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Editor's Note: In This Issue

The *Journal of The Advancement of Educational Research International* (JAERI) has made great strides this year in expanding our reach as we have been added to a few references that will add potential readership. Recently we have been added to the Library of Congress database as well as in the ERIC index database. We hope that these provide more exposure to our articles as we continue to look for opportunities to expand our influence. As I began my first full term, I was excited for the opportunity to read high quality work from a great group of scholars from across the globe. I aim to continue to look for ways to expand and have some ideas to add other types of scholarship to future editions including position papers, personal narratives, book reviews and policy statements (amongst others). I believe it would be a great move to not only broaden our types of scholarship but to also allow opportunities for those who do not wish to comply to the standard artifact of only writing research articles. I hope you will join me in welcoming some additional forms of scholarship in future issues.

We begin this issue with an article by Dr. Dixie Abernathy on the exploration of a course redesign effort with one program in her university. Using the ADDIE tool to guide the redesign process and implementation, Dr. Abernathy guides us the value of this tool to support her efforts. The positive results achieved through this process are described along with suggestions for its application by other educators.

Our second article provides a compelling exploration into the world of doctoral education. Dr. Robert Ceglie provides data collected from a study that explored the motivational and support factors of two cohorts of educational doctoral students. Using both quantitative and qualitative measures, Dr. Ceglie presents the key findings that led these students to their current program as well as the key factors that supported their persistence in the wake of several challenges common in doctoral studies. In the conclusion, we hear of potential suggestions to other doctoral programs as ways to improve their ability to support their students.

Next we hear from Dr. Shirlene Smith and Dr. Geleana Alston who present a timely study which examined faculty advisors' experiences at Historically Black Colleges and Institutions. To build upon a limited research base on this topic, these researchers utilized interviews as a way to better understand how a group of 10 advisors supported the efforts of their students. They conclude with important suggestions for those who advise or closely work with students from diverse background and settings.

In the fourth article, Dr. Fiorenza and Dr. Hanna explored the utility of the True Colors™ questionnaire as a tool to support differentiated instruction in a cohort of student teachers. The instrument focuses on one's ability to self-assess personality traits with the goal of being able to apply this information to the ability to modify instructional strategies and practices in a classroom setting. The authors found that this questionnaire did support several positive outcomes in terms of the student's ability to apply this to their own teaching experiences.

Dr. Justin Hultman and Dr. Daniel Eadens investigate how academic persistence is fostered by work supervisors for those who are employed during their collegiate experience. Their quantitative study explored the influence that relationships between work supervisors and students have on their persistence efforts. They found a positive relationship which did support these students as they engaged in their higher education careers. Recommendations for future studies are provided by the authors.

Our sixth article by Dr. James Osler and Dr. Phillip Mutisya, presents a unique exploration of ways to understand and study student performance. Using the Triostatistics Method, the authors

provide an in-depth description for the rationale and work that support this model as appropriate for future studies. With the current environment which demands accountability of teachers, we are provided with an approach to examine how culture and achievement can be quantitatively measured using advanced statistical methods.

The issue of equity in educational settings is a frequently discussed area as scholars study student achievement. Dr. X examined research which illustrates the influence of positive school culture on student achievement. The ability for teachers and building administrators to build supportive cultures in their schools is an imperative step if achievement levels are expected to improve, especially for marginalized students.

In the eighth study, Dr. Nancy Elkins tackles persistence factors for students attempting to complete undergraduate nursing programs. Her work specifically focused on a cohort of students who did not complete their path to successfully complete their nursing programs. Using qualitative tools, Dr. Elkins synthesized the findings to help educators better understand the push and pull factors which influenced these students.

In our ninth study, we explore a compelling exploration by Dr. Cassandra Conway. In her study, she offers insight to factors which influence women's underrepresentation in leadership positions in the African Episcopal Church. Using current research and theories, Dr. Conway provides suggestions and insight into ways that this issue can be ameliorated.

In our tenth and final study, Dr. Megan Lyons, Dr. Melissa Stinnett, Dr. Ty Jiles, Dr. Evan Ortlieb, Dr. William Truby, Dr. Ronny Green, and Dr. Rudo Tsemunhu investigate how teacher candidates implement literacy skills in their classroom. Teacher lesson plans were analyzed to better understand how literacy components were taught during their field experience.

On behalf of the entire Publication Board and Editorial Advisory Board of the *Journal for the Advancement of Educational Research International* (JAERI), I would like to thank the board of directors for their efforts and support over this past year. Additionally, I wish to thank all the contributor and reviewers for there effort to help maintain and build our journal. As we start a new decade, I look forward to future high-quality artifacts of educational scholarship that we can showcase in our journal. I wish all of you the best of health in the coming year.

Robert J Ceglie PhD
AAERI Journal Editor

ADDIE in Action: A Transformational Course Redesign Process

Dr. Dixie Abernathy, Queens University of Charlotte

Abstract

Online teaching and learning has evolved over the past two decades into a viable and respected means to higher education, with many undergraduate and graduate courses now offered in this format. While the popularity of online coursework has resulted in increased online enrollment and offerings, often the course design, strategy selection, student workload and learning relevance has lagged behind in comparison. As additional research becomes available into how to motivate and engage the online learner and how to best prepare online courses for optimum student success, universities may be faced with opportunities to redesign already existing online courses to best meet the research-based advances of online teaching and learning.

During the 2018-2019 and 2019-2020 academic years, one School of Education at a southeastern university engaged in this very discussion and process of redesigning and transforming already existent online courses. Using the ADDIE (Analyze, Design, Develop, Implement, Evaluate) educational process as a guiding protocol, university leaders, instructors and course designers engaged in aligning online courses in a Master of Arts in Educational Leadership program with best 21st century practices and online learning research. This article outlines a representation of that journey: the research, the reasoning, and the results.

Keywords: Course Redesign, Curriculum, Leadership, Online Learning

Introduction

In considering the design of any online course, there are well-established best practices for traditional teaching and learning that translate and apply effectively into the online environment. In fact, much of the research emphasizes the need for consistency in best practices regardless of the modality. It has been recommended that instructors of both traditional and online courses should embed the following six foundational principles into any course design model: 1) peer-to-peer interaction; 2) active student engagement; 3) practice and emphasis on effort; 4) personalization; 5) variety; and 6) higher order thinking processes (Lang, 2014; Miller, 2014). These practices echo those established much earlier by Chickering and Gamson in their “foundational seven principles for an effective undergraduate education”, which included 1) contact between students and faculty; 2) development of reciprocity and cooperation among students, 3) encouragement of active learning; 4) prompt feedback; 5) emphasis of time on task; 6) communication of high expectations and 7) respect for diverse talents and ways of learning (Chickering & Gamson, 1987). As part of this research the authors also concluded: These principles seem like good common sense, and they are -- because many teachers and students have experienced them and because research supports them. They rest on 50 years of research on the way teachers teach and students learn, how students work and play with one another, and how students and faculty talk to each other (1987, p. 2)

While these foundational principles were part of early research in this area, Chickering and Ehrmann adapted this outlook to online learning in later writings in which technology was viewed as a platform by which to accomplish these same timeless education practices (1996).

In considering the research recommendations related to the first of these best practices, peer-to-peer interaction may at first glance seem the most difficult to attain in an online environment. As opposed to traditional educational settings in which actual people are sitting side-by-side and engaging in interpersonal communication and collaboration, online learning exists in a digital environment, one made up of screens in the privacy of one's home or business. Perhaps because of this stark contrast, recent research emphasizes the critical need for online courses and teaching to allow for this peer connection. Online learning frameworks in which learners are given opportunities to motivate each other and to monitor one another's metacognition and learning as shared through a community of learners is most effective (Niess & Gillow-Wiles, 2013). Opportunities to reflect with peers cannot be limited to course content, but must also include a platform for broader social interaction (McLeod, Barr & Welch, 2015). As students interact while engaged in learning tasks they become engaged members of their own social learning course community and are better able to connect course content to real world experiences. In addition to improving student learning and success, a deliberate design which allows for peer-to-peer interaction may actually prevent the often experienced feelings of isolation and disconnect with course content that are often part of the online learning experience.

Even as these best practices for online learning are clearly established, it should be recognized that online teaching and learning can and does present its own set of challenges. In a synthesis of online teaching and learning, Kebritchi et al. (2017) identified three specific areas associated with online teaching and learning challenges: issues related to online students, issues related to online instructors, and issues related to online course development. In specific regards to online course development, poorly designed courses may result in low engagement and a negative overall impact on student learning. As shared by Soto (2013), "effective online learning is dependent upon the principles of instructional design and development" (p.2).

While acknowledgement of the importance of effective online course design may be a helpful starting point, the logical next step would be sound principles and strategies by which to prepare for and overcome any design barriers to online student success. The following is an examination of the process that may be taken in redesigning online courses in a manner that is consistent with research and best practices and which sets sound principles in place for online student learning. The process used is aligned with the ADDIE (Analyze, Design, Develop, Implement, and Evaluate) Model, an instructional design method that has been used for many years as a framework for designing and developing educational programs (Kurt, 2017). The ADDIE model has been recognized as the most commonly used instructional model for virtual teaching and learning and thus was selected for this endeavor (Soto, 2013). The effective use of this model in the online course redesign and the opportunities that a redesign endeavor presents in terms of increased student engagement and learning is examined here. Research aligned with the planning behind the process and actual engagement as experienced by the School of Education and the university in our own redesign journey is shared.

ADDIE: Analyze

The first step in any process is to ascertain the current state of operations, and so it is with the online course redesign process. A deep analysis of all aspects of a course or a program reveals much – some of which may be expected, some of which may be painful to accept, and some of which may be enlightening or affirming. During this stage, it is imperative that the

redesign leader access any and all quantitative and qualitative data, observations, or information available to help form this realistic picture of the current course or program. Student surveys, time-on-task analyses, faculty input and course or program success rates are just a few of the sources that may prove helpful during this first step. Rather than attempt to justify data that indicates problematic areas, course designers may use this often uncomfortable process to instigate and drive needed change.

Our ADDIE Journey: The Analysis Phase

The analysis stage was one based on a variety of qualitative and quantitative data. Student surveys and input showed general satisfaction with the program; however, on numerous occasions students shared feedback regarding the preponderance of formal papers in the program and the reliance of reading and writing (in the content courses) rather than practicing and reflecting. Other student feedback indicated a desire to be more connected with faculty and students and the overall monotony of weekly tasks. While the course structure was previously standardized for efficient navigation for the student, this also potentially led to replication in how learning was experienced. Capstone work and other assessment tools demonstrated a high level of student mastery and proficiency, yet instructors recognized that ongoing research into online teaching and learning presented opportunities for improvement. Source analysis revealed course articles and resources that were on the verge of lacking current relevancy. Assignment analysis showed a dominance of more traditional, lower-order instructional strategies.

Conducting a time-on-task (student workload) study is a critical component of the analysis stage. Regardless of the chosen instructional strategies utilized in the online course design, an analysis of the level of rigor and the degree to which this translates in terms of workload for students is a valuable step in this first phase. The Carnegie Foundation recommended workload hours for online courses (of the 8-week duration format) is 135 hours (US Department of Education, 2008). For our redesign experience, an analysis of every element of the course, including readings, assignments, and discussions, revealed that current programmatic hours were well below the Carnegie Foundation recommended formulas, suggesting the more traditional strategies were leading to less engagement and more surface-level dives into learning topics.

Another analysis component for this stage of redesign is learning objective and activity alignment. At the university level, this process included a close and careful study of the weekly, course, and programmatic learning outcomes and how tightly these were aligning. In addition, for each activity included in the online course, an identification of the specific objectives relevant to each instructional activity was involved, with gaps in matching an indication of lack of alignment. This learning objective analysis was also key in the latter phases of design and development.

At this point, armed with the plethora of data, feedback, objective alignment examination, source relevancy, and fully immersed in the research base regarding online course design and online learner success, the university design team was ready to move on to phase two.

ADDIE: Design

Following a careful and comprehensive analysis, the design phase then begins. An analysis- and research-driven online course design may lead to increased student and instructor engagement and overall student success in the online learning environment. First and foremost, online course design must be geared towards optimum student engagement, a key principle to be considered along with higher order thinking strategies, peer-to-peer interaction, emphasis on practice and a variety of activities (Miller, 2014). These foundational best practices, when included in the online course design, lead to active learning on the part of the online student, as

opposed to the passive learning often associated with more traditional teaching models.

Peer interaction is particularly important in the design of the online course, as students are not sitting in a face-to-face classroom where conversation and camaraderie develops naturally. Miles, state lines, or even oceans may separate online students from one another. The design of the course in specifically allowing and driving student collaboration and discussion is key. The notion of online students as a learning community is grounded in the social metacognitive constructivist learning framework (Neiss & Gillow-Wiles, 2013). In the online environment, student connections may be just as strong a factor in learning as pedagogical approaches (Maki & Maki, 2007). A purposeful design that allows for interactions by which students may demonstrate and share their metacognition and even monitor each other's learning may lead to improved engagement and higher student motivation.

Other course elements to be considered in the online course design phase involve the selection of and decisions regarding the use of multimedia. While online teaching and learning is a technology-based educational format, course designers must avoid the temptation to overuse multimedia tools simply for the sake of using what is available. Online course redesign allows for the careful consideration of the most current software and programmatic tools and the strategic implementation of such strategies. Videos and games may add elements of play and enjoyment for students, but these multimedia tools should not be integrated just for the sake of having more "gadgets" in the course. Rather, multimedia tools should be selected and included when they clearly add to the presentation and relevance of the online course content and the learning progression of the student (Kebritchi et al., 2017; Mayer, 2014). Through research on multimedia learning theory, Mayer (2014) shares the three approaches available when making multimedia design decision: less-is-more, more-is-more, and focused-more-is-more. The progression from less to more includes removal of unnecessary information in order to lessen distractions, the addition of interesting elements such as graphics, and the ability for students to be engaged in multimedia tools involving challenging learning scenarios (Mayer, 2014).

