



DREXEL UNIVERSITY

School of

Education

Doctoral Student

RESEARCH BRIEFS

VOLUME 4



Table of CONTENTS

- 4** Impact of *Please ASK* on ESL Student Comprehension of the English Article System Before Proper Nouns: A Phenomenological Study
DR. RENALDO A. SCOTT // EdD Alumni
- 9** Will the Real Nontraditional Student Please Stand Up?
An Integrative Literature Review
BRIAN DELANEY // PhD Student
- 16** Using Technology and Collaboration with STEM Professional to Enhance Students' Self-Efficacy and Interest in STEM
MIKHAIL MILLER // PhD Student
- 20** Educators' Dualistic Perceptions of Leadership Styles during PreK-12 Independent School Accreditation Review Processes
DR. CHRISTOPHER HOLLAND // EdD Alumni
- 24** Doing Math: A Case Study of One 5th Grade Teacher's Use of Centers to Develop Math Skills and Mathematical Literacy
AMANDA REINSBURROW // PhD Student
- 29** Exploring the Effects of an Open Access Mindfulness Course on Online Graduate Student Persistence, Stress, and Mind Wandering: A Mixed Methods Explanatory Sequential Study
JACKIE MURPHY // EdD Student
- 33** Learning by Making: Investigating Students' Identity Exploration Using Environmental Science and Art
MARK PETROVICH // PhD Student
- 38** Teaching Business Writing at the Community College: Improving Writing Skills
DR. KAREN BRITT // EdD Alumni

- 42** Mentoring Approaches of Minoritized Women: Insights from Administrative Leaders in Higher Education
AGUE MAE MANONGSONG // PhD Student
- 48** The Mixed Methods Study: Exploring Non-academic Factors that Impact Literacy Development for Minority Students Enrolled in Advanced Placement Courses in an Urban High School.
ANTHONY BATTS II // EdD Alumni
- 52** Uyghur Refugees in Higher Education in the U.S.: Trauma and Adaptation Xhallenges
BRIAN MCCOMMONS // PhD Student
- 56** Facilitating Creative Processes while Learning to Code and Design Reality Environments
MONIQUE WOODWARD // PhD Student
- 60** A Phenomenological Study: Exploring Chinese Junior High School Students' Lived Experiences and Perceptions of Using Game-based Technology to Learn English in an English as Foreign Language Classroom in Shanghai, China (EFL-C)
DR. WILLIAM CLIFTON GREEN II // EdD Alumni
- 64** Know Your Artist: Factoring Artist Identity into Aesthetic Responses to Art
ALYSHA MELOCHE // PhD Student
- 70** Leader/Follower Relationship of Academic Administrators at a Southern Comprehensive University Undergoing Consolidation: A Mixed-Methods Investigation
DR. GREGORY S. WURTH // EdD Alumni

► RESEARCH BRIEF NO. 1

Impact of *Please ASK* on ESL Student Comprehension of the English Article System Before Proper Nouns: A Phenomenological Study

WRITTEN BY: **DR. RENALDO A. SCOTT**, EdD Alumni

SUPERVISING PROFESSOR: **DR. JOY PHILLIPS**

October 2019

ABSTRACT

English as a Second Language literature provides no viable explanation for article grammar before proper nouns, beyond simple guesswork and memorization. This phenomenological study aimed to capture student participants' lived experiences while engaging with the *Please ASK* heuristic, as developed by the researcher, as students attempted to make sense of the English language proper noun article system. The study results suggested that *Please ASK* had at least some bearing on increased student article grammar comprehension before proper nouns. The study supports creative heuristic models and systems thinking/complexity theory as means to clarifying obscure grammar points in the language.

AIM

The purpose of this study was to determine whether the original, researcher-created heuristic—*Please ASK*—impacted English as a Second Language student comprehension involving the use of the definite and null articles before proper nouns.

PROBLEM

At the time of this writing, there existed no known means to explain correct article usage before English proper nouns (Butler, 2012; Huebner, 1983; Leśniewska, 2016; Master, 2003). The reason for this is that English as a Second Language literature and research did not present a clearly mapped out system for proper noun article grammar (Butler, 2012). As a result, this lack of a clear explanation left learners with very limited recourse: guess or memorize.



► FIGURE 1: *Please ASK* heuristic categories.

In efforts to find a solution to this grammatical impasse, the researcher retreated from the traditional post-positivist approach to grammar pedagogy and instead used a creative approach that embodied a constructivist outlook on English as a system of instability. This systems-thinking point of view enabled the bringing into fruition of *Please ASK*. *Please ASK* is a reflection of how native English speakers construct meanings of proper nouns in the world naturally.

Please ASK (Figure 1) is an acronym mnemonic in which letters signify categories of proper nouns that use the null article before. The categories of *Please ASK* are as follows. The letter *P* stands for *Parks*. The letter *A* stands for *Airports*. The letter *S* stands for *Streets*. The letter *K* can be rewritten as *CCC*, since both letters share the same pronunciation before hard vowels (i.e., a,o,u). The first *C* denotes *Cities*, the second *C* stands for *Countries*, and the third *C* stands for *Colleges*.

METHODOLOGY

The researcher's intent was to obtain a phenomenological understanding of the effects of the heuristic on student comprehension, which prompted the following central question and two subsequent sub-questions, respectively. What is the meaning of *Please ASK* for university English as a Second Language (ESL) student participants in this study? How do ESL student participants describe their comprehension of the proper noun article system via the creative *Please ASK* heuristic model? How do student participants perceive their understanding of the article system linked to proper nouns both before and after experiencing the creative *Please ASK* heuristic model?

Eleven adult (≥ 18 years old) English as a Second Language student participants composed the study. The researcher used students in an Advanced Grammar class at a university in the northeastern U.S. where the researcher instructed English as a Second Language. Regarding demographics, the study consisted of seven males and four female participants, representing the countries of Oman, Kuwait, and Saudi Arabia. The researcher selected participants according to purposeful sampling criteria. Purposeful sampling placed emphasis on the gleaning of "rich information" (Merriam & Tisdell, 2016, p. 96) from the data. In this qualitative research, purposeful sampling allowed for inclusion of participants who knew the most about the topic (Merriam & Tisdell, 2016). Student participants' knowing the most about the *Please ASK* heuristic meant those students whom the researcher considered the most apt (in terms of English language ability and willingness to participate) to supply substantial data to the proposed study. These substantial data enabled the researcher to extract the essence of the lived experience as participants engaged with *Please ASK*. The researcher reserved discretion in choosing student participants deemed as willing to participate in the proposed study and give responses that could provide rich information on the *Please ASK* heuristic. Therefore, selection of participants was not solely based on student academic performance. Five face-to-face interviews, one focus group, and a researcher's journal were used to obtain the essence (Merriam & Tisdell, 2016) of the student participants' lived experience as they interacted with the *Please ASK* heuristic. The essence represented an emic description of *Please ASK* as experienced by the student participants.

This study's conceptual framework rested on three streams: (a) a diachronic history of English language pedagogy culminating in CLT (Communicative Language Teaching); (b) English article system semantic maps (heuristics); and (c) English language as a creative entity. These streams represented constructs, or "intellectual bins" (Miles, Huberman, & Saldaña, 2014, p. 21), whose interrelationships informed this research. In this regard, this three-streamed conceptual framework served a dual role—as a look into how this heuristic came into existence and as a lens through which this phenomenological study was supported.

FINDINGS

From the coded data emerged three themes and six ensuing sub-themes (Figure 2). The theme *memorization* engendered the sub-themes *classroom pedagogy to get the answer to the proper noun article grammar* and *frustration with memorizing*. The theme *successful transfer of the grammar to students* included the sub-themes *shift in attitude toward learning English* and *higher comprehension of the proper noun article grammar*. The theme *impressions of Please ASK* induced the sub-themes *descriptions of Please ASK* and *Please ASK as a bridge to native speaker thinking*. Collectively, these themes and sub-themes provided a phenomenological mosaic that reflected the student participant ontological and epistemological realities as they sought to make sense of the proper noun article system grammar in English.

THEMES	SUB-THEMES
MEMORIZATION	<ul style="list-style-type: none"> • Classroom pedagogy to get the answer to the proper noun article grammar • Frustration with memorizing
SUCCESSFUL TRANSFER OF THE GRAMMAR TO STUDENTS	<ul style="list-style-type: none"> • Shift in attitude toward learning English • Higher comprehension of the proper noun article grammar
IMPRESSIONS OF PLEASE ASK	<ul style="list-style-type: none"> • Descriptions of <i>Please ASK</i> • <i>Please ASK</i> as a bridge to native speaker thinking

► **FIGURE 2:** Ensuing themes and sub-themes in the study.

CONCLUSIONS

This phenomenological study came to several conclusions. First, student participants viewed *Please ASK* as a fun, easy, and effective way to remember article placement before proper nouns. In this way, some students considered *Please ASK* a fun game. Second, students considered the heuristic a viable rule to understand article grammar and a way to increase self-confidence in English. Third, *Please ASK* seemed to influence student comprehension of the article grammar in a short time, in the three weeks that the study took place. Fourth, students considered *Please ASK* a way into the native English speaker psyche, something that the literature supported as difficult to transfer to students. These conclusions collectively substantiate *Please ASK* as having some influence on improving student comprehension of proper noun articles.

RESEARCH IMPLICATIONS

Several research implications inform this study. Future research could involve a mixed methods study on the impact of *Please ASK* on student comprehension. Mixed methods could provide further substantiation for the heuristic model than either qualitative or quantitative alone could provide. Future research could also involve conducting a quantitative study using a more substantial sample size, e.g., 55 students. The quantitative study could employ a one-tailed t-test, for example, to determine a change in comprehension after exposure to the independent variable, *Please ASK*. Yet another research avenue could entail delving deeper into the essence by conducting a longitudinal case study on one or a small grouping of students over a predetermined time period.

References

- Butler, B. C. (2012). *A semantic map approach to English articles (a, the, and Ø)* (Doctoral dissertation). University of Oregon. (Order No. 3554644). Retrieved from ProQuest Dissertations & Theses Global. (1317673887)
- Huebner, T. (1983). *A longitudinal analysis of the acquisition of English*. Ann Arbor, MI: Karoma.
- Leśniewska, J. (2016). The use of articles in L2 English: A phraseological perspective. *Studies in Second Language Learning and Teaching*, 6(2), 203-224. doi: 10.14746/ssl.2016.6.2.2
- Master, P. (2003). Acquisition of the zero and null articles in English. *Issues In Applied Linguistics*, 14(1). Retrieved from <https://escholarship.org/uc/item/2kb4p9r0>
- Merriam, S., & Tisdell, E. (2016). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey-Bass.
- Miles, M., Huberman, A., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook*. Thousand Oaks, CA: Sage.

ABOUT THE AUTHOR



Renaldo A. Scott is a Drexel University Doctor of Education, having both successfully completed Creativity track coursework and defended his dissertation in August 2019 under the guidance of Dr. Joy Phillips. Dr. Scott has been an instructor of English as a Second/Foreign Language for 13 years. For six of those 13 years, he has been an Adjunct Lecturer at the University of Pennsylvania. His approach to pedagogy encompasses viewing the entire classroom experience through a constructivist lens. From this social constructivist perspective, he created an original heuristic model—*Please ASK*—that aims to clarify proper noun article use in English. His doctoral dissertation involved a phenomenological look at English language students' lived experiences as they engaged with this creative *Please ASK* heuristic to comprehend the article system before proper nouns.

Prior to his doctoral studies, Dr. Scott obtained a Master of Arts from New York University in TESOL/business and a BBA in finance and investments cum laude from Baruch College, C.U.N.Y. He is also a Distinguished Visiting Professor at Beijing Jiao Tong University in China. Lastly, Dr. Scott is multilingual and has deep overseas experience.

► RESEARCH BRIEF NO. 2

Will the Real Nontraditional Student Please Stand Up? An Integrative Literature Review

WRITTEN BY: **BRIAN DELANEY**, PhD Student

SUPERVISING PROFESSOR: **DR. KRISTEN BETTS**

October 2019

ABSTRACT

Institutions of higher education are prioritizing programming to support nontraditional students. Exactly which student populations comprise the nontraditional definition remains unclear. The purpose of this integrative literature review was twofold: reduce ambiguity on the definitions of two common categorization terms in higher education, traditional and nontraditional student, and clarify how research studies that studied nontraditional student populations also defined *traditional* student populations. Analysis of 54 publications identified as many as 11 determinants for nontraditional students, consistent disagreement on age determinants, and incongruence in how researchers define traditional and nontraditional students. Theory of Intersectionality frames the research questions, analysis, and discussion.

ABSTRACT *(continued)*

The purpose of this integrative literature review was twofold: reduce ambiguity on the definitions of two common categorization terms in higher education, traditional and nontraditional student, and clarify how research studies that studied nontraditional student populations defined traditional student populations. Institutions of higher education are constantly innovating to support non-traditional students both to expand reach into new demographics of students as well as provide the necessary support structures to springboard students to degree completion and successful careers. However, if the definitions of both categorizations are ambiguous to the extent that education leaders interpret the meaning of these characterizations irrespective of a consistent literature base, those leaders may be unintentionally harming certain segments of their student population. This literature review utilizes the Theory of Intersectionality as an analytical tool (Collins & Bilge, 2016) to assess if appropriate determinants are being utilized to support postsecondary students that do not match the traditional criteria of white affluent male undergraduates.

LITERATURE REVIEW

Theory of Intersectionality

The theory of intersectionality is a complex and interconnected network of perspective, activism, scholarship, and analysis that has been defined in part as the study “of how individuals are positioned through difference in gender, class, sexual orientation, ethnicity, national belonging,” socioeconomic status, and other ways (Ruel, Mills, & Thomas, 2018, p. 18). It is important to note that some intersectional scholars (Collins & Bilge, 2016; Shaffner, Mills, & Mills, 2019) believe the more appropriate approach is to leave intersectionality unattached to a formal definition that could restrict its contextualized application and analysis.

The history of intersectionality is traced through periods of sociocultural and socio-economic activism during the 1960s through 1980s (Collins & Bilge, 2016). No one author, activist, or scholar is considered the originator of intersectionality, though renowned intersectional scholars exist. Instead, the wealth of intersectionality literature was amassed over time through the work of countless scholars, activists, educators, sociologists, and community leaders. Crenshaw (1991, 2018) has written at length about the marginalization of black women through two distinct intersectional lenses: race and gender. She describes how processes of subordination include systematic categorizations. This is done, in part, by constructing categorization systems that other race, gender, socioeconomic status, disability, etc.: categorization systems like the binary traditional versus nontraditional student used to influence policy and programming at institutions of higher education. Crenshaw wrote (1991) that “the particular values attached” to categorizations create “social hierarchies” and inequalities (p. 1297). In this integrative literature review, the theory of intersectionality will undergird the evaluation of the categorization of two common terms in higher education: traditional and non-traditional students.

Traditional Students

The Merriam-Webster dictionary (2019) defines traditional as being “handed down from age to age” or “adhering to past practices or established conventions.” Utilizing this definition, the term traditional student in U.S. university settings inherently refers to white, affluent (and often male) undergraduate students. The first institutions of higher education preceded the Civil War (1861-1865) by more than 100 years: Harvard College (later changed to Harvard University), the College of William and Mary, the Collegiate School (Yale University), the College of New Jersey (Princeton University), King’s College (Columbia University), the College of Rhode Island (Brown University), Queen’s College (Rutgers University), the College of Philadelphia (University of Pennsylvania), and Dartmouth College. Access to higher education, however, was severely limited for non-white students and most women well into the 20th century. Over 100 historically black colleges and universities were built, in part, to accommodate U.S. racial segregation policies. Ashmun Institute, now known as Lincoln University in suburban Philadelphia, was founded in 1854 as the first institute of postsecondary education for black men (The Journal of Blacks in Higher Education, n.d.). The U.S. Supreme Court decision *Brown v. Board of Education desegregated* schools in 1954, but it took nearly two decades for institutions of higher education to comply. Riots and protests from white students greeted the arrival of their black peers at institutions in Georgia, Mississippi, Alabama, and elsewhere throughout the 1960s. Legal challenges over discriminatory policies toward underrepresented student populations continue to this day.

Nontraditional Students

Bean and Metzner’s (1985) seminal piece on nontraditional students conveyed the challenges associated with dichotomizing the categorization of postsecondary students. “Due to ... heterogeneity it is very difficult to develop a profile of a typical nontraditional student” (1985, p. 488). The authors attributed three primary characteristics to traditional students: they reside on campus, are 18-24 years old, and attend college full time. If a student does not meet one or more of those characteristics, Bean and Metzner (1985) argue, they may be considered non-traditional. The key to understanding the differences between students in each category, they wrote, is contextualizing the extent, intensity and duration of interactions with faculty members and peers.

The U.S. Department of Education defined the non-traditional student as meeting one of seven characteristics: delayed enrollment into college, part-time enrollment, financially independent, working a full-time job while enrolled, claimed dependents other than a spouse, identified as a single parent, or lacked a high school diploma (Horn & Carroll, 1996). This definition does not address multiple characterizations that are sometimes associated with the term non-traditional student: veterans, students with disabilities, college athletes, racial or ethnic minorities, gender identities, sexual identities, socioeconomic status, or first-generation student, thus adding to the uncertainty of the categorization. Separate from the discussion of *who* should be included under the non-traditional umbrella term is a debate of why the term is being used at all.

This literature review sought to answer two research questions:

- (1) Which determinants are utilized to identify nontraditional students in the literature, and
- (2) How do research studies on nontraditional student populations define *traditional* students?

METHODS

This integrative literature review utilized “both experimental and non-experimental research in order to understand more fully a phenomenon of concern” (Booth, Sutton, & Papaioannou, 2016, p. 24).

