resources available to properly train them with class work; however, PD is another option. Wheeler, Maeng, Chiu, and Bell (2017) explored students outcomes in undergraduate science laboratory classes after TAs attended PD. The content of the PD addressed content knowledge, beliefs, and the TAs' confidence. Student data on content knowledge and perceptions of their TA was collected.

Following PD, TAs' science content knowledge increased. Students' content knowledge increased at the end of the semester as well. The data on students' perceptions of their TA indicated that students who perceived their TA as more supportive believed they learned more content (Wheeler et al., 2017). In addition to being more supportive, students perceived their TA to be more interactive and as asking more thoughtful questions throughout the semester. These findings indicate that providing TAs with PD can have positive outcomes for student learning.

Cho et al., (2011) investigated TAs' concerns related to teaching undergraduate courses. Specifically, TAs who participated in professional development predicted impact concerns and class control concerns. Impact concerns include those related to whether students reached their maximum potential within the classroom. The more TAs attend professional development trainings combined with the value TAs placed on educational practices, the more likely TAs were concerned about student learning (Cho et al., 2011).

During the early 1990s, the Council on Graduate Studies and the American Association for Colleges and University collaborated to fund a preparing future faculty (PFF) programs with three goals: provide graduate student with on-site teaching experience, providing opportunities

for graduate students and faculty to discuss professional expectations, and the integration of professional development for graduate students (Schram, Pinder-Grover & Turcic, 2017). The PFF programs include seminar sessions held over a five-week time period to provide graduate students interested in teaching in higher education the opportunity to learn the basics of teaching in academia via a variety of methods. TAs visit other institutions, develop a teaching philosophy and create a syllabus as a few means to the reality of teaching in higher education.

Schram, Pinder-Grover, and Turcic (2017) surveyed TAs who had participated in the PFF program as well as those who did not. Of those who did participate in the program, 78% indicated that the program was very or extremely helpful. The TAs participating in the current survey are required to enroll in a 10-week long course regarding teaching practices as well as creating a teaching philosophy and a syllabus. Although this course is not a PFF program, it provides TAs with background information about teaching practices. The purpose of the current study was to provide supplemental training to TAs to increase their knowledge of student-teacher relationships.

To understand effective PD, Yoon, Duncan, Lee, Scarloss, and Shipley (2007) conducted a comprehensive analysis of evidence regarding PD effectiveness on student achievement. The researchers summarized the findings of this analysis and provided common characteristics from the review as well as some suggestions for future providers of PD. The 1,343 studies on PD had to meet the criteria for credible evidence-supported studies according to the What Works Clearinghouse criteria. Of the expansive list of articles, only nine met the standards. These nine articles focused on elementary school faculty and students. Although this population is different than that of a university, the philosophy of educating students and increasing student learning is the same. Of these nine articles, common characteristics and themes emerged.

These characteristics included the use of workshops and summer institutes as a means of increasing student learning. Both of these PD approaches were used in the nine studies. Also, the primary focus of the studies reviewed was on the knowledge of outside experts to improve student learning. The experts presented topics to the teachers directly and aided them in the implementation of the content. Another characteristic included the time spent in PD. The hours varied among the studies, but thirty or more contact hours showed positive effects. Follow-up activities also showed improvements in student learning. However, follow-up activities need to be structured and sustainable. The researchers did not find common activities shared among the nine articles that linked to student learning. The activities used were based on specific content, type of work, and the context of the work. The final content characteristic among the nine studies was the teachers' implementation of the pedagogical practices. Emphasis was placed on the freedom for teachers to determine the specific content and pedagogical practices they chose to implement in their classrooms that best aligned with their classroom practices and were justified to aid in student learning.

Based on these findings, the researchers concluded that those providing PD should critically assess and evaluate the effectiveness of the training they provide. Also, more rigorous research needs to be conducted to increase the study of PD practices and effectiveness. PD should match teacher and school needs, involve teachers in the planning process, actively involve participants, provide long-term engagement, and high-quality instructors should lead (Byar, 2014).

The literature focuses primarily on K-12 relationships and how PD and other interventions can contribute to improving student-teacher relationships. There is a need to assess the benefits of a PD not only with instructors in higher education but also with TAs in particular.

TAs have unique stressors associated with teaching. They not only lack training but confidence because they are students themselves. Also, TAs are balancing their course work as well as the work associated with teaching a class. The purpose of this study was to provide TAs at one university with a PD focused on relationship building importance and techniques. Researchers assessed the effectiveness of the PD quantitatively from the student perspective and qualitatively from the TAs' perspective. It is the belief of the researchers of this study that the PD not only improves relationship perceptions for the students but also provides TAs training and ideas that will increase their confidence and improve their teaching abilities for years to come. In the current study, the researchers sought to include elements recommended by Yoon et al., (2007) by engaging participating TAs over a semester through surveys, self-reports, and high-quality PD. The PD engaged the participants actively while demonstrating the strategies being taught.

## **Method**

### **Participants**

Participants were recruited from the Psychology and Counseling Department of a major university in the Mid-Southern United States. An Institutional Review Board application was filed and all participants were provided with an Informed Consent Agreement. All participants, student and TAs, signed the Informed Consent Agreement prior to completing the pre-PD survey. Over 300 students in beginning level psychology courses were asked to fill out a Student-Instructor Rapport scale before and after their instructors received PD on relationship building. Participants also included seven TAs who were graduate students in the psychology and counseling department. Specific attrition factors were not identified, and all student responses were collected without reference to any particular TAs. The researchers did not code students but instead included all pre and post-intervention survey results in the findings. The pre-PD survey had 347 respondents, and the post-PD survey had 307. It is believed that students who did not respond to the post-survey were either late to class, absent, or dropped the course between the pre- and post- survey. If they did not take the pre-intervention survey, they were asked not to fill out the post-intervention survey; however, researchers did not control for this.

### **Pre-Post Surveys**

Students were asked to fill out a brief survey about their relationships with their instructors before the midterm examination and then again before the final examination of the Fall, 2018 semester. The student survey asked questions that probed students' perceptions that the instructor understands, encourages, cares treats fairly, communicates effectively, and respects them. Also, students reported their perception of earned respect for the instructor, if the instructor is approachable for questions or comments, and general satisfaction with their relationship. At the beginning of the study, students were given an information sheet explaining the purpose of the research study. The survey used was the Student-Instructor Rapport scale (see Appendix A) developed by Lammers and Gillaspay Jr. (2013), which has been shown to have good concurrent validity and good predictive validity for student outcomes, such as course evaluation and grades.

The teaching survey was focused on the TAs' experiences building relationships with their students, including the strategies used, challenges faced, and goals for building relationships. TAs were asked what strategies worked well for them and what did not. TAs also provided advice for beginning teachers concerning building relationships with students. This survey was comprised of seven questions modified from Soo (2016), and TAs filled out the survey before PD and again at the end of the semester, after receiving the PD (see appendix B for the full survey).

## **Professional Development Description**

The participating TAs attended a short, one-hour PD activity that focused on connecting with their students. The PD activity began with a detailed outline of the presentation contents, and participants were informed of the purpose of the PD (i.e., providing them with specific strategies they could use for relationship building in their classes). After the purpose of the study was shared with the TAs, two components of positive relationship building were defined, and multiple examples were provided. The two components included caring and communication. All PD activities were geared for large classes since the TAs expressed concerns with relationship building in larger classes with most classes comprised of 40 to 60 students in a stadium seating arrangement.

The TAs were provided with tips and strategies for building relationships with their students as well as examples of activities that could be used to build relationships. Specific strategies shared and demonstrated included: discovering student interests through questions, using visuals, and engaging students through small group activities designed to connect interests with content. Discovering and utilizing student interests demonstrates both caring and improved communication. Ideas for discovering and utilizing these were identified through the use of multiple intelligence surveys and Learning Expressways folders. In addition, it was suggested that TAs incorporate results into instructional design and delivery after sharing the overall results of surveys and inventories with the class. Sharing results is another way to enhance communication.

After a brief discussion about the exploration of student interests, the concept of caring was reviewed. A rationale was given, and several ideas were presented for consideration. Building a community of learners was suggested, and the notion of reciprocal communication through sharing personal parts of the TAs' lives with students was introduced. The use of class newsletters, celebrations, calendars with upcoming events and student recognition moments was presented. Other areas for discussion included the importance of demonstrating equity in interactions through the provision of equitable response opportunities, feedback, and personal regard.