In making design decisions it is realistic to assume that students who are beginning an online learning journey may lack understanding of the learner strategies that may be successful in aiding student success. Wander, Imbriale, and others suggest that learning strategies that are controlled by the learner themselves, or self-regulated learning strategies (SRLS), should be promoted in online courses due to their clear link to improving online student success (Anderton, 2006; Wander & Imbriale, 2017). Earlier research by McMahan and Luca shared that these very types of learning strategies are in high demand in today's job market (2001). Additional SRLS research suggests that online students who utilize and regulate their own learning strategies, such as goal-setting and time management, often realize positive outcomes. (Barnard-Brak, Lan & Paton, 2010; Barnard, Lan, To, Paton & Lai, 2009). With the potential for such a profound impact on student success, an introduction to SRLS and a sharing of SRLS resources would prove an appropriate and effective learner readiness tool.

Another consideration for course design decisions is the balance of active and passive learning. Active learning, such as rigorous discussion with peers, exploratory labs, group projects and application activities hold the potential to spark student interest and engagement more readily than passive activities, such as independent reading, viewing videos or completing assessments Research by Dixson (2010) suggests that the ability of active learning to increase social presence and student interaction positively impacts student engagement in the course. Similarly, research conducted specifically with online graduate students found that higher level analytical work resulted in higher student engagement in online courses (Robinson & Hullinger,

2008). Decisions made in the course design phase that improve the social presence of participants may lead to high student engagement once the course is live and active (Ladyshevsky, 2013).

Additionally, course relevancy is a key to online student engagement, as students will have higher interest and motivation to learn in environments that are aligned to educational and professional needs. Briggs (2015) suggested through online course design research that careful attention be paid to media, modalities, pacing, variety, and how all may be deliberately structured to lead to high relevancy and, ultimately, increased student engagement in online learning.

Our ADDIE Journey: The Design Phase

In beginning the design phase, it was an important foundational step to establish, based on research and our analysis, the exact course design vision for the program. Making sound, research-based decisions early on that would serve as an umbrella for every course in the program would ensure consistency in design principles and in assignment choices. This “course redesign guide” served as a formal guiding document throughout the redesign process, and one that dictated the answers to such questions as “how many posts will we expect for discussion questions” and “how will we scaffold our course assignments?”

Reflecting back on our analysis phase (the A in ADDIE), and synthesizing all of the analysis feedback and data that had been considered, we had a comprehensive list of desired outcomes and design principles (Table 1 below).

Table 1
Desired Outcomes and Principles

| Student Feedback | Research |
|--|--------------------------------------|
| Reduction in papers and discussion threads | Collaborative Learning |
| Increase in projects | Scaffolding |
| Repetitive nature of assignments | Connections |
| Relevance of discussions and assignments | Self-regulated learning strategies |
| Detail in directions | Project-based learning |
| Alignment of objectives to assignments | Student and Instructor Readiness |
| Manageable assignment timeline | Student Engagement |
| More than just writing/writing conventions | Student Choice/Variety of Strategies |
| Relevant and current sources | Varied Instructional Strategies |

Upon establishing this foundational “course redesign guide” and “wish list” of strategies and principles, we were ready to make key design decisions which would serve as parameters as we prepared for the next stage of development.

Design decision #1: Higher-order thinking. It has long been established in the educational community that higher-order thinking leads to greater and more meaningful cognitive experiences. For the online learning environment, the work of Robinson and Hullinger as well as that of Miller would suggest that an emphasis on higher-order learning activities may improve online student engagement and overall student success. In considering the revised Bloom’s taxonomy for learning, teaching and assessing, higher-order activities would be those considered to be in the analysis, evaluative and creation categories (Anderson et al., 2001).

Therefore, our first design decision involved a commitment to design all student learning activities, to the extent possible, within these higher levels of education objectives.

Design decision #2: Discussion questions. The program traditionally presented two discussion questions each week. With the majority of these readings or videos, students would passively view or read and then react or relate to personal experience. Student feedback and research would suggest that a deeper dive with higher levels of critical thinking may lead to richer and more relevant learning. The questions we generated to guide us in the discussion design included:

How do we encourage students to participate or at least read all posts?

How can we incorporate student choice into our discussions?

How can we guide learning appropriately through our discussions?

How might we reference prior discussions and extend our learning into future weeks?

How can we connect discussion topics to other learning in the course?

How might we use student summaries of discussions to further learning?

Through our design phase, decisions were made to reduce weekly discussions from two to one each week, and to design these with multiple steps and student choice evident. Included in this decision was our determination to use weekly discussions to reference and build upon earlier discussions in the course and to guide our students in responding to multiple prompts and threads within one discussion. In addition, as part of our redesign process, all discussions would be aligned to a specific course objective and this alignment would be shared with the students. Variety would be evident as each weekly discussion would have a theme (debate, cause and effect, case scenario, etc.). The increased relevancy and rigor of this discussion question design decision would potentially lead to deeper online deliberation and learning.

Design decision #3: PLC collaboration. In recognizing research regarding the effectiveness of collaboration in the online learning environment in terms of increased social presence and higher student engagement, our third design decision was to include more opportunities for group collaboration in learning. In many schools across our nation, the Professional Learning Community (PLC) concept is one that is readily recognized as a successful approach to collaboration and continuous improvement. As stated in *Leaders of Learning*, Dufour and Marzano share that “no single person has all the knowledge, skills, and talent to lead a district, improve a school, or meet all the needs of every child in his or her classroom. We assert that it will take a collaborative effort and widely dispersed leadership to meet the challenges confronting our schools” (2011, p. 2). In applying the PLC approach to learning in our online environment, we made a design decision to include at least one PLC activity in each course, with these group activities spanning across multiple weeks of learning and utilizing higher levels of critical thinking. In addition, each of our PLC activities would include progress checks in order to allow instructors to closely monitor team dynamics and progress.

Design decision #4: Project-based learning. Another important design decision made during this phase of our redesign process was the commitment to project-based learning. Research indicates the need for practice, personalization, active engagement and higher order processes (Chickering & Gamson, 1987; Miller, 2014), and our own students’ feedback indicated a desire for increased use of projects as part of student learning. This decision included a redesign intent to incorporate at least one significant, multi-week individual project-based

learning activity into each course, with the activity utilizing higher-order critical processes and a strong relevancy to course learning objectives.

Design decision #5 Self-regulated learning strategies (SRLS). Based on the research of Wander and Imbriale (2017), Barnard-Brak et al. (2010) and others, our next design decision involved self-regulated learning strategies and the inclusion of an introduction to these as part of our online program. How this may be done or presented could vary, but the important component of our commitment was to ensure that our students would be aware of the research on SRLS and aware of the potential for their own online success through the use of such.

Design decision #6: Speaking skills. The research of Robinson and Hullinger (2008) is quite compelling when considered in terms of course design. Conducted with over 200 online graduate students, the conclusions suggested that online students generally view the online learning format as one that allows for effective collaboration and higher-order analytical learning, but falls short in terms of development of speaking skills. This can be especially challenging in asynchronous online courses (ones in which teaching and learning is never “live”). Our final design decision was to include opportunities in our online courses for students to develop speaking skills as part of their online learning experience. With our design decisions made and our vision set, we were ready to proceed to the actual development of our redesigned courses.

ADDIE: Develop

The next stage in the ADDIE process is that of development – using the design principles and decisions and vision to actually drive assignment and course development. As described by the course designers of Northern Illinois University:

Development (or production) is the step where you actually create the things used in teaching: the lecture material, the Web site that supports the course, the handouts and assessment rubrics that instructors and students will use, a PowerPoint presentation, or a video tape on case studies digitized for viewing online (2019, p. 2).

With the development of any component of an online course, three elements must be considered: the structure, the dialogue, and the autonomy of the course (Kanuka, 2011). The structure refers to the actual developed components, while the dialogue refers to the ability or likelihood that those components will allow for peer interaction. Autonomy refers to the degree to which students will choose to follow guidance or directions in order to achieve desired results. In keeping these developmental elements in mind, the course designer must also consider the evolution of online learning in terms of instructional strategies and developmental choices. As Kanuka shared in 2011 research:

distance education has moved from a (mostly) one-way, paper-based content dissemination format whereby interaction was typically limited to student-content interaction to an interactive, collaborative, and community of learners, paradigm inspired, and made possible, through the use of net-based communication technologies—which most of us now refer to as online learning (p. 2).

Applying design principles to an online course through selection of the most effective balance of assignments and discussion (structure) with elements that allow for interaction and autonomy are critical steps in the developmental phase.

Our ADDIE Journey: The Development Phase

The development phase allowed us to apply all of the commitments and design principles, based on research and student feedback, which we had established in the first two phases of this redesign process. An early recognition that would be needed in this phase is the realization that not everything had to be recreated or revised. There were many elements included in our current courses which already met the design principles we had established. In instances where that was not the case, application of our design vision was followed explicitly. In applying these concepts, our redesign included the following in each course:

- a. Multi-step, higher-order activities
- b. Alignment of weekly, course, and program objectives, with these clearly shared with students prior to each assignment.
- c. One discussion question per week, with multi-step learning, student choices, prompts to require deep dives with a variety of peers, unique prompts for each week (debate, cause and effect, case scenario, etc.), and reference to prior week's discussions.
- d. Self-regulated learning strategy research introduction and weekly tips
- e. One individual, multi-week project-based learning activity per course, including higher order strategies and relevant products
- f. One collaborative, small group Professional Learning Community activity per course, including higher order strategies and relevant projects

It was also during the development stage that we engaged in a careful and methodical study of our learning objectives. To what degree were our weekly, course, and programmatic objectives aligning with one another – and with each assignment in which the students were engaged? In developing each course lesson or assignment, we deliberately identified (or revised as needed) the learning objective or programmatic goal with which it was aligned. This tight calibration would be useful as development continued and current course content was abandoned or revised and new course content was developed.

In addition, in progressing through the development of the redesigned courses, we remained focused on our priority of designing a highly engaging online experience. Rather than encouraging passive learning through our selection of strategies or activities, we aimed for a more active student population, and this was especially critical in our discussion forums and our collaborative activities. As shared by Romiszowski and Mason:

Both engagement theory and collaborative learning theory would suggest that the use of discussion forums brings the students directly into contact with the content material of the course instead of leaving them on the outside as passive learners. Through this interaction, it is postulated, students are building their knowledge instead of relying on simple memorization skills. If these theoretical positions are valid, one could expect the use of discussion forums to be more effective than, for example, quizzes or objective testing as a means of promoting learning. (2004; p. 401).

The implication of this research to online instructors and course designers is to “recognize and support the nature of learner’s online participation” (Kibritchi et al., 2017, p. 10). Through their research on graduate online programs, Niess and Gillow-Wiles exposed the complete dependency of the quality of the learning community on the involvement of each individual student. (2014). The research team also concluded that the less lonely and isolated students felt, the more motivated they were to get engaged in the course (Niess & Gillow-Wiles, 2014). This

desired learning community was directly related to the design and development of active discussions and collaborative tasks.

ADDIE: Implement

In transitioning into the implementation stage, the opportunity arises for people besides the course designers to now be involved in the course redesign process as the actual instructors of the course are now key players in its successful execution.

Implementation is where the actual instruction takes place. Students rely on the expertise of their instructors to present the content in a meaningful way. At the same time, students should be engaged in the learning process. All of the planning done in the design and development stages is onstage in the implementation phase. This is where instructor's expertise shines, along with the selected approach to teaching...Implementation then, involves facilitation of learning (Northern Illinois University, 2019, p. 2).

Our ADDIE Journey: The Implementation Phase

Once the redesign was completed, the newly designed course was implemented with an incoming cohort of students. Before doing so, however, we once again engaged in a student workload analysis. Even though our newly designed course had fewer "things" for students to do, would this deeper dive with more higher-level strategies result in a more engaging course for students? Upon completing this time-on-task analysis, it was discovered that not only had we closed the 50-hour plus gap in workload hours, we were now several hours beyond the 135-hour recommendation from the Carnegie Foundation. Our deeper dives and our focus on analysis, evaluation, and creation had led to more rigorous course content as evidenced through our significant increase in workload hours.

ADDIE: Evaluate

Once the designing, developing and implementation stages are completed, the final step is to evaluate the extent to which the course is effectively meeting student learning needs and leading students to program success. There are many different ways in which course effectiveness may be evaluated. Student grades, real-time student feedback and course evaluations all offer important insight into what elements of the course are working well in facilitating student engagement and learning (George Mason University, 2019). Evaluation input may come from professional colleagues and administrators as well as from the students taking the course (Illinois State University, 2019). By whatever means chosen and utilized, it is critical that this evaluation occur both formatively (while the course is progressing) as well as in summation (once the course has concluded). Online course instructors must be prepared to continuously improve various elements of the course, based on data and feedback, and to compare the course vision with what is actually happening in the online classroom. This evaluation process includes "continual monitoring of the student engagement and progress, by peer and student review, and by careful consideration of conflicting feedback" (University of South Australia, 2019, p.1).

Our ADDIE Journey: The Evaluation Phase

Moving forward, the evaluative steps of our redesigned course will mirror those of our analysis during the first phase. We will continue to monitor student engagement through discussions and other collaborative opportunities, monitor student grades and completion of

learning objectives, plot and assess the student workload and time-on-task, request student feedback, both formative and summative, and discover the effectiveness of our course through student success in program goals.

Conclusion

While online teaching and learning has gained in popularity in recent years, with online enrollments and course offerings increasing each year, course design, strategy selection, student workload and learning relevance often lags behind in terms of evolution of effectiveness. In acknowledging the challenges that online learners and the online learning format may present, course designers have the opportunity to incorporate effective strategies and course structure aimed at higher student engagement and optimum student success. It is critical to continually assess current online courses for alignment to research on effective online practices. In analyzing one university's course redesign journey using the ADDIE educational process model, these very challenges were described and addressed. Further experiences with course redesign in the online environment may lead to additional recommendations and application of effective online teaching in the facilitation of student success in the online learning environment.

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Initial Motivations of Doctoral Education Students

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Abstract

Examination of doctoral education has gained interest in recent years as all aspects of higher education have been questioned and scrutinized by the popular media. One particular area needing additional clarity is an exploration of the motivating factors for students attempting to complete these degrees. While a handful of research across a few disciplines has explored this issue, doctoral pursuits in education programs has received little interest. This pilot study surveyed two cohorts of doctoral students and utilized a survey with additional open-ended responses to explore the key motivational factors that have led them to their current status in their doctoral programs. This study highlights some novel findings regarding the primary motivations and aspirations in their pursuit of a doctoral degree.