Quantitative, qualitative, multi-modal and mixed peer-reviewed studies from the EBSCOHost database from January 1995 to July 31 2019 were reviewed. They were filtered to include peer reviewed, English language publications whose samples were a) U.S. based, and b) inclusive of nontraditional students. The time frame was selected to coincide with the U.S. Department of Education’s publication of definitions for nontraditional students (Horn & Carroll, 1996). Searches were conducted utilizing the following keyword searches:

- “nontraditional student” OR “non-traditional student” in all text
- “higher education” OR “college” OR “community college” in abstracts

The initial search returned 647 journal articles, of which 105 were duplicates. The titles, abstracts, and keywords of the remaining 542 articles were reviewed for inclusion. Of those, 389 were excluded for not meeting inclusion criteria. The remaining 153 articles were downloaded and stored for a full-text review. Analysis is ongoing. At the time of publication, 77 of 153 articles were reviewed and analyzed. Of those 77, 23 were rejected upon closer examination for not meeting inclusion criteria. The remaining 54 of 77 were analyzed and comprise the results of this report. A total of 76 publications await analysis. Definitions of traditional and nontraditional student, including citations, were logged for each publication. Publications were also coded for the determinants they associated with traditional and nontraditional students, including but not limited to age, gender, race, or whether they were online students.

RESULTS

A total of 54 articles were analyzed for this literature review. The author utilized an intersectional approach for coding and analysis, meaning the researcher factored not only how traditional and nontraditional students were defined, but also how they were not defined. Ongoing analysis seeks to answer two research questions: 1) which determinants are utilized to identify nontraditional students in the literature, and 2) how do research studies on nontraditional student populations define traditional students?

RQ1

Analysis showed disagreement for the age determinant of nontraditional students. The most common determinants were 25 years or older (37%, n=20) or not identified (33%, n=18). For a complete list of ages, see Table 1. Analysis revealed 11 different determinants for nontraditional students, led by parent (50%, n=27), caretaker (48%, n=26), and full-time employment (21, n=39%). For a complete list of determinant frequencies, see Table 2.

► **TABLE 1:** Frequencies for age determinants cited for nontraditional students (n=54)

AGE DETERMINANTS	FREQUENCY (PCT.)
22+	2 (3.7%)
23+	2 (3.7%)
22+	2 (3.7%)
24+	9 (16.7%)
25+	20 (37.0%)
26+	1 (1.9%)
NO AGE IDENTIFIED	18 (33%)

► **TABLE 2:** Frequencies for non-age determinants cited for nontraditional students (n=54)

NON-AGE DETERMINANTS	FREQUENCY (PCT.)
FIRST GENERATION	7 (13%)
LGBTQ	6 (11%)
RACE/ETHNICITY	10 (19%)
TRANSFER	5 (9%)
VETERAN	21 (39%)
DISABILITY	3 (6%)
CARETAKER	26 (48%)
PARENT	27 (50%)
EMPLOYED	21 (39%)
ONLINE LEARNERS	3 (6%)
DID NOT SPECIFY	7 (13%)

RQ2

Of the 54 publications analyzed for this report, 52% (n=28) studied nontraditional student populations without defining traditional students. Comparatively, 87% of publications (n=47) that studied nontraditional students also formally defined nontraditional students. This indicates a knowledge gap exists in the dichotomous approach to characterizing nontraditional students. Exemplars of definitions for traditional students included:

- Full time, postsecondary students between the ages of 18-24 (Monroe, 2006)
- Those entering college the same year they graduate high school (Pelletier, 2014)
- Primarily middle class and white (Levin et al., 2017)
- They were under 25 years of age, enrolled in college immediately after earning a high school diploma, dependent on parents and family members for financial support, and did not work during the school year (Mello, 2004)

Exemplars of definitions for nontraditional students included:

- Older, part-time, and commuter students (Lundberg, McIntire, & Creasman, 2008)
- Non-traditional age (25 years and older) (Myers & Mobley, 2004)
- Nontraditional students are often described as being at least 24 years old, having a family to support, or being employed full time (Mkhatshwa & Hoffman, 2019)
- A nontraditional student is different from a traditional student in that he or she is more likely to be married, have a child or children, be employed, or be an ethnic minority other than Asian (Min, 2019)

DISCUSSION

Half of the 153 publications (n=77) have been analyzed for this literature review. Twenty-three were excluded, leaving 54 publications included so far in the analysis. The results indicate several emerging themes that will be important to track through the remainder of the review. The first theme is an incongruity in how research studies of U.S. based nontraditional students define both traditional and nontraditional students. More than half of the 54 publications did not define traditional student, which then infers that the term encompasses everyone that does not identify as nontraditional. However, analysis of definitions of nontraditional students show significant disagreement among determinants. The literature base clearly disagrees on determinants like race, ethnicity, gender, age, or socioeconomic status. The resulting incongruity serves underrepresented student populations poorly. For instance, modern Black students who start college immediately after high school and are financially dependent on their parents would be categorized as traditional by the current literature base. Yet, access to institutions of higher education was denied to Black men and women throughout much of the last two centuries. Black students often resist the traditional label because it whitewashes the oppressive experiences of their forebears.

Additionally, if all non-white determinants are tossed into the nontraditional bucket, it dilutes the ability of administrators and staff to create targeted and supportive programming for student populations with specific needs. Higher educators should resist dichotomous characterizations of student populations and work closely to build versatile support systems that understand the particular needs and of a diversifying body of students.

References

- Bean, J.P., & Metzger, B.S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*, 485-540.
- Booth, A., Sutton, A., & Papioannou, D. (2016). *Systematic approaches to a successful literature review*. Thousand Oaks, CA: Sage.
- Choy, S. (2002). Nontraditional undergraduates. *National Center for Education Statistics, U.S. Department of Education*. Retrieved from: <http://nces.ed.gov/pubsearch/index.asp>
- Chung, E., Turnbull, D., & Chur-Hansen, A. (2014). Who are 'non-traditional students'? A systematic review of published definitions in research on mental health of tertiary students. *Educational Research and Reviews, 9*(23), 1224-1238.
- Collins, P.H., & Bilge, S. (2016). *Intersectionality*. Malden, MA: Polity Press.
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review, 43*, 1241-1299.
- Crenshaw, K. (2018). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics. In Weisberg, D.K. (Ed.), *Feminist Legal Theory* (pp. 57-80). Routledge.
- Horn, L.J., & Carroll, C.D. (1996). Nontraditional undergraduates: Trends in enrollment from 1986 to 1992 and persistence and attainment among

- 1989-90 beginning postsecondary students. *National Center for Education Statistics*. Retrieved from: <https://nces.ed.gov/pubs/web/97578.asp>
- Langrehr, K.J., Phillips, J.C., Melville, A., & Eum, K. (2015). Determinants of nontraditional student status: A methodological review of the research. *Journal of College Student Development, 56*(8), 876-881. doi:10.1353/csd.2015.0090
- Levin, J., Viggiano, T., Damian, A.I.L., Vazquez, E.M., & Wolf, J.P. (2017). Polymorphic students: New descriptions and conceptions of community college students from the perspectives of administrators and faculty. *Community College Review, 45*(2), 119-143.
- Lundberg, C.A., McIntire, D.D., & Creasman, C.T. (2008). Sources of social support and self-efficacy for adult students. *Journal of College Counseling, 11*(1), 58-72.
- Mello, R. (2004). Teaching at the border of despair and hope: Supporting the education of non-traditional working class student teachers. *Westminster Studies in Education, 27*(2), 263-285.
- Mkhatshwa, T.P., & Hoffman, T.K. (2019). Undergraduate students' experiences in different course formats: An exploratory study examining traditional and nontraditional student perceptions. *Association for University Regional Campuses of Ohio, 25*, 148-159.
- Min, H. (2019). The risk factors of abusive relationships for nontraditional students. *Journal of American College Health, 67*(2), 174-179.
- Monroe, A. (2006). Non-traditional transfer student attrition. *The Community College Enterprise, 33*-47.
- Myers, J.E., & Mobley, A.K. (2004). Wellness of undergraduates: Comparisons of traditional and nontraditional students. *Journal of College Counseling, 7*, 40-49.
- National Association of Independent Schools. (2018, June 22). *Kimberlè Crenshaw: What is Intersectionality?* [video file]. Retrieved from: <https://www.youtube.com/watch?v=ViDtnfQ9FHc&t=31s>
- Pelletier, L. (2014). Older, wiser, novice: Nontraditional students and collegiate forensics. *National Forensic Journal, 33*(1), 35-48.
- Remenick, L. (2019). Services and support for nontraditional students in higher education: A historical literature review. *Journal of Adult and Continuing Education, 25*(1), 113-130. doi:10.1177/1477971419842880
- Ruel, S., Mills, A.J., & Thomas, J.L. (2018). Intersectionality at work: The case of Ruth Bates Harris and NASA. *Theory and Politics in Organization, 18*(1), 17-49.
- Shaffner, E.C., Mills, A.J., & Mills, J.H. (2019). Intersectional history: Exploring intersectionality over time. *Journal of Management History, 10*.1108/JMH-02-2018-0011
- The Journal of Blacks in Higher Education. (n.d.). Key events in black higher education: JBHE chronology of major landmarks in the progress of African-Americans in higher education. Retrieved from: <https://www.jbhe.com/chronology/>

ABOUT THE AUTHOR



Brian Delaney is a doctoral student in Educational Leadership and Learning Technologies, a Research Assistant in Drexel University's School of Education, and a Co-Founder of the Education, Learning, and Brain Sciences Research Collaborative. His research foci include journalism and mass communication education, online learning, educational technologies, Mind, Brain, and Education science, and andragogy. In February 2018, Delaney was selected Co-Editor of the Emerging Voices in Education Journal for a two-year term.

Delaney earned a master's degree in Higher Education Administration with a concentration in e- Learning Technologies and Instructional Design from Drexel in 2016. He earned a bachelor's degree in Journalism from Ithaca College in 2004 and was an award-winning journalist in newspapers and radio over a career of 16 years. He spent five years as an adjunct lecturer at the Ithaca College Park School of Communications, teaching introductory and investigative journalism courses and hosting workshops on interview strategies and leadership for student media organizations. Delaney spends his spare time with his wife Stefanie and their two children.

► RESEARCH BRIEF NO. 3

Using Technology and Collaboration with STEM Professional to Enhance Students' Self-Efficacy and Interest in STEM

WRITTEN BY: **MIKHAIL MILLER**, PhD Student

SUPERVISING PROFESSOR:
DR. CHRISTOPHER WRIGHT

November 2019

ABSTRACT

This paper highlights the year-one (pilot) findings of a three-year project on emerging technologies where students engaged in computer modeling, 3D printing, flight simulation, and drones during summer camps and afterschool programs in rural and urban districts. The pilot was iterative as different interventions were field-tested in specific environments. The purpose of the pilot study was to examine and refine the interventions and understand their influence on students' self-efficacy and interest in computing, science, and technology.

AIM

The goal of this study was to examine students' efficacy in computer programming, science and technology using Tinkercad, Sculptris, Flight Simulator X and DJI Mavic Pro Drones.

PROBLEM

The expansion of school-based access to technology has led to the inclusion of technology into the curriculum of formal and informal learning environments. This has made it necessary for education stakeholders to identify tools, pedagogy and practices that promote learning with technology. This is particularly important for students of color who, studies show, are underrepresented in the STEM pipeline (Whittaker & Montgomery, 2012; Lyon, Jafri & St. Louis, 2012). The overemphasis on the negative factors that affect students of color, reinforces societal prejudices and stereotypes, distorts the achievements of those who persist despite various obstacles and social pressures (Shin, 2011; Franklin, 2004; Nicolas et al., 2008) and may lead to low academic self-efficacy. As such this study sought to answer the following questions:

- (1) How did the technological tools influence students' efficacy in computer programming?
- (2) How did the technological tools influence students' efficacy in science and technology?
- (3) What themes related to the technological tools emerged after the intervention during focus group interviews in Philadelphia?
- (4) What STEM disciplines or careers did afterschool students mention during focus group interviews in Philadelphia?

RESEARCH STUDY DESIGN

The study was conducted in two different settings. Site 1 was in a rural location in Wyoming and site two was located in an urban Pennsylvania location. Study participants consisted of students from grades 5 through 8. This study engaged students in project-based learning experiences through computer modeling and 3D printing to provide them with coding experiences. Flight simulation and drones provided students with applications that allowed them to develop new knowledge and understandings of complex systems. Students learned about the forces of flight: lift, drag, thrust, and gravity. Students at both settings received 30 hours of intervention where they could play with TinkerCad and Sculptris computer modelling software and Flight Simulator X, and DJI Mavic Pro drones. Students were also given projects to create models of items such as keychains using the Tinkercad and Sculptris software. Once they were satisfied with the models, they were allowed to print them using a 3-D printer.

METHODS

Data was collected from two sources. First, surveys developed by Ketelhut and Jordan (2018) were used to assess students' self-efficacy and STEM interest. To address questions 1 and 2, the survey measured students' self-efficacy in computer programming, science and technology. The data were analyzed using paired sample t-tests to determine whether the interventions led to significant differences in students' self-efficacy. Qualitative data was collected at the site 2 in Pennsylvania via focus group interviews to assess students' attitudes about the program. The qualitative data was used to address questions 3 and 4. The constant comparative method (Strauss & Corbin, 1990) was used to find themes and patterns from the transcripts.

FINDINGS AND DISCUSSION

Quantitative results showed that students at both sites had significant increases in their computer programming efficacies. This was attributed to high interests in using the computer modeling with Tinkercad, Sculptris and 3-D printing. The science efficacies at site 1 increased significantly but decreased at site 2. Qualitative data revealed that students enjoyed using the technological tools. The only negative comments were related to some younger students not getting to fly drones in Philadelphia. One student mentioned wanting to become a scientist or engineer. All the students identified specific parts the lesson presented by the STEM speaker. This indicates that the inclusion of the guest speaker increased the students' knowledge of science content although it did not increase their science efficacies.

DISCUSSION

It could be that the students in site two did not consider learning about and using with technological tools to be associated with what scientists do.

RESEARCH IMPLICATIONS

The results from the pilot data reveal that having students engage in emerging technologies in an out-of-school program holds promise for impacting students' computer programming skills, engagement, self-efficacy and interest in STEM. Questions that remain are what elements of these interventions have the greatest impact on students? And how do we refine the intervention to increase positive outcomes?

Some additional questions that emerged from the research include: did gender, race/ethnicity, or local culture play a role in lower science efficacy scores? What factors led to increased technology efficacy and interest at Site 2? How did teachers' and STEM professionals' lessons influence these outcomes?

References

- Franklin, A. (2004). *From brotherhood to manhood: How Black men rescue their relationships and dreams from the invisibility syndrome*. New York, NY: Wiley.
- Ketelhut, D. J., Jordan, W., & colleagues. (2018). Using computer modeling and flight simulation to create STEM pathways Survey.
- Harper, S. R. (2010). An anti-deficit achievement framework for research on students of color in STEM. *New Directions for Institutional Research*, 2010(148), 63-74.
- Lyon, G. H., Jafri, J., & St Louis, K. (2012). Beyond the Pipeline: STEM Pathways for Youth Development. *Afterschool Matters*, 16, 48-57.
- Nicolas, G., Helms, J., Jernigan, M., Sass, T., Skrzypek, A., & DeSilva, A. (2008). A conceptual framework for understanding the strengths of Black youths. *Journal of Black Psychology*, 34, 261-280.
- Shin, R. Q. (2011). The influence of Africentric values and neighborhood satisfaction on the academic self-efficacy of African American elementary school children. *Journal of Multicultural Counseling and Development*, 39(4), 218- 228.
- Whittaker, J. A., & Montgomery, B. L. (2012). Cultivating diversity and competency in STEM: Challenges and remedies for removing virtual barriers to constructing diverse higher education communities of success. *Journal of Undergraduate Neuroscience Education*, 11(1), A44.
- Wright, B. L. (2011). Valuing the "everyday" practices of African American students K-12 and their engagement in STEM learning: A position. *The Journal of Negro Education*, 5-11.

ABOUT THE AUTHOR



Mikhail Miller is a PhD student in the School of Education whose focus is on STEM education. He is particularly interested in Mathematics and Engineering education. He currently works with Drs. Christopher Wright and Brigitte Valsey.

Mikhail is originally from Jamaica but earned his bachelor's degree from Fisk University in Nashville Tennessee and master's degree from Tennessee State University. Prior to joining us at Drexel, Mikhail worked in multiple positions in the field of education starting out as a tutor for Mathematics and Physics while completing his undergraduate degree, to working as a substitute teacher at LEAD Academy in Nashville Tennessee. He was also the mathematics lab coordinator at his alma mater Fisk University. Mikhail's research interest includes, Black males in engineering education, math literacy, formal and informal learning, and representation of African American male identities in various levels of education. He is a proud member of PhD cohort 5.

► RESEARCH BRIEF NO. 4

Educators' Dualistic Perceptions of Leadership Styles during PreK-12 Independent School Accreditation Review Processes

WRITTEN BY: **DR. CHRISTOPHER HOLLAND**, EdD Alumni

SUPERVISING PROFESSOR: **DR. KRISTY KELLY**

December 2019

ABSTRACT

The purpose of this research was to explore how independent school educators perceived the management styles of school leaders during accreditation review processes and associated organizational reform efforts. The research findings evidenced inconsistent educator perceptions regarding how administrators include educators in accreditation review processes. While school leaders were described as generally assuming a top-down approach by remaining the central authority on institutional accreditation efforts, some educators recalled moments of empowerment in which administrators created spaces for their feedback and leadership. This dualistic perspective appears to be the result of vague accreditation requirements enacted by the National Association of Independent Schools (NAIS). The findings that follow are significant for administrators looking to reflect on professional accreditation practices, agencies seeking to reassess accreditation standards, and researchers who focus on how organizational assessment influences leadership techniques.

AIM

The purpose of this research was to explore how independent school educators perceived the management styles of school leaders during accreditation review processes and associated organizational reform efforts.