After the PD activity, the TAs were asked to participate in a wrap-up discussion. Also, each participant was given the pre-implementation questionnaire to complete and a checklist to guide their use of relationship building strategies with several strategies listed (see Appendix C). The TAs were asked to use the checklist as a guide when teaching to remind themselves of the strategies presented in the PD and were also asked to respond to researchers during the semester about how their implementation was going.

## **Results**

### **Students**

This study was a two-part study to assess both TAs and student perceptions of rapport. Student perceptions were measured quantitatively through the use of the Student- Instructor Rapport scale (Lammers & Gillaspay, 2013). Participants were asked to fill out the Student- Instructor Rapport scale before TAs were given the PD at the beginning of the semester and again after the PD, at the end of the semester. Wording for these questions remained the same for pre-test and post-test. A paired samples t-test was conducted to compare student perceptions of their rapport with their instructor before PD and after PD (See Table 1). There was no significant difference in the question assessing fairness (i.e., "Your instructor treats you fairly") before the PD ( $M=4.67$ ,  $SD=.58$ ) and after PD ( $M=4.68$ ,  $SD=.65$ ),  $t(306)=-.14$ ,  $p=.89$ , or in the question

assessing approachability (i.e., “Your instructor is approachable when you have questions or comments”) before PD ( $M=4.69$ ,  $SD=.63$ ) and after PD ( $M=4.76$ ,  $SD=.58$ ),  $t(306)= -1.48$ ,  $p=.14$ .

There were significant differences in students perceptions of their teachers understanding (i.e., “your instructor understands you”) before PD ( $M=3.95$ ,  $SD=.96$ ) and after PD ( $M=4.31$ ,  $SD=.81$ ),  $t(305)= -5.05$ ,  $p<.001$ ; their instructors encouragement (i.e., “your instructor encourages you”) before PD ( $M=4.36$ ,  $SD=.78$ ) and after PD ( $M=4.58$ ,  $SD=.67$ ),  $t(306)= -3.70$ ,  $p<.001$ ; their instructors caring (i.e., “your instructor cares about you”) before PD ( $M=4.36$ ,  $SD=.74$ ) and after PD ( $M=4.58$ ,  $SD=.70$ ),  $t(306)= -3.85$ ,  $p<.001$ ; their instructors communication (i.e., “your instructor communicates effectively with you”) before the PD ( $M=4.15$ ,  $SD=.90$ ) and after PD ( $M=4.39$ ,  $SD=.84$ ),  $t(306)= -3.47$ ,  $p=.001$ ; their instructor’s level of respect for them (i.e. “your instructor respects you”) before the PD ( $M=4.63$ ,  $SD=.65$ ) and after PD ( $M=4.72$ ,  $SD=.58$ ),  $t(304)= -2.10$ ,  $p=.04$ ; their level of respect for their instructor before PD ( $M=4.49$ ,  $SD=.81$ ) and after PD ( $M=4.62$ ,  $SD=.73$ ),  $t(305)= -2.11$ ,  $p=.04$ ; and their general satisfaction with their relationship with their instructor before PD ( $M=4.38$ ,  $SD=.86$ ) and after PD ( $M=4.53$ ,  $SD=.81$ ),  $t(306)= -2.31$ ,  $p=.02$ .

Table 1

*Results of student perceptions of their relationship with their TA pre- and post-professional development*

Outcome	Pre PD		Post PD		n	r	t	df
	M	SD	M	SD				
Understanding	3.95	0.96	4.31	.81	306	0.01	-5.05**	305
Encouragement	4.36	0.78	4.58	0.67	307	-0.08	-3.70**	306
Caring	4.36	0.74	4.58	0.70	307	0.02	-3.85**	306
Fairness	4.67	0.58	4.68	0.64	307	0.11	-0.14	306
Communication	4.14	0.90	4.39	0.84	307	0.03	-3.47**	306
Respects You	4.63	0.65	4.72	0.58	305	0.11	-2.09*	304
Earned Respect	4.49	0.81	4.62	0.73	306	0.07	-2.11*	305
Approachable	4.69	0.63	4.76	0.58	307	0.09	-1.48	306
Overall Satisfaction	4.38	0.86	4.53	0.81	307	0.07	-2.31*	306

\*  $p < .05$ . \*\* $p<.001$ .

Overall these results suggest that providing a relationship PD for TAs does have a positive impact on students' perceptions of their relationship with their instructor. There is evidence for this in all areas except for fairness and instructor approachability. Next, we discuss the qualitative findings of the pre- and post- interviews with the TAs themselves.

### **Teaching Assistants**

Several aspects of this study, including teaching assistants' beliefs about relationship building, strategies used to build relationships with students, and challenges to forming these relationships were measured qualitatively through a modified version of the Teachers' Perspectives on Classroom Management (Soo, 2016). TAs completed the pre-survey before the PD and again at the end of the semester. The researchers modified the wording of pre and post survey questions to reflect the present and past tense represented by the beginning and end of the semester. Items were grouped based on content to create three separate constructs and then coded to highlight common themes reported by the TAs.

The first construct highlighted TAs' attitudes toward building relationships with students, including the key indicators for building a positive relationship and strategies used to do this. TAs reported an increase in Communication following the PD. Also, TAs highlighted establishing trust, building respectful connections, and using humor. Building a reciprocal relationship between the TAs and students was also mentioned, and strategies used included sharing personal stories, being personable and warm, remembering details of their lives, eliciting feedback from students, and celebrating students' successes.

An additional construct from the TAs' responses pertained to the challenges of building relationships with students as well as TAs' responses to these challenges. Some of the challenges faced when building relationships included having limited time, instructing a large number of students in the class, working with a variety of student characteristics, and working to balance teaching with graduate school. In response to these challenges, TAs used various methods of communication and made themselves available for students to reach out to them if needed. Specifically for communication, TAs reported, "Did the best I could to make eye contact with each student" and "Address each student by name when possible."

The final construct of TAs perceptions of classroom management regarded advice TAs would give to beginning teachers who struggle with building relationships with students. For both pre-PD and post-PD, responses were coded as ways of being or ways of doing. The researchers used these codes because some of the TA responses were action-focused (doing) and some were becoming-focused (being). Ways of doing included inviting students to communicate, figuring out students as individuals, and trusting the processes at pre-test. At post-test, TAs reported reaching out to students and encouraging students to be genuine as ways of doing. Ways of being included being personable, giving yourself grace, being open and humble, being understanding, and being human. TAs increased their perceptions of ways of being from pretest to post-test, and TAs decreased their perceptions of ways of doing from pre- to post-survey administration.

## **Discussion**

Overall, this study was designed with the intention of helping higher education institutions provide training to TAs. There are some institutions that do not have the resources to provide in depth training, and professional development can be an option. The purpose of this research is two-fold: (1) discussing the importance of relationship building skills, skills that are

easily overlooked without training, and (2) how PD can help train TAs in the intricacies of teaching that go beyond the content of the class in a brief and effective way.

A review of the quantitative student response data suggests there were significant differences between most pre-intervention perceptions and post-intervention perceptions on the part of students. A cursory comparison of the PD contents with survey results could suggest that the emphasis on caring and communication was effective in impacting student responses at the end of the semester. Other specific areas of the PD might have also contributed to the post-survey results. These include the emphasis on reciprocity of interaction, delving and utilizing student preferences and interests, and demonstrating concern. The two areas that did not show significant gains were fairness and approachability. Equitable distribution of response opportunities, feedback, and demonstration of personal regard was briefly discussed in the PD session, but these were not discussed at length. Perhaps, this lack of depth might impact the post-survey results.

A review of the qualitative data results suggests that the TAs increased in their attention to communication with students through the semester. The depth with which TAs responded also increased during the semester. For example, “send regular emails with reminders of information about class” was a comment from the pre-test, while “kept an open line of communication via email” was a post-test response. The first example suggests more one-way communication and the second suggests attention to more two-way communication. Another example of differences between pre and post regards the challenges faced by TAs. An example from the pre-test is “my many obligations,” and an example from the post-test is “ensuring I had a work/life balance.” The difference in commenting here might indicate focusing on external factors as challenges vs. focusing on internal factors as challenges. A final area for discussion is ways of doing vs. ways of being comments. The importance of this possible growth on the part of the TAs might be summed in one statement from author Matthew Rossano (2016), “If we never commit to ‘being’ something rather merely ‘doing’ something, then we may never develop the endurance and perseverance necessary for truly profound relational growth.” As this entire article targets the importance of relationships, the authors acknowledge the possible connection between PD in building relationships and the development and maintenance of such relationships.