Keywords: Doctoral Study, Higher Education, Motivation, Values

Introduction

Doctoral education has been an area of study which has gained increased attention over the past few decades as the value of advanced degrees has been questioned. One facet of the interest has been focused on efforts to improve the training that occurs in programs, as many of programs are only under light regulation by any external agency (Eisenhart & DeHann, 2005). This can and often does lead to wide variations in quality which creates terminal degrees which are not equal nor are attained by the same degree of rigor. One important consideration when exploring doctoral study is that the unique nature of each discipline may necessitate different types of programmatic requirements and this leads to variations in curriculum to meet the needs of each discipline. The examination of who is pursuing these degrees and what types of career aspirations they have offers insight into the value of these programs, especially for those degrees that directly lead to career advancement. It is recognized that many students are being prepared for future careers in research-based careers at R1 universities or in industry settings, however other students are focused on careers in teaching or non-research-based positions. Clearly the final goals of these groups of students can have significant differences. Those who engage in doctoral programs in fields such as education may have the greatest range of potential applications of their degree. Some graduates will participate in higher education research-based academic careers; however, most of these graduates will be engaged in work within the K-12 schools as well as in leadership positions in local schools or districts. This variety of needs of an education doctoral program necessitates that these programs offer a comprehensive curriculum to train students for a wide range of future uses. In fact, many doctoral granting universities offer the PhD more commonly designed for future researchers and the practitioner EdD to serve the needs of current teachers and school administrators.

Recent studies suggest that demand to attain doctoral degrees has amplified considerably

in the past decade in most disciplines as increased access to higher education allows a greater flexibility in program delivery (Walker, Golde, Jones, Bueschel, & Hutchings, 2009). In 2017, the United States awarded 54,664 doctoral degrees which was a 14% increase since 2007, thus highlighting a significant increase in degree attainment. In education fields, 4,823 doctoral degrees were conferred in 2017, but in comparison, in 2007, 6,448 degrees were conferred, a 34% decrease (National Science Foundation, 2018). The recent decrease in doctoral degrees in education disciplines may be influenced by the increased cost of higher education or in other factors which are not completely understood. As noted, many of those seeking doctoral degrees in education are often current teachers, a segment of the population which is notoriously undercompensated. This financial factor may be more of a concern for those in education-based careers where degree advancement may not directly lead to any increase in compensation. Another important factor may be the current climate that exists in public education in the United States. As high stakes testing and the accountability movement continues, and as public education has been under increased scrutiny and regulation by federal legislation, some educators are abandoning the profession altogether; a trend which is seen in the current teacher shortage (Argon, 2016). Clearly with fewer qualified teachers in the profession, there would be a decrease in those seeking advanced degrees. Other factors may be that fewer teachers are entering teacher preparation programs, and lower teacher satisfaction, both of these factors have led to problematic retention rates, especially in lower socioeconomic status and in underperforming schools (Sutcher, Darling-Hammond, & Carver-Thomas, 2016). Many of the larger metropolitan areas in the United States fall within these types of school communities and as the need for qualified teachers increases, this likelihood of an increase in doctoral degree pursuit may be diminished. While the recent trends on doctoral degree attainment show a decline, research has failed to act in examining these factors, nor have they found compelling solutions. If, in fact, these factors are the key concerns, then studies which explore the motivational factors for education-based doctoral degrees is warranted.

Research has illustrated that one segment of the teaching population pursues a doctoral degree because they perceive it will lead to the increased ability to impact their profession, this is something that is commonly described by those in service-based professions such as teaching, and these individuals tend to remain in their current positions (Jablonski, 2001). Other segments of this population are likely seeking to explore new opportunities such as working at a college or university or even engaging in a research-based career as their ultimate goal. Unfortunately, these hypotheses are not well-defined as there is little research that explores the motivations or long-term goals of those who enter education-based doctoral degree programs. Guerin, Jayatilaka and Ranasingh (2015) explain that “Despite the increasing numbers of candidates embarking on higher degrees by research (e.g., PhD, Professional Doctorate, practice-based doctorate), we still have limited knowledge about why they are choosing this path” (p. 89). An increased understanding for why students enter these programs and what goals they have for their future are key important areas of focus which would contribute to the design of more effective doctoral programs for the education profession and a result could be improved learning outcomes in K-12 schooling.

Literature Review

Profile of Doctoral Students

The profile of the typical doctoral student has changed considerably over time as access to

programs and value or necessity of the degree has changed. In fact, with the clear differences in the requirements and goals for different degrees, the ability to define a “typical” doctoral student is becoming increasingly challenging. As access to online programs is becoming more common, the ability to attain these types of degrees has increased to anyone with the aptitude, financial means and a computer/Internet access. The Survey of Earned Doctorates (SED) is an annual survey of new graduating doctoral students in colleges and universities across the United States managed by the National Science Foundation (NSF). Data has been collected on students dating back since 1920 to examine the trends in enrollment patterns as well as to provide a way to attempt to create profiles of current and former students. The most recent release of data in 2018 provides a great deal of information regarding what the current doctoral student looks like. In 2016, 54% of doctoral graduates were men and 46% women, a trend that has continued to move toward greater equity in degree attainment for women attaining doctorate degrees (NSF, 2018). What is interesting is that the data in education programs is significantly different with 30.1% males and 69.9% females. While this may seem unusual, one only has to look at the current demographics of those teaching in the United States public schools. This gender difference is a reflection of the typical gender ratio which exists in the teaching profession in the United States. The gender variance is an important consideration when examining motivation factors for degree attainment as gender roles in society are still traditional and are likely also related to a potential difference in reasons one might look for doctoral degree attainment.

The mean age of doctoral recipients is an additional factor that has been collected in the SED survey. The median age of a doctoral recipient in 2016 was 31.6 years for all students pursuing a doctoral degree. However, the median age for those attaining doctoral degrees in education disciplines was 38.6 years old, highlighting a significant difference in age (NSF, 2018). In fact, education had the oldest average age of recipient as the second oldest age was for “Other” field of study which was a combination of many smaller disciplines. In addition, 26.3% of the education recipients were over 45-year-old, as compared to the 7.8% overall doctorate average. Clearly, these data illustrate that those attaining doctoral degrees in education are significantly older than those in other fields of study. The major reason for the age gap can be attributed to the path that typically occurs for one entering a doctoral program in education. Typically, those attaining an education doctorate have already worked a significant number of years in the education profession and have decided to advance their education. In fact, most graduate programs require that students have completed at least several years of teaching prior to entering a program so that they have enough context in the field. In most other fields, students may enter a doctoral program right after baccalaureate or master’s degree work, with little work experience necessary. It is the normal path in education for one to gain the undergraduate degree, followed by a master’s degree and later a doctoral degree, as skipping the master’s step is uncommon in education fields. Obviously in education, this pushes the age of degree completion up considerably as the blend of time working in educational settings is intertwined with degree attainment.

A final demographic consideration is an examination of the financial details and requirements for doctoral students. Doctoral study is a costly endeavor and financial support varies considerably across disciplines. The SED provides data regarding the different types of resources students have to complete degrees including assistantships, grants and fellowships. On average, doctoral students rated research assistantships as the primary source of support at 30.8%, followed by fellowships or grants at 27.7% (NSF, 2018). Both of these sources often provide support which is not paid back by the student, thus relieving at least a portion of the cost

and making the pursuit of a degree less influenced by one's ability to pay for it. For education students, the data illustrated that they received research assistantships at 15.7% and fellowships and grants at 12.4%, both at substantially lower rates in comparison to their peers in other disciplines. Perhaps more importantly, forty-six percent of education students reported that they used their own resources to fund their education, this is in comparison to 15.1% from the overall group of students. SED also reports the education-related debt that doctoral students incur as a result of their overall schooling and doctoral schooling. On average, the student debt was reported at \$23,838 in total cumulative debt. By comparison, education doctoral students average a debt of \$40,827, almost twice the average debt burden. These data demonstrate the additional financial hardship for those pursuing a doctoral degree in education and illustrate that not only do these students need to come up with a significantly higher initial cost of schooling, but long term also end up spending much more for their degree (in out of pocket costs) when compared to their peers.

The student profile provided by the SED survey depicts the clear fact that doctoral students in education fields are unique in many different ways. Some facets of their profile are a direct result of their professional experience which led them to this point as virtually all would have been previously employed as teachers or in similar positions in schools. The education profession is largely made up of women teachers, and the ability to begin a doctoral program often requires significant years of experience in the field. Combined, these factors make the demographic of graduates to be older and more female dominated, when compared to other disciplines. Of course, as one ages, motivations and responsibilities change, and this may be a greater factor for education students, although extensive research on these issues has not been conducted. In addition, the financial burden on those seeking doctoral education-based degrees is considerable. This is compounded by the fact that in the United States, teachers have historically been underpaid and are in a profession where career and thus financial advancement is more limited. Collectively, these factors provide context when examining motivational factors for education doctoral students and provide a wealth of potential areas which warrant additional research.

Motivation for Doctoral Study

Research exploring the reasons that students give for pursuing doctoral study is limited but some studies exist which offer a starting point to achieve some understanding of the issue. One of the largest and most recent studies was directed by Guerin, Jayatilaka and Ranasingh (2015) who conducted an exploratory factor analysis on a group of 405 students at an Australian university. The authors designed a survey which asked students about their general motivations for their pursuit of doctoral degrees. Their question prompts included the importance of specific individuals or family members who encouraged them. They also highlighted academic sources of motivation and support such as professors. Other questions focused on the actual qualities of their intended discipline, such as needs for career advancement or enjoyment in their current profession. The population included in the study was broad and included students from engineering, health sciences, humanities, and several different sciences. The results suggested five key factors which motivated students to pursue a doctoral degree. These included the importance of family, friends and current and former teachers as supports for their pursuit. They found that intrinsic motivation played an important role for these students. In addition, research experience and career motivation served as very practical applications for the value that a doctoral degree could provide for these participants. The study did not specifically explore themes related to individual disciplines, but their work contributes to the literature as a recent

relevant dataset that does shed light on some of the more salient reasons and motivators for doctoral pursuit.

In a study by Ann Jablonski (2001), she explored motivation for the pursuit of a doctoral degree in an interdisciplinary instructional leadership degree program. She conducted short in person-interviews of 17 students and found that motivation for beginning doctoral studies included the desire to integrate professional experiences, attain career aspirations, and to realize personal goals. For educators, many viewed the attainment of a doctoral degree similar to the type of experience gained from professional development. Limitations of this study include a lack of data shared in the study, as well as the brevity of the interviews. The examination of students entering engineering doctoral study in Malaysia was completed by Mokhtor (2012). In this qualitative study, 20 females were interviewed to explore the reasons for exploring an engineering doctoral degree. The main encouraging factors to pursue the degree were social relationships, external expectations, social welfare, personal advancement, escape/stimulation and cognitive. In a similar study, Brailsford (2010) explored the reasons for doctoral pursuit given by history doctoral recipients. In this qualitative study, 11 students from an Australian university were interviewed. Findings included the value of personal development, better career opportunities and intrinsic interest in the discipline as the key motivating factors. Gregory Stiber (2000) explored the pursuit of a doctoral degree in business disciplines in a study which aimed at examining the enrollment of students into this institution as a way to increase their applicant pool. A quantitative questionnaire was sent to recent prior graduates and a total of 51 former doctoral students replied with completed surveys for review. The two most common motivational reasons for degree pursuit were personal satisfaction and to prepare for a profession in teaching. One limitation of this study is the discipline specific nature as well as the data potentially being dated given the lack of recent participant data.

Leonard, Becker and Coate (2005) conducted one of the largest studies on doctoral education. They received questionnaires from 89 individuals who completed their doctorate in some education-related discipline from a range of different universities in the United Kingdom, the European Union, East Asia, South America and Africa. Participants included those who graduated two, seven and twelve years ago, from the time of the study. The researchers found that motivations for personal development and general interest in the discipline were the most cited areas by the students. Additional motivations found were the attainment of professional development as well as the acquisition (and interest) in building one's research skills. While one of the larger studies of educational doctoral studies, this study has some limitations in that the United States was not included which may limit some applicability to the data. In addition, while the study included a wide variety of doctoral degrees there was not a great deal of specificity to any particular discipline. The data was also a little dated as some of the participants had completed degrees as far back as 1990, thus the context may have changed significantly during the current timeframe.

One important study specific to education was a qualitative doctoral thesis written by Laurel Clark (2007). In this work, Clark examined the factors that motivated a cohort of doctoral students at Victorian university. A group of 17 current doctoral students were interviewed using an open interview protocol with a focus on the program as a type of professional development. The findings highlight the importance of doctoral study on an individual's personal advancement of skills and the value of the degree as a form of professional development. No one factor emerged as key, but the interest in learning was the most cited reason for doctoral pursuit. This study may be limited in not being published as a peer-reviewed article, as well as the possibility

that this article was less rigorous in design with regards to the open interview protocol without a description of exactly what was being asked. In a similar work, Wellington and Sikes (2006) examined the reasons why education students pursued an EdD or a PhD. They interviewed 29 current students and found that a focus on skills directly relevant to their jobs was one of the main reasons they chose the professional doctorate (EdD) over a PhD. For example, many cited that they were frustrated with the teaching profession and a doctorate was a means to better understand and influence the profession. However, unfortunately little is revealed for the overall motivation to pursue doctorate education in general, as the focus was mainly on the choice of type of degree.

The previous studies demonstrate that while there have been some studies which have examined the motivation to pursue doctoral study, the data is limited in both scope and in depth, especially in consideration of education-related degrees. Additionally, many of these studies include locations outside of the United States and given the differences in the education in the United States, some of the findings may not be applicable or transferable. There have been studies which explored several different disciplines, but there is a lack of a substantial number of studies that support any one specific discipline, as there is largely a scattering of studies in a wide variety of disciplines. There appears to be a lack of specific studies on education, and only a handful of peer-reviewed, high-quality studies even exist. The studies do support some common motivational factors, such as need for professional development and the potential to contribute to one's field of study, however additional targeted research is needed to better support current claims, especially in the area of education.