PROBLEM AND SIGNIFICANCE OF THE STUDY

Independent schools rely on the standards, evaluations, and recommendations of regional and state-based accreditation agencies as indicators of institutional performance (Alam, 2005; Cram, 2014). Furthermore, independent school stakeholders on all institutional levels agree that accreditation is a necessary component to strong organizational success. Specifically, within independent school communities, teachers and administrators envision the accreditation review process as influential in how all organizational members structure and enact strategic planning, administrative efforts, classroom practices, and employment priorities (Fairman, Peirce, & Harris, 2009; Wood & Meyer, 2011).

In accordance with the inclusive nature of accreditation, the National Association of Independent Schools' (NAIS) established guidelines in their *Criteria for Effective Independent School Accreditation Practices* which state, "A broad cross-section of the community (including all faculty and staff, as well as members of the governing body and others in the community, as appropriate) participate in preparing the self-study." (NAIS, n.d.). Despite this, NAIS does not offer much clarity with regards to how administrators best include educators in the accreditation process. As a result, NAIS leaves open room for administrator interpretation of teachers' role in both the accreditation review process and subsequent reform efforts that stem from accreditation results.

RESEARCH FINDINGS

The researcher built upon prior understandings of the concept of accreditation by assuming a constructivist epistemology that focused on providing independent school educators a platform to create meaning through deliberation about their lived experiences. Specifically, the researcher collected data from 156 valid surveys and eight 30 to 45-minute semi-structured interviews to analyze educators' perceptions of management styles of their school leaders.

Utilizing open, in-vivo, and descriptive coding techniques, many concepts emerged that were later combined using axial techniques to allow for the creation of larger themes. The following were the major findings from this study:

- Educators largely perceived inclusiveness as a generally accepted characteristic of the accreditation review process and associated school reform efforts.
- Educators cited prior experiences of instances in which administrators enacted a top-down approach to creating and enacting their school's plans regarding accreditation, even if this meant rejecting the inclusive work of other stakeholders.

- Educators cited experiences in which administrators enacted a bottom-up approach to a school's plans regarding accreditation that empowered educators with the ability to assume leadership roles that ranged from serving as committee chairs, contributing authors of institutional strategic plans, and assuming responsibilities as chief accreditation officers.

CONCLUSION/DISCUSSION

Results suggested that NAIS' broadly defined expectations about stakeholder inclusion contributed to the educators' perceptions of their incorporation into accreditation review processes as dualistic. On the one hand, teachers believed that their participation in accreditation processes was in a subordinate capacity that required them to receive direction from school leaders. On the other, educators also perceived the lines that defined the traditional hierarchical structure described in the previous statement to be blurred, especially when administrators created opportunities for stakeholders to collaborate.

Data indicated that educators perceived school administrators as central in determining the structure and programming of accreditation preparation efforts, especially with regards to determining widespread points of focus, committee assignments, temporary accreditation leaders, and the delegation of preparatory tasks. Participants also viewed school leaders as the ultimate authority that decided whether to accept suggestions and input from teachers.

Conversely, participants also perceived accreditation processes and associated institutional improvement efforts as moments when the entire school community looked beyond hierarchical barriers and deliberated as professional educators working towards similar goals.

Within preparatory and reform portions of the process, classroom teachers served as committee chairs while administrators remained committee members. Participants also acknowledged that accreditation afforded them the opportunity to share opinions about specific functions of the school to administrators. Finally, educators perceived accreditation as an authority that mandated leaders to include teachers in ways that empowered them to provide feedback without reprisal.

RESEARCH IMPLICATIONS

This study is best regarded as an initial inquiry into the manner in which independent school accreditation influences perceptions of administrative practices. Specifically, for school leaders, this study may serve as a reminder to remain cognizant of their own practices to assess whether their intentions reflect their actions. For NAIS, flexibility accommodates greater variability among its member institutions; however, accreditation leaders are encouraged to assess whether current standards allow for too wide a range of administrative interpretation.

Finally, for researchers, such findings would benefit being expanded to assess how other models of institutional assessment (i.e. higher education, public schools) influence stakeholder perceptions of administrative efforts and whether these perceptions match the larger intentions of evaluation agencies.

References

- Alam, N. (2005). *The impact of accreditation on the quality of education: Results of the regional accreditation and quality of education survey*. Bedford, MA: New England Association of Schools and College.
- Cram, H. G. (2014). Member survey reflects increased commitment to accreditation, accountability and continuous improvement. *International Educator*, 28(3), 36.
- Fairman, J., Peirce, B., & Harris, W. (2009). High school accreditation in Maine: Perceptions of costs and benefits. *Penquis Superintendents' Association research report*. Orono, ME: Center for Research and Evaluation.
- National Association of Independent Schools. (n.d.). *Criteria for effective independent school accreditation practices*. Retrieved from <https://www.nais.org/about/commission-on-accreditation/criteria-for-effective-independent-school-accredit/>
- Wood, C., & Meyer, M. J. (2011). Impact of the Nova Scotia school accreditation program on teaching and student learning: An initial study. *Canadian Journal of Educational Administration and Policy*, 124, 1-33.

ABOUT THE AUTHOR



Christopher Holland is a 2019 graduate of Drexel University's Ed.D. program in Educational Leadership and Management. His dissertation explored perceptions of independent school educators' experiences with the preK-12 accreditation process and institution reform efforts that stemmed from participation in these organizational evaluations. As a doctoral student, Christopher specialized in Education Policy, publishing advocacy commentaries and policy briefs about topics that ranged from California's growing teacher shortage to New York City's "PreK for All" program, IDEA funding throughout Pennsylvania schools, and the state of climate change education through the nuanced adoption of the Next Generation Science Standards.

Before attending Drexel, Christopher graduated from Teachers College, Columbia University in 2009 with an MA in Social Studies Education and Gettysburg College in 2007 with a BA in History. Since 2007, Christopher has taught a myriad of courses in high school social studies classrooms in both public and independent school settings in both Brooklyn, NY and Hershey, PA. He currently resides in Hummelstown, PA with his wife, Dr. Jessica Cunningham, and sons, Caleb and Lucas. In the future, Christopher hopes to continue research into perceptions of institutional evaluation in public and private settings. Finally, he hopes to expand on his advocacy for social justice within educational policies' arenas across the nation.

► RESEARCH BRIEF NO. 5

Doing Math: A case study of one 5th grade teacher's use of centers to develop math skills and mathematical literacy

WRITTEN BY: **AMANDA REINSBURROW**, PhD Student
SUPERVISING PROFESSOR: **DR. VALERIE KLEIN**

December 2019

ABSTRACT

Students' ability to move from skill-based mathematics to being mathematically literate is a challenge. This case study explores the deliberate use of centers to promote this movement. Findings are presented from one center on big numbers showing the students' growth over the twelve weeks of observations and collected student work product.

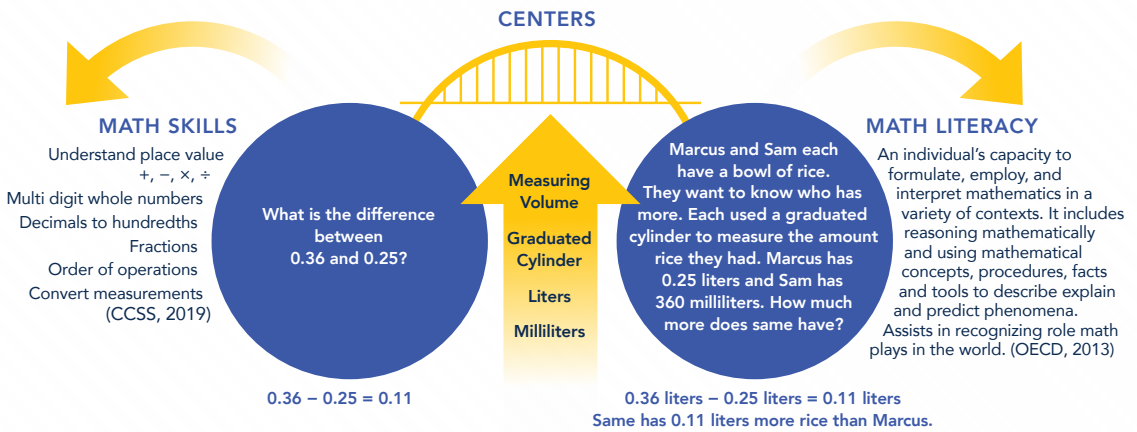
PROBLEM

According to the most recent Programme for International Student Assessment (PISA) data provided by the Organization for Economic Co-operation and Development (OECD), students in the United States perform below the international average in mathematics (OECD, 2019). This has been consistent since the launch of PISA in 2000. This test is given to 15-year olds, thus it is imperative to address this disparity at an earlier age due to the impact it may have on students' futures.

In fifth grade classrooms, students are studying math skills such as understanding place value, using basic operations with multi digit whole numbers, fractions, and decimals, converting measurements, and using the order of operations. However, due to the often siloed nature of content, as it is taught in schools, these skills are often taught and assessed in isolation. Math literacy is defined by the Organization for Economic Co-operation and Development (2013) as the ability to use mathematics in a variety of contexts that includes reasoning and use of mathematical concepts to solve problems. When the connection between mathematical concepts is not built in a way that allows students the ability to transfer their knowledge between concepts, a competency necessary for developing math literacy. Akbasli, Sahin, and Yaykiran (2016) argue that students should build math skills, use of vocabulary, and expresses understanding in order to utilize math skills actively beyond the classroom. This dissertation will explore how fifth graders participation in math activity centers designed specifically to scaffold the development of that set of math skills may actively support the development of math literacy (see figure 1).

Building on Stein et al.'s (2000) classification of tasks as "doing math," tasks that are intended to explore a mathematical concept in depth, this dissertation aims to investigate how the fifth graders' work in math centers, centers intentionally designed to promote "doing math," can support the development of their math literacy. These centers are designed to promote student engagement with concrete experiences of counting and measuring various items (e.g. money, weight, length, area) and quantities (e.g. fractions, decimals, whole numbers, larger numbers).

Additionally, as part of these centers students write sentences and word problems about the items and quantities they count and measure. The activities that are part of these centers are designed to support fluid movement between concrete and abstract representations that will allow students to build mathematical knowledge and comfort with mathematics in meaningful ways.



► **FIGURE 1:** Centers as the bridge from math skills to math literacy. This figure illustrates example problems from math skills and math literacy spaces and highlights the work centers do to bridge this gap. It also includes the definitions of math skills and math literacy.

This preliminary study sought to understand how students' math skills and math literacy develop as they participate in a center intentionally designed to promote their understanding of big numbers and writing about them (see figure 2). A case study design (Yin, 2012) was utilized to analyze this center approach in a fifth-grade teacher's classroom. Observations and student work analysis were conducted to address the research question:

Research Question: How do centers, designed for students to count and measure, change their understandings of mathematics?

MAKING ADDITION/SUBTRACTION FACT FAMILIES

Who's Counting:

MINE	YOURS	OURS
1,325,261	4,043,027	5,368,288
<p>3 SENTENCES:</p> <p>I have 1,325,261 subscribers to my YouTube Channel. You have 4,043,027 subscribers to your YouTube channel. Together we have 5,368,288 subscribers.</p>	<p>FACT FAMILY:</p> <p>$1,325,261 + 4,043,027 = 5,368,288$ $4,043,027 + 1,325,261 = 5,368,288$ $5,368,288 - 4,043,027 = 1,325,261$ $5,368,288 - 1,325,261 = 4,043,027$</p>	<p>WORD PROBLEM:</p> <p>Together there are 5,368,288 subscribers to our YouTube channels. If I have 1,325,261, how many do you have?</p>

► **FIGURE 2:** Sample of big numbers center information. This figure displays the work a student would complete when participating in the big numbers center.

STUDY DESIGN

Setting. The study took place in a charter school in the greater Philadelphia area. In this school, approximately 94% of the students identify as Black, and 73% come from low-income households. Within the school, the classroom observed was a fifth-grade multi-tiered system of supports class where all fifth-grade students receive on average, 90 extra minutes of math support a week.

Methods. Over the course of 12 weeks, observations were conducted twice a week. During these observations, the researcher was a participant observer (Ravitch & Carl, 2016) and took detailed notes on student interactions with the center work. Along with these notations, select student work was reviewed for content based on the four sections of the center document: creating numbers and adding, writing narrative sentences, writing fact families, and writing word problems (figure 2).

PRELIMINARY FINDINGS

Through working in a center designed specifically to increase students' ability to work with and understand big numbers (numbers in the millions), as well as write narrative sentences, fact families, and word problems, there are three key findings.

- (1) When writing the narrative sentences, students struggle to give units to the numbers. In essence, what can be counted in millions? This was discussed in class, and students gave suggestions of dollars, viewers or subscribers, books, etc. The discussion led to an increase in students using appropriate ways to describe a number in the millions.
- (2) When writing the fact families, some students could immediately complete the work, while others needed to be reminded of what a fact family was and how the numbers were related. By sharing a single-digit fact family, many students were able to grasp the concept with the big numbers.
- (3) Writing word problems is difficult for students. While the students are progressing, there is little variation in the problems they write. They also don't always write in complete sentences, include periods or capitals, and organize their thoughts well.

CONCLUSIONS

This preliminary review of observations and select student work demonstrates that by participating in the centers, the students' math skills and mathematical literacy abilities are increasing. It also shows that the students are (a) counting and measuring objects to complete work that allows them to access mathematics in an authentic way, (b) building their vocabulary by using items they may not otherwise use, and (c) writing their own word problems, thus creating the work they will be asked to do on a test. In essence, the students are "doing math" in ways that allow for connections and transfer to happen.

NEXT STEPS

Moving forward this study will expand to explore (1) select students' growth over time as they work in the centers, (2) teacher feedback to the students and what it looks like, how it has changed, and if students are using it, (3) state assessment data to make comparisons year over year, and (4) student context of their sentences and what it means to give students open access to use their own context.

References

- Common Core State Standards Initiative (CCSSI). (2019). Common Core State Standards Initiative. Washington, DC. Retrieved from <http://www.corestandards.org/Math/Content/5/G/>
- Hilberg, R. S., Chang, J., & Epaloose, G. (2003). Designing effective activity centers for diverse learners. Santa Cruz, CA: Center for Research on Education, Diversity & Excellence.
- Organisation for Economic Cooperation and Development (OECD). (2013). PISA 2012 assessment and analytical framework: Mathematics, reading, science, problem solving and financial literacy. *OECD Publishing*, doi: 10.1787/9789264190511-en
- Organisation for Economic Cooperation and Development (OECD). (2019). Programme for international student assessment (PISA) results from PISA 2018: United States - Country Note - PISA 2018 results. Retrieved 15 January 2020, from https://www.oecd.org/pisa/publications/PISA2018_CN_USA.pdf
- Ravitch, S.M. & Carl, N. M. (2016). Qualitative research: Bridging the conceptual, theoretical, and methodological. Thousand Oaks, CA: Sage Publications, Inc.
- Schoenfeld, A. H. (1994). Reflections on doing and teaching mathematics. In *Mathematical Thinking and Problem Solving*. (pp. 53-75). Hillsdale, NJ: Erlbaum.
- Stein, M. K., Smith, M. S., Henningsen, M. A., & Silver, E.A. (2000). *Implementing standards-based mathematics instruction: A casebook of professional development*. New York: Teachers College Press.
- Vygotsky, L. S. (1978). *Mind and society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Yin, R. K. (2012). *Applications of case study research*. Thousand Oaks, CA: Sage Publications.

ABOUT THE AUTHOR



Amanda Reinsburrow is a doctoral candidate in the School of Education at Drexel University with a concentration in STEM education. Her research interests include exploring definitions of mathematics literacy, relationships between teacher pedagogical beliefs and practices, and professional development to support teachers' use of student thinking to inform mathematics instruction. In particular, Amanda is interested in closely examining how mathematics' teachers understanding of literacy pedagogies can support learners in the mathematics classroom.

Currently, Amanda serves as a teaching and research assistant in the School of Education. This position allows her to teach education courses at the undergraduate and graduate level, supervise students in the field, and contribute to research. Prior to attending Drexel, Amanda spent ten years teaching middle and high school mathematics in California and Florida.

► RESEARCH BRIEF NO. 6

Exploring the Effects of an Open Access Mindfulness Course on Online Graduate Student Persistence, Stress, and Mind Wandering: A Mixed Methods Explanatory Sequential Study

WRITTEN BY: **JACKIE MURPHY**, EdD Student

SUPERVISING PROFESSOR: **DR. KRISTEN BETTS**

January 2020

ABSTRACT

Graduate online students often must juggle the demands of graduate school with work and families. These competing demands can lead to increased levels of perceived stress, which can increase mind wandering and potentially impact academic performance. Mindfulness is a practice that has been shown in the literature to decrease levels of perceived stress and mind wandering, therefore, the integration of mindfulness practice could have a positive effect on students' academic success and persistence. The purpose of this explanatory sequential study was to examine explore the impact of teaching mindfulness to online graduate students. The preliminary findings of this study have important implications for higher education institutions

AIM

The purpose of this explanatory sequential dissertation was to examine relationships between, and factors related to student self-reported perceived stress, mind wandering, and persistence (i.e., degree/ institutional commitment) and to explore the impact of teaching mindfulness to online graduate students.

PROBLEM

Persistence for non-traditional students enrolled in graduate education is a challenge due to stress which can decrease attention, increase mind wandering, and affect academic performance; therefore, research is needed on the effects of implementing mindfulness in online graduate programs.

Research Questions: This mixed-methods study aimed to answer the following research questions:

- (1) Are online graduate students' self-reported levels of stress, mind wandering, and persistence significantly related?
- (2) Are there significant differences in online graduate students' self-reported levels of stress, mind wandering, and persistence when comparing before and after completion of an open-access mindfulness course?
- (3) What are the perceptions of online graduate students who complete an online open access mindfulness course?
- (4) What factors do online graduate students identify as contributing to stress, mind wandering, and persistence?