It is also noteworthy that there was no control group with which to compare results. The researchers cannot definitively state that the PD accounted for significant differences in student responses, although researchers believe that the PD activity did have a positive impact on relationship building. This is indicated by the TAs themselves. Another factor that might have contributed to the results is merely the passage of time throughout the semester. As the TAs became more familiar with the students and as students learned a little about their TAs, it is highly probable that the length of time (a semester) might have been somewhat responsible for positive perceptions. This is a limitation of the present study, and further research needs to be conducted that includes a control group. While no research is without its limitations the positive results of this study are promising.

## **Conclusion**

More universities are using graduate students to teach introductory level classes which are a critical foundation for all majors. It is important that these graduate students are prepared to teach the content as well as perform all the other responsibilities of an instructor, including forming relationships with their students. Graduate students are already experiencing the strain of an intense course load and it is not feasible to add to that; however, professional development

could be the answer to provide them with the training they need without over extending them further. Graduate students who actively seek professional development may be more likely to succeed in their future careers than those who do not actively participate in professional development experiences (Schram, Pinder-Grover, Turcic II, 2017). Although the lack of a control group limits the current study, it appears that PD did have promising advantages for both parties in a brief one hour session. As demonstrated by both student (quantitative) and TA (qualitative) data, positive perceptions improved throughout the semester. It appears that PD can have a significant impact on those who engage in the teaching process in a short amount of time. For TAs who have limited knowledge of effective teaching practice, this is one way to help them have a positive impact on those they teach. These results are promising, and additional studies regarding ways to help TAs be effective should be a focus for the future, especially those involving professional development strategies.

### References

- A trust gap for minority students. (2017). *Science Teacher*, 84(4), 24-26.
- Assadi, N. & Murad, T. (2017). The effect of the teachers' training model "Academy-Class" on the teacher's students' professional development from students' perspectives. *Journal of Language Teaching and Research*, 8(2), 214-220. doi: <http://dx.doi.org/10.17507/jtlr.0802.02>
- Bayar, A. (2014). The components of effective professional development activities in terms of teachers' perspectives. *International Online Journal of Educational Sciences*, 6(2), 319-327. doi: <http://dx.doi.org/10.15345/iojes.2014.02.006>
- Brinkworth, M. E., McIntyre, J., Juraschek, A. D., & Gehlbach, H. (2018). Teacher-student relationships: The positives and negatives of assessing both perspectives. *Journal of Applied Developmental Psychology*, 55, 24–38. <https://doi.org/10.1016/j.appdev.2017.09.002>
- Cho, Y., Myoungsook, K., Svinicki, M. D. & Decker, M. L. (2011). Exploring teaching concerns and characteristics of graduate teaching assistants. *Teaching in Higher Education*, 16(3), 267-279. doi: 10.1080/13562517.2010.524920
- Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research*, 77(1), 113–143. doi:<https://doi.org/10.3102/003465430298563>
- Duong, M.T., Pullman, M. D., Buntain-Ricklefs, J., Lee, K., Benjamin, K.S., Nguyen, L & Cook. C. R. (2018). Brief teacher training improves student behavior and student-teacher relationships in middle school. *School Psychology Quarterly*. Advanced online publication. <http://dx.doi.org/10.1037/spq0000296>
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. New York: Routledge.
- Lammers, W.J. & Gillaspay Jr., J.A. (2013) Brief measure of student-instructor rapport predict student success in online courses. *International Journal for the Scholarship of Teaching and Learning* 7(2), 1-13. doi: <https://doi.org/10.20429/ijstl.2013.070216>
- Rossano, M. J. (2016). Being something vs. doing something. Retrieved from <https://www.psychologytoday.com/us/blog/seeking-perfection/201608/being-something-vs-doing-something>



- Schram, L. N., Pinder-Grover, T. & Turcic S., II. (2017). Assessing the long-term impact of the preparing future faculty seminar. *To Improve the Academy*, 36(2), 101-116. <https://doi.org/10.1002/tia2.20063>
- Summers, J.J., Davis, H.A., & Hoy, A.W. (2017). The effects of teachers' efficacy beliefs on students' perceptions of teacher relationship quality. *Learning and Individual Differences*, 53, 17-25. doi: <https://doi.org/10.1016/j.lindif.2016.10.004>
- Wasserman, E. (2018) Graduate students as undergraduate teachers. Retrieved from [http://teachingcenter.wustl.edu/2018/10/04\\_graduate\\_student\\_teachers/](http://teachingcenter.wustl.edu/2018/10/04_graduate_student_teachers/)
- Uslu, F., & Gizir, S. (2017). School Belonging of Adolescents: The Role of Teacher-Student Relationships, Peer Relationships, and Family Involvement. *Educational Sciences: Theory & Practice*, 17(1), 63-82. doi:10.12738/estp.2017.1.0104
- Killian, S. (2019). What everyone needs to know about high-performance, teacher-student relationships. Retrieved from <http://www.evidencebasedteaching.org.au/crash-course-evidence-based-teaching/teacher-student-relationships/>
- Yoon, K. S., Duncan, T., Lee, S. W.-Y., Scarloss, B. & Shapley, K. (2007). *Reviewing the evidence on how teacher professional development affects student achievement* (Issues & Answers Report, REL 2007-No. 033). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. Retrieved <http://ies.ed.gov/ncee/edlabs>

## Appendix A

### Student – Instructor Rapport Scale

Reflect upon your personal interaction and observations in your class thus far. Circle the response that best characterizes how you feel.

Survey Administered (for researcher use only—circle one):    Pre    Post

#### Do You Perceive that:

	Not at all	Sometimes	Very much so		
Your instructor understands you	1	2	3	4	5
Your instructor encourages you	1	2	3	4	5
Your instructor cares about you	1	2	3	4	5
Your instructor treats you fairly	1	2	3	4	5
Your instructor communicates effectively with you	1	2	3	4	5
Your instructor respects you	1	2	3	4	5
Your instructor has earned your respect	1	2	3	4	5

Your instructor is approachable  
when you have questions or  
comments

1

2

3

4

5

In general, you are satisfied with  
your relationship with the  
instructor

1

2

3

4

5

## Appendix B

### Semi-Structured Interview Questions for Building Relationships with Students

Questions Adapted from: (Teachers' Perspectives on Classroom Management, Soo, 2016)

*Interview Conducted (for researchers use only- circle one)-* *Pre* *Post*

**Reflecting on your experience as a teaching assistant thus far, please answer these questions to the best of your experience.**

1. What does relationship building mean to you? What are some of the key indicators of a positive relationship?
2. What do you do to build positive relationships with students?
3. What are some strategies or tools that you use or have used when building positive relations with your students?
  - A. Which strategies do you find work well in general?
  - B. What resources do you use to access these strategies or tools?
4. What issues or challenges do you face in your effort to build positive relationships with students?
  - A. Why do you think you encounter these challenges?
  - B. How do you respond to these challenges?
5. What range of factors and resources support you in building relationships with students?
6. What are some of your goals for relationship building with your students moving forward?
7. What advice, if any, do you have for beginning teachers who struggle with building relationships with their students?

## Appendix C

### Teacher Student Rapport Checklist

Please try to incorporate as many of these into your daily teaching as possible. You do **NOT** have to fill one of these out and turn into us for every class period. We would like to collect one every two weeks (total 3 forms). It is designed for you to use as a reminder and for reflection purposes. We want to encourage you to be as purposeful as possible in building relationships with the students in your classes.

Did I Do This Today?	Yes	No	N/A
1. Solicit student input?			
2. Involve a variety of students?			
3. Incorporate student interests?			
4. Demonstrate awareness of individual student learning needs?			
5. Encourage cooperation between my students and their peers?			
6. Empower my students today?			
7. Use my authority to set limits, offer choices, and decide what is and is not negotiable?			
8. Give good directions?			
9. Set clear, proactive boundaries?			
10. Take into consideration student preferences and learning styles?			
11. Stay in the present- teaching and interacting in the present to build success for the future?			
12. Avoid using my feelings as a way to change others?			
13. Equity in who I am calling on and/or complimenting?			