Theoretical Frameworks

There are several useful theories which would help support the examination of motivational factors for those pursuing doctoral degrees in education. One strong and time tested theory is self-determination theory (SDT) which has its foundation in work by Ryan and Deci (2000) and has been well studied for almost two decades. SDT examines the reasons and motivations that individuals use to support an improvement in their own personal situations. This theory uses both cultural and societal factors to support their work and is consistent with research on how and why individuals meet their personal needs. SDT can be viewed as a wide continuum of determination where one end is a person who is non-self-determined to the other extreme where one is fully self-determined. One important aspect of this theory is an exploration of the locus of motivation. This also has a continuum, in a similar fashion to above, and ranges from an amotivated individual to extrinsically motivation and finally to the far extreme of complete intrinsic motivation.

Ryan and Deci (2000) suggest that there are three innate psychological needs that must be met when exploring an individual's behavior and personal well-being. These three needs are competence, autonomy and relatedness and when optimized, they collectively can support positive growth in an individual. Competence, with respect to doctoral studies, is the achievement of the highest or terminal degree than an individual can earn and thus it is one of the clearest ways to demonstrate competence within a discipline. Autonomy needs are met when an individual believes that they have the ability and power to make choices; their own choices that can support their personal well-being. While doctoral work does not exist in isolation, the dissertation process can be one of the most independent activities in academia as well as in any professional endeavor. Successful doctoral students must be able to independently design and conduct a research study and this clearly indicates significant levels of autonomy. Relatedness has strong ties to autonomy given the nature of attainment of a doctoral degree. Students must

create and work collegially with a thesis committee who will support and offer guidance on their work. The faculty become professionally and often times personally involved with the student, and this supports strong relatedness.

A second useful theory which is applicable in this context is social cognitive career theory (SCCT) which was initially championed by Lent, Brown and Hackett (1994). SCCT is an application of Albert Bandura's (1989) work on social cognitive theory. Social cognitive theory highlights the importance of the social environment which exists in any type of personal interaction. In Bandura's view, social interactions influence and ultimately can support an individual's behaviors. SCCT builds on Bandura's work as it applies to how individuals exhibit personal agency in their career choice. Lent, Brown and Hackett (1994) explain that a child's exposure to potential careers can reinforce (if they have a positive experience) or deter (if the experience is negative). These reinforcers continue to build and accumulate as an individual explores the careers and engages in its related activities, which in turn supports the building of a strong self-efficacy. This theory helps shed light on how academic and career interests are originated, how they are constructed by educational choices, and how they are sustained and in turn then lead to career choice (Lent, Brown, & Hackett, 2000). For a doctoral student, while their childhood experiences may not be the leading factors, these early experiences likely contribute into discipline specific interests which originate at a young age. As the interests are explored and reinforced by parents, schooling or by peers, they serve as the foundation for early career choices. For the education-related disciplines, teaching motivations are formed, maintained and strengthened over time. The attainment of a terminal degree is perhaps the clearest demonstration of one's devotion to a discipline and individuals may utilize its potential to support career advancement.

Methodology

This pilot study aimed to answer the research question of "What are the strongest motivational factors for pursuit of a doctoral degree in education?" The study took place at a mid-sized doctoral granting university in the southeastern United States. This university had recently added a doctoral degree in education (PhD in curriculum and instruction) as a new edition to their graduate programs and maintained a healthy enrollment during the year of this study. The location of this university attracted a wide range of students in terms of age, experience in education, types of educational positions (e.g. teacher, department chair, principal) and socioeconomic status. Thus, the diverse participation pool provided a varied group of educational professionals which strengthened its transferability and application to other universities.

A 22-question quantitative survey with three qualitative open-response questions was developed and piloted prior to its use in this study. The questions were adaptations of the Survey on Doctoral Education by Golde and Dore (2001) with the primary aim to explore motivational factors for pursuit of a doctoral degree. The survey was simplified to be shorter and modified to primarily deal with questions related to motivation and interest in doctoral work in fields related to education. The questions were presented on a Likert scale with labels ranging from "not important at all" to "extremely important." Following the quantitative portion of the survey, three open-ended qualitative questions were offered to add additional depth. The main focus on these questions related to capturing motivation and commitment factors as well as detractors on their pursuit of the doctoral degree. Prior to its use in this study, the qualitative questions were pilot tested for clarity and comprehension with a small cohort of a different group of doctoral students, and thus we made some modifications using the feedback and guidance from the pilot

experiences.

The survey was given to two different cohorts of education doctoral students who were in their first and second years of doctoral study. The survey was provided online using the program surveymonkey and was sent by email from one faculty member to the entire group of 38 students. They were asked to complete the survey and were given two weeks to complete it. In total, 32 students completed all the parts of the survey and this served as the data. Demographic questions were also asked on the survey to sort the data, but it was otherwise anonymous. The data was downloaded and organized in an excel file to begin analysis. Descriptive statistics were calculated in excel where appropriate. Since most values were ordinal, counts of the different categories of scores were compared. The qualitative data were examined, and common themes were categorized.

Findings

The first set of questions offered participants the question of “why do I want a doctoral degree” and there were 11 different questions related to this. The number of participants that scored the prompt as “very important” and “extremely important” were summed and percentages calculated. The highest scored prompt was the “desire to help craft policy” with 63% of the participants scoring it “very important” or an “extremely important” reason. The next highest reason was a tie at 56 % scoring the prompt as “very important” and “extremely important” for “to advise undergraduate students” and “engage in opportunities for public service.” The two lowest scored prompts were “to teach graduate level college courses” and “conduct research” with 6% scoring the prompt as “very important” and “extremely important.”

The second set of questions provided students with prompts for reasons why they wanted to attain a doctoral degree. The two highest answer prompts were “to be a more informed educator” and “a doctoral degree will open more opportunities for employment” with scores of 94% of the participants scoring the prompts as “very important” or “extremely important.” The next highest scored reason was that they were “motivated to teach in higher education” with a score of 81% scoring the prompt as “very important” or “extremely important.” The lowest scored were “I am motivated by the achievement gap issue” as 63% scoring the prompt as “very important” or “extremely important” and “a doctoral degree provides me with credibility” with 65% scoring the prompt as “very important” or “extremely important.”

In the qualitative portion, the first prompt asked students “what factors have influenced your desire to attain a doctorate degree?” In these responses, there were 20 individuals who provided a narrative. The most commonly noted idea which was mentioned by six participants was the topic of improving education for others. Two representative comments were as follows:

I want to acquire additional knowledge and skills to impact curriculum and instruction to better support my students. Having a doctoral degree will help me gain new skills to make that happen in my current school.

my desire is to make a difference in the children that I serve. I teach in a school with many students who we are just not serving their needs and having the degree will hopefully give me more tools to help.

The next most frequently noted factor was provided by four students who explained that this was “a life-long goal” or “a personal dream I have always had.” Three participants explained that felt that their degree would give them a pay raise. One noted:

Teachers are paid so little in our country and I need to make the most of opportunities to increase my pay. Getting the PhD will give me a nice raise and that will reduce some of my stress of making ends meet.

Three other students explained that they had the desire “to move to other opportunities that the doctoral degree will offer me.”

The second question prompt asked individuals “what positive or contributory factors have supported their pursuit of a doctoral degree?” Twenty-one students provided a narrative response to the prompt. The most frequently mentioned comment given by five individuals was that individuals had family that encouraged them to pursue or continue the degree program.

Representative comments were:

I want them and other family members to recognize the importance of committing to life-long learning and they have in turn supported me.

My wife has supported me from the start. She talks me up when things are tough and encourages me along the way. I want to finish this for myself but also to follow through on something that my wife has supported.

Four individuals made some mention to peer and faculty as supportive in their journey. One student noted that “(student x) provided me with motivation to pursue this before I got here and now in the cohort with me... she pushes me to be my best.” Another mentioned “the faculty are so motivating and supportive in the program, this helps motivate me.” The final highly noted area was mentioned by three students who explained that they had completed one year of study and “this survival shows me that I can make it through the hard research part.”

The third question was the opposite of question two, here I asked “what factors have negatively impacted your ability or weakened your motivation to continue?” Eighteen individuals left a response to this prompt. The most frequent response was mentioned by ten participants was something related to the amount of time they needed to devote to the program. Many mentioned that this conflicted with family time and leisure time:

I have had to make some sacrifices that have affected my family (For instance, I will miss nearly all of my son's first season on his football team).

There have been times that the balance of work and coursework has been very challenging.

it is already hard enough to balance work (grading papers and planning) and family. Adding the workload of this program just compounds that. I feel I am always working on something and have little time for rest or time off.

The next frequent theme related to the cost of the program. Five individuals expressed stress and concern that the cost of the degree was a major issue. Many noted that they were relying on some type of financial aid, but that this program was putting a major strain on their resources. It is important to note that this university was a private one and thus the cost was significantly higher than other public doctoral programs in the state.

Four individuals noted that they intrinsically lacked self-confidence to get this done. One explained “I am not sure my background has me prepared to finish... I am not confident in my ability.” Another noted that “I am really worried when it comes time to write the dissertation. I am not a good writer and am not sure how I will get through that part of the program.” The others who mentioned lack of self-confidence also specifically noted the ability to conduct research, collect data and write up the dissertation was a concern and linked to a lack of confidence.

The qualitative questions positively triangulated with the quantitative survey. In addition, this data added clarity and context to supplement the survey data. The depth and care that students placed in their open-ended responses demonstrated that they had strong feelings and these prompts provided a means to collect this important information.

Conclusions

The quantitative portion of this study provides important information as to what some of the key motivating factors were to this group of students as they pursued their doctoral degree in education. The desire to help craft policy and to provide a service to the community were noted as two of the most compelling reasons that they decided to work toward their degree. This was an interesting finding as it is not an extrinsically motivated factor and was not necessarily anticipated based on both self-determination theory and social cognitive career theory when only examining the value to the student. However, this finding is consistent with the literature regarding motivations that individuals give for wanting to be a teacher. Teaching is a service profession that typically finds that many students enter it based on intrinsic motivation factors (Ashiedu & Scott-Ladd, 2012). Self-determination theory would suggest that factors related to competence, relatedness and autonomy would be important. The service component relates to the social element and is consistent with relatedness, however, value related to the other themes is not readily apparent.

The motivations for attaining the degree appeared to focus on the value and opportunities that the degree provides as well as the advancing of personal knowledge. These findings are consistent with some of the literature on motivation for doctoral work, but more importantly provides content for the specific discipline of education. The personal knowledge value suggests that there is an inherent value in gaining knowledge. Of course, as teachers, these individuals promote ideas such as this on a daily basis and thus it is not surprising to hear them praise the importance of knowledge. In terms of self-determination theory, we again are concerned with intrinsic motivations. Autonomy and competence are relevant to the intrinsic and personal nature for advancing one’s education as well as the practical growth in employment opportunities. Competence is harder to align as gaining the degree demonstrates competence, but the students were not necessarily highlighting the specific value of an external audience.

Social cognitive career theory is well supported in these findings. These teachers would have been around the profession for a long time and research confirms that many teachers have family members that have also been in the profession. Growing up in a household with a parent as a teacher would certainly have the potential to rub off on them. Not only would this provide great exposure but also possible enculturate one to the teaching (Skilbeck & Connell, 2004). The early experiences may contribute to their career choice and the study participants “now internal” desire for learning may support their continued work in their professions.

The qualitative portion of this study helps support the findings from the survey but also added to the context and provided much deeper explanations than were otherwise provided. One common theme in the study participants qualitative responses was a connection to the nature of

the discipline being one that provides opportunities to serve others. The service component was clear as students articulated the importance of learning as a value to their current and future students. Participants did provide some clear extrinsic reasons for the degree such as increased opportunities or even pay, but intrinsic values such as the quest for knowledge and fulfillment of a dream offer support to the self-determination theory. Social cognitive career theory is also reinforced as participants positive and supportive experiences with students, peers and even family all contributed to one's affinity in the profession. Some of the key detractors of motivation highlight important differences in the education degree. As noted, the financial burden in education is higher than other disciplines and this was consistent with this group of students. Proving opportunities for education scholars to have increased access to fellowships and grants which do not have to be paid back might go along way with supporting their pursuit for advanced degrees.

Evidence supports the perspective that those pursuing doctoral degrees in education encounter some barriers which make this pursuit to be more of a challenge. However, the careful examination of the motivations as well as those factors that deter students, is important as one avenue to support them. This could lead to the construction of programs which are better catered for their interest and motivation. In this study, the motivating factors such as advancing educational opportunities and being a servant to those needing educational support could lead to the development of doctoral programs which focus on service or other similar areas of inquiry. More importantly, this study adds to the little research on what leads one to pursue these programs.

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Advising graduate adult learners at Historically Black College and Universities: An exploratory study of faculty advisors' experiences

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Abstract

The aim of this qualitative research study was to explore faculty advisors' lived experiences in advising graduate adult learners at Historically Black Colleges and Universities (HBCUs). The extant body of literature does not adequately examine the experiences of faculty who serve as graduate academic advisors and does little to address the unique issues, challenges, and barriers faced by graduate adult learners. Furthermore, there is nothing in the literature that addresses academic advising of graduate adult learners within the HBCUs context. This exploratory study addressed this gap in the academic advising literature. Using purposive sampling, 10 faculty members were recruited from four public HBCUs to explore their experiences as academic advisors to graduate adult learners. Using a multi-step coding process, the following themes emerged: (a) individual and group interaction; (b) virtual advising, and (c) time constraints. The findings of this study can increase understanding of faculty's experiences in the advisor/advisee relationship with graduate adult learners, provide some contextual understanding of academic advising of graduate adult learners at HBCU, and provide an impetus for further research in this area.