SIGNIFICANCE

Retention is often a challenge with online graduate students, who are typically juggling multiple responsibilities outside of school, including full or part-time employment and families (Muljana & Luo, 2019). These competing demands often lead to increased levels of stress. In 2017, a survey conducted by the American College Health Association (ACHA) of over 14,000 graduate students found that 59.8% experienced higher than average stress rates and one in five reported that the stress impacted their academic performance. Increased stress can lead to an increase in mind wandering and a decrease in focus. If an individual does not recognize that their mind has wandered or becomes consumed by the unrelated thought, attention in the present moment will significantly decline. Therefore, mind wandering likely has a negative impact on academic performance and potentially student persistence.

Mindfulness is defined as “paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn, 2013, p. xxvii). Several of the benefits of mindfulness that can be readily found throughout published research includes decreased levels of perceived stress (Hölzel et al., 2012) and decreased mind wandering (Bennike, Wieghorst, & Kirk, 2017). Given these benefits, mindfulness integrated into online higher education may improve students' levels of stress and mind wandering, allowing students to be more focused on the course content and, may as a result, increase retention.

PRELIMINARY RESEARCH FINDINGS

Graduate online students in the College of Nursing and Health Professions and the School of Education at one large private urban university located in the northeastern region of the United States were invited to participate in this study. Thirty-one online graduate students completed a pre-survey and Module One of an open access course titled, “Mindfulness and Optimal Performance.” Students had three weeks to complete Module One and then were emailed a post-survey. The pre-and post-surveys included valid and reliable instruments to measure self-reported scores of perceived stress, mind wandering, and persistence. Specifically, the College Persistence Questionnaire (CPQ) (Davidson et al., 2009) was used to measure persistence. For the CPQ, researchers found that the questions specifically related to institutional commitment and degree commitment best predicted persistence, so those specific questions were utilized in the study surveys to measure perceived persistence. Additionally, six participants completed a one-on-one Zoom interview.

Quantitative data were analyzed using dependent paired t-tests and Pearson correlations, and yielded four results:

- Self-report scores of both mind wandering and perceived stress were significantly lower following the completion of Module 1.
- Self-reported perceived persistence levels after Module 1 were significantly higher for students in the first or second quarter of their graduate program.
- A significant, positive correlation was found between levels of perceived stress and mind wandering on the pre- and post-surveys. Ultimately, an increased level of perceived stress was associated with an increased level of mind wandering.
- A significant, negative relationship was found between mind wandering and persistence on the post-survey. Therefore, increased mind wandering was associated with decreased persistence with the post-survey data.

Qualitative data is being analyzed using first and second-cycle coding. Preliminary results show that overall, the students interviewed indicated that Module 1 provided a good foundation of mindfulness that taught them how to note that their mind had wandered, and focus on the present moment. A common factor that emerged related to persistence, mind wandering, and stress was their challenges in having to balance multiple commitments including work, school, and family.

CONCLUSION

After analyzing the quantitative and qualitative data findings, three results emerged preliminarily.

- An open access course that provides foundational mindfulness education, without formal meditations, can positively impact self-report levels of perceived stress and mind wandering.
- Self-reported perceived persistence may be increased for students who are early in their academic studies.
- Balancing multiple commitments is a common factor affecting persistence, stress, and mind wandering.

RECOMMENDATIONS

First, an open access mindfulness course should be offered to all students upon acceptance into their online graduate program. The students interviewed described that the course provided an excellent foundation of mindfulness in an easy-to-understand and accessible manner. Second, when creating an open access mindfulness course, it is important to include short, engaging resources with practical strategies that students can immediately apply.

References

- American College Health Association. (2017). *National college health assessment II: Graduate/professional reference group executive summary, spring 2017*. Hanover, MD: author. Retrieved from http://www.acha-ncha.org/docs/NCHA-II_SPRING_2017_GRADUATE_REFERENCE_GROUP_EXECUTIVE_SUMMARY.pdf
- Bennike, I. H., Wieghorst, A. & Kirk, U. (2017). Online-based mindfulness training reduces behavioral markers of mind wandering. *Journal of Cognitive Enhancement*, 1(2), 172-181. <https://doi.org/10.1007/s41465-017-0020-9>
- Davidson, W. B., Beck, H. P., & Milligan, M. (2009). The college persistence questionnaire: Development and validation of an instrument that predicts student attrition. *Journal of College Student Development*, 50(4), 373-390. doi:10.1353/csd.0.0079
- Hölzel, B. K., Carmody, J., Evans, K. C., Hoge, E. A., Dusek, J. A., Morgan, L., . . . Lazar, S. W. (2010). Stress reduction correlates with structural changes in the amygdala. *Social Cognitive and Affective Neuroscience*, 5(1), 11-17. doi: 10.1093/scan/nsp034
- Kabat-Zinn, J. (2013). *Full catastrophe living. Using the wisdom of your body and mind to face stress, pain, and illness*. New York, NY: Bantam Books.
- Muljana, P.S., & Luo, T. (2019). Factors contributing to student retention in online learning and recommended strategies for improvement: A systematic literature review. *Journal of Information Technology Education: Research*, 18, 19-57. doi:10.28945/4182

ABOUT THE AUTHOR



Jackie Murphy is an EdD student studying the effects of an open access mindfulness course on student persistence, stress, and mind wandering. She is expected to graduate from Drexel University in June 2020. Jackie is a registered nurse with a clinical background in pediatrics. She has been teaching in higher education for the past 13 years and is currently an Assistant Clinical Professor in the College of Nursing and Health Professions. Specifically, Jackie teaches students in the Graduate Nursing and Complementary and Integrative Health Programs. Additionally, Jackie is a certified Meditation and Mindfulness Teacher.

► RESEARCH BRIEF NO. 7

Learning by Making: Investigating Students' Identity Exploration Using Environmental Science and Art

WRITTEN BY: **MARK PETROVICH**, PhD Student

SUPERVISING PROFESSOR: **DR. AROUTIS FOSTER**

January 2020

ABSTRACT

The United States is currently projecting a shortage in the number of qualified STEM professionals. These projections have led to renewed calls for a focus on varied instructional practices to reinvigorate interest and proficiency in STEM subjects. One such practice, learning by making, has been suggested as a potential approach to STEM education. This study reports the results of 18 high school students' identity exploration towards STEM careers in a four-week maker course based in environmental science and art. Epistemic Network Analysis was utilized for data analysis and visualization. Research outcomes and implications are discussed.

AIM

Educational researchers have argued that learning by making by utilizing specific technology (e.g. 3Doodler, LittleBits, and Makey Makey), can facilitate new ways of understanding concepts, supporting identities and dispositions, and triggering future trajectories in academic domains and careers (Bevan, 2017). The purpose of this research study was to examine the identity exploration trajectories that resulted from participation in a four- week learning by making course centered around environmental science.

PROBLEM AND RESEARCH QUESTION

The problem addressed by this research study is as follows: Experts project that the United States will continue to experience a shortage in the number of experienced STEM professionals (Kitchen, Sonnert, & Sadler, 2018). To mitigate this shortfall, there has been an emerging interest in the development of a variety of instructional practices to reinvigorate student interest and proficiency in STEM subjects. One such practice, learning by making, focuses on the design and creation of both physical and digital artifacts (Halverson & Sheridan, 2014).

Despite the potential of learning by making to foster proficiency in STEM education, there is relatively little literature on the efficacy of learning by making programs, specifically on, a) which theoretical and pedagogical approaches may best complement making activities in supporting the acquisition of knowledge and skills in domains that are valued in schools, and b) the interactions between self and learning and the related changes in learner interest and valuing of STEM content (Halverson & Sheridan, 2014). To address this gap in the literature, this study was guided by the following research question: In what ways did students in a maker-centered course engage in the exploration of identities related to environmental science and art?

THEORETICAL FRAMEWORK

This study focused on investigating STEM learning as a longitudinal process of change over time defined here as identity exploration. Projective Reflection was utilized as a theoretical framework for this study. Projective Reflection operationalizes identity exploration as the intersection of a learner's knowledge, interest and valuing, perceptions and definitions of self, as well as self-organization and self-control (Shah, Foster, & Barany, 2017). Though learners were measured along individual constructs, the goal of Projective Reflection was to understand an integrated process of identity exploration throughout a learner's starting self, exploration of possible selves, and new self. Projective Reflection was utilized to guide the design of the curriculum experience throughout the four-week course, in addition to its use as an assessment of student progress to track change over time.

PARTICIPANTS AND CONTEXT

This study was conducted at a large environmental education center in the Northeastern United States. The center is one of the first urban environmental education centers in the country and offers programming across four core program areas: environmental education, environmental art, land stewardship, and wildlife rehabilitation. These programs are offered to school-aged children (K-12) year-round through partnerships with local schools, some of which focus broadly on STEM, some of which focus specifically on environmental science.

Participants were invited from local after-school centers and programs. A total of 18 high school students agreed to participate in a four-week long course on environmental science and art. In addressing learning by making, students were introduced to the LittleBits Electronics Kit. LittleBits are color-coded, modular pieces that magnetically snap together to create many opportunities to build innovative projects.

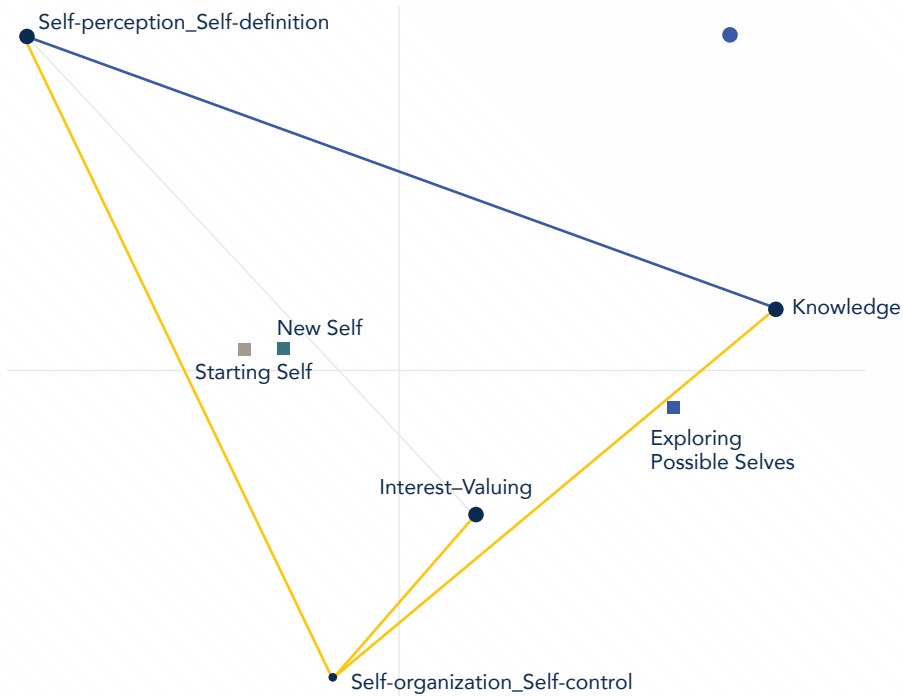
DATA COLLECTION AND ANALYSIS

Student background surveys, pre-post Projective Reflection surveys, journals, and exit surveys were organized and preliminarily coded for usage with Epistemic Network Analysis (ENA). ENA is a technique for modeling the structure of connections in data. It models the connections between codes by quantifying the co-occurrence of codes within conversations, producing a weighted network of co-occurrences, along with associated visualization for each unit of analysis in the data (Shaffer & Ruis, 2017). Specifically, ENA was used to analyze all the networks simultaneously, resulting in a set of networks that can be compared both visually and statistically.

RESEARCH FINDINGS

In examining the ENA visualizations, three key factors are of note: (1) The orientation of the diagram does not matter; (2) The placement of the constructs on the axes does not matter; and (3) The thickness of the lines (connections) between constructs as well as the position of the mean in relation to the constructs are important. Figure 1 illustrates an epistemic network comparing all 18 participants' starting self compared to their exploration of possible selves. The difference model illustrates that the students had stronger connections between their knowledge and self-perception/self-definitions during the exploration of possible selves phase of identity exploration. Though connections were similar in strength between students' interests/valuing and self-perceptions/self-definitions across both identity phases, the remaining connections between constructs were viewed as slightly stronger in the starting self phase. A paired-samples t-test was conducted to compare the identity phases of starting self to the exploration of possible selves. The t-test revealed ($t(-8.05)=8.17, p=0.00$) a statistically significant difference in cumulative identity exploration score between students' starting selves and their exploration of possible selves.

► **FIGURE 1:** Epistemic Network Comparing Students' Starting Selves and Exploring Possible Selves



CONCLUSION/DISCUSSION

In addressing the research question, there are several takeaways based on the ENA visualizations. While there were clear outcomes in terms of students' knowledge and self-perception/self-definition as it relates to their exploration of possible selves, it cannot be stated outright that identity was supported in an integrated capacity. The difference model illustrated that a majority of the strongest identity connections already existed in terms of students' starting selves. As such, there was little support for the kind of integrated identity as described by Projective Reflection. Given the preliminary nature of this work, further visualizations highlighting the difference models of starting self/new self and exploring possible selves/new self may reveal the type of integration of these identity constructs expected in Projective Reflection.

IMPLICATIONS

The results of this study highlighted the outcomes of a four-week maker course focused on environmental science and art. Based on data analysis through ENA, students made the strongest connections between their knowledge and self-perceptions/self-definitions in their exploration of possible selves. While there was not enough evidence to claim an integrated process of identity exploration as defined by Projective Reflection, potential

limitations were identified through these outcomes. The design of the four-week course may not have provided enough time for identity exploration as Projective Reflection theorizes this change to occur longitudinally. An extended course structure may reveal varied results by comparison. By providing more varied opportunities within the course, such as allowing students to utilize outdoor resources offered by the environmental center, students may have been able to view themselves in the position of environmental scientists more easily. The emphasis on experiencing these role possible selves could impact the integration of identity exploration constructs.

References

- Bevan, B. (2017). The promise and the promises of making in science education. *Studies in Science Education*, 53(1), 75-103.
- Halverson, E. R., & Sheridan, K. (2014). The maker movement in education. *Harvard Educational Review*, 84(4), 495-504.
- Kitchen, J. A., Sonnert, G., & Sadler, P. M. (2018). The impact of college- and university-run high school summer programs on students' end of high school STEM career aspirations. *Science Education*, 102(3), 529-547.
- Shaffer, D., & Ruis, A. (2017). Epistemic network analysis: A worked example of theory-based learning analytics. In C. Lang, G. Siemens, A. Wise, & D. Gasevic (Eds.), *Handbook of learning analytics* (pp.175-187). Society for Learning Analytics.
- Shah, M., Foster, A. & Barany, A. (2017). Facilitating learning as identity change through game-based learning. In Y. Baek (Ed.), *Game-based learning: theory, strategies and performance outcomes* (pp. 257-278). Nova Science Publishers.

ABOUT THE AUTHOR



Mark Petrovich Jr. is a third-year doctoral candidate in the Education program with a concentration in STEM education. He is a research assistant within Drexel University's School of Education, as well as, a member of the Games and Learning in Interactive Digital Environments (GLIDE) lab. His research interests include educational technology, informal learning, maker-centered learning, motivation, and identity exploration. Mark earned a BS/MS in Digital Media from Drexel University in 2012. Since that

time, he has served as an adjunct professor in the Digital Media department and a freelance designer for projects involving web development, user interface/user experience design, and video production. His current research examines teaching and learning within informal contexts using immersive technologies such as augmented and virtual reality.

▶ RESEARCH BRIEF NO. 8

Teaching Business Writing at the Community College: Improving Writing Skills

WRITTEN BY: **DR. KAREN BRITT**, EdD Alumni

SUPERVISING PROFESSOR: **DR. JOYCE PITTMAN**

February 2020

ABSTRACT

Community college graduates represent a diverse population of educational backgrounds and often first-generation college students who seek employment opportunities after completing an Associate's degree. This brief explores the impact a Business Writing Across the Core (BWAC) program has on the writing skill of business students at the community college level and explores their perceptions of their preparation to write in the workplace. The study showed that the BWAC program had a positive effect on the participants' writing skills to prepare business documents, and the students welcomed the opportunity to write business documents.

AIM

The ability to effectively communicate through writing is essential to succeed in higher education and beyond (Varelas, A., Wolfe, K. S., & Ialongo, E., 2015). The aim of this mixed- methods case study was to explore the efficacy of the BWAC program's effectiveness in preparing community college students majoring in business to produce high-quality standards- based business writing documents.

PROBLEM

Community college students majoring in business are described as deficient in business writing skills, despite successfully completing the required English and business writing courses. Challenging for community college professors are the students who enter college underprepared in the basic skills needed to succeed, and who are at dramatically different levels with regard to these abilities (Hoachlander, Sikora, & Horn, 2003).

Prior research conducted by Lentz (2013) identified four reasons for deficits in writing. The skill of writing takes time, and the shortage of time to write is a factor many students stated as a reason why they do not perform to expectations. Second, students believe they have acquired the skills to write well. This fault, in their mindset, prevents them from seeking out tools to improve their writing skills. Third, students do not believe that correct grammar is important, nor does incorrect grammar threaten their credibility in the workplace. Finally, students stated they have no time to proofread messages; therefore, communication with errors continue to be sent. As a result, students' written communication continues to be plagued with deficiencies, which negatively affects student learning outcomes.

RESEARCH QUESTIONS

Central Question: To what extent does the Business Writing Across the Core (BWAC) program address the writing skill of community college students majoring in business in producing high- quality standards-based business documents and their perceptions about their ability to write?

Sub-question 1: From an instructor's perspective, how does a Business Writing Across the Core program improve business students' proficiency when comparing writing performance before and after the program?