# **How Arkansas Teachers Grapple with Cultural Diversity and Inclusion**

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## **Abstract**

In this mixed-methods study, the authors designed and distributed a survey to teachers from five separate regions of Arkansas to examine the diversity of the teachers in terms of education background, type of school they serve, their experiences with students, and how the teachers address cultural diversity and inclusion. The results of this study reveal that some teachers understand and demonstrate the significance of their role in leading inclusive classrooms and some may not. Other teachers struggle to address the multiplicity that resides in their classrooms, yet others are finding their way. Because of the consequences of teachers' perspectives, principles, and practices on the present and future of students, this article offers strategies that the State and districts could employ to equip teachers to lead inclusive classroom communities.

*Keywords:* K-12 teachers, cultural diversity, inclusion, educational strategies

## **Introduction**

The American Association of Colleges & Universities (n.d.) asserts that diversity is a comprehensive notion. People have individual differences such as personality, learning styles, and life experiences. There are group/social differences. Examples include race/ethnicity, class, gender, sexual orientation, gender identity, country of origin, and geography. Individuals also have differences in their abilities. Instances comprise intellectual and physical. By the same token, people have cultural, political, religious, spiritual, and other views and affiliations. In addition to the varying types of diversity, there is also intersectionality, which is the interconnected nature of social categorizations such as race, socioeconomic class, and gender that may lead to interdependent systems of disadvantage (Crenshaw, 2015).

When one observes the status of schools, one will see a plethora of diversity on display among students. For instance, students come to school with a variety of languages, accents, and language patterns. They hail from various types of family units. For example, students may come from a traditional, biological family unit; an extended family; a sub-family; a blended family; an adoptive family; a kinship adoptive family; a guardian; or a foster family (Barbour, Barbour, and Scully, 2008). A student may have same-gender parents; stepmothers and fathers; a single mother or father; as well as parents who never married, are separated, or divorced. Children may also have parents who are incarcerated, have moved away, are unhealthy and cannot help them, or have abandoned them. Some of the students' parents work at home, outside their home, or do not work at all.

Moreover, there are high-needs students who are typically identified as children that experience physical or intellectual impairments, reside in families that have a low-income, speak a language other than English, have difficult social and economic conditions, substandard housing, family and/or neighborhood instability and are usually located in urban or rural settings (Ohio Board Certified Teachers, 2006). What is more, there are highly vulnerable students who have chronic health and emotional health challenges; families and homes transformed by the crushing economy; are victims of domestic violence and community unrest; orphans and foster children who are wards of the State; and exploited and refugee children from outside the U.S. (Ohio Board Certified Teachers, 2006). Because of historical and contemporary measures, students dwell in a

wide variety of conditions and circumstances, with varying levels of parental support, engagement, and involvement. In addition, students experience differing levels of community support and resources.

Just as there is diversity among students, there is a variety of differences in teacher background and experiences. Many teacher candidates experience the traditional credentialing path, but others do not receive a teaching license until they enter a masters-level program or other fellowship program such as Teach for America. Still others join the profession later in life (Sandoval-Lucero et al., 2011). Another difference shown in teachers is the distinction between millennial teachers and teachers from previous generations in that millennial teachers are more likely taught that diversity is important to instructional methodology (Rodriguez & Hallman, 2013). Some teachers address cultural diversity in the classroom through differentiated instruction to maximize student potential, to nurture a positive classroom environment, and to foster students' ability and motivation (Civitillo, Denessen, & Molenaar, 2016). Still other teachers address cultural diversity and inclusion by developing the student-teacher relationship (Sheppard, 2009). This study shows how Arkansas teachers grapple with cultural diversity and inclusion in the classroom.

The broad spectrum of diversity in schools, positions them to become places and spaces where misunderstanding and cultural mismatches abound. Rich diversity in schools, then, calls for people to learn about each another with cultural agility and cultural humility, because inclusion is not a natural byproduct of diversity. Even when diversity is present, inclusion does not occur automatically. An environment can display rich diversity but remain unwelcoming. Inclusion is the active, intentional, and ongoing engagement with diversity that brings to bear an empathic understanding of the complex ways individuals interact within systems and institutions. (American Association of Colleges & Universities, n.d.). Inclusion ensures that people who are marginalized feel visible, valued, and validated. Inclusive excellence is a result of understanding and knowing the difference in the environment and then accepting the wisdom of the diverse assemblage in ways that help the school address its challenges in creative, culturally relevant, and kind ways.

### **Literature Review**

Between the 2010 and 2015 census reports, some counties in Arkansas experienced growth (i.e., Benton, Washington, Saline, and Craighead) while other counties (i.e., Phillips, Desha, Lee, and Sevier) saw a decline in their population. The 2010 census report calculated Arkansas' population at 2,915,918 while the 2015 census report estimated Arkansas' population at 2,978,204. The 2019 Arkansas Census indicated a population of 3,026,412. Overall, that is an increase of roughly 110,000 more people in Arkansas in a little less than ten years (United States Census Bureau, n.d.; World Population Review, 2019). As presented in Table 1, recent demographics of Arkansas residents conclude that the majority of Arkansas residents are White, followed by African Americans, Latinos, other races, two or more races, Asians, American Indians/Alaskan Natives, then Native Hawaiians/Other Pacific Islanders.

Table 1  
***Arkansas Demographics by Race/Ethnicity (2020)***

Academic Year	African American Black	Hispanic	Two or Races	Asian	White	Other Races	American Indian and Alaska Native	Native Hawaiian and other Islander
2020	15.41%	7.3%	2.54%	1.47%	77%	2.64%	0.67%	0.27%

Only approximately five percent of Arkansas students attend a private school (Catt, 2016). In academic year 2018-2019, however, the State served 478,318 students from preschool through 12th grade (Arkansas Department of Education, 2019). In the last 10 years, student diversity in Arkansas public schools, by race/ethnicity, has shown a gradual increase in the Latinx community, a measured decrease in White students, and a slight increase in students who identified as “other races” (Arkansas Department of Education, 2019). The percentage of students who qualified for free and reduced lunch has increased slightly over this same period as well the percentage of students who received special education service (Arkansas Department of Education, 2019). A recent history of student diversity in Arkansas schools may be found in Table 2.

Table 2  
***Recent History of Student Diversity in Arkansas Schools by Race/Ethnicity***

Academic Year	African American Black	Hispanic	White	Other Races	Free/Reduced	Special Education
2010/11	21%	9%	65%	5%	59%	11%
2015/16	21%	12%	62%	5%	61%	12%
2017-18	20%	13%	61%	6%	63%	12%

The proportionality of teacher-student diversity in Arkansas schools by race/ethnicity is uneven in that African American certified teachers are not in proportion to African American students; Hispanic certified teachers are not consistent with Hispanic students, and certified teachers of “other races” is not on par with students of “other races” (Arkansas Department of Education, 2019; University of Arkansas Office for Education Policy, 2018) as presented in Table 3.



Table 3  
***Arkansas Certified Teachers by Race (2018-2019)***

African American/ Black	Asian	Hawaiian/ Pacific Islander	Hispanic	Native American/ Alaskan	Two or more Races	White
3,181	138	26	428	200	133	38,121
7.53%	0.33%	0.06%	1.01%	0.47%	0.31%	90.28%

*N=42,227*

In each of the five regions of Arkansas: Northwest (NW), Northeast (NE), Central (C), Southwest (SW), and Southeast (SE), the socioeconomic status of students could definitively be declared as impoverished. Table 4 indicates that regions range from 49% of students qualifying for free/reduced meals to other regions that have requested that 100% of their students receive free/reduced meals.

Table 4  
***Demographics of Arkansas Regions by Minority Status and Free/Reduced Lunch***

Location	Overall Minority %	Free/Reduced Lunch %
Northwest	66	71
Northeast	85	100
Central	43	49
	82	67
Southwest	82	100
Southeast	39	64

Academically, Arkansas students lag in performance in national eighth grade assessments and in graduation rates, as evaluated by the Arkansas Education Report Card (University of Arkansas Office of Education Policy, n.d). Despite these statistics, Arkansas aspires to improve and support diversity in public schools through the Teacher Excellence and Support System (TESS). TESS is used to help teachers become successful (Arkansas Department of Education, n.d). TESS is important for “greater school and district flexibility while maintaining the essential framework for professional support, growth, and evaluations” (Arkansas Department of Education, 2019). TESS is in alignment with the national program, Every Student Succeeds Act

(ESSA), that supports diversity in schools. ESSA was passed in 2015 by President Barack Obama to replace the previous K-12 policy of President George Bush, No Child Left Behind (US Department of Education, n.d). ESSA puts forth guidelines that help to alleviate the disproportionate achievement rates of low-income and minority students due to teaching (Arkansas Department of Education, 2019). Each of these policies encourages teachers to work consistently to improve their teaching, students' learning, and the environments in which they teach.