Keywords: Graduate Adult Learners, Graduate Faculty Advisors, HBCUs, Virtual Advising

Introduction

With increasing numbers of adult learners pursuing undergraduate and graduate education, universities are challenged to ensure students' retention and successful matriculation. Academic advising has been identified as a significant contributor to students' retention and academic success (Bigger, 2005; Cuseo, n.d; Drake, 2011; Metzner, 1989). Therefore, undergraduate institutions have developed a myriad of tools and systems to assist traditional students in fostering their academic success. Parallel mechanisms have not been fully articulated for the adult learners or graduate adult learners outside of the realm of dissertation/thesis advisors. Few scholars have explored the experiences of graduate adult learners with regard to academic advising in higher education (Bland, 2003; Polson, 1994, 2003; Schroeder & Terras, 2015) and how adults successfully complete their graduate studies (Shepard & Nelson, 2012). The literature about faculty roles as advisors for graduate students is also sparse. Additionally, very few studies (Punyanunt-Carter & Wrench, 2008; Schroeder & Terras, 2015) have expounded on faculty perceptions of advising graduate adult learners. Notwithstanding, the corpus of existing literature highlights the importance of academic advising for graduate adult learners in light of the multiple roles that these students juggle and the barriers inherent in adult learners' pursuit of higher education (Cross 1991). Further, even as the importance of faculty's role as academic advisors has been acknowledged, the challenges of faculty advising in academic environments that does little

to prepare faculty for advising or reward effective advising are discussed.

While the above literature shed some light on the importance of academic advising and the context of advising graduate adult learners, the aforementioned literature placed emphasis on the role of faculty in academic advising within the context of Predominantly White Institution (PWIs) and rarely within the context of Historically Black Colleges and Universities (HBCUs). Shaw, Cole, Harris, and Laird (2011) found that HBCUs, when compared to PWIs have a variety of approaches to support students who are experiencing difficulty within their academic performance. HBCUs faculty place emphasis on student support and provide ample opportunities for quality faculty student interactions that has had support in the literature in fostering academic success for minority students (US Department of Education, 2017). Therefore, this qualitative research study explored faculty advisors' lived experiences in advising graduate adult learners at HBCUs. Studies like Schroeder and Terras' (2015), highlighted the need for specific skill development for dedicated advisors for graduate adult learners. However, Cunningham (2015) suggested that "advisors themselves will need to provide meaningful definition, and the definition will not be a job description or a description of the advising process, but instead will detail *what advising is*" (para 4, emphasis in original).

Literature Review

Academic advising has a long history in literature that sought to define, operationalize, and professionalize the advising process (e.g. Crookston, 1972; He & Hutson, 2016). The National Academic Advising Association (NACADA) concept of advising stated

Academic advising, based in the teaching and learning mission of higher education, is a series of intentional interactions with a curriculum, a pedagogy, and a set of student learning outcomes. Academic advising synthesizes and contextualizes students' educational experiences within the frameworks of their aspirations, abilities and lives to extend learning beyond campus boundaries and timeframes. (NACADA, 2006, Summary section)

Recent literature highlighted major academic approaches that were differentiated based on "information, intervention, student holistic development, student learning outcomes, and strength and asset building" (He & Hutson, 2016, p. 215). The major academic advising approaches include prescriptive, developmental, advising as teaching and learning, strengths based, intrusive, and appreciative advising (He & Hutson, 2016). Prescriptive academic advising places the advisor in the expert role whereby he/she has all the requisite information and answers that the advisee would need to facilitate successful academic matriculation (He & Hutson, 2016). The advisee assumes a passive role as an information seeker accepting the expertise of the advisor. Conversely, critics of the prescriptive model advanced the developmental academic advising perspective whereby both the advisor and advisee have a shared responsibility for successful advising. Developmental advising is grounded in the establishment of a mutually respectful advisor/advisee relationship in which the advisee actively participates in the development of his/her advising plan (Crookston, 1994; Grites & Gordon, 2000; Harris, 2018). While these two approaches may be placed on the opposite ends of an academic advising continuum, more recent approaches offer alternate descriptions of advising.

Advising as teaching and learning, strengths based advising, and appreciative advising models focus not only on the context of advising, but also on the overall outcome and processes. Advising as teaching and learning relies largely on ensuring that student learning outcomes are realized while strengths based and appreciative advising emphasize advisee's strengths and asset

building (He & Hutson, 2016). Intrusive advising is a more direct intervention-based model in which the advisors actively inserts themselves into advisees academic lives by identifying at risk areas and providing remediation and other interventions.

In the conceptualization of advising, due consideration must be given to not only the advising models, but also to the advising process, content, and impact. The advising process encompasses the level and type of relationship that is established within the confines of advising (He & Hutson, 2017). Faculty, as advisors, are expected to have the requisite knowledge of program curriculum, policies, and processes in order to provide accurate and timely academic content. Studies such as Drake (2011) support quality advising as an integral component for academic success.

While there is a comprehensive body of literature on academic advising, the existing body of literature on advising does not adequately examine the experiences of faculty who serve as graduate academic advisors while considering the unique issues, challenges, and barriers faced by graduate adult learners. Furthermore, there is nothing in the literature that addresses academic advising of graduate adult learners within the HBCU context. Nonetheless, it is imperative for the terms *faculty advisor* and *graduate adult learner* to be situated purposefully in the context for the understanding of this research study. First, a faculty advisor is someone who is “assigned by the department or program to act in an official capacity in such ways as discussion and approving course work or signing registration forms” (Nettles & Millett, 2006, p. 265). In particular, the *advising* involves “engaging students to think critically about their academic choices and make effective plans for their educations” (Schulenberg & Lindhorst, 2008, p. 43). For example, faculty advisors assist students in registering for classes, help with students planning their course of study, conduct formative assessments of students’ progress, and guide students as they matriculate through their graduate studies. Kuhn (2008) provided a similar context for advising by using the terms academic advising and academic advisors. *Academic advising* is defined as the engagement of students to advance their educational experiences, and the individuals involved in this interaction with students are referred to as *academic advisors* (Kuhn, 2008). Specifically, he argued that “academic advising should refer to situations in which an institutional representative gives insight or direction to a college student about an academic, social, or personal matter” (Kuhn, 2008, p. 3). More recently, following an analytic induction research method with academic advisors, Larson (2018) coined the definition of academic advising as an application of knowledge of the field “to empower students and campus and community members to successfully navigate academic interactions related to higher education” (p. 86).

Within the context of higher education, adult learners are typically defined as being aged twenty-five and older, who are participating in formal education within a postsecondary educational setting (Sandmann, 2010). For this study, adult learners were defined as being aged 25 and older, who were participating in graduate studies. Few scholars have explored the experiences of graduate adult learners with regard to academic advising in higher education (Bland, 2003; Polson, 1994, 2003; Schroeder & Terras, 2015), the nature and function of support systems for the graduate adult learner (Roberts & Plakhotnik, 2009), and how adults successfully complete their graduate studies (Shepard & Nelson, 2012). Polson (2003) emphasized the importance of support because often graduate adult learners have to negotiate their multiple roles while pursuing their advanced degrees. Cross (1991) offered an explanation for barriers to participation in adult education and identified three types of barriers: situational, institutional and dispositional. Situational barriers, such as role conflicts, time management issues, responsibility to family and work, financial wellness, and logistics, are “those arising from one’s situation in life

at a given time” (Cross, 1991, p. 98). Like adult learners in various educational settings, graduate adult learners arrive at the university with a “palette of life experiences” which are “colored with older age, full-time employment, and the roles of spouse and parent” (Fairchild, 2003, p. 11). Furthermore, situational barriers cannot be removed by the institution as they are specific to the individual graduate adult learner. Institutional barriers include those policies and procedures that impact recruitment and retention; whilst dispositional barriers refer to adult learners’ self-perception (Cross, 1991). Although Cross’ explanations may be considered dated, they remain relevant to today’s adult learners. Therefore, graduate adult learners facing such barriers need support services to assist them while they pursue their degrees and may rely heavily on the assistance and guidance from their faculty advisor.

Consistent and quality advising is clearly documented in the literature as integral to students’ success (Bigger, 2005; Drake, 2011); however, the experiences of the faculty advisors’ have not been afforded the same level of scrutiny. Dillon and Fisher’s (2000) examination of faculty advisors’ perspectives on faculty advising suggested that while faculty is in agreement of the importance of quality advising, advising was often seen as an extra, time consuming, and undervalued responsibility. The time and effort that faculty expended on advising had little or no bearing on faculty member’s success in academia, using the traditional tenure and promotion system. Barnes and Austin (2009) also echoed this as they discussed that faculty reward systems, especially in high research universities, did not recognize teaching and advising as highly as research. Therefore, systems that do not reward faculty’s advising can negatively impact the amount of time and effort faculty allocates to advising. More recent discussions, like the work presented by Schroeder and Terras (2015), supported the inclusion of advising in the tenure process. Further, faculty’s interest in advising, the requisite curricula and academic policy knowledge, and the absence of training for faculty advisors also affect the advising process (Dillon & Fisher, 2000). Additionally, Barnes and Austin (2009) stated, “The level of attention given to advising in the array of faculty work responsibilities is probably one reason why advising in graduate education has been labeled problematic” (p. 300).

Notwithstanding those challenges, effective advising by competent faculty advisors remains critically important to graduate adult learners. Schroeder and Terras (2015) concluded that “all adult graduate students require quality, holistic advising to meet educational goals” (p. 48). Edwards (2007) asserted that quality advising does not occur in the absence of a connection to the advisor’s personality, skill, passion, interest, and knowledge. In agreement with the authors aforementioned in this paragraph, it is essential for the faculty advisors to support graduate adult learners as this is a significant component for retention, graduation rates, and post-graduation placement.

Barnes and Austin (2009) identified key faculty advisors’ perceived responsibilities, advisors’ functions, and characteristics of the advisor/advisee relationship in graduate doctoral students advising. Key responsibilities and functions of successful advisors included helping advisees: to be successful, to develop as researchers, and to develop as professionals while the advisors engaged in collaborating, mentoring, advocating, and chastising. Further, the advisor/advisee relationship was defined by the following characteristics: friendly/professional, collegial, supportive/caring, accessible, and honest (Barnes & Austin, 2009). More recently, while affirming the importance of the advisor/advisee’s relationship to the graduate student’s success Offstein, Larson, McNeil, and Hasten (2014) identified “accessibility/availability, personal interest, trustworthiness, a mentoring attitude, communication of program expectation, and guidance in focusing, developing, and goal setting” as ideal characteristics of graduate

advisors (p. 403).

HBCU Context

To appropriately situate the context for this paper, it is imperative that we provide some background information about Historically Black Colleges and Universities (HBCUs). Specifically, HBCUs were established with the commitment to support the educational needs of Black Americans. It is important to note that although HBCUs were originally founded to support the educational needs of Black Americans, they have historically enrolled racially diverse students (Hill, 1985). Before the establishment of HBCUs, Black Americans were commonly denied admission to college and an outgrowth of this discriminatory practice was HBCUs becoming the major vehicle for providing higher education to Black Americans (Means & Jaeger, 2013). Founded in 1837 in Cheyney, Pennsylvania, The Institute for Colored Youth was the first higher education institution for Black Americans. Today we know this institution to as Cheyney University of Pennsylvania, which has an enrollment of approximately 1,000 students and offers 18 academic programs at the undergraduate level and three academic programs at the graduate level (Cheyney University, 2017). According to the US Department of Education (2017), there were 105 HBCUs located in 19 states, Washington, DC, and the US Virgin Islands. Approximately 40 HBCUs offer graduate programs at the master's and doctoral levels. For example, Table 1 below provides a list of the HBCUs that offer doctoral degrees.

Table 1

Historically Black Colleges and Universities that Offer Doctoral Degrees

| | | |
|----------------------------------|--|---|
| Alabama A&M University | Howard University | South Carolina State University |
| Albany State University | Jackson State University | Southern University and A&M College |
| Bowie State University | Langston University | Tennessee State University |
| Clark Atlanta University | Meharry Medical College | Texas Southern University |
| Fayetteville State University | Morehouse School of Medicine | Tuskegee University |
| Florida A&M University | Morgan State University | University of Maryland Eastern Shore |
| Grambling State University | North Carolina A&T State University | Xavier University of Louisiana |
| Hampton University | Prairie View A&M University | |

With consideration to academic advising, the context of a HBCU allows for opportunities wherein Black students can engage with faculty and staff who are racially diverse, but largely Black. A study by Shaw, Cole, Harris, and Laird (2011) shed light on faculty-student relationships at HBCUs. Among the findings, Shaw et al. (2011) found that HBCUs, when compared to PWIs, have a variety of approaches to support students who are experiencing difficulty with in their academic performance. Historically, HBCUs faculty place emphasis on student support and provide ample opportunities for quality faculty student interactions that continues to have support in the literature in fostering academic success for minority students (US Department of Education, 2017). This example illuminates the nurturing culture that exist among student-faculty relationships within HBCUs and why the developmental academic advising approach is most complementary to HBCUs. Harris (2018) conducted a study within the context of a HBCU and

not only found that developmental advising was the most prevalent advising method used for advising undergraduates, but also that students were satisfied with the developmental approach.

Conceptual Framework

Developmental academic advising is widely accepted in the literature and made its entrance on the advising scene over three decades ago with a shift from the more prescriptive approach to advising. Prescriptive advising places advisors in the expert role and students in a more passive/receiver role, whereas developmental advising places students in a more active role. With the seminal publication by Crookston in the 1970's, the term developmental academic advising was coined (King, 2005). Crookston described developmental academic advising as one in which the advising relationship rests on values and beliefs whereby both the advisor and student learn from the process (Crookston, 1994). With roots in student development, developmental academic advising recognizes the importance of students' developmental level and embraces a holistic approach to advising. This translates into advising being more than a function of class selection, but one in which students' have an opportunity to look at career and life choices, while due consideration is given to advisee's current developmental state and other contextual factors. Over two decades ago, Miller and Albert (1994) asserted that, "If students are to succeed in college and in life, the principles of developmental advising must be considered essential to all phases of the institution" (p. 45). This sentiment continues to resound in current literature where the tenets of developmental academic advising are widely accepted. Since the latter part of the 1970's National Academic Advising Association (NACADA) has been a strong proponent of developmental academic advising. Developmental academic advising factors such as advisors' establishing rapport and demonstrating care for and support of the student were deemed as important for the advising process (Mottarella, Fritzsche, & Cerabino, 2004). Students viewed the developmental academic advising approach more favorably than other advising approaches (Mottarella et al., 2004).