Sub-question 2: How does participation in a Business Writing Across the Core program affect their perception of writing and motivate students to seek out tools to improve their writing skills before they enter the workforce?

The BWAC program is a document-driven program with specific goals and rationale (Hutchins, 2015): (a) to provide instruction in specific business documents, (b) to instruct students in the method of business rhetoric, or critical thinking, for problem-solving, (c) to inform students of the types of business writing genres which address different business problems, styles, and audience awareness, and (d) to provide a repetitive experience for writing.

METHODOLOGY

Students in designated courses produced a specific business document twice within a course, before and after receiving specific BWAC writing instruction. The study group was comprised of 23 students – 9 males and 14 females and represented 20 students from the sophomore class and 3 students from the freshmen class. The BWAC rubric revealed that of the four rubric components - clarity, logic and organization of ideas, mechanics, and style - the participants had the largest improvement in the mechanics of writing. Mechanics or writing literacy examined vocabulary, spelling, sentence construction, grammar, punctuation, and paragraph construction.

Semi-structured interviews gathered the qualitative data in this instrumental case study design. Open-ended questions were presented to ascertain the students' perceptions about their ability to write for the workplace. Based upon the emerged themes of business writing, academic rigor, and program experience, obvious patterns and trends can be the focus to improve the writing skills of community college students.

DISCUSSION

Drawn from the data, community college students majoring in business, desire more opportunities to practice writing essential business documents within the program. The mechanics of writing increased dramatically, 43% from unacceptable to acceptable and 26% from acceptable to excellent (see Tables 1 & 2). The overall theme from the results of the quantitative study was that students desire more practice in business writing and meaningful feedback from their writing submissions. The qualitative research study results showed that participants became more cognizant of the importance of writing in a business context. It also clarified specific business documents used in the workplace had more meaning and students recognized how important feedback was in the writing process.

► **TABLE 1:** Percentage of participants' scores that increased from unacceptable to acceptable categories

	TRAIT	INCREASED FROM UNACCEPTABLE TO ACCEPTABLE
	CLARITY	26%
	LOGIC & ORGANIZATION IDEAS	30%
	MECHANICS	43%
	STYLE	22%

► **TABLE 2:** Percentage of participants' scores that increased from acceptable to excellent categories

	TRAIT	INCREASED FROM ACCEPTABLE TO EXCELLENT
	CLARITY	9%
	LOGIC & ORGANIZATION IDEAS	22%
	MECHANICS	26%
	STYLE	13%

RESEARCH IMPLICATIONS

This study sets the groundwork for future research that features writing across the curriculum or writing in the discipline programming such as BWAC. The BWAC program could provide authentic business writing experiences and prepare students to write in the workplace. In addition, the BWAC program may facilitate the institutional support that is lacking within the community college environment (Gardner, 2010). Many students commented on how they desired more concentrated business writing opportunities within the business program. Also, they stated how much more confident they felt in their writing skill after the intensive instruction on Business writing and wanted to have these experiences extended into other business courses to improve their business writing skills.

References

- Gardner, C. (2010). Introduction to writing across the curriculum at the community college: Beating the odds. [Special issue on Writing Across the Curriculum at the Community Colleges] *Across the Disciplines*, 7. Retrieved from <https://wac.colostate.edu/docs/atd/cc/gardner.pdf>
- Hoachlander, G., Sikora, A. C., & Horn, L. (2003). Community college students: Goals, academic preparation, and outcomes (NCES 2003-164).
- Hutchins, T. (2015). A new approach to teaching business writing: Writing across the core – a document-based curriculum. *American Journal of Business Education*, 8(2), 131-137.
- Lentz, P. (2013). MBA students' workplace writing. *Business and Professional Communication Quarterly* (76), 4, 474-490.
- Varelas, A., Wolfe, K. S., & Ialongo, E. (2015). Building a better student developing critical thinking and writing in the community college from freshman semester to graduation. *Community College Enterprise*, 21(2), 76-92.

ABOUT THE AUTHOR



Karen S. Britt is a recent graduate of the doctoral program in Educational Leadership and Management with a concentration in Human Resource Development in September 2019. Karen began her career as a Human Resource Generalist with a specialization in classification analysis and talent acquisition and management. After completing a Master's degree in Business Administration at Penn State University, she positioned herself within higher education. Karen has spent 28 years in higher education as an academic administrator and faculty member within private colleges and the community college environment. As a professor of business and economics at the community college level, Karen is focusing her efforts on improving the business writing skills of students and preparing them to write in the workplace. Since completing the doctoral program at Drexel University, Karen desires to present her research focus and findings to business communication affinity groups and journals.

► RESEARCH BRIEF NO. 9

Mentoring Approaches of Minoritized Women: Insights from Administrative Leaders in Higher Education

WRITTEN BY: **AGUE MAE MANONGSONG**, PhD Student

SUPERVISING PROFESSOR: **DR. RAJASHI GHOSH**

February 2020

ABSTRACT

Although faculty in higher education struggle to balance service commitments with their research productivity and career advancement, minoritized women faculty tend to carry heavier service loads than their white/male counterparts, especially with regards to mentoring engagements (Griffin & Reddick, 2011). Minoritized women also lack role models to provide guidance on how to mentor successfully due to few mentoring opportunities (Manongsong & Ghosh, 2019; Smith, Smith, & Markham, 2000; Zambrana et al., 2015). Additionally, there is a dearth of literature on how minoritized women mentor others. The current interpretive phenomenological study seeks to fill the gap on how and why minoritized women engage in specific type of mentoring as explained by extant mentoring theories (traditional, relational, and holding behaviors). The semi-structured interviews revealed that the ten participants engaged in instances of traditional and relational mentoring functions, while performing holding behaviors for marginalized students and mentoring episodes. Thus, the paper offers unique insights into the approaches that minoritized women utilize to develop and advance their mentees, especially as they relate to challenges of racism and sexism.

BACKGROUND AND LITERATURE REVIEW

Mentors engage in a variety of mentoring activities that aids in mentees' growth as a professional (Kram, 1985; Ragins, 2012). There are three theoretical frameworks that delineate these mentoring support functions. Traditional mentoring refers to developmental relationships where a senior organizational member develops a more junior organizational member (Kram, 1985).

Mentors provide career support (advocacy, sponsorship, etc.), psycho-social support (guidance, friendship, etc.), and role modeling. Relational mentoring refers to partnerships rather than one-sided developmental relationships where mentoring pairs engage in activities for their mutual growth and development (Ragins, 2016). Holding behaviors provide non-judgmental support in response to situations that cause the mentees distress, such as discrimination based on sex or race (Ghosh et al., 2013; Kahn, 2001; Ragins et al., 2015).

Moreover, universities use mentoring as a student support service to promote inclusivity through increasing retainment of underrepresented populations in higher education (Fonts, 2018; U.S. Department of Education, 2016). However, mentoring engagement is a high service demand that departmental review committees tend to not weigh as heavily as productivity in terms of research, publications, and grants in the promotion and tenure process (Griffin & Reddick, 2011). This is especially problematic for marginalized faculty, such as women of color, because they experience large volumes of mentoring requests from majority and minoritized students, which takes them away from their research responsibilities (Dancy & Jean-Marie, 2015).

Furthermore, minoritized women faculty, who often lack role models of similar backgrounds, have little guidance from their departments and universities on how to mentor (Griffin et al., 2011; Griffin & Reddick, 2011). Similarly, there is a general lack of empirical work on minoritized women faculty's mentoring patterns: why mentors, especially minoritized women mentors, provide certain type of support. Additionally, given their high service demands (Griffin & Reddick, 2011), there is a dearth of information on how minoritized women mentor successfully. The current study aligns the mentoring provided by minoritized women to the tenets of the previously discussed mentoring theories. This leads to the research question:

How do minoritized women approach mentoring with similar and dissimilar others?

METHODS

Research Design and Sampling

As part of an on-going larger study, the research team used interpretive phenomenology analysis (IPA) to reveal insights into the human experience of mentoring (Heidegger, 1962). The researchers used semi-structured 60-minute interviews held through Zoom. The questions centered on the role mentoring played in their professional and leadership development journeys. To recruit participants, the research team then utilized purposive and snowball sampling of educational leaders in higher education STEM-related fields. The selection criteria included the following characteristics: identification as a minoritized woman (black, Asian, Latin, or Middle Eastern descent), currently employed at a university (private or public community college or four-year university), and currently an administrative leader within their department or university at large.

In total, the sample comprised of ten minoritized women leaders from two East Coast Universities. The sample was predominately women of African American descent ($n = 5$), followed by Asian descent ($n = 3$) and Latin descent ($n = 2$). They held the titles of Dean and Director, but to ensure the participants of their confidentiality, the research team did not report job titles or departments. Furthermore, all participants utilized a traditional mentoring approach, with only seven using some facets of relational mentoring and three explicitly using holding behaviors.

Data Analysis

The qualitative data analysis included a four-step coding process modeled after Smith and Osborn (2008). The researchers engaged in 1) multiple readings and note taking of the transcripts; 2) labeled emerging themes; 3) clustered themes into superordinate themes; and 4) created a code book. After each subsequent analysis, the researchers refined the codebook accordingly.

FINDINGS

The findings centered on the various types of mentoring functions and activities (traditional, relational, and holding behaviors) participants engaged in with mentees who were either similar or dissimilar to them in terms of race and gender. These themes were emergent, as well as aligned with the mentoring literature on mentoring functions discussed by Kram (1985), Ragins (2011), and Ragins et al., (2015), respectively.

Traditional Mentoring

Due to a sense of purpose for mentoring others, either those with similar or dissimilar backgrounds, they engaged in the career development (e.g., sponsorship, advocacy, etc.), psych- social support (e.g., acceptance, counseling, etc.), and role modeling functions identified by Kram (1985). Moreover, an important aspect of their mentoring approach was to customize the traditional mentoring support based on the needs of their mentees because of their own mentoring experiences as minoritized individuals.

Relational Mentoring

Most participants included aspects of relational mentoring (i.e., affirmation of authentic self, mutuality) (Ragins, 2011) in their approach as doing so enabled them to develop meaningful connection with their mentees. The participants affirmed the authentic self of their mentees because they experienced fear of being judged as per racial or gender stereotypes, and were unable to express their true selves. They did this through encouraging mentees' confidence, which buffers against self-doubt induced by racism and sexism in academia. Moreover, as mentors, minoritized women leaders ensured that mutuality was central to their relationships. They looked forward to learning from their younger mentees as a source of complementary knowledge or expertise. Mentoring also helped the participants to become more aware of their own developmental needs.

Holding Behaviors

Given their unique mentoring experiences and leadership journey, the participants provided numerous examples of how they enacted holding behaviors to help mentees from minoritized backgrounds deal with anxiety-producing experiences at work (Ragins et al., 2015). For instance, they engaged in holding behaviors that provided containment: they were accessible and offered a safe space for minoritized students to share their negative experiences (Kahn, 2001; Ragins et al., 2015). Additionally, they engaged in holding behaviors that offered enabling perspectives which helped mentees make sense of conflict and rebuild their ego in a nonjudgmental and validating context, such as self-advocacy and picking one's battles (Khan, 2001; Ragins et al., 2015).

Mentoring Episodes

Minoritized women leaders also engaged in *mentoring episodes* as a counter to the expectation they invest and form deep personal connections (Fletcher & Ragins, 2007; Flowers et al., 2015; Griffin & Reddick, 2011). Mentoring episodes are short term high quality developmental interactions (Fletcher & Ragins, 2007). The participants gave advice freely, but did not view themselves as a traditional mentor. Thus, a minoritized woman leader could have one-off interactions with multiple students and still meet these individuals particular developmental need, while preserving their energy to be productive because they do not require the emotional labor to build long-term mentoring relationships.

CONCLUSION

In conclusion, the participants provided a detailed account of the variety of mentoring strategies they used to promote the personal and career interests of their mentees. The findings demonstrated that even when faced with what the extant literature labeled a cultural taxation on their time (Dancy & Jean-Marie, 2014; Griffin & Reddick, 2011), the participants in this study were eager to engage in mentoring due to their sense of duty and the value they placed on mentoring. They proactively mentored minoritized individuals and women with support tailored to their unique challenges. Through their relationships, they created safe spaces for these individuals and utilized their mentees as a source for their own development.

Given the participants' willingness to engage in numerous mentoring activities and approaches to best meet the developmental needs of their participants, administration should support and recognize minoritized women for their mentoring efforts. Currently, minoritized women struggle to meet the requirements of promotion and tenure review process due to the tax mentoring has on their time (Dancy & Jean-Marie, 2014; Turner et al., 2011; Tyson & Borman, 2010) and have to strategize, through the use of alternative mentoring approaches, to meet the service and productivity demands, such as the use of mentoring episodes. This will contribute to making the service and productivity demands experienced by minoritized women leaders more manageable, while mentees continue to reap the benefits of their guidance.

References

- Dancy, T. E., & Jean-Marie, G. (2014). Faculty of color in higher education: Exploring the intersections of identity, impostorship, and internalized racism. *Mentoring & Tutoring: Partnership in Learning*, 22(4), 354-372.
- Fletcher, J. K. & Ragins, B. R. (2007). Stone Center Relational Cultural Theory: A window on relational mentoring. In B. R. Ragins and K. E. Kram (Eds.) *The handbook of mentoring at work: Theory, research and practice* (pp. 373-399). Thousand Oaks: Sage
- Flowers, A.M., Scott, J.A., Riley, J.R., & Palmer, R. (2015). Beyond the call of duty: An analysis of the effects of Othermothering at Historically Black Colleges and Universities (HBCUs). *The Journal of African American Male Education*, 6(1), 59-73.
- Fonts, M. (2018). Community college minoritized female administrators as mentors of minoritized female students. *International Journal of Mentoring and Coaching in Education*, 7(1), 87-106
- Ghosh, R., Haynes, R. K., & Kram, K. E. (2013). Developmental Networks at Work: Holding Environment for Leader Development. *Career Development International*, 18(3), 232- 256.
- Griffin, K.A., Pifer, M.J., Humphrey, J.R., & Hazelwood, A.M. (2011). (Re)defining departure: Exploring black professors' experiences with and responses to racism and racial climate. *American Journal of Education*, 117(4), 495 – 526.
- Griffin, K.A., & Reddick, R.J. (2011). Surveillance and sacrifice: Gender differences in the mentoring patterns of black professors at predominantly white research universities. *American Educational Research Association*, 48(5), 1032 – 1057.
- Heidegger, M., (1962). *Being and Time*. Oxford, Blackwell.
- Kahn, W.A. (2001). Holding environments at work. *The Journal of Applied Behavioral Science*, 37(3), 260-279.
- Kram, K. (1985). *Mentoring at work* (1st ed.). London: University Press of America.
- Manongsong, A.M., & Ghosh, R. (2019). Support from diversified mentoring: Lived experiences of minoritized women leaders in STEM, accepted at University of New Mexico Mentoring Institute Annual Conference, Albuquerque, New Mexico, 2014. Albuquerque, New Mexico: UNM Mentoring Institute.
- Ragins, B.R., Ehrhardt, K., Lyness, K.S., Murphy, D.D., & Capman, J.F. (2015). Anchoring relationships at work: High-quality mentors and other supportive work relationships as buffers to ambient racial discrimination. *Personnel Psychology*, 70(1), 211-256.
- Ragins, B. R. (2011). Relational mentoring: A positive approach to mentoring at work. In K. Cameron & G. Spreitzer (Eds.), *The Handbook of Positive Organizational Scholarship* (pp. 519-536). New York: Oxford University Press.
- Ragins, B. R. (2012). Understanding diversified mentoring relationships: Definitions, challenges and strategies. In *Mentoring and diversity* (pp. 35-65). Routledge.
- Smith, J. W., Smith, W. J., & Markham, S. E. (2000). Diversity issues in mentoring academic faculty. *Journal of Career Development*, 26(4), 251-262.
- Smith, J.A., & Osborn, M. (2008). Interpretative Phenomenological Analysis. In J. Smith, *Qualitative Psychology: A Practical Guide to Research Methods* (pp. 53-80). London: Sage.
- Turner, C.S.V., Gonzalez, J.C., & Wong, K. (2011). Faculty women of color: The critical nexus of race and gender. *Journal of Diversity in Higher Education*, 4(4), 199 – 211.
- Tyson, W., & Borman, K.M. (2010). "We've all learned a lot of ways not to solve the problem": Perceptions of science and engineering pathways among tenured women faculty. *Journal of Women and Minorities in Science and Engineering*, 16, 275 – 291
- U.S. Department of Education. (2016). Advancing diversity and inclusion in higher education: Key data highlights focusing on race and ethnicity and promising practices [Report]. Retrieved from <https://www2.ed.gov/rschstat/research/pubs/advancing-diversity-inclusion.pdf>
- Zambrana, R. E., Ray, R., Espino, M. M., Castro, C., Douthirt Cohen, B., & Eliason, J. (2015). "Don't Leave Us Behind" The Importance of Mentoring for Underrepresented Minoritized Faculty. *American Educational Research Journal*, 52(1), 40-72.

ABOUT THE AUTHOR



Ague Mae Manongsong is a PhD Candidate in the Educational Leadership track, under the tutelage of Dr. Rajashi Ghosh. Prior to her doctoral studies, Ague Mae earned her MA in Industrial/Organizational Psychology from Sacramento State University and an MA in Organizational Behavior and Evaluation from Claremont Graduate University. In addition to being a research assistant, she is also an editorial board member for SOE's Emerging Voices in Education journal. Her current research

interests center on the different applications of mentoring for the purposes of increasing the likelihood of positive leadership and career outcomes for minorities, women, women of color, as well as other marginalized groups. Specifically, Ague Mae seeks to explore how these different populations utilize and benefit from mentoring.