The awareness, active responses, and growth that teachers should exemplify in their teaching are also reflected in the standards of the Council of Accreditation of Educator Preparation (CAEP, n.d.). This Council inspects for high standards, including support for diversity. In fact, CAEP's mission is to "advance equity and excellence in educator preparation through evidence-based accreditation that assures quality and supports continuous improvement to strengthen P-12 student learning" (CAEP, n.d.).

Standard 2 of CAEP is Clinical Partnerships and Practice. This standard speaks to the importance of clinical experiences in the classroom that are of "sufficient depth, breadth, diversity, coherence, and duration to ensure that candidates demonstrate their developing effectiveness and positive impact on all students' learning and development" (CAEP, n.d). The participant experiences in this study speak to CAEP Standards 2 in terms of describing their experiences with students and how these experiences have enhanced the learning process for both the teacher and the student. A recent study conducted affirmed that teachers who facilitated culturally responsive classrooms that provided differentiation of classroom strategies were also effective in providing classroom management for diverse classrooms and in expressing a culture of care (Dees and LaCour, 2018).

Standard 5 of CAEP is Provider Quality, Continuous Impact, and Capacity. The survey responses of some teachers in this study show continuous improvement that mirrors Standard 5. Continuous improvement is such that "The provider regularly and systematically assesses performance against its goals and relevant standards, tracks results over time, tests innovations and the effects of selection criteria on subsequent progress and completion and uses results to improve program elements and processes" (CAEP, n.d). Some participants in this study also discussed their experiences and reflected upon those experiences, showing their continuous improvement as teachers.

The standards from CAEP affirm that teacher reflection and self-awareness are important aspects of continuous instructional improvement to meet the needs of students. Similarly, Webster (2014) proposed the Pyramid of Self-Reflection model to guide K-12 teachers in questioning societal effects on individuals, groups, schooling, and their practices. The model encourages teachers to contest the notion of demographic destiny and to aspire to serve all students well. Webster (2010) also studied teacher practices with students whom they considered to be a challenge. The results of the study indicated that teachers can, by connecting, respecting, and reflecting, improve teacher-student interactions and students' achievement even when students have cultures, language patterns, and economic backgrounds different than their own.

The future of education in Arkansas inspired the current authors to explore how Arkansas teachers grapple with cultural diversity and inclusion. Considering the quantitative U.S. Census data, the achievement data from the Arkansas Department of Education, as well as the qualitative information that arose from the voices of Arkansas teachers, the authors hope that all the data will be used as a flashlight rather than a hammer in facilitating academic and inclusive excellence in Arkansas schools.

## **Methods**

In order to investigate the ways that Arkansas teachers perceive and internalize their professional experiences, this study uses an interpretive research design as it allows participants to freely share their voices and it affords researchers the opportunity to interpret participants' expressions (Bhattacharjee, 2012; Schwartz-Shea & Yanow, 2012). Interpretive research respects that social realities are neither singular nor objective; rather, they are shaped by human experiences and social contexts (Bhattacharjee, 2012; Schwartz-Shea and Yanow, 2012). To this end, the current researchers view social realities as being embedded within participants and, therefore, seek meaning from the expressions of the participants, through their social and geographical contexts. Of the interpretive research designs, the phenomenological approach is employed here as it affords researchers the opportunity to identify and study human experiences as described by the participants, while it also enables researchers to learn, understand, and report those lived experiences (Creswell, 2014). In particular, the phenomenological qualitative approach assisted the authors (1) in exploring the magnitude and extent that the social phenomenon of diversity and inclusion is operationalized in some classrooms; (2) in generating ideas about how social realities inform teachers' roles in facilitating diversity and inclusion in classrooms; and (3) in considering the possibilities for undertaking more research on diversity and inclusion in Arkansas schools.

### **Participants**

The sampling strategy employed for this study was convenience sampling, a non-probability approach (Bhattacharjee, 2012). As the unit of analysis is individual teachers located throughout the state, the sampling strategy targeted individuals who are on the frontline in Arkansas schools – teachers. Consistent with the sampling strategy, participating teachers would possess knowledge and experience with the business of school as well as the practices of their social locations. The authors realized that social desirability bias was possible due to the deeply personal inquiries of teachers' professional experiences and because people tend to want to be liked. To decrease this threat, teachers were not surveyed face-to-face; they could respond to the inquiries privately. All the same, the researchers assumed that participants would be willing to share their professional stories, would reflect deeply, and would respond honestly and authentically. Through convenience sampling, teachers with diverse backgrounds, geographies, education experience, and grade levels were intentionally sought from all five regions of Arkansas. A summary table of participants can be viewed in Table 5.

Table 5  
***Participant Demographic Summary***

Gender	Ethnicity	Grade Level	Subject	Years	Location	School Type	Education Background
F	Caucasian	8-9	Library Media	27	NW	Suburban	Traditional
F	Caucasian	8	New Arrival (ESL) ELA, ELD Level 1, Reading	2	NW	Suburban	Traditional
M	Asian American	10,12	Math	2	NE	Rural	Non-Traditional
F	African American	5-7	Science	4	C	Suburban	Traditional
M	Caucasian	10-12	English	15	C	Suburban	Non-Traditional
F	African American	7-9	Math	3	C	Urban	Traditional
F	Caucasian	4	Math, Science	4	SW	Rural	Traditional
F	Caucasian	4	Math, Science	7	SW	Rural	Traditional
F	Caucasian	3	Reading, Language, Social Studies	1	SE	Rural	Traditional

### **Data Collection**

This research study was approved by the Institutional Review Board of the university where both researchers were affiliated. Participants signed the informed consent form affirming their understanding and participation in the research study. After agreeing to participate, the researchers emailed an open-ended survey to the teachers. Surveys are more reliable and less subjective and researcher dependent than a method such as observation (Bhattacharjee, 2012). The questions were simple, concrete, unambiguous and readily understood for the purpose of minimizing differences in interpretation (Bhattacharjee, 2012). What is more, the researchers asked questions that teachers cared about and could answer according to their lived experiences.

Face validity was inherent in the questions in that the terms used to request teachers' thoughts and behaviors corresponded with everyday concepts and meanings (Bhattacharjee, 2012) in education. Consistent with interpretive research, the authors asked *what*, *why* and *how* questions (Bhattacharjee, 2012) regarding various aspects of their teaching careers and the order of questions was also considered to reduce negative order effects (Pew Research Center, n.d.). The survey was approximated as taking no more than one hour to complete, depending on the depth and extent of the responses.

### **Data Analysis**

Narrative inquiry and phenomenology were the data analysis methods used in this study as they have the potential to unlock the feelings behind the words of the participating teachers. Intensively reading the completed surveys was the first step to unfolding their stories. Revisiting the completed surveys and notes on teacher responses in relation to the survey questions was second. The third step was to juxtapose teachers' responses with research on culturally responsive pedagogy and inclusive classrooms. Over time, themes and patterns emerged (Clandinin and Connelly, 2000). Having read their stories, narrative inquiry was a great choice for data analysis as it allowed the researchers to make the participants come alive in the reporting rather than situate them as detached, research subjects (Riessman, 2008; Clandinin & Connelly, 2000).

According to Creswell (2014), phenomenological data analysis occurs through identification and deduction of information to form themes and meaning. So, the authors also used this data analysis method to seek key phrases and statements that spoke directly to the social phenomenon (Moustakas, 1994) of cultural diversity and inclusion. In addition, the researchers highlighted teacher statements that were consistent with the identified themes (Creswell, 2013) and finally, synthesized and attributed meaning to teachers' responses. The authors' positions as seasoned educator and educator-in-training allowed the researchers to read the responses of the teachers with educational conversance. With respect for the profession, researchers sought to interpret teacher statements as objectively as possible considering their training, understanding, and lived experiences (Moustakas, 1994) with this social phenomenon in schools.

### **Limitations**

Research results were limited due to the nature and reach of the study. The participants were not selected randomly. Participants do not represent all the diversity of teachers or all types of diversity in the State as only nine teachers completed the survey. Besides, teachers self-reported their experiences through a survey. Therefore, it is possible that their descriptions may not be 100% accurate and the researchers cannot verify the quality of information disclosed on the surveys (Creswell, 2013). In any case, the results from the study capture a snapshot of teachers' perceptions and are not necessarily generalizable beyond the sample population.