Likewise developmental academic advising has been espoused in the literature for graduate learners, as this comprehensive advising approach moves beyond the mere selection of courses and adherence to academic regulations (Bland, 2003; Punyanunt-Carter & Wrench, 2008). Developmental advising focuses on the whole person (Grites & Gordon, 2000) and is grounded in forging an advisee/advisor relationship that recognizes and is responsive to the unique needs of graduate adult learners (Bland, 2003). The graduate advisor is essential to the success of graduate students. Punyanunt-Carter and Wrench (2008) concluded that, "All in all, the graduate advisor can influence the advisee's perception of graduate school, learning, progress, and possibly future success" (p. 581). With this in mind, Schroeder and Terras (2015) identified five characteristics of good graduate student advising: students need good advising to guide them through their program; students trust the process of advising through their experiences with advisors; good advisors see students as individuals and provide individualized advising; good advisors believe good advising is imperative for student success; good advisors are readily available and immediate in response such that advising is timely.

Methodology

This phenomenological qualitative study is guided by the following research question: *What are the lived experiences of faculty advisors of graduate adult learners at HBCUs?* A phenomenological approach was most appropriate for this study as we assumed "*there is an essence or essences to shared experience*" and "*these essences are the core meanings mutually understood through a phenomenon commonly experienced*" by HBCU graduate-level faculty

(Patton, 2015, pp. 116-117, emphasis in the original)

Participants

Using purposive sampling, faculty was recruited from private and public HBCU based on (a) faculty rank, (b) employment status, (c) field of study (restricted to educational social sciences—education, counseling, psychology), and (d) institutional affiliation. Recruitment efforts involved searching various institutional university websites to obtain the email addresses of graduate-level faculty teaching in educational social sciences. From there, an email invitation was sent to the faculty as we solicited their participation for this study. Ten faculty members from four public HBCUs participated in the study. Participants received a \$20 gift card at the completion of the data collection process. For the purposes of this article, the demographics for eight of the participants are shown in Table 2.

Table 2
Research Study Participants' Demographics

| Pseudonym | Professional Field | Number of Advisees | Race | Gender | Age |
|-----------|------------------------------|--------------------|------|--------|-----|
| Kenya | Counselor Education | 15 | B | F | 38 |
| Bethany | Special Education | 25 | W | F | 57 |
| Gail | Adult Education | 8 | B | F | 66 |
| Jerry | Urban Education | 20 | W | M | 56 |
| Catherine | Counselor Education | 10 | B | F | 35 |
| Thomas | Counselor Education | 20 | B | M | 42 |
| Regina | Urban Education | 24 | B | F | 49 |
| Megan | Community College Leadership | 15 | W | F | 69 |

Data Collection, Management, and Analysis

Each participant completed a preliminary survey, an individual interview, and a critical incident questionnaire. The individual interviews were guided by open-ended questions and each interview lasted between 20-40 minutes. Focus group interviews were also guided by open-ended questions and conducted with participants with the same institutional affiliations in the efforts to elicit additional data that otherwise may not be contributed within the individual data collection sessions.

To assist in the management of the data collected, each recorded interview and focus group interviews was transcribed, and each participant was labeled with a pseudonym to ensure anonymity. A systematic inductive approach to analyzing the data was used. Memos, transcripts, and responses from the critical incident questionnaires were coded using a multi-step coding process (Alston, 2014, 2016) that included (a) Initial coding, (b) Process coding, and (c) Values coding (Saldaña, 2016).

Lastly, in efforts to achieve trustworthiness by minimizing threats to credibility, transferability, dependability, and confirmability the strategies of reflexivity, maximum variation, and triangulation were incorporated to ensure that the research was carried out with integrity and represent our ethical stance as researchers (Merriam & Tisdell, 2015).

Limitations

Limitations are potential issues that may influence the results of a study (Patton, 2015). One limitation of this study was that we intentionally sought graduate faculty who also served as academic advisors, and who were exclusively affiliated with an HBCU. While this intentional commonality was present in this study, a second limitation was that the participants were not all affiliated with the same HBCU or the same field of study. Therefore, the data captured from the participants may be unique to the participants' institution and or field of study.

Findings

In this section, we present the findings associated with the ways that participants described their experiences advising graduate adult learners. The following themes emerged: (a) individual and group interaction with advisees, (b) virtual advising, and (c) time constraints. Additionally, professional development emerged as a noteworthy category.

Individual and Group Interactions

The participants were very open about describing the typical interactions while advising adult learners. For example, when asked about her approach, Kenya explained how she ascribed to an individualistic approach when advising graduate adult learners:

You definitely have to scaffold and differentiate based on needs, but I also take a person centered approach to each student and like I said earlier I listen to what their needs are and try to accommodate their needs as best as possible. So, it's a little bit of differentiate orientation as well as person centered or individualistic approach to advising.

Similarly, Thomas offered a rationale for him ascribing to an individualistic approach when advising his doctoral advisees. For instance, he shared:

For the doctoral students, their advising comes in developmental stages. So initially they have to deal with the transition from whatever they thought school to be to whatever it is now. The doctoral program tends to shock them in that first year and realizing the level of sacrifices that is necessary to complete a doctoral program is the gist of my advising.

From a different perspective the participants also described how group interactions can supplement the individualistic approach to advising graduate adult learners. Regina describes interactions with dissertators as follows:

Right after graduation, I went right into doctoral education, most of my advising is around the dissertation, the interactions are typically one on one, here I formed a dissertation group, we have so many students, so I do have some group interactions as well, but most interactions are one on one... since I have so many doctoral students, I have a Blackboard shell for my doctoral group, I can collect their information in one place.

Virtual Advising

Incorporating virtual technologies for engaging learners in higher education is currently a hot topic. Therefore, we were interested in the participants' perspectives on virtual academic advising. The majority of the participants were in support of virtual academic advising. Megan was a faculty member in a 100% online graduate program. Therefore, virtual advising was her primary method for engagement. She shared the following perspective relative to accommodating the complexities of commuter and distance adult learners:

I think it works just as well, if they have to come in physically, they have to park, they have

to get through the traffic. I have students who travel from Washington, DC and there are parts of the day where it's impossible to get anywhere on time. So, the virtual is really great. It's the wave of the future, we need to be doing this! I think anybody who is not doing this is not going to have many students in the future. The thing that's really important is you can offer students both. We have students that are right down the street but they're online because it's convenient for them. When it comes to certain things, a tough assignment, something going wrong, they can come here. If you're in Arkansas, North Carolina or Florida you can't come on campus I can talk to you anytime. On Sundays, anytime I'm available. The virtual thing is a great idea and since I've been doing it technology has gotten much better. Think about what you can do on your cell phone!

In the case of Bethany, she did not think it should be the initial mode of engagement, and she explained:

Well, I've done it. I think its best when I've already met the student face to face in my office at some point, because, then we already have a little bit of a relationship. It's not (inaudible), the students really prefer it in a lot of instances, if they live at a distance, and I mentioned to you the other advisees I will be taking on, that's a statewide program and it also included some students from Georgia. I'm going to be doing virtual advising. I'm just, that's just how it's going to be, but their whole program is virtual except for a couple of classes, they're used to it. I'll be used to it, you know, we're good so, and it really is, it's much more convenient for everybody.

In a similar manner, Thomas mentioned:

I am okay with virtual advising as long as it's not the primary method of advising. I tend to use virtual advising methods when I am out of town or my students are out of town. I don't want my students to ever feel like they are bothering me or that there isn't a time when we can't talk. Typically, students won't over step the boundaries most students tend to stay within that. So, I am okay with that and know how to even keep that level of contact at bay.

By the same token Catherine first year assistant professor, was excited about the idea of virtual advising. She exclaimed,

I wouldn't mind being on a camera and advising someone via some sort of video thing! I suppose that just an audio would work, the idea of being able to see that person myself, I think that that would work, the interaction through video or virtual I think is going to be what you make of it, that might be a little more difficult if your technology fails or something like that. As long as you are prepared I think that you can do the same things that you can do face to face that you could do in virtual.

Conversely, two participants were not interested in virtual advising. For example, Jerry preferred face-to-face meetings with his advisees and he stated:

Face to face is my preferred way of advising. For me to have enough time to look at what they sent me and have comments and not provide them with the comments, but to narrate and talk through and engage with them and let them try to find the problems themselves instead of me giving it to them, the other is virtual, like the student I haven't heard from in a year, he lives in southern Mississippi, he does not come up typically, and I haven't really worked out long distance advising in a satisfactory way. I don't even have a camera on this machine, it's possible that skype would do it, I haven't tried it, maybe it's partly

laziness... skyping might be a way to substitute for the face to face.

Time Constraints

All the participants repeatedly mentioned that time (or the lack thereof) was a significant challenge for them while advising graduate adult learners. With regard to time and the delicate balancing act of teaching and advising and being a researcher, Regina commented:

It's a doctoral research university, aspiring to be research high, the focus is on research and so doctoral advising takes a lot of time, so time that's the biggest challenge... I have really great colleagues and if they're not taking time with the students then it's probably because of the time, I really you need to (inaudible) if its taking up 60% of my time, I need to account for that 60%, I want here to be some sort of even handedness with the way its treated, if you're in a place where there's a big undergraduate focus, people should figure out how to understand how graduate advising differs and the time it takes.

Like Regina, Kenya spoke about the institutional limitations and barriers that present time constraints as relative to advising graduate adult learners. She expressed:

I think there might be some internal, university internal limitations for example umm... as far as course registration, prerequisites, not being able to register, time constraints things like that, that are internal structures of the university that make academic advising difficult students not being able to register for classes because the system is down, or the prerequisite's in the system are incorrect. You already kind of have been given the guidelines on how to do that you then you know have to double your work, or double your effort those things can be challenging and time consuming I can say.

Lastly, Catherine reported that time was the biggest challenge for as an academic advisor. She specifically explained:

Timing is sometimes a challenge, to be able to squeeze in the academic advising. I say squeeze it in because there's always something that happens that changes. For example, the schedule might not be the most current schedule when they register for the classes so that can make it challenging to provide accurate information.

Professional Development

Although professional development did not emerge as a theme, we believe it was a significant category and necessary to mention in this section. The participants all stated that they have never been trained or participated in any professional development workshops on how to be a faculty advisor for graduate adult learners. Two quotes were quite interesting as they illuminate the lack of professional development opportunities for faculty to enhance their advising practices. Kenya pointed out that even though her background as a school counselor helped her as an academic advisor, she believed “it would not have been as seamless” if she was not a school counselor. She continued:

I think the one thing I would like to add is that I do agree that the professional development [for academic advising graduate students] from a university wide effort would be a very important part of becoming a faculty member. Potentially, it could occur at the orientation phase so that they [faculty] come in with some entry level knowledge that will help them get started.

With regard to virtual advising and professional development, Gail bragged on the

technological support and infrastructure within her institution: “We have a number one technology campus, they do an excellent job with professional development, I take advantage of all the technology, that’s my accountability piece.”

Discussion

The findings show how these HBCU faculty advisors are committed to the development of their graduate adult learners. The qualitative focus on the experiences in this study show that these faculty advisors accommodate their graduate adult learners by being available whether via individual, group, or virtual interactions and this is consistent with the prescribed five characteristics of good graduate student advising according to Schroeder and Terras (2015). In addition, while the findings concur with Bland (2003) and Punyanunt-Carter and Wrench (2008), we argue the developmental advising approach is innately included in the *nurturing culture* that has traditionally existed within HBCUs. For instance, Heider (2016) stated that “the historical mission of HBCUs to nurture and educate marginalized and disenfranchised populations remains essential and especially relevant today” (p. 85). The findings of this study are congruent with Harris’s (2018) study in that similar to the undergraduate level, developmental advising approach is also appropriate for graduate adult learners at HBCUs. With this in mind, we believe this study highlights the nurturing or development approaches of the faculty advisors of graduate adult learners at HBCUs.

In addition, the faculty members acknowledged that as academic advisors, they function in a highly technologically advanced space and agree that virtual advising is advantageous. Even the two faculty advisors who were reluctant to incorporate virtual technologies within their practices of advising recognize the significant assistance provided by technology. For many tenure-track faculty members, time is a constant challenge while attempting to balance the multiple roles and responsibilities of being an academic advisor, instructor, researcher, service committee member, administrator, and not to mention life outside of the institution (e.g. parent, spouse, partner, caregiver).

Implications for Practice and Research

While findings from this small, non-random, context-specific sample cannot be applied to all advising practices, they may provide insight in continuing to explore and understand the nature of academically advising graduate adult learners. Furthermore, although the emergent themes that originated from this study of advising graduate adult learners are within the context of HBCUs, they may certainly have transferability to other institutions of higher education. There is undeniable support in the literature for quality advising for graduate adult learners therefore universities need to pay particular attention to not only graduate adult learners advising needs, but also the concomitant experiences and needs of the graduate faculty advisors. Implications for practice include the articulation of a recommended graduate faculty advisor to graduate advisee ratio; development of university policy for graduate advising to include its inclusion and weight in tenure and promotion policies; development of training modules for faculty; and the exploration of virtual advising as a viable primary or at least supplemental advising modality.

While there is an absence of information in the reviewed literature that prescribes a specific advisee load for faculty advisors, the advising load for each participant in this study were high for graduate faculty and the findings suggest that the high numbers of advisees posed several challenges to the advising process. Though, Dillon and Fisher (2000) discussed faculty’s perception that advising load should be considered for tenure and promotion, a recommended faculty advisor to graduate advisee ratio was not articulated. Parallel mechanisms for graduate

level advising need to be brought to the forefront to address the graduate adult learner's unique challenges and opportunities. The mechanisms should include, but are certainly not limited to, structures for advising and training modules for faculty.

There is a growing recognition of the importance of technology in higher education which should extend more fully into best practices in advising. Virtual advising can serve to augment existing structures and create additional opportunities for adult graduate learners who may not be able to or choose to access traditional advising modality. As noted in the findings, faculty's use of virtual advising may be largely dependent on their perceived competence in this modality. This of course extends the discussion about relevant training and materials to ensure that this process is not only viable but also effective.