► RESEARCH BRIEF NO. 10

The Mixed Methods Study: Exploring Non-academic factors that Impact Literacy development for Minority Students Enrolled in Advanced Placement Courses in an Urban High School

WRITTEN BY: **ANTHONY BATTIS II**, EdD Student

SUPERVISING PROFESSOR: **DR. JOYCE PITTMAN**

March 2020

ABSTRACT

Students enrolled in advanced placement courses in an urban school present a unique dynamic to the education composition of the modern schooling system. This brief explores the relationship between the non-academic factors of literacy development and the academic performance of minority youth enrolled in advanced placement courses within urban public schools. This brief also investigates how the students' social experiences with peers, community individuals, and parent involvement contribute to the academic success within reading, writing, speaking, and communication.

AIM

This study sought to understand the relationship between non-academic factors of literacy development and the academic performance of minority youth enrolled in advanced placement courses within an urban public school. The research presents how students who are high performing in literacy differ from their low performing peers despite learning in very similar conditions.

PROBLEM

The problem in this study explores a lack of knowledge about the role of non-academic factors of literacy development that contribute to the success of minority students enrolled in Advanced courses. The problem is embedded in the deficiency of educational practices that support the growth of both school literacy and life literacy where school literacy is defined as the ability to read and write to access course content information and life literacy is the ability to access and interpret information to meet the needs of real-world situations through home, parents, or socialization (Wilhelm, 2003). Non-academic factors of literacy development are defined as the skills that are necessary to develop reading, writing, and communication outside of the educational setting (Hay, 2012). There is a disproportionate number of minority students in public urban high schools who lack the adequate non-academic engagement to increase the reading and writing comprehension skills necessary to achieve high success (Cohen & Garcia, 2006). Students who are enrolled within Advanced Placement courses have shown their abilities to perform at higher levels of academic success having mastered previous course content.

Although this gap of achievement in urban schools separates many urban students from their more advantaged suburban peers disproportionately affecting students of color (Wixon, 2015), there are many students of color enrolled in advanced placement courses attending urban public schools who often find success.

RESEARCH FINDINGS

The findings of this study are organized through quantitative and qualitative results.

Such results were interpreted through survey data derived from a modified version of the Hemingway scale of adolescent connectedness and Semi-structured Interviews with open-ended questions. The quantitative data evidenced that students desire to perform well in school while gaining the respect of their teachers. Many of the students who have shown success tended to associate with many groups of friends however, they prefer to spend time outside of their inner-city neighborhoods. Lastly regarding the findings of quantitative data, the students within this study described that they value their parent's perspective of their character and sought to receive the approval of their parents especially during academically driven success.

The qualitative data results that emerged from coding and analysis of 10 interviews expressed that students who are considered high achievers with respect to literacy tend to develop a strong sense of educational motivation at a young age. This was established based upon parent involvement and parent expectations. Students were influenced by their

encounters with parents, teachers, and their peers having multiple social circles where they can have conversations that peak their interest and spark student discovery of unfamiliar topics. Lastly, high achieving students from an urban public school indicated that their educational system lacked innovation in educating urban students where students want to learn based upon a curriculum tailored to their learning styles and interests.

CONCLUSIONS

RESEARCH QUESTIONS	
<p>What is the relationship between non-academic factors of literacy development and the academic performance of minority youth enrolled in advanced placement courses within a public urban school?</p>	<p>The relationship between non-academic factors of literacy development and academic performance of minority youth enrolled in advanced placement courses within a public urban school include:</p> <ul style="list-style-type: none"> • Multiple social circles regarding difficult topics • Knowledge of Code-switching • Understanding ones personal and academic goals • Leisure reading • A need to perform well in school
<p>What social, cultural, and educational factors are significant to the literacy development of minority youth within a public urban school setting where the majority of the students are students of color and receive free or reduced lunch?</p>	<p>Lack of resources for urban high schools, lack of academic drive and competition, and parent extrinsic motivation are the socialcultural and educational factors significant to the literacy development of minority youth within a public urban school setting where the majority of students are students of color and receive free or reduced lunch.</p>
<p>How do minority students in an urban public school perceive social interactions as an influence for literacy development?</p>	<p>Social interactions providing an outlet to discuss goals/future, real-world situations and expand critical literary through conversation are ways in which minority students in an urban public school perceive social interactions as an influence for literacy development.</p>
<p>How do African American students in an urban public school feel parents and guardian interactions influence literacy development?</p>	<p>Students in an urban public school feel parents and guardian interaction influence literacy development as students feel a sense of connectedness to their parents/guardians as an affirmation when they are successful within school.</p>
<p>How do urban minority students of advanced placement literature class perceive literacy development?</p>	<p>Minority students in advanced placement literature class perceive literacy development as an essential educational skill. Many students described the importance of developing strong emergent literacy skills.</p>

RESEARCH IMPLICATIONS

This mixed methods study allowed insight of how African American students enrolled in advanced placement courses in an urban high school perceives their knowledge of reading, writing, speaking and listening as a way to navigate throughout society. Through quantitative, and qualitative data collection instruments enabled each African American student to express how they battle the social, political and racial adversities within an urban setting, while attaining academic success. As with all studies, this study provides opportunities for the progression of future research surrounding emergent literacy strategies that engage students who attend urban schools and the influence of critical literacy for students entering urban high school. Exploring emergent literacy strategies coupled with non-academic activities of students who attend urban public elementary, and middle schools will help understand how minority students develop a foundation for future literacy growth.

References

Cohen, G. Garcia, J. Apfel, N. & Master, A (2006) Reducing the racial achievement gap: A social-psychological intervention. *American Association for the Advancement of Science*. 313(5791) 1307-1310 Retrieved from <https://www-jstor-org.ezproxy2.library.drexel.edu/stable/pdf/3846872.pdf?refreqid=excelsior%3A1305eeb5826008cfa5848d460302f159>

Hay, I., & Fielding-Barnsley, R. (2012). Social learning, language and literacy. *Australasian Journal of Early Childhood*, 37(1), 24+. Retrieved from <http://go.galegroup.com.ezproxy2.library.drexel.edu/ps/i.do?p=AONE&sw=w&u=drexel>

_main&v=2.1&it=r&id=GALE%7CA289721570&sid=summon&asid=8a7ac7df859da74f318a04c40b5c5d6a

Willhelm, J (2003) The evolution of literacy. *Voices from the middle*. 10 (3) 48-49. Retrieved from <https://search-proquest-com.ezproxy2.library.drexel.edu/docview/213932770/fulltextPDF/6CAEC81ACEE84371PQ/1?accountid=10559>

Wixon, M. (2015). Closing the achievement gap: Four states' efforts. *Education Commission of the States*. <http://www.ecs.org/clearinghouse/01/17/10/11710.pdf>

ABOUT THE AUTHOR



Anthony Batts II, currently serves as an Educator at Winston Churchill high school in Potomac MD. Anthony received a Bachelor's of Arts in English Language and Literature from The University of Maryland, College park (2010), where he later received a Master's of education in Secondary education (2013). Anthony has served as an educating professional as a teacher having taught English courses that include Advanced Placement English Literature, British Literature, World Literature, American Literature and Reading Intervention.

Anthony has served as an Adjunct professor, at Bowie State University, and Montgomery College, Rockville campus. Lastly, Anthony has served as a School Leader where he observed, coached, and provided feedback for many teachers surrounding instructional and organizational support within an urban school. Anthony intends to use his education credentials to continue the path of education success for the next generation through the impact and influence of having a strong foundation of literacy.

► RESEARCH BRIEF NO. 11

Uyghur Refugees in Higher Education in the U.S.: Trauma and Adaptation Challenges

WRITTEN BY: **BRIAN MCCOMMONS**, PhD Student

SUPERVISING PROFESSOR: **DR. REBECCA CLOTHEY**

March 2020

ABSTRACT

As the Uyghur community faces increased oppression, there are adverse effects on Uyghurs abroad. Those Uyghur students in higher education in the USA face unique stressors including family members being incarcerated and sudden financial changes. This brief explains the unique stressors these students face, how they navigate these stressors, and how universities could help Uyghurs who face these unique stressors. By identifying such stressors and students' coping mechanisms, the research team hopes to inform study abroad offices on how to support international refugee students in similar situations.

AIM

This phenomenological case study is designed to identify stressors associated with the unique experience of Uyghur students who began their studies in the USA before and through 2017. These students are those who have been directly impacted by the ongoing oppression of Uyghurs in China. The study hopes to identify stressors associated with the unique circumstances of students' higher education experience and how students are managing these stressors. The results of this study provide international student offices and other higher education administrators with information on how to support these students and others facing similar challenges.

PROBLEM

Uyghurs are a Muslim Turkic ethno-linguistic minority group of northwest China, and one of the 55 ethnic groups officially recognized by the Chinese government. After a series of violent events in China, labeled as terrorist attacks and blamed on Uyghur extremists, the Chinese central government in 2015 passed counterterrorism legislation which effectively criminalized “any Uyghur expression of dissent or religiosity as well as many Uyghur cultural traditions as signs of terrorism or extremism” (Roberts, 2018, p. 246). Soon afterwards, Uyghurs and other Turkic Muslim individuals began to be detained in what the Chinese government refers to as ‘vocational and training centers,’ for behavior that may be seen by many as ordinary expressions of Islam. These behaviors include praying, fasting, eating breakfast before the sun comes up, going to a religious lecture, or going to a mosque, among other things (HRW 2018).

As a result of these detention practices, Uyghur families have been separated without warning. Uyghurs abroad are unable to return to their families in China for fear of having their passport revoked or being detained. In addition, heightened security measures by the Chinese government in the Uyghur communities limits the information that can be communicated to family members living abroad. In some cases, these Uyghurs abroad are not even aware of the whereabouts of their loved ones. For students studying in the USA, they have experienced these sudden changes while they are simultaneously studying in their universities. This has led to increased stress among a population of college students across the United States who find themselves unexpectedly identifying as refugees in a new country. Typically, international students face stressors related to culture shock/ acculturation (Berry, 1987) and financial limitations (Situ et al., 1995) while refugee students often face these plus the added stressors of emotional health issues and being disconnected from their home community (Mangan & Winter, 2017).

RESEARCH QUESTIONS/METHODS

Through snowball sampling, the research team contacted participants and conducted interviews with Uyghurs currently living in the United States who were enrolled in higher education institutes prior to and through 2017. These semi structured interviews included students from undergraduate and graduate programs with the goal of informing the following research questions:

- What stressors are Uyghur students facing in the USA?
- What steps are Uyghur students taking to navigate these stressors?
- What steps could universities take to help Uyghur students navigate these stressors?

Once the interviews were transcribed, both members of the research team coded each interview into themes. The resulting themes were then compared to narrow the themes and to ensure inter-rater reliability.

FINDINGS

The findings of the research showed that, regardless of the stressor, almost all students described feelings of depression that made it difficult to concentrate on their coursework. The specific stressors described by students were: sudden financial changes, lack of trust with the home community (both Uyghur and Han Chinese), incarcerated family members, and lack of reliable communication from home.

The first stressor many students discussed were related to financial changes. In addressing this stressor, students discuss seeking help from International Student Services Offices. If this help is inadequate, some take accelerated course sequences to finish their coursework early. Next, students identified their lack of community as a source of stress. Berry (1987) describes building community with former compatriots is often seen as a way of mitigating stress in a new society. Uyghur students, however discuss the lack of trust with Chinese international students and Uyghur international students in the USA. They then seek new communities such as the Muslim Student Association or participating in sports leagues. Finally, students discuss the stressors associated with concern for family members back home. Aligning with Managan & Winter's research on refugee students (2017), Uyghur students in this study are not typically seeking out mental health support to navigate these stressors because of the cultural stigma associated with this support or lack of knowledge on how it can be accessed.

Participants described areas where they feel universities could be more helpful in regards to their situation. These areas include the need to raise awareness of participants' situation among student service officers, faculty, and the student body and to provide financial assistance or alternative payment methods to better position students to complete their academic programs successfully.

CONCLUSION

Uyghur students described their stressors as being unique to themselves and their situation, but when each stressor is identified and addressed individually, they often align with other stressors associated with refugee students or international students. For example, while the situation surrounding Uyghurs losing contact suddenly with family members and not being able to communicate effectively is unique to their situation, the sudden financial changes could apply to other refugee and international students. Having campus faculty and staff gain awareness of international current events would help foster an inclusive environment for all international and refugee students, not just Uyghur students.

References

- Berry, J. W. (1987). Comparative studies of acculturative stress. *International Migration Review*, 21(3), 491.
- Human Rights Watch (HRW) (2018) *Eradicating Ideological Viruses: China's Campaign of Repression Against Xinjiang's Muslims*. Washington, DC: Human Rights Watch.
- Mangan, D., & Winter, L. A. (2017). (in)validation and (mis)recognition in higher education: The experiences of students from refugee backgrounds. *International Journal of Lifelong Education*, 36(4), 486.
- Roberts, S. (2018) The Biopolitics of China's "War on Terror" and the Exclusion of the Uyghurs. *Critical Asian Studies*, 50(2): 232-258.
- Situ, Y., Austin, W. T., & Liu, W. (1995). Coping with anomic stress: Chinese students in the USA. *Deviant Behavior*, 16, 127-149.

ABOUT THE AUTHOR



Brian McCommons is a second year PhD student at Drexel University in the Policy and Leadership track. Prior to Drexel, Brian spent 2 years in South Korea and 5 years in Bolivia working in both K-12 and higher education settings. His current research continues to focus on international education at all levels but his interest is mostly in higher education. More specifically, Brian is continuing to focus on Bolivia and language policy in the country as it relates to a continually changing political environment.

► RESEARCH BRIEF NO. 12

Facilitating Creative Processes while Learning to Code and Design Virtual Reality Environments

WRITTEN BY: **MONIQUE WOODWARD**, PhD Student

SUPERVISING PROFESSOR: **DR. AROUTIS FOSTER**

April 2020

ABSTRACT

People of color are increasingly marginalized in STEM fields, especially in computing. Furthermore, teachers in formal classroom environments face challenges pertaining to explicitly teaching students 21st century skills, such as critical thinking and problem solving. To combat these issues, Easley Space Camp offered students an opportunity to design their own virtual reality environment, during the last hour of each day for three days. The curriculum developed for “STEAM Hour” intentionally facilitated students’ creative processes, which are critical thinking and problem solving skills. Findings indicate how students’ creative processes and interest in code and design increased. The significance of this case suggests that curriculums that are purposefully designed to facilitate creative processes can improve students’ 21st century skills while simultaneously engaging them in STEM areas.

AIM

This study sought to engage students in authentic computing activities while facilitating their creative processes.

PROBLEM

The number of careers involving computing is anticipated to increase and pay higher wages than other fields in STEM (Morales-Chicas et al., 2019). Despite this anticipated growth, people of color continue to be underrepresented in computer science occupations (Çakır et al., 2017; Scott et al., 2016). Compared to their White counterparts, underrepresented minoritized groups are less inclined to major in computer science (Scott et al., 2015). Furthermore, students that attend lower socioeconomic schools have limited access to quality computer science courses (Scott et al., 2015). To further exacerbate this issue, these students have limited access to formal and informal opportunities and resources in which they can develop their computational skills (Pinkard et al., 2017). To address this digital divide, Easley Space Camp was awarded a grant from the Philadelphia Promise Neighborhood. The camp design included three tracks – astro- engineering, astrobiology, and astrophysics – in which the students developed a project specific to their track. In a one-week summer program, students were provided the opportunity to learn how to develop their own virtual reality (VR) environment during a lesson called “STEAM Hour.” As such, the following research question will be addressed in this paper: To what extent does learning to develop virtual reality environments in a summer camp facilitate creative processes in middle school students?

RESEARCH STUDY DESIGN

To assess the students’ creative processes (critical thinking and problem solving skills), the CASEE (collect, analyze, synthesize, evaluate, and employ) framework was utilized. As individuals formulate multiple solutions to a problem, they collect information related to the topic of interest. Specifically, analyze, synthesize, and evaluate are mentioned in Beaumont’s (2010) explanation of critical thinking. Collect refers to gathering information pertaining to the participants’ project. Analyze is the process of generating and assessing ideas, which eventually leads to focusing on the most appropriate and feasible idea. Individuals synthesize ideas when they combine knowledge from “Collect” and “Analyze” to complete a current task. Evaluate refers to providing and receiving feedback from peers and making adjustment based on the given feedback. Lastly, employ is the ability to use “collect, analyze, synthesize, and evaluate” in a useful project and articulate how and what they did. CASEE is a dynamic process, which means individuals can generally implement these elements in any order to accomplish their goal. CASEE provides a way to formally assess students’ creative processes as they engage in developing a VR learning environment. The students were explicitly taught these skills, and data points were collected when the students showed instances of any aspect of CASEE.

To address this research question, this project used a case study design for sampling and analysis as described by Stake (1995). Easley Space Camp was implemented as part of a six- week summer camp program for students in the neighboring area. Data collection included student journals, artifacts, interviews, and researcher observation notes. Lastly, an observation protocol was specifically designed to assess students' instances of CASEE.

Zorah and Tianna (pseudonyms) were selected through purposive sampling, and they are sisters that attended the camp along with their brother. These two students were selected based on the final design of the VR environment, the codes they implemented, and on their experience creating the environment. Tianna and Zorah were chosen because of their interest in design and coding their virtual reality environments developed over the course of the week.

FINDINGS

Zorah exhibited creative processes through engaging in the activities underlined in the CASEE framework. While she was tasked to create a VR environment, she demonstrated critical thinking and problem solving skills during STEAM Hour. For example, she sought out models to that fit her environment's aesthetics, and iteratively tested her design. Creative processes were integrated in the lesson plan, through CASEE, as students were tasked to create a VR environment that was set in outer space.

Tianna demonstrated creative processes during STEAM Hour as she iteratively tested her design, sought out feedback from instructors, and transferred old knowledge into creating the environment. Since creative processes were designed in the lesson plan, Tianna was not overwhelmed with the task to demonstrate these skills. She was given the freedom to design her own environment, and when problems, relevant to her environment, emerged, she sought ways to solve them.