## **Results**

### **Teachers and Schools**

#### ***Teacher Demographics***

Teacher demographics included six Caucasians, two African Americans, and one Asian American. There were seven females and two males. Their teaching experience ranges from one to 27 years in the classroom and they taught elementary through high school grades. Each teacher was employed at a traditional public school that is not a charter.

### ***Subjects Taught***

Participants taught one course, two courses, or multiple courses. Two participants taught Mathematics and Science. Two participants only taught mathematics while one participant only taught science. One participant taught English. One participant taught reading, language, and social studies. Another participant taught library media. Yet another participant taught English Language Arts, English Language Development, and English as a Second Language.

### ***School Type***

Of the nine participants, one teacher taught in an urban school, four teachers taught in suburban schools, and four teachers taught in rural schools. There were no participants from an isolated school.

### **Results from Research Questions**

Question 1: *Why did you want to become a teacher?* These nine participants became a teacher for several different reasons, but the prevailing theme, related to making a positive impact on society. The most common response was wanting *to make a difference*. Other responses included *passion* about education, *working with children*, as well as wanting to be the person they needed as a child. Interesting enough, both male teachers became teachers based on their personal experience in the classroom, either with previous teaching experiences or being a student. Another teacher responded that she wanted to become a teacher because she *wanted a rewarding career that formed life-long relationships*. She also wanted to *be a productive member of her community*. Overall, the responses reflected that teaching would be gratifying in some way.

Question 2: *Is your education background from a traditional route or a nontraditional? Please explain.* Participants were trained in both traditional and non-traditional educational institutions. Seven teachers were traditionally trained while two teachers were nontraditionally trained.

Question 3: *How has your education background informed your pedagogical approach?* Traditional teachers felt prepared when they entered the classroom and they felt they had received the adequate background knowledge for success in the classroom. Non-traditional teachers discussed how their pedagogical approach *comes from my reflections as a teacher* and help them to *think more critically about how I can develop not only a climate where students learn but also an equitable environment*. Nontraditionally trained teachers also spoke to how they *value their experiences each year in the classroom* and how these *experiences continued to change* and helped them to *adjust their pedagogy to meet the needs of their students*.

Question 4: *What has been an advantage of working in a public, private, or charter school?* Participants reported that both public and private schools have their advantages and disadvantages. Although each of the participants currently work in a public school, two had experience in private schools. None had experience with a charter school. According to these teachers, public school advantages include *curriculum resources, professional development programs, working with students and families of the community, working with diverse students, working with tough students, having the opportunity to work with students from diverse socioeconomic backgrounds, being able to find various ways to reach a variety of learners, having a larger salary, professionalism, and accountability*. Disadvantages of public schools include *student behavior, lack of parental involvement, schools located in low-income areas, and high turnover rate among teachers*. Advantages of private schools included *rapport, fewer behavioral problems, students are usually on grade-level, academically, and there*

is more room for experimentation. Disadvantages of private schools include *not enough continued learning opportunities for teachers, no systematic curriculum, and the students are relatively homogenous.*

Question 5: *Tell me about a student who has been easy to work with and positively impacted your experience as a teacher. Define what you mean by easy.* The participants largely defined an easy student as one who *wants to learn*. Other common descriptors were *a student who is an example to peers* in character and behavior. Easy students also *engage in lessons, admit their shortcomings as a student,* and want to live their best possible life. Participants did not share how ‘easy’ students positively impacted their teaching experience.

Question 6: *Tell me about a student who was difficult to work with. Define what you mean by difficult.* Teachers had much to share on this topic. Seven of the nine teachers described difficult students as those with *behavior issues*. They were *disruptive* to teachers as well as to their peers, during classroom activities. One described her difficult student as one with *baggage*; in other words, one who had a difficult home life and brought those unstable emotions to school. Participants freely offered narratives of working with difficult students. For instance, a teacher shared a story of a student who displayed behavior issues. The student *felt justified in disrupting class and being rude to his classmates*. The student was *resistant to coaching and did not change his behavior*. All the same, the difficult student is changing the way that teacher approaches teaching. Upon her own reflection, she said, *I still believe that there is a course of action that I could have tried that would have worked*. She added, *Even though I am no longer teaching him, I find myself thinking about him when I respond to student behavior now*. In this experience with a student, the teacher’s reflections show her commitment to improving as a teacher.

Another teacher described a time when a student impacted her experience. A student who had moved from a different state to her school, was struggling with adjusting. The school counselor adjusted his schedule and placed him with her for a couple of periods. According to the teacher, the student *hated school and wanted to quit and hated to read*. She noticed the first day that he came in, he was wearing a cowboy hat and boots. Because the teacher also lived on a farm, so she could relate to him. In order to connect with the student, the teacher helped the student find books of interest. Just viewing the pictures and following the story, she told him, was putting him on the path to reading. Although reading never became his favorite pastime, the student no longer hated reading. Honoring this student as he was, helped this teacher to reach the student in way that changed his attitude toward school.

Still another teacher reported on a student with special needs who had a positive impact on her teaching career. She revealed, *This student gives me confidence that every child can learn*. The teacher pointed out that previous teachers, seemingly, had not invested the necessary time that student needed to learn how to read. The student was *eager to learn to read*. With the help of a special education teacher, the student *was reading sight word books independently*, by the end of the year. The close attention and care provided to this student changed the teacher’s life forever. What may have seemed an impossible task for the student’s previous teachers proved to be a rewarding experience for both this teacher and her student.

Several teachers shared the difficulty of meeting the needs of each of their students. On this topic, one teacher encapsulated the sentiments of the group. *Not only are we responsible for our content, we must also develop good social skills, an awareness of societal issues and their role in that, the ability to persevere in times of struggle, ways to deal and process their emotions, and any remedial work that needs to happen before they can truly process our own material.*

Question 7: *Did either the easy or difficult student change the way you approached teaching?* One teacher revealed that learning about students' backgrounds is a priority above teaching the curriculum because *all students need different learning experiences*. Another teacher declared, *You change and modify your teaching to ensure all your students become successful*. Regarding instructional methods, a teacher reported, *My pedagogy continues to be to assess my students and their needs and do whatever I can to meet those needs*. Another teacher noted, *I started responding with more grace and mercy, and to my surprise, I had less behavior issues*. Whether defining easy or difficult students, teachers understand that students need differential instruction and different behavioral approaches because of the degrees of difference in their needs. These teachers also understand that their role extends far beyond facilitating the learning of concepts.

Question 8: *In what ways have you felt liberated and/or confined by working with/for others?* Participants reported feeling most liberated when they were *supported* and *assisted* by their administrators and colleagues. They also felt valued when they experienced collaborative teaching. Another respondent felt liberated when not *micromanaged* and given a certain amount of *autonomy*. Teachers felt confined when administration had a *fixed mindset* surrounding teaching strategies. Still others felt confined when their colleagues demonstrated *negative attitudes* toward teaching, and when they did not have *support* and *protection* from the administration.

Question 9: *What has been the most rewarding aspect of teaching?* The consensus from the teachers on the most rewarding aspect of teaching was the *difference* they make. They also enjoyed seeing students *succeed*. One participant mentioned, *Sometimes you are the only smile or hug that child gets that day... These moments are the ones that teachers hold on to because they enrich their lives and were the reasons to be teachers in the first place*. Another respondent said, *As a teacher, you are giving children the skills they need to go out into the world and succeed*.

Question 10: *What has been the most difficult part of teaching?* Participants offered a variety of responses to this question. Two teachers commented on the difficulty of meeting the needs of each of their students. Other teachers pointed to *paperwork*, *achievement gaps*, lack of help from *administration*, and student *behavior* as the most difficult aspects of teaching. Another teacher spoke to the realization that *not everything* they do, as teachers, *may help their students*.

Question 11: *How has your perspective of teaching changed throughout your career? Explain. Has this affected your pedagogy and the way you manage a classroom?* Three teachers mentioned how they have become *more relaxed* and *open-minded*. Another participant discussed *creating a positive learning environment* rather than focusing purely on content. Another teacher discussed experiencing a change in perspective as students changed, and therefore, made necessary adjustments to *meet the specific needs of students*. Other respondents learned not to *seek the approval of students* and not to *judge students* because of their circumstances, outer appearance, and behavior.