The findings from this study suggest that there is a need for more detailed and comprehensive exploration in a number of areas to include: advising graduate learners, advising at HBCUs; and graduate faculty advisors experiences in advising. Specifically, we recommend the following scholarly efforts to further address the gap in the literature on advising graduate adult learners: (1) a comparative analysis of graduate advisees and faculty's perspective of effective advising; (2) exploring graduate faculty advisors' experiences at other minority serving institutions; and (3) quantitative exploration of faculty's and student's perception of advising experiences.

Conclusion

Academic advising in higher education has been shown to be a significant factor for the successful retention and persistence of undergraduate and graduate students. Generally, academic advising involves a process that involves continuous and intentional interactions guided by curriculum, pedagogical and andragogical approaches to engagement, and student learning outcomes. Research has shown that developmental advising is an effective approach because it focuses on the whole person. With specific regard to advising graduate adult learners, this approach extends beyond helping graduate adult learners understand curriculum and institutional regulations and is more responsive to their unique needs as graduate adult learners. While much literature exist on developmental advising and undergraduate students, not much has been explored as relative to faculty advising graduate adult learners at historically Black colleges and universities. It is hoped that the findings from this study will extend the conversation and expand the understanding of faculty's experiences in the advisor/advisee relationship with graduate adult learners. In addition, we hope this article offers additional contextual understanding of academic advising of graduate adult learners at HBCU and encourage future scholarly exploration in this area.

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Greater Differentiation of Instruction and Mastery of Learning for Student Teachers by Utilizing the True Colors™ Model

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Abstract

The purpose of this non-experimental descriptive study was to provide student teachers with the knowledge and tools to self-assess their personality and learning styles and to utilize this knowledge to differentiate instruction to match the students' learning preferences in their field classrooms. A personality self-assessment commenced with the completion of the True Colors™ questionnaire. The assessment yielded a personality color spectrum. Following this, the student teachers attended three True Colors™ training sessions. The student teachers incorporated their training into their field classrooms as a means of differentiating the instruction. The student teachers expressed that their students benefitted from the tailored instruction, which they had received. The personality self-assessment informed the student teachers of their learning and teaching preferences, and this knowledge fostered an openness in the student teachers to include teaching strategies beyond their learning preferences. The student teachers became more student-centered and supportive of their students' learning styles.

Keywords: Differentiated Instruction, Learning Styles, Personality Styles, Student-centered Instruction, Teachers' Instructional Preferences, True Colors™, Inc.

Introduction

Educators are challenged with instructing all students in diversified ways that maximize their engagement and achievement. DeJesus (2012) credited the Individuals with Disabilities Act of 1997 as an energizing factor for inclusive instruction throughout the 1990s. The act added momentum to the quest for diversification of instruction for all learners.

Yenmez and Özpınar (2017) asserted that the classroom is a social environment in which individuals perceive and interpret the world in unique ways. How an individual actively constructs schema is highly personal and based on the individual's readiness for learning, interpreting, and understanding. Implementing ineffective instructional strategies have less than optimal consequences for the learners. Heacox (2002) recognized that when students experience success in learning they break the cycle of failure. Teachers are challenged with finding the most effective means of instruction to support students' successes. Yenmez and Özpınar (2017) affirmed that applying a differentiated instructional approach matches the ideological perspective of a constructivist approach to education. A constructivist approach is well-aligned with developmentally appropriate practices and well-established theorists such as Piaget and Vygotsky. Differentiated instruction, provides opportunities to engage all learners and thwarts the problem of disengaged, poorly-motivated students (Morgan, 2013). Differentiation is most appropriate when it includes: a) varied instructional designs with students' choices, (b) relevant

and essential learning, c) flexible and responsive instruction, and d) complex and deep curriculum (Heacox, 2002).

A one-size fits all approach for educating students is deficient in addressing the diversity among students and may leave students' learning needs unmet (Tomlinson & Imbeau, 2011). Joseph, Thomas, Simonette, and Ramscook, (2013) asserted "When differentiation is based on learning profiles, students are provided with opportunities to learn in ways that are natural and efficient" (p. 29).

Historical Background

Research has indicated that different personality types and learning channels exist and these may be correlated with greater academic achievement. Several studies have specifically addressed the link between students' cognitive ability/personality traits and the same students' performance in their college studies (Dyer, 1987; Clark & Riley, 2001; and O'Brien, Bernold & Akroyd, 1998). Since the work of Carl Jung (1921), various researchers have sought to apply his four dimensions of temperaments into active classroom learning channels. Purposefully matching students' personalities/ temperaments with teaching and learning strategies seeks to improve students' academic performances. The True Colors™ personality assessment model developed by Don Lowry (1978), offered opportunities to correlate the work of Jung, Myers and Briggs, and others to find ways of differentiating instruction in the classroom.

As the founder of the corporation, True Colors, Inc, Don Lowry (1978) believed his work possessed a strong conceptual tie with the Myers-Briggs Type Indicator (1975-77) and the work of Carl Jung (1921, 1927). Myers-Briggs utilized a questionnaire to determine 16 personality types comprised of various combinations of perception and judgment that are associated with an introverted or extroverted orientation with varying levels of sensing, feeling, intuiting, and judging ("MBTI® Basics", 2003, 2014). Lowry was influenced twentieth century psychologists such as Kiersey (1978) who recognized various attributes associated with individual personalities and made connections between Myers-Briggs and Jung. This ignited Lowry's vision of the True Colors™ Model and he drew the impetus for four personality types into a color metaphor of orange, gold, blue, and green. Lowry's conclusions resulted in the True Colors™ personality style questionnaire as a valid and reliable measure of the academic proclivities and personality styles and a tool for guiding educators in to identify various personality learning preferences. Addressing the students' personalities and preferred learning styles is a means to improve student motivation, engagement, and achievement (Bhat, 2014; Joseph et al., 2013).

Delineated within the True Colors™ Model are: (a) unique characteristics that explore the motivations and interpretations that each color attributes to the personality, and (b) interpretation and reception of instructional strategies that best complement personalities and learning preferences. Personality core values and needs are aligned with each color within the True Colors™ spectrum and these reflect learning and assessment preferences. Table 1 provides a summary of the colors aligned with these attributes.

Table 1
True Colors™ Values, Needs, Attributes and Preferred Learning and Assessments Summary

| True Colors™ | Core Values, Needs, Attributes | Preferred Learning and Assessments |
|---------------------|--|--|
| Orange | freedom, creativity, spontaneity | active, hands-on activities, independent projects, multiple-choice testing |
| Gold | duty, responsibility, planning, predictable routines, structure | rules, standards, accurate directions, lecture formats, frequent quizzes |
| Blue | relationships, harmony, caretaking, loyal | interactions, collaborations, non-competitive assessments, essays |
| Green | independence, intellectual-competence, logical, theoretical, abstract thinking | time for exploration, investigations, essay or oral examinations |

Adapted from Lowry, D. (1990). *True colors teaching action & communication guide*. Santa Ana, CA: True Color, Inc. Publishing.

Design and Purpose

The purpose of this non-experimental descriptive research study was to assist student teachers in determining more definitive ways to understand their teaching and learning through self-assessment and reflection. This process was initiated by the introduction of True Colors™ Model spectrum of color for assessing personality styles. Enhanced understanding of self and others through this model aided the student teachers in identifying ways to accommodate the diversity of students in their classrooms. They were able to recognize their students' learning preferences and provide differentiated instruction that offered more opportunities to enhance success among the students.

Methodology

Sample and Procedures

A sample of 50 ($N = 50$) student teachers from a university in southeastern Pennsylvania participated in this study across two semesters commencing in the fall of 2014 through spring 2015. The student teachers were assigned to various student teaching assignments for 15 weeks in a variety of urban, suburban, and rural elementary schools. An integral part of the student teaching experience included a weekly university instructional seminar, which provided opportunities for the student teachers to reflect and bring educational concerns into focus. Three sections of student teachers were combined in one larger seminar for three sessions to be trained in the True Colors™ Model and the student teachers' utilization of the training became the foundation of this descriptive study.

The fifty student teachers were comprised of males and females between the ages of 20 and 22 who were in their final semester of an Early Grades Teacher Education Program. The students were placed in a variety of urban, rural, and suburban elementary schools across grades K-4.

Phase 1. The study was comprised of two phases that commenced at the beginning of a

15-week student teaching experience. This first phase of the study included the collection of demographic data and determination of a True Colors™ Model spectrum of colors for each student teacher. The colors within the spectrum are associated with: (a) personality characteristics, (b) learning preferences, (c) personal interpretations of environments, and d) preferred ways of interacting with others.

Both qualitative and quantitative data were collected in three different forms. Each participant: (a) responded to a researcher-designed questionnaire (gender, and the student teaching grade assignment, (b) completed the True Colors™ Personality Questionnaire to determine the True Colors paradigm, and (c) participated in a personal interview. The three data sources were triangulated for greater reliability and validity.

True Colors™ data resulted from the completion by the student teachers of the True Colors™ Personality Questionnaire. The student teachers were required to complete the questionnaire and to tally up points assigned to each of their responses to determine their True Colors™ color spectrum. Questions pertained to preferences for: careers, books, leisure time, and movies. Additionally, the student teachers were asked to identify personal competencies, preferred ways of learning, and favorite academic subjects. Other questions inquired about the ways that the individuals made decisions and solved problems and their tendencies toward logic, impulsivity, and emotionality. Further inquiries asked the student teachers to think about how they would describe themselves and whether they viewed rules as being flexible or inflexible, and their preferences for working with others or independently. A final consideration asked the student teachers to think of a word with which others might describe them (e.g. knowledgeable, compassionate, conservative, or active). Through this personal assessment, the student teachers were able to distinguish their personality styles as it aligned with the True Colors™ Model.

Figure 1 illustrates the percentages of the dominant colors for the student teachers as identified by the True Colors™ assessment.

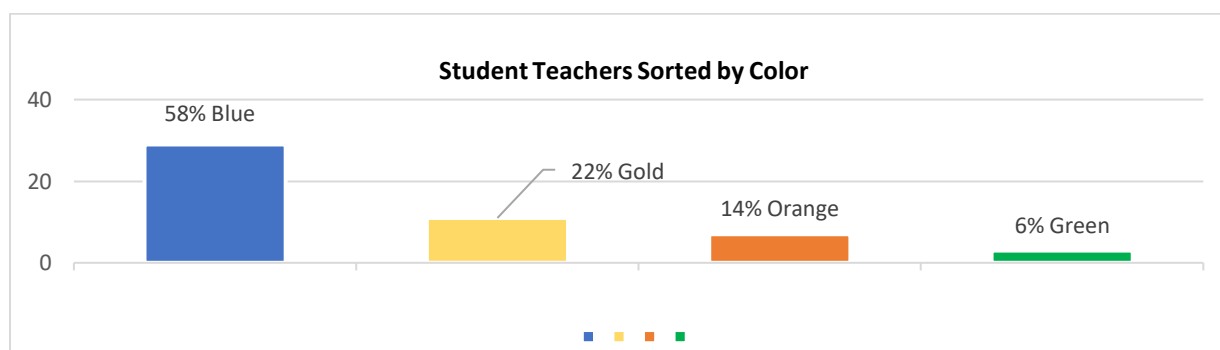


Figure 1. Student Teachers Sorted by True Colors™

The purpose for identifying the student teachers' True Colors™ was to alert them as to how their personality and preferences for perceiving and learning may be influencing the types of instructional strategies that they design and implement. Dunn and Dunn (1979) asserted that teachers tend to teach the way they learn best. It is advisable for teachers to recognize their learning preferences and diversify their teaching to meet their students' learning preferences.

The final step of the data collection in the first phase of the study was a brief personal semi-structured interview. During the interview, the student teachers described the freedom they had been given in designing lessons and the restrictions they had experienced due to scripted curricula. Additionally, the student teachers reflected on the current ways in which they

designed lessons through the lens of their revealed True Colors™ Model color spectrum.

During the data analysis, the student teachers' qualitative responses were sorted, organized, categorized, and coded using an open-coding method. Discreet bits of qualitative data gathered from the interviews and the researchers' designed questionnaire were color-coded and analyzed for commonalities and differences.

The sorting and categorizing of data provided insights into what the student teachers were experiencing and their abilities and experiences in differentiating instruction for their students.

Phase 2. In Phase 2 of the study, the student teachers attended three intense True Colors™ training sessions which assisted them in: (a) understanding and applying the knowledge concerning their True Colors™ Spectrum; (b) learning the personality and style differences among the colors; (c) recognizing the educational implications across the colors in expectations, learning modalities, communication, and motivation; (d) preparing lesson plans reflecting the needs of each color; and (e) implementing diverse instructional strategies within their classrooms. During this phase of the study, student teachers analyzed lesson plans that they had taught to identify examples of instructional strategies that complemented the True Colors™ Model. Practical suggestions were discussed during the weekly seminar sessions to assist the student teachers in customizing instruction for their students.

Before concluding the training sessions, the student teachers reviewed lessons that they had designed to identify instructional and assessment activities. The student teachers reflected on: (a) parts of their lessons which had been enriched by True Colors™ and, (b) certain learners' preferences which may have been omitted during the planning of a lesson. In addition to this exercise, the participants were directed to utilize journal prompts to share reflections related to their exposure to the True Colors™ workshops. These activities aided the student teachers to recognize how True Colors™ had impacted their daily teaching and awareness of learning differences among learners in their classrooms.

Analysis and Results

Qualitative journal responses were examined, sorted, categorized, and color-coded during an open-coding analysis, which were collapsed into six broad themes. The themes reflected the participants' reactions to the True Colors™ Model training and to their identification of their color spectrums. The student teachers' reflections were evidenced in the themes that emerged.

Results of the study indicated that the student teachers could recognize their personalities as evidenced within the True Colors™ Personality Questionnaire and could determine if they had integrated strategies representative of their students. The information garnered throughout the True Colors™ training sessions enhanced the student teachers' knowledge about: (a) differentiating instruction and assessments, (b) creating thriving learning environments, and (c) utilizing effective discipline strategies.