Zorah and Tianna both displayed instances of creative processes by way of CASEE as they developed and implemented their VR environments. Despite initially showing a lack of interest, they discovered ways to make their environment personal to themselves. The instructor encouraged students to personalize their environments and to add anything they wanted. The only limited was that it had to be set in space. Tianna's characters were Black and represented her friends. Tianna and Zorah were provided the opportunity to develop an environment without constraints. They included their friends and used their imaginations to create a world they sought fit.

IMPLICATIONS

This project has implications for educators and researchers as it demonstrates the usefulness of designing curricula that is informed by culturally responsive computing while targeting creative processes. STEAM Hour was designed to engage students in career exploration in computer related fields, such as computer science and design. Although this study was implemented in a summer camp, this can be further extended as an after school program. Such program would provide students with the opportunity to develop their skills and to retain interests in computing. Despite the multitude of programs designed to engage underrepresented students in STEM, there remains a challenge to retain Black students

specifically in these fields (Morton & Parsons, 2017). To mitigate this issue, the summer programs should be extended to after school programs because a week-long summer program is not sufficient enough to retain and facilitate students' interests.

ACKNOWLEDGEMENTS

This project was supported by the West Philadelphia Promise Neighborhood grant, funded by the United States Department of Education (grant # U215N160055). The authors would also like to acknowledge the Easley Space Camp team for their tremendous contributions to the camp. We would also like to thank the Malcolm Jenkins Foundation and the ExCITE Center for the opportunity to conduct the camp.

References

- Çakır, N. A., Gass, A., Foster, A., & Lee, F. J. (2017). Development of a game-design workshop to promote young girls' interest towards computing through identity exploration. *Computers & Education, 108*, 115-130.
- Morales-Chicas, J., Castillo, M., Bernal, I., Ramos, P., & Guzman, B. L. (2019). Computing with Relevance and Purpose: A Review of Culturally Relevant Education in Computing. *International Journal of Multicultural Education, 21*(1), 125-155.
- Pinkard, N., Erete, S., Martin, C. K., & McKinney de Royston, M. (2017). Digital youth divas: Exploring narrative-driven curriculum to spark middle school girls' interest in computational activities. *Journal of the Learning Sciences, 26*(3), 477-516.
- Scott, A., Martin, A., McAlear, F., & Madkins, T. C. (2016). Broadening participation in computer science: Existing out-of-school initiatives and a case study. *ACM Inroads, 7*(4), 84-90.
- Scott, K. A., Sheridan, K. M., & Clark, K. (2015). Culturally responsive computing: a theory revisited. *Learning, Media and Technology, 40*(4), 412-436.
- Stake, R. E. (1995). *The art of case study research*. sage.

ABOUT THE AUTHOR



Monique 'Moe' Woodard is a second year PhD student in the School of Education. She earned her bachelors' from Wilkes University, completing a dual major in Integrative Media and Theatre. She earned her Masters in Digital Media, and continues to integrate her digital media background in her research. She also has several years of experience working at summer outdoor and indoor camps, serving as a director. Her research focuses on facilitating creative processes in Black girls as they learn to design and code virtual reality environments.

► RESEARCH BRIEF NO. 13

A Phenomenological Study: Exploring Chinese Junior High School Students' Lived Experiences and Perceptions of Using Game- based Technology to Learn English in an English as Foreign Language Classroom in Shanghai, China (EFL-C)

WRITTEN BY: **DR. WILLIAM CLIFTON GREEN II**, EdD Alumni

SUPERVISING PROFESSOR: **DR. JOYCE PITTMAN**

April 2020

ABSTRACT

The purpose of this qualitative, phenomenological study was to determine the efficacy of a video game called Scribblenauts based on the lived experiences of 30 junior high Chinese students in Shanghai. This study sought to understand English language acquisition and critical thinking skills using game-based learning in classrooms in China. Ten, thirty-minute long interviews, 3 hour-long focus group sessions and documentation data were collected from 30 Chinese Junior high school students. This data was then analyzed and categorized thematically. The study concluded that video games like Scribblenauts can be useful in the classroom when the environment within the video game:

- Connects gameplay with learning
- Allows students to be creative, learn new vocabulary
- Allows students to collaborate and take-action to solve problems in real time

PROBLEM STATEMENT

English language teaching in public schools in China has often been described as primarily based on traditional rote memorization and drilling techniques. Such environments emphasize learning vocabulary words, recitation of texts, and learning prescriptive grammar rules. This method of teaching language is known as the Grammar-Translation method, which predominates in China (Liu, Lin & Wiley, 2016). This method results in linguistic deficiencies in students, who risk underdeveloped or absent communicative competence to express themselves coherently after many years of study (Wei & Su, 2008).

There is increasing evidence to support the perception that video games could be effective learning tools in the language-learning classroom. Video games can potentially serve to create more dynamic and communicative classrooms in China. The rationale for using *Scribblenauts* in this study was that it is a Commercial Off the Shelf (COTS) video game that can be utilized in the classroom to support students in developing their language abilities (Fisher, 2014).

Scribblenauts has also been described as an educational literacy video game (Curry, 2005), which Guzmán Duque, Fernández and Del Moral Pérez (2017) believed would be useful in helping non-native language learners develop their competencies in foreign languages. Finally, while *Scribblenauts* is designed for single players, its basic set up allows for the possibility that children can engage collaboratively in gameplay (Go, Ballagas & Spasojevic, 2012). The research questions that guided this research were:

- (1) How do Chinese junior high school, lower secondary school English as Foreign Language (EFL) students describe the influence of a video game on their ability to acquire English?
- (2) How do Chinese junior high school, lower secondary school English as Foreign Language (EFL) learners describe how playing video games contributes to developing skills such as creativity, innovation, and problem solving while acquiring English?
- (3) How do Chinese junior high school, lower secondary school English as Foreign Language (EFL) students describe their collaboration with peers while playing a video game?

RESEARCH FINDINGS

This study found that *Scribblenauts* motivated and enabled students to engage in persistent, collaborative gameplay that stimulated vocabulary development as well as promoted student creativity and problem-solving skills. Chinese Junior high school students preferred utilizing games like *Scribblenauts* to traditional teacher-led forms of instruction because students believed gameplay was exciting and helped them learn useful vocabulary words. They further believed the ability to brainstorm multiple solutions to problems helped them to learn as they collaboratively explored the video game.

CONCLUSION

The study's conclusions are as follows:

- (1) Games like Scribblenauts can be useful in the classroom for promoting creativity and problem solving.
- (2) The sustained interest of students as they collaboratively engaged in gameplay had a positive effect on their language learning.
- (3) Students are active in determining the value of using technology in the classroom. Overall, students prefer using technology to study English in comparison to the traditional grammar translation method.
- (4) Students perceive the ability to be creative and explore in game play as critical to the development of their creativity and problem-solving skills.

These findings are significant as they provide evidence suggesting that games like Scribblenauts can be useful in improving students' second language acquisition. In addition, video games like Scribblenauts encourage and motivate students to collaborate to solve problems creatively. These findings suggest that using video games in the classroom can be an effective alternative to the grammar translation method.

FUTURE RESEARCH

Future research could include studies that increase the number and variety of participants in studies that utilize video games as well as assign clear roles for students to undertake when collaborating with each other. Studies should also connect such games to school curricula objectives as well as be longitudinal in nature. Schools can create embedded course curricula objectives that center on using game-based learning technology to teach English. Schools can also allow students a voice in determining which technology should be utilized in the classroom as well as train staff and invest in resources to ensure all students have the opportunity to use technology.

References

- Curry, R. (2015). The game of learning: The role of video games in the classroom. *Education Technology Solutions*, (69), 36.
- Fisher, C. (2014). *Designing games for children: Developmental, usability, and design considerations for making games for kids*. Focal Press.
- Go, J., Ballagas, R., & Spasojevic, M. (2012, February). Brothers and sisters at play: exploring game play with siblings. In *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work* (pp. 739-748). ACM.
- Guzmán Duque, A. P., Fernández, L. C., & Del Moral Pérez, M. (2018). Game-based learning: Increasing the logical-mathematical, naturalistic, and linguistic learning levels of primary school students. *Journal of New Approaches in Educational Research*, 7(1), 31-39.
- Liu, N., Lin, C., & Wiley, T. G. (2016). Learner views on english and english language teaching in china. *International Multilingual Research Journal*, 10(2), 137-157. doi:10.1080/19313152.2016.1147308
- Wei, R., & Su, J. (2012). The statistics of English in China. *English Today*, 28(3), 10-14. doi:10.1017/S0266078412000235

ABOUT THE AUTHOR



Dr. William Clifton Green II is an educator, researcher and startup founder who has been active in Shanghai, China for the past ten years. He has been pivotal in the creation of the Meiyong Foreign Language Training Institute, which currently has 550 students and 22 members of staff. Under William's guidance, the center has expanded with two directly owned centers in Shanghai as well as a Franchise center in Pudong New District, which is also located in the city. William currently serves as CEO of the educational organization.

Over the past 10 years, William has been involved in Curriculum Development and teacher appraisal at Shanghai United International School. He has actively contributed to the Week Ahead educational newsletter organized by Wellington College Shanghai. The articles that he contributed were related to educational values, school-wide inclusion and differentiated support for students. In addition, William has helped create IELTS test-prep content for City & Guild's online IELTS preparatory course. William is a certified IELTS examiner and has invigilated the exam at universities in China.

William is also a certified K-12 teacher in the District of Columbia and has taught English in China, Japan and the United States. Overall, William favors a more eclectic approach to language teaching, learning, and syllabus design. He believes that designing a syllabus should be, first and foremost, learner centered. As such, he believes that learners must be provided with the opportunity to develop their autonomy and must interact interdependently with teachers and fellow students in order to enjoy the benefits of a learner centered syllabus.

William is a language learning enthusiast. He has passed the level 5 HSK (Advanced Chinese proficiency exam). He has also passed the level 2 Japanese Language Proficiency Test. He speaks some Korean as well. He utilizes his experiences learning languages to support student language learning and development.

Most recently, William completed his Ed.D in Educational Leadership and Management at Drexel University. His doctoral research focused on the use of technology in the classroom to promote Chinese junior high school students' language and 21st century skill development. As a result of this research, William's organization is actively seeking to promote student language learning through utilizing technology that has been aligned to curricula objectives.

► RESEARCH BRIEF NO. 14

Know Your Artist: Factoring Artist Identity into Aesthetic Responses to Art

WRITTEN BY: **ALYSHA MELOCHE**, PhD Student

SUPERVISING PROFESSOR: **DR. AYANA ALLEN HANDY**

May 2020

ABSTRACT

Recent studies of art museums have revealed a bias towards artwork made by white, male artists in their permanent collections, special exhibitions, and new acquisitions. This bias is also present in the art market and among art collectors. However, studies of the art market and museums do not consider factors such as the viewer's identity or the viewer's affective state. The preliminary results of this experimental survey found that, when it comes to emotional response, it makes no difference if the artist is male or female. However, women looking at work by female artists had stronger reactions than men did.

AIM

Trending art advocacy movements have noted that art museums hold a disproportionate amount of artwork by white, European, male artists (Meloche & Katz-Buonincontro, in press). Perhaps it is due to this lack of recognition that artwork by female artists sell for 47.6% of comparable work by male artists (Adams et al., 2017). Advocates for equity have been pushing for more inclusive policies for art museum collections and exhibitions (e.g. Schneider, 2019).

PROBLEM

While many feel that diversifying collections is the right approach, there have not been studies into how what viewers know about an artwork affects how they feel about it. The studies that do so focus on cognitive rather than affective aspects or look at titles rather than the artists' identity (Gerger & Leder, 2015). Theory suggests that the identity of an artist may not be an important factor for the average museum goers' emotional reaction, but studies have not researched solely the reactions of populations who are underrepresented in museums, nor have they looked into non-museum goers. The popularity of recent shows that feature traditionally underrepresented artists is a testament to the potential of diversifying art collections (Davis, 2019).

METHOD

Aesthetic emotions are affective states caused by external stimulus. When looking at a painting, a viewer may cognitively seek to understand what is going on in the scene, they may also appreciate the skill demonstrated, or even pass judgement deciding on whether or not they like it, but artwork also causes a viewer to affectively experience aesthetic emotions (Gerger & Leder, 2015). The Geneva Emotion Wheel (GEW) is an instrument that lists 20 emotions around a wheel and extends each emotional "spoke" with 5 circles that increase in size as they get further from the center (Sacharin, Schlegel, & Scherer, 2012).

Participants (n=81) in this study were given an electronic survey that showed them 11 paintings and asked them to select their emotions. Forty-six percent of the participants (n=37) were randomly assigned to see a picture of the artist with identifying information and 54% saw only the artwork without a picture of the artist and identifying information (n=44). These paintings were selected by an art expert. To control for art stylistic preference, the paintings were all mid-to-late-twentieth century Impressionist/Realist work portraying landscapes and bodies of water. Six of the artworks were done by male artists, and five by female artists.

In addition to the GEW, to measure their familiarity with art, participants were given the Art Experience Questionnaire (AEQ) (Chatterjee et al., 2010). Lastly, participants were asked to select a gender and mark all ethnicities with which they identified (table 1).

► **TABLE 1:** Demographics of the sampled population.

VARIABLE	n	%				
ARTIST	37	45.7				
NO ARTIST	44	54.3				
GENDER						
MALE	30	30				
FEMALE	51	63				
EDUCATION						
HIGH SCHOOL OR EQUIVALENT	2	2.5				
SOME COLLEGE	7	8.6				
ASSOCIATE DEGREE	8	9.9				
BACHELOR'S DEGREE	29	35.8				
GRADUATE DEGREE	35	43.2				
ETHNICITY/RACE						
WHITE	58	71.6				
BLACK/AFRICAN AMERICAN	7	8.6				
EAST ASIAN	7	8.6				
SOUTH ASIAN	7	8.6				
MIDDLE EASTERN (NON-WHITE)	3	3.7				
HISPANIC/LATINO, LATINA	3	3.7				
CARIBBEAN	2	2.5				
NUMBER ABOVE WHO SELECTED 2	8	9.6				
	n	%	MIN	MAXI	MEAN	STD. D.
AGE IN YEARS	81	100	20	73	41	12.32
AEQ SCORE	81	100	0	33	5.11	6.42

Research question

- (1) Does knowing the artist's identity make a difference in viewer's emotional ratings?
- (2) Do viewers experience stronger emotions to artwork made by men, if they do not know the artists identity?
- (3) Do female viewers experience stronger emotions to artwork made by women when they know the artists identity?

Preliminary findings

Because the researcher allowed participants to select multiple emotions, there were three ways to calculate the GEW scores: looking at the totals of emotions selected for each painting, the totals for positive emotions, and the highest single rating for any emotion. For each of these means of totaling, the top four paintings remained consistent, therefore, it was determined to use the totals of emotions selected for each painting.

For research question 1, an independent samples t-test was conducted to compare the total emotion scores of the group of participants who saw the artist's ($N=37$) identity to the group that did not have information on the artists' identity ($N=44$). There is not a significant difference between the emotion scores of people who saw the artists' identities ($M=4.84$, $SD=.64$) and those who did not ($M=4.89$, $SD=.65$) see the artists' identities ($t(79)=-.33$, $p=.74$).

Closer inspection of individual paintings for both groups yielded some interesting results. Table 2 shows the ranked painting according to the total emotion scores for the population that did not see the artists and table 3 shows the ranked pairing for the population that did see the artists' identity. The top two paintings by female artists fared slightly better when participants saw the artists' identities than when they did not. The top two paintings by male artists fared slightly better when participants did not see the artists' identities.

► **TABLE 2:** Table showing descriptive statistics of each artwork's total emotion score for the population that did not see the artists, $n=44$. Blue background designates that the artist of that painting is male, pink represents female artists.

PAINTING	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION
7	2	61	17.18	12.271
11	0	62	16.30	12.641
4	2	51	16.18	11.688
10	3	51	16.14	11.810
1	0	54	15.73	12.556
3	0	62	14.73	12.113
6	3	60	14.57	12.533
8	0	77	13.98	14.135
5	1	66	13.61	12.002
2	1	59	13.11	11.502
9	0	69	13.05	12.691

► **TABLE 3:** Table showing descriptive statistics of each artwork’s total emotion score for the population that did see the artists, $n=37$.

PAINTING	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION
10	0	40	17.22	11.096
4	3	53	16.46	12.529
7	1	45	15.76	11.826
11	0	45	15.00	10.804
9	0	45	14.89	12.353
1	0	60	13.70	12.122
5	1	42	12.65	11.290
6	0	56	12.59	12.484
3	0	39	12.46	10.002
8	2	44	12.19	10.036
2	0	50	11.97	11.087

For research question 2, a paired samples t-test was conducted among the participants who did not see the artists ($N=44$) to compare their total emotion score for works made by male artists and female artists. Among those who did not see the artists identities, there was not a significant difference in emotion score for work by female artists ($M=2.49$, $SD=.68$) and work made by male artists ($M=2.48$, $SD=.65$) ($t(80)=43$, $p=.76$).

Research question 3 sought to investigate further the role that the identity of the view has on their emotional scores. The researcher planned to compare means between total emotion scores for paintings by male artists and female artists. She first calculated the average of the total emotions for three white, male artists and then the three highest ranked female artists. Two of the works by female artists were low quality images, and that seems to have depressed their emotion scores. Answering this research question with the data that were collected was difficult because once the sample of participants was pared down to only those who viewed the artists and only those who were female, there were only $N=23$ individuals. The Wilcoxon signed-rank test is appropriate to use with small sample sizes, when the results are not normally distributed, thus it is appropriate for testing this research question. For female viewers who saw the identity of the artists, emotion scores were significantly higher when viewing artwork made by female artist ($Mdn=15.35$) than male artists ($Mdn=13.03$), $T=52$, $p=.01$, $r=-.39$.