Question 12: *As American schools become more diverse, how have you approached teaching in a classroom to reach all students? Has your own race/ethnicity affected this?* These participants spoke to how they *adjust their teaching strategies*, commit to *learn about their students' backgrounds*, and/or *respect* and *appreciate students* for who they are. African American teachers discussed the explicit role their race plays in their teaching strategies. One African American teacher described her classroom at the beginning of the year as a fresh start, and as the year continues, the learners are involved in making the classroom their own. She said,



*Based on our conversations and interactions I make changes to instructional strategies, examples, and manipulatives. We recognize what is important to other cultures and our peers. She also referenced that the learning experience is about reciprocity. Her approaches focus on the students as a community as well as on the needs of the individuals. Similarly, another African American teacher said, Differentiated instruction is key in a classroom of diverse learners. She added that her teaching style changed to be a multiple means approach [that] allows students to choose the option that best meets their learning styles AND in some cases best meets their financial needs. She indicated that her race has affected her approach to teaching. She remembers herself as a young student who never heard teachers discuss people of her background. She also remembers that people like her were never celebrated. No one talked about the resilience of black people, the beauty of our culture, or the contributions we made to this country. Because I remember that, I work hard to make sure that none of my students feel uncelebrated or unrecognized. She also discussed how the experiences in her education background led her to be an educator who is committed to empowering students to be their best selves, to be independent learners, to think critically, and to discover their passions.*

Other teachers discussed how their own races may or may not affect their pedagogy. A teacher who identifies as White, stated that *I make diversity an essential part of my curriculum. He adds, I don't know if my race/ethnicity has affected these choices, but I want my students to hear the persuasive discourse of others as it is critical to democracy and the American experience, the unspoken curriculum so valuable to my teaching philosophy.* Another teacher who identifies as White said, *The last half of my career has been working with culturally diverse students of poverty and I still believe that you look into a child's heart and then you look at their level of skills and how you can make the most impact for each of them.* Responding to whether her race has affected her teaching, she responded, *I still feel like it doesn't matter where you come from, what color your skin is, but where your heart is.*

### **Discussion**

Without a doubt, teacher experiences influence the state of K-12 education. In this study, teachers confirmed that their comfort with an increasingly diverse classroom has an impact on the teaching and learning experience, including teacher and student development. From participant responses, the researchers also surmised that teachers need additional and/or different professional development to foster inclusiveness in the classroom.

While teachers have good intentions, their impact may still be hurtful to some students. Teachers in this study grappled with diversity and inclusion in the classroom. Most teachers in the study questioned whether their own race affects their pedagogy. Not understanding the role that race plays in their teaching practices leaves them vulnerable to harmful practices, unknowingly and unintentionally. Many participants spoke of their difficulty in meeting the needs of each of their students and addressing student behavior. Participants also struggled with how they might refashion their perspectives, minimize judging their students because of their life circumstances, outer appearance, and behavior, modify teaching strategies to teach their content, and create a positive learning environment for all students. As this study shows that some teachers are becoming better with navigating cultural diversity and inclusion while other teachers continue to struggle, this article concludes with strategies that the State and districts could employ to equip teachers to facilitate inclusive classrooms.

## **Conclusions and Recommendations**

Children are assigned to schools based on zip code or zones, which are related to property taxes gleaned from the respective community (Loeb & Socias, 2002). However, some neighborhoods and schools are far less resourced than others. In some cases, the resourcefulness of schools is confounded by race. To that end, it is important to reiterate that race does matter in this nation. While the immortal declaration of America is that “all men are created equal”, all people are not treated equally nor equitably. If one looks at any sliver of American life (i.e., education, income, wealth, health, housing, and business ownership, etc.) one will find data that evidence that people of color, namely Native Americans and African Americans, do not experience the American dream at the same rate of other groups. These patterns can be directly linked to historical and contemporary disadvantages inherent within American society (Gates, 2019; Remini, 2001). According to Ogbu and Simons (1998), Native Americans and African Americans are involuntary minorities in America, in terms of their experiences. Their original participation in this nation was through conquest and slavery. Laws and systems were established to relegate these groups to a perpetual, low socioeconomic status. Critical facets of their unique cultures - language, religion, family structure, economic system, and social-emotional ways of being – were challenged and in some cases, eradicated. What is more, racial/ethnic identity is oftentimes salient in the life of people of color because of the structural and systemic, race-based encounters they face (Helm, 1990; Horse, 2005; Sellers, 2006). When race is ignored, it minimizes the deep impact that a person’s origin, color of their skin, and their community’s history with America can have on identity. Not allowing for difference erases parts of that person, making it instructive for teachers to see the entirety of their students so they can dwell in classrooms as authentic and whole people.

Too often, a shallow dispensation of diversity is sprinkled in the curriculum that might include add-ons, cultural food, heroes, and holidays (Banks & Banks, 1995). To the contrary, multiculturalism in the curriculum offers ways to transform education with equity pedagogy, which prepares students not just to read and write, but to become contributing members of a democracy in ways that are commensurate with their talents (Brown, 2016; Banks & Banks, 1995). Failure to implement multicultural education contributes to citizenship failure as opposed to successful citizenship (Banks, 2015). Creating an environment for diversity and inclusion in the classroom goes beyond just discussing diverse figures as part of the curriculum. In her seminal work, Delpit (1998) recommended teaching students the codes they need to participate fully in the mainstream of American life. Children should drink from the fountain of teachers’ expert knowledge and by the same token, find their own ‘expertness’ as well. They should also learn the culture of power, the arbitrariness of the codes they learn, and the power relationships that the codes represent (Delpit, 1988). Essentially, Delpit proposes healthy teacher-student relationships as they can empower students with the proficiencies to make meaningful contributions to their community and the greater community.

To provide leadership, the Arkansas Department of Education and its school districts might first employ a strategic and long-term plan to ensure that teachers learn American and Arkansas history that accounts for why different groups are in their current state. This would also include teachers learning about students’ backgrounds and cultures with curiosity. Additional, deep professional development would afford teachers rich opportunities to wrestle with a comprehensive accounting and telling of American history and how that history remains present. It would include stories of societal advantages and disadvantages, the legal and social ways they came to be, and why they persist. Teachers would be guided in self-reflection and self-

examination that entails a reckoning of societal influences on their thinking. For instance, they would answer questions such as: Was name-calling allowed in my household when I was growing up? Were jokes told at the expense of other groups of individuals? Were other groups of people blamed for economic conditions or societal ills? How did my parents and other authority figures reference individuals who were unlike my family? How did my family treat people who had less power than us? How were individuals unlike my family treated by my family (Webster, 2008)? Teachers might also consider the places they have lived and why they lived there. Moreover, they would ponder their family's religious/spiritual/non-sectarian perspectives as well as their family's political points of experience, and whether they have claimed them as their own, outright or thoughtfully. Additionally, teachers would contemplate the type schools they attended, why they were able to attend such schools, and how much or how little their parents were involved in those schools and how? For certain, they would think about the health and wellbeing of their family and how their health status framed their world (Webster, 2008). Considerations about their current experiences might include what their mass media and social media selections tell them about "others" in addition to whether they have meaningful relationships and friendships with those unlike themselves, outside of the workplace. Earnest deliberation of these questions would help teachers to see the ways their history intersects with the lived experiences of others.

Second, the State and districts might facilitate cross-cultural relationships among administrators, faculty, and staff. Teachers have expressed that they desire diversity in their classrooms. Perhaps there is little understanding between cultures because groups remain largely segregated in how they live, learn, work, play, and worship. If people do not get to know each other through personal experiences and relationships, they remain subject to the gross stereotypes of mass media and social media. Perchance more empathy can be cultivated when people have friends who are culturally unlike themselves.

Third, the State and districts might improve their student achievement rates if all teachers learned a culture of care for all students. This does not mean pitying students or feeling sorry for them. This means loving students in ways that facilitates inclusive pedagogy as well as culturally proactive, and culturally responsive teaching (Gay, 2018; Ladson-Billing, 1995) that has the potential of alleviating achievement gaps. It also means learning to address behavior issues with empathic classroom management and understanding from students' points of experience. If society remains too shy to reflect upon and speak about the societal practices that marginalize some and champion others, too few teachers will navigate cultural diversity and inclusion in productive ways and others will continue to struggle in nonproductive ways. In the meantime, another generation of students suffer, and Arkansas keeps its ranking of 42 out of 50 in education (Baker, 2019).