Themes

The emergence of several themes demonstrated that the student teachers had determined the True Colors™ training personally and professionally beneficial. Six themes emerged to reflect the value the student teachers placed on the True Colors™ training: (a) differentiation added value and made improvements in learning, motivation, and relating with others, (b) enhanced understanding of others/improved relationships in and out of classroom environments, (c) "wake-up call" found value in self-reflection for learning more about self and others, (d) influenced the classroom environment design, instruction, and discipline strategies, (e) easy to implement and to transfer to many environments (personal and academic), and (f) should be part

of all teaching-training programs. These themes are displayed with qualitative commentary in Table 2. The table provides a listing of the themes that emerged with qualitative comments made by the student teachers to support the interpretation of the themes.

Table 2
True Color Themes, Supportive Qualitative Data, and Frequencies

| Themes | Supporting Qualitative Text |
|---|--|
| Differentiation added value and made improvements in learning, motivation, and relating with others | <p>“This turned out to be a real help. ... as I saw examples of the different kinds of learning needs and how they matched well for some kids but not for others it all came to together. It became easy after a while to match students and their needs and watch them succeed.”</p> <p>“This program made my student teaching so much more fun. It was a challenge too, but I worked with my co-op and we learned together.”</p> |
| Enhanced understanding of others/improved relationships in and out of classroom environments | <p>“This made me work harder than I would have. I would have taught in my color and been happy doing that. It explains discipline problems and clashes. I will be a far better teacher because of the colors.”</p> <p>“This program teaches us to be more tolerant and understanding of others. I saw so many things that I do and don't do that could be changed for the better.”</p> |
| A wake-up call found value in self-reflection for learning more about self and others | <p>“I am a green and not big on new ideas that cause me more work ... I must admit it did highlight the real differences in people. I will try in the classroom with the students ... I see a place for it.”</p> <p>“This proved to be really helpful.”</p> |
| Influenced the classroom environment design, instruction, and discipline strategies | <p>“This program helped my co-op and I set up our classroom for all learners. We added stations for each color and explained this to the 3rd graders ... and they helped us think of other ways to include all. The students table groups were colorized as much as we could to make the physical classroom a comfort zone for each student.”</p> |
| True Colors Model: Easy to implement and transfer to many environments (personal and academic) | <p>“We shared some of the background with the 4th graders. The caught on right away and we were amazed. We used it in every subject like reading characters, historical people in social studies, and famous people.”</p> <p>“The one thing that I found amazing was how quickly I could see what the students' colors were. Their colors emerged, and they even picked up on the differences among them”</p> |
| True Colors Model: Should be part of all teaching-training programs | <p>“Why can't this be a class in the Pre-K through 4 [education] program? It is the greatest single thing I learned in four years. It's a goldmine.”</p> <p>“This should be a requirement for every student at ...” “It makes sense out of life and how people act. Always wanted to skip the orange children. I am very programmed and sometimes rigid. It helped me to let the kids move more. I had not been doing enough and was paying the price with discipline problems.”</p> |

Comments shared by the student teachers True Colors™ training identified its assistance in making improvements in the classroom. One participant shared, “Good for controlling my class. I struggle with redirecting behavior of orange kids and now I know why ... I'm gold!”. Another student teacher remarked, “Great tool for improved communication in faculty meetings

and such. My co-op pointed out a lot of the uses for this knowledge within the different faculty committees.” Still another participant noticed a connection to bullying among the students as expressed in this commentary,

It became evident to me that certain colors seem to be bullied more than others. Many of my green students were criticized for being nerds and the orange students for being late, getting things done, etc. A good teacher could make a fine teaching tool out of the colors and their strengths and weaknesses.”

These comments reflected the practical uses of the student teachers found for using True Colors™ Model in the classroom. The results indicated an enthusiasm for incorporating what the student teachers had learned about themselves and for differentiating instruction with the insights they had gained through the True Colors™ training. Benefits were observed in engagement, motivation, and achievement. The commentary in Table 2 is anecdotal evidence to express the student teachers’ perceived value of utilizing their True Colors™ training into their classrooms.

Findings/Conclusions

All participants reported significant gains in (a) their class work, (b) the academic performance of their students, and (c) in their rapport with their students. Each student teacher determined the color spectrum of their students and guided his/her teaching and assessment practices according to the training techniques and suggested strategies. Both written and oral data supported these academic gains and improved performances. The student teachers' journal entries described: (a) insights into individual student's learning struggles and even behavior problems and (b) greater awareness of shortcomings within their learning modalities (large group, small group, or individual engagement), sensory engagement (visual, auditory, tactile, or kinesthetic), assessment choices, and time-usage. The journal entries addressed meaningful goals for: (a) the grouping of individual learners, and (b) future professional development.

The True Colors™ training added to the student teachers’ knowledge of ways to differentiate instruction, assessment, and classroom environments. The results indicated enthusiastic support for what had been learned through the workshops, self-assessments, and reflections about the student teachers’ personality and learning styles. Algozzine and Anderson (2007) described the differentiated classroom as a place where students inform teachers about their learning and assessment preferences. Differentiating instruction is not a panacea for students to meet performance standards, but a support to help students to achieve. Algozzine and Anderson asserted, “Differentiated thinking empowers teachers to be responsive rather than reactive to the unique and individual personalities, backgrounds, and abilities found within students” (p. 52). The student teachers and many of their cooperating teachers in this descriptive study felt empowered to work with True Colors™ Model as a tool for differentiating instruction to support their students’ learning. In addition to enhanced learning opportunities for the students, the student teachers described the benefits of utilizing this method for classroom and behavior management.

Recommendations

This descriptive study demonstrated that student teachers were enriched through learning about the True Colors™ Model for differentiating instruction and using the color spectrum to represent the various personalities and learning preferences. A self-report regarding the successes the student teachers experienced in the classroom indicated that they felt their students were more engaged and motivated in their learning when True Colors™ differentiation instructional and assessment strategies were implemented. Future studies should measure student achievement when students’ individual learning preferences are identified and

complemented with the True Color™ strategies for instruction and assessment. Investigating students' reactions to the differentiation strategies based on the True Colors™ Model may be captured through teachers' observations and students' self-reports. Researchers should continue to investigate the benefits and limitations of differentiating instruction and the implicit value associated with the True Colors™ personality assessment.

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Supervisors Matter for College Students: Relationships between Employment Type and Student Outcomes

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Abstract

Although student persistence is an important metric for higher education administrators and working while attending school is pervasive among those who attend college, the extent to which work supervisors may impact students while attending college through interactions is underexplored. This study examines the relationship between supervisor interactions and student outcomes in relation to type of employment, academic persistence, and competencies. The literature review indicates the relationship between type of employment and academic persistence is important and interactions may provide useful benefits. However, interactions within the type of employment experience is lesser known. The study site for this research is Alpha University (Alpha) (pseudonym). Alpha is a large, public, research university in the western United States. This study draws from a pre-existing dataset that uses two data sources: responses from the 2016 Alpha Student Employment Survey (ASES), and student records. Type of employment data come from the survey, and student records provide demographic and academic persistence data. The sample is limited to degree-seeking, non-online undergraduates enrolled at Alpha in fall 2016 who were employed, whose primary institution affiliation is not employee, are not post-baccalaureate students, and have one job (n=1,434). Data are analyzed using logistic regression with interaction effect for the first research question, dominance analysis for the second research question, and logistic regression for the third research question.

Keywords: Academic Persistence, Student Employment, Supervisor Interactions

Introduction

A recent survey conducted by the National Center for Education Statistics (NCES, 2012) suggested employers are seeking undergraduate talent that values work experience beyond academic achievement, including competencies like leadership, teamwork, communication, problem-solving, and work ethic. Working while attending college is a pervasive part of the undergraduate experience with 43% of full-time students and 78% of part-time students employed in 2015 (NCES, 2017). With academic persistence seen as an early indicator for graduation (Kezar, 2014; Logan, Hughes, & Logan, 2016; Perna, Cooper, & Li, 2006), it is important to examine the relationship between type of employment and academic persistence.

Academic persistence, or the willingness of a student to continue despite challenges and obstacles encountered, is a critical issue concerning graduation rates at universities nationwide

(Perna et al., 2006). Yet, college affordability may undermine persistence. According to College Data (n.d.), the average cost of tuition and fees for the 2017-2018 year is \$9,970 for residents at public colleges, and \$25,620 for out-of-state residents attending public universities, with costs projected to rise each successive year (Lewis, 2008; Logan et al., 2016). Today's students experience higher costs with college attendance (Robb, Moody, & Abdel-Ghany, 2012), they also experience rising student loan debt (Bozick, 2007). One strategy student's use to make college more affordable is to work while in college.

Working may have positive and negative impacts on the undergraduate student experience. Working while attending college has increased over previous decades (Davis, 2012; Logan et al., 2016; Stern & Nakata, 1991), as has working longer hours (Broton, Goldrick-Rab, & Benson, 2016; Grant, Hawkins, Hawkins, & Smith, 2005), and multiple jobs (Beeson & Wessel, 2002; King & Bannon, 2002). Supervisors can play a vital role in the academic and professional development of students who work (Docherty, Gullan, & Phillips, 2018). Therefore, it is critical to examine the working learner experience.

This study advances knowledge about working while in college, supervisor interactions, and student outcomes (persistence and competencies employers seek from college graduates). On one hand, employment encourages students to develop leadership (Astin, 1993, 1999), civic-mindedness (Barnhardt, Trolan, An, Rossmann, & Morgan, 2019), creativity (Astin, 1993, 1999), self-efficacy (Broadbridge & Swanson, 2005), professional skills (Salisbury, Pascarella, Padgett, & Blaich, 2012), and academic growth (Nunez & Sansone, 2016). On the other hand, employment offers supervisors the opportunity to interact with individual students through the multifaceted combination of academics (Perna, 2010) and professional skills (Lewis, 2008).

Studies on the relationship between type of employment and academic persistence were mixed, with working while in college viewed as positive (Beeson & Wessel, 2002; Furr & Elling, 2000; Huie, Winsler, & Kitsantas, 2014) negative (Attewell, Heil, & Reisel, 2011; Bozick, 2007; Di, 1996; Grant et al., 2005; Perna, 2010), neutral (High, 1999; Pascarella & Terenzini, 2005), or as having curvilinear (Perna et al., 2006) impacts related to academic persistence and graduation. Findings indicated that limited employment contributes to student success (Lewis, 2008) and the undergraduate engagement process (Astin, 1993, 1999; Salisbury et al., 2012); however, only a relative handful of studies have examined supervisor interactions (Docherty et al., 2018) and student outcomes (Schreiner et al., 2011). Thus, this study addresses supervisor interactions, academic persistence, and competencies employers seek among students working while in college.

Global Learner Framework

The realities for today's undergraduate students, who are being challenged to prepare for the demands of the global workforce academically and professionally, shape their experiences and outcomes. Validation (Rendón, 1994) and change agency (Kezar, 2014) theory are synthesized into a framework for understanding the relationship between type of employment, supervisor mentoring, and student outcomes.

Global higher education market. While many postsecondary institutions have consistently articulated democratic and civil goals, less attention has been given to preparing leaders for the global economy (Manathunga, 2007). With increased globalization and marketization, universities and colleges have responded by focusing on global learning and the influence of neoliberalism (Cole, 2017). Whereas global learning is concerned with the intersectionality between people and places throughout the world (Standish, 2012), neoliberalism is a governmental agenda dictated by self-discipline, competition, and individualism which

operates under the false appearance of autonomy, when it actually serves the global market (Manathunga, 2007). As the relationship between academia and the marketplace has become increasingly connected through globalization, a new context has been framed regarding the importance of educating globally and culturally competent students for future workforce preparation (Manathunga, 2007). With rising tuition, declining state support, and an increase in for-profit and online markets, higher education has adopted corporate strategies to maintain survival in a competitive economic environment (Kezar, 2014; Manathunga, 2007).

Literature Review

This study included a comprehensive literature review on the relationship between undergraduate type of employment, academic persistence, and supervisor interaction practices. The literature review was grounded in validation theory (Rendón, 1994), and change agency theory, (Kezar, 2014) which together provide a model for higher education to help prepare students for 21st century employment. The literature review concludes by identifying the gap on the relationship between supervisor interactions and outcomes.

Problem

Working while attending college may be related to leaving without a degree (Attewell et al., 2011; Bozick, 2007), it may also provide many potential benefits, including the development of leadership skills (Astin, 1993, 1999), civic-mindedness (Barnhardt et al., 2019), creativity (Astin, 1993, 1999), self-efficacy (Broadbridge & Swanson, 2005) professional skills (Salisbury et al., 2012) and academic growth (Nunez & Sansone, 2016). Still, it may also have a detrimental impact on academic persistence (Astin, 1993, 1999) and academic performance (Di, 1996; Logan et al., 2016), reduced involvement in campus events (Callender, 2008), isolation from peers (Warren, 2002), and weakened faculty/student relationships (Astin, 1993, 1999). Academic performance in this study is used to evaluate the academic progress of students—GPA (Astin, 1993, 1999). In any case, the relationship between working while in college and academic persistence deserves further attention. In particular, the relationship amongst type of employment, supervisor interactions, and student outcomes is underexplored and unsettled.

Theory

Astin (1993, 1999) found that working a limited number of hours on-campus improved the college experience for undergraduates and contributed positively to academic persistence, confidence, awareness of campus resources, and student life. The opposite is also true of students who work too many hours while attending school, decreasing academic persistence, reducing campus involvement with peers, and diminishing faculty relationships (Furr & Elling, 2000). Recent literature has suggested that student employment has a curvilinear effect (Perna et al., 2006), positing that as one variable increases, another decreases, making this complex relationship difficult to identify. Therefore, it is important to address not only academic persistence research, but also the indirect relationship to competencies employers seek because skills learned on the job are potentially transferable to future employment after graduation.

Type of employment and competencies are related to professional outcomes for higher education institutions (Kezar, 2014) and business (Troschitz, 2017). As the relationship between academia and the marketplace has become increasingly connected through globalization, a new context has been framed regarding the importance of educating globally and culturally competent students for future workforce preparation (Manathunga, 2007). Therefore, examining the relationship between working students and supervisors is very timely and important to this

continuum, especially in terms of validating academic and job-related student success. Validation theory holds that students who find it difficult to get involved in college or had been previously invalidated by those at their higher education institution, struggle to succeed (Rendón, 1994). Validation refers to intentional, proactive, affirmation of students by in-and out-of-class agents (