DISCUSSION

This research demonstrates that there is nothing about paintings by male artists that inherently elicits more emotional reactions than paintings made by female artists. Additionally, knowing the identity of the artist did not significantly alter the viewer’s emotional reaction. However, there are interesting nuances in these results that indicate that more research, with a larger sample size, may reveal that emotional response may vary depending on both the identity of the viewer and of the artists. Two of the works by female artists were ranked higher when participants were able to view the identity of the artists.

Additionally, female participants reported stronger emotional responses to artwork that they knew were made by female artists than to artwork by male artists. I intend to iterate this survey based on lessons learned and deploy it again, with a larger population sample.

References

- Adams, R. B., Kräussl, R., Navone, M. A., & Verwijmeren, P. (2017). Is gender in the eye of the beholder? Identifying cultural attitudes with art auction prices (SSRN Scholarly Paper No. ID 3083500). Retrieved from Social Science Research Network website: <https://papers.ssrn.com/abstract=3083500>
- Meloche, A., Katz-Buonincontro, J. (in press) Developing divas: the potential of 'artpreneurism' for art and design education. *Art Education*.
- Gerger, G., & Leder, H. (2015). Titles change the esthetic appreciations of paintings. *Frontiers in Human Neuroscience*, 9. <https://doi.org/10.3389/fnhum.2015.00464>
- Sacharin, V., Schlegel, K., & Scherer, K. R. (2012). *Geneva Emotion Wheel Rating Study*. <https://archive-ouverte.unige.ch/unige:97849>
- Chatterjee, A., Widick, P., Sternschein, R., Smith, W. B., & Bromberger, B. (2010). The assessment of art attributes. *Empirical Studies of the Arts*, 28(2), 207-222. <https://doi.org/10.2190/EM.28.2.f>
- Davis, B. (2019, April 19). Here's how the Hilma af Klint show played perfectly into the current zeitgeist to become the Guggenheim's most-visited exhibition ever. Retrieved November 26, 2019, from Artnet News website: <https://news.artnet.com/exhibitions/hilma-af-klint-breaks-records-guggenheim-1522192>
- Schneider, T. (2019, May 15). Western museums have a surplus of art by white men. now some are selling it off to correct their historical biases. Retrieved November 26, 2019, from Artnet News website: <https://news.artnet.com/art-world/deaccessioning-to-diversify-1547881>

ABOUT THE AUTHOR



Alysha (Aly) Meloche is a 4th year PhD candidate in the School of Education. She has a master's degree in art history from Temple University's Tyler School of Art and Architecture. Her current research interests are the intersection of creativity and the aesthetic experience. She is a contributing editor for the Art History Teaching Resources website, and a co-editor for FutureForward of Integrative Teaching International, she serves on AERA's Graduate Student Council, a member of the education committee for the College Arts Association, and an editorial board member of *EVIE Graduate Student Journal*.

► RESEARCH BRIEF NO. 15

Leader/Follower Relationship of Academic Administrators at a Southern Comprehensive University Undergoing Consolidation: A Mixed-Methods Investigation

WRITTEN BY: **DR. GREGORY S. WURTH**, EdD Alumni

SUPERVISING PROFESSOR: **DR. JOY PHILLIPS**

May 2020

ABSTRACT

This explanatory sequential mixed-methods study examines the social unit of the leader/follower relationships of superior and subordinate higher education administrators at a southern comprehensive university undergoing consolidation (merger). The problem presented in this study is that a large percentage of higher education administrators lack the knowledge or fail to implement leadership strategies to engage their employees during times of organizational change (Johnson, 2015). Utilizing the theories and factors of transformational leadership (Burns 1978, Bass 1985) and employee engagement (Kahn 1990, Schaufeli & Bakker 2006), this research project analyzes perceived leader behavior during organizational change. The quantitative findings produced positive significant correlations between supervisor use of transformational leadership behaviors and employee engagement during consolidation. Qualitative data during this study described an environment where employee turnover was higher than normal, morale was low, and organizational trust was low. This study points to opportunities for leaders to employ transformational leadership and its factors of inspirational motivation and idealized influence during change. This study indicates that these tactics predict an increase in the employee engagement factors of employee work absorption (loss of time/absorbed in work) and work dedication levels during a change event.

PROBLEM

Higher education is currently facing complex challenges from internal and external forces at every level of the system (Drew, 2010; Reynolds, Lundry, Ladd, Greenberg, Selingo, Lytle, & Gould, 2016). Due to high frequencies of change facing the academy, Senge (2012) states it is essential for higher educational administrators to lead to establish nimble, flexible, and responsive organizations to address emerging challenges such as mergers, changes in government policy, and technology advancements. Johnson (2015) states that many higher education administrators and directors either do not lead with or do not know how to lead with strategies that generate flexible organizations that are responsive to change. Therefore, this research investigated the leader/follower dyad during organizational change at a regional university.

The central focus of the study was to develop an in-depth understanding of the relationship between superior/subordinate during a merger of regional public universities.

Research Questions:

- (1) What is the relationship between perceived superior transformational leadership factors, and subordinate employee engagement factors at a comprehensive regional southern university?
- (2) How do the supervisor's leadership behaviors affect the employee engagement of "their" followers?

DEFINITION OF TERMS

Absorption: A factor of employee engagement where an employee becomes engrossed in one's work, and work can be accompanied with a feeling of time-flies (Schaufeli & Bakker, 2003).

Dedication: A factor of employee engagement that can be described as an employee who experiences inspiration, pride, enthusiasm, and a sense of significance from the work he/she/they perform (Schaufeli & Bakker, 2003).

Employee (Work) Engagement: Employee engagement is a multi-tiered variable to measure an employee's absorption, dedication, and vigor (Schaufeli & Bakker, 2003).

Idealized Influence: Idealized influence is a factor of transformational leadership that engages participants in a collective interests, collective purpose, and sense of sacrificing for the group (Zdaniuk & Bobocel, 2015).

Individual Consideration: A factor of transformational leadership that characterizes the leader's developmental orientation towards the follower (Bass, 1985).

Inspirational Motivation: A transformational leadership factor that is communicated by continually communicating elevated expectations utilizing emotional appeals to motivate employees to become committed to a shared vision (Alahmad, 2016).

Intellectual Stimulation: A factor of transformational leadership that is characterized by the leader arousing the creativity and imagination to stimulate solutions that face the employee (Bass, 1985).

Transformational Leadership: A multi-factor leadership process where a superior engages with subordinates and creates a connection that raises the motivation and morality in both the leader and the follower (Burns, 1978).

AIM

The purpose of this explanatory sequential mixed-methods study was to examine the leader/follower relationships of higher education administrators and their staff during a university merger. Utilizing Burns' (1978) and Bass' (1985) theory of transformational leadership and the theory of employee engagement conceptualized by Kahn (1990) and operationalized by Schaufeli and Bakker (2006), this study investigates the correlation between leader behaviors and follower engagement during an organizational change period.

SIGNIFICANCE

This study is significant because it sought to discover if higher education leaders were leading in a manner that created nimble organizations that were quick to respond to emerging challenges during a period of organizational change. The theories of transformational leadership (and its sub-factors) and employee engagement (and its sub-factors) were selected to analyze the leader/follower relationships during university consolidation.

Incorporating Maslow's Hierarchy of Needs (1954), transformational leadership is a leadership style that utilizes organizational purpose, leadership vision, and employee growth as a foundation to engage employees and raise the maturity of their needs and wants (as cited in Bass, 1985). Transformational leaders utilize the four factors to lead followers; inspirational motivation, intellectual stimulation, individual consideration, idealized influence. When understanding the leader/follower dynamic during organizational change, it is essential to understand how leader behaviors correlate with follower behaviors.

To understand how followers responded to leadership during a university consolidation, employee engagement and its factors were selected. The most commonly used definition of employee (work) engagement was proposed by Schaufeli and Bakker (2003) as "an active, positive work-related state that is characterized by vigor, work dedication, and work absorption" (as cited in Bakker, 2011 p. 265). Therefore, quantitative and qualitative data were collected to further understand the leader/follower dyad during a university consolidation (merger).

RESEARCH FINDINGS

Mid-level academic administrators (Deans, Associate Vice Presidents, Directors and Managers) of a university undergoing consolidation with another university were invited to participate in the study. Participants were selected by utilizing human resource data to find all supervisors at the university with a FLSA status of exempt. Individuals such as coaches, and executive cabinet members were removed. First the quantitative survey took place. Survey results and analysis were used to guide the qualitative data analysis. Overall, the study captured six formal interviews, eight informal interviews, 73 surveys, and existing documents including employee recommendations from a change workshop and internal consolidation communications.

Quantitative data was collected from a survey consisting of a combination of the Multifactor Leadership Questionnaire (Bass 1985) and the UTRECHT work engagement scale (Schaufeli & Bakker, 2003). Quantitative data was analyzed using the Pearson Correlation Coefficient, T-Test, ANOVAs, simple linear regression.

► **TABLE 1:** Pearson Correlation Coefficient Results of Variables

VARIABLES	1 TL	2 IM	3 IC	4 II	5 IS	6 EE	7 D	8 V	9 A	10 TAL	11 CR	12 ME
1 TRANSFORMATIONAL LEADERSHIP	1											
2 INSPIRATIONAL MOTIVATION	.92**	1										
3 INDIVIDUAL CONSIDERATION	.85**	.83**	1									
4 IDEALIZED INFLUENCE	.97**	.91**	.80**	1								
5 INTELLECTUAL STIMULATION	.88**	.78**	.69**	.82**	1							
6 EMPLOYEE ENGAGEMENT	.39**	.37**	.27**	.34**	.30*	1						
7 DEDICATION RANGE	.28*	.29*	.18	.26*	.19	.91**	1					
8 VIGOR RANGE	.21	.21	.09	.20	.13	.85**	.85**	1				
9 ABSORPTION RANGE	.30**	.23**	.18	.28*	.29*	.73**	.62**	.62**	1			
10 TRANSACTIONAL LEADERSHIP	.48**	.40**	.48**	.42**	.50**	.03	.03	.02	.04	1		
11 CONTINGENT REWARD	.73**	.68**	.74**	.66**	.71**	.13	.13	.05	.01	.76**	1	
12 MANAGEMENT BY EXCEPTION	-.15	-.18	-.06	-.20	-.11	-.03	-.03	-.01	-.05	.48**	.06	1

Quantitative Findings:

- Transformational leadership was significantly correlated with employee engagement ($r = .39, p < .01$);
- Transformational leadership was significantly correlated with both work absorption ($r = .30, p < .01$) and work dedication ($r = .28, p < .05$) individually;
- Transformational leadership was not significantly correlated with vigor;
- Transactional leadership was not correlated with employee engagement;
- Employee engagement was significantly correlated with all of four factors of transformational leadership (idealized influence ($r = .35, p < .01$), inspirational motivation ($r = .37, p < .01$), intellectual stimulation ($r = .30, p < .05$), and individual consideration ($r = .27, p < .05$)).

A sub-set of the total population was sent an email asking if they would like to participate in formal interviews. Of the responses, six individuals were selected. The interviewed population included one manager, one associate vice president, one associate dean, and three directors. Further, the population was composed of four females, two males, two African Americans, and four Caucasians. Interviewees were asked about their leader's behaviors during consolidation, their experiences during consolidation, and examples and definitions of leadership and engagement during consolidation, and examples and definitions of leadership and engagement.

Qualitative data was analyzed using the constant comparative method (Creswell, 2013). The researcher was guided from both the quantitative analysis and emerging codes from the qualitative analysis to ask follow-up questions during forthcoming interviews. When totaled, twenty-one codes emerged and were grouped into the larger themes of transformational leadership, definitions, and higher education leadership. Further, additional existing documents and informal interviews were used to triangulate the findings.

Qualitative Findings:

- Leaders, who used inspirational motivation and discussed the mission and the future vision of the college with faculty and staff were able to address issues such as employee anxiety;
- Leaders who utilized individual consideration were able to build/strengthen teams and cultures that relied on and trusted one another during consolidation;
- Setting examples and modeling behaviors allowed leaders the opportunity to lead in a consistent manner and maintain a level of trust with employees during a time of ambiguity;
- Leaders with issues such as communication inconsistencies, ambiguity, and lack of inspirational motivation (providing the mission and visions) contributed to a lack of trust among followers;
- Employees stated that during consolidation leadership miscommunicated issues and were not transparent, leading to employees to have a lack of trust, greater turn-over/intention to leave, and employee anxiety during consolidation.

CONCLUSION

The explanatory sequential mixed-methods investigation of leader/follower relationships of mid-level academic administrators at a university undergoing consolidation yielded significant positive relationships between transformational leadership and employee engagement factors. Seventy-three mid-level higher education staff members completed a survey combining the Multi-factor Leadership Questionnaire (MLQ) and the Utrecht Work Engagement Scale (UWES). Participants who perceived their supervisors possessing idealized influence, inspirational motivation, idealized influence and individual consideration reported having higher levels of employee engagement. Moreover, the research points to leaders who used inspirational motivation, communicating the mission and vision of the organization frequently (Bass, 1985), and idealized influence, leading with enthusiasm and modeling positive behaviors (Woodcock, 2012), had a significant positive relationship with employees becoming absorbed and dedicated to their work during organizational change.

Additionally, qualitative data were used to provide depth and richness to the study. Interviewees and existing documents point to an organizational climate where reliable change communication was lacking, vision setting was lacking, transparency of consolidation was lacking, and organizational ambiguity was high. Participants stated that employees were experiencing a lack of reward, recognition, and acknowledgement for their efforts. Further, mentions of a reduction of trust in leadership and higher employee turnover were discussed.

RECOMMENDATIONS

The researcher recommends that leaders utilize a transformational approach during times of high organizational ambiguity such as consolidation. This recommendation is based upon significant result indicating a positive relationship between transformational leadership and employee engagement. Further, a strong relationship between inspirational motivation and employee engagement was discovered. Therefore, it is recommended that leaders spend ample time painting a picture of the future and providing employees with a vision during high ambiguous times when possible. Further, the results also point to leaders needing to lead by example (idealized influence) and model desired behaviors. Overall, a sense of trust was a key emerging variable that emerged. Leaders who spoke with reliable specific information and provided a vision for the future reduced uncertainty and increased trust during this change event.

References

- Alahmad, Y. Y. (2016). *Understanding the relationship between transformational leadership styles: Idealized influence, intellectual stimulation, inspirational motivation, individualized consideration and product innovation among manufacturing and services firms: The role of open system* (Order No. 10307146). Available from ProQuest Dissertations & Theses Global. (1870807684). Retrieved from <http://www.library.drexel.edu/cgi-bin/r.cgi/login?url=http://search.proquest.com/docview/1870807684?accountid=10559>
- Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, 20(4), 265-269. doi:10.1177/0963721411414534
- Bass, B. M. (1985). Leadership: Good, better, best. *Organizational Dynamics*, 13(3), 26-40. doi:10.1016/0090-2616(85)90028-2
- Bass, B. M. (1985). Multifactor Leadership Questionnaire -- Form 1. Retrieved from PsycTESTS. Doi. <http://dx.doi.org/10.1037/t12078-000>
- Burns, J. M. (1978). *Leadership*. New York, NY: Harper Row, Publishers
- Creswell, J. (2013). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Thousand Oaks, CA: Sage.
- Drew, G. (2010). Issues and challenges in higher education leadership: Engaging for change. *Australian Educational Researcher* (Australian Association for Research in Education), 37(3), 57-76.
- Johnson, A. R. (2015). *The effect of leadership style on employee engagement within an organizational environment of change: A correlational study* (Order No. 3718636). Available from ProQuest Dissertations & Theses Global. (1712374851). Retrieved from <http://www.library.drexel.edu/cgi-bin/r.cgi/login?url=http://search.proquest.com/docview/1712374851?accountid=10559>
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692. Retrieved from <http://search.proquest.com/docview/199783385?accountid=10559>
- Reynolds, S., Lundry, K., Ladd, K., Greenberg, J., Selingo, J., Lytle, R., & Gould, P. (2016). *Strength in Numbers: Strategies for Collaborating in a New Era of Higher Education*. Parthenon Group. Retrieved from: http://cdn.ey.com/parthenon/pdf/perspectives/P-EY_Strength-in-Numbers-Collaboration-Strategies_Paper_Final_082016.pdf
- Schaufeli, W. & Bakker, A. (2003). Utrecht Work Engagement Scale. Occupational health psychology unit, Utrecht University.
- Senge, P., Cambron, N., Lucus, T., Smith, B., Dutton, J., & Kleiner, A. (2012). *Schools that Learn: A Fifth Discipline Fieldbook for Educators, Parents, and Everyone Who Cares About Education*. New York, NY: Random House.
- Woodcock, C. (2012). Transformational leadership and employee engagement (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses database. (UMI No. 3513158).
- Zdaniuk, A., & Bobocel, D. R. (2015). The role of idealized influence leadership in promoting workplace forgiveness. *The Leadership Quarterly*, 26(5), 863-877. doi:10.1016/j.leaqua.2015.06.008

ABOUT THE AUTHOR



Greg Wurth, EdD, is a 2018 graduate of Drexel's educational doctorate with an emphasis in higher education. With over a decade's experience in the academy, Dr. Wurth has had the opportunity to work for many colleges and universities in a variety of roles. Currently, Greg is the Director of Workforce and Community Development at Florida State College at Jacksonville where he works with local industries and non-profits to develop educational solutions to meet the needs of the expanding First Coast economy. His research interests include higher education leadership and workforce training programs. Dr. Wurth possesses a Bachelor of Science in Public Relations and Master of Science in Organizational Communication from Murray State University, as well as a Doctorate in Education from Drexel University. Greg, and his beautiful wife, Karri, live in Saint Johns, FL with their two intelligent and kind daughters Isabella and Bailey.