Fourth, the State and districts might reconsider ways that administrators can collaborate with teachers so that each educator can focus on its primary roles in the system. Administrators are responsible for a broad variety of tasks as are teachers. Rethinking what type of 'paperwork' or data entry is required and which school employee would be responsible for it is worthy of consideration.

As a final point, the State and districts might embark upon initiatives that specifically help students of color to enter and remain in the teacher education pipeline. This affirmative action does not ignore or underappreciate White students in the pipeline. It simply addresses a need that has great potential to help historically underrepresented students achieve success since one of the greatest disparities in school achievement is grounded in race. The State, Arkansas

districts, and Arkansas children excel when teachers, expertly, navigate cultural diversity and inclusion. As academic achievement rises for each individual student and each group of students, success rates rise for the entire State.

## References

- American Association of Colleges & Universities (n.d.). *Making excellence inclusive*.  
<https://www.aacu.org/making-excellence-inclusive>
- Arkansas Department of Education. (2019). *Arkansas K-12 profile: Fast facts*.  
<https://adedata.arkansas.gov/Ark12>
- Arkansas Department of Education. (2019). *Certified teacher only by state*.  
<https://adedata.arkansas.gov/statewide/ReportList/State/CertifiedTeacher.aspx>
- Arkansas Department of Education. (2019). *Teacher excellence and support system (TESS)*.  
<http://www.arkansased.gov/divisions/educator%20effectiveness/educator-support-development/teacher-excellence-and-support-system-tess>
- Arkansas Department of Education. (n.d.) Teacher Excellence and Support System (TESS).  
[www.arkansased.gov/divisions/educator%20effectiveness/educator-support-development/teacher-excellence-and-support-system-tess](http://www.arkansased.gov/divisions/educator%20effectiveness/educator-support-development/teacher-excellence-and-support-system-tess)
- Baker, S. (2019, May 16). RANKED: The strength of the public education system in every US state, from worst to best. *Insider*. <https://www.insider.com/us-states-public-education-system-ranked-us-news-world-report-2019-4>
- Banks, J. (2015). [Failed citizenship, civic engagement, and education](#). *Kappa Delta Pi*, 51, 4, 151-154.
- Banks, C. A., & Banks, J.A. (1995). Equity pedagogy: An essential component of multicultural education. *Theory into Practice*, 34,3, 152-158.
- Barbour, C., Barbour, N., & Scully, P. (2008). *Families, schools, and communities: Building partnerships for educating children*. Upper Saddle River, NJ: Pearson Education.
- Bhattacharjee, A. (2012). *Social science research: principles, methods, and practices*. Tampa, Florida: Global Text Project.
- Brown, Quinn R. (2016). Faculty Friday: James and Cherry Banks. *The Whole U: University of Washington*. <https://www.washington.edu/wholeu/2016/01/07/faculty-friday-james-and-cherry-banks/>
- Catt, A. (2016). Exploring Arkansas's private education sector.  
<https://files.eric.ed.gov/fulltext/ED570199.pdf>
- Civitillo, S., Denessen, E., & Molenaar, I. (2016). How to see the classroom through the eyes of a teacher: Consistency between perceptions on diversity and differentiation practices. *Journal of Research in Special Educational Needs*, 16, 1, 587-591.
- Crenshaw, K. (2015). *On intersectionality: The essential writings of Kimberle Crenshaw*. New York City: The New Press.
- Clandinin, J. D., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco, CA: Jossey-Bass.
- Council of Accreditation of Educator Preparation. (n.d). The CAEP standards.  
<http://www.ncate.org/standards/introduction>
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4<sup>th</sup> ed.). Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches* (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage Publications.

- Dees, L., & LaCour, M. (2018). The classroom management experiences of educators in diverse classrooms: Informing teacher education, *ArATE Electronic Journal*, 8(1), 8–14.  
<http://arkansasate.org/documents/Volume 8, Number 1 Mar 2018.pdf>
- Delpit, L. (1988). The silenced dialogue: Power and pedagogy in educating other people's children. *Harvard Educational Review* 58(280–298).
- Gates, H. L., (2019). *Stony the road we trod: Reconstruction, white supremacy, and the rise of Jim Crow*. New York: Penguin Press.
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice*. Third Edition. Teachers College Press: New York.
- Helms, J. (1990). *Black and White racial identity: Theory, research and practice*. Westport, CT: Greenwood Press.
- Horse, P. (2005). Native American identity. *Serving Native American Students*. New Directions for Student Services, 109, pp. 61-68. Jossey-Bass.
- Ladson-Billing, G. (1995). Toward a theory of culturally relevant pedagogy. *American Education Department of Education*. Washington, D.C.
- Loeb, S., & Socias, M. (2002). Federal contributions to high-income school districts: The use of tax deductions for funding K-12 education. *Economics of Education Review*, 23, 85-94.
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.
- Ogbu, J., & Simons, H. (1998). Voluntary and involuntary minorities: A cultural-ecological theory of school performance with some implications for education. *Anthropology & Education Quarterly*, 29, 2, 155-88.
- Ohio Board Certified Teachers. (2006). *Meeting all students' needs: What will it take for all educators to be able to meet the needs of all students?*  
[http://www.ohionbctsummit.org/documents/Meeting%20All%20Students%20Needs\\_10-25-06.pdf](http://www.ohionbctsummit.org/documents/Meeting%20All%20Students%20Needs_10-25-06.pdf)
- Pew Research Center. Questionnaire design. [www.pewresearch.org/methods/u-s-survey-research/questionnaire-design/](http://www.pewresearch.org/methods/u-s-survey-research/questionnaire-design/)
- Remini, R. (2001, August). Indian Removal Act: Facts, information, and articles about Indian Removal Act history from American History. <https://www.historynet.com/indian-removal-act>
- Riessman, C. K. (2008). *Narrative methods for the human sciences*. Los Angeles, CA: Sage Publications.
- Rodriguez, T. L., & Hallman, H. L. (2013). Millennial teacher: A storied landscape of diversity in “new times.” *Multicultural Perspectives*, 15, 2, 65-72.
- Sandoval-Lucero, E., Shanklin, N. L., Sobel, D. M., Townsend, S. S., Davis, A., & Kalisher, S. (2011). Voices of beginning teachers: Do paths to preparation make a difference? *Education*, 132, 2, 336-350.
- Schwartz-Shea, P., & Yanow, D. (2012). *Interpretive research design: Concepts and processes*. New York, NY: Routledge.
- Sellers R.M., Linder, N.C., Martin, P.M., & Lewis, R.L. (2006). Racial identity matters: The relationship between racial discrimination and psychological functioning in African American adolescents. *Journal of Research on Adolescence*, 16, 187–216.
- Sheppard, Peter. (2009). Prospective teachers' experiences teaching mathematics to African American males. *Education*, 130, 2, 226-231.
- United States Census Bureau (n.d.). Arkansas Summary. <https://www.census.gov/quickfacts/ar>
- United States Department of Education (n.d.). Every Student Succeeds Act (ESSA).  
<https://www.ed.gov/essa?src=rn>

- University of Arkansas Office for Education Policy (n.d). 2016 Arkansas Education Report Card. <http://www.officeforeducationpolicy.org/downloads/2017/04/2016-report-card-on-arkansas-schools.pdf>
- University of Arkansas Office for Education Policy. (2018). OEP Blog: Are Arkansas Teachers Too White? <https://officeforedpolicy.com/2018/03/27/are-arkansas-teachers-too-white/>
- Webster, A. (2014). Scaling the pyramid of self-reflection: A model for teachers to contest demographic destiny. In E. G. Pultorak (Ed). *Reflectivity and Cultivating Student Learning: Critical Elements for Enhancing a Global Community of Learners and Educators*. (pp. 29-51). Lanham, MD: Rowman & Littlefield.
- Webster, A. (2010, September). Connect, respect, and reflect: A teacher case study of resolve. *ArATE Journal*, 1, 1, 22-34
- Webster, A. (2008, May). Roots and wings: A self-examination of familial influences that ground diversity leadership and an assignment that lifts it. *International Journal of Educational Leadership Preparation*. <http://cnx.org/content/m16315/1.1/>
- Webster, A. (2008, May). Family ties: A self-examination of familial influences that bind diversity leadership and an assignment that looses it. *International Journal of Educational Leadership Preparation*. <http://cnx.org/content/m16316/latest/>
- World Population Review. (2019). Arkansas Population 2019. <http://worldpopulationreview.com/states/arkansas-population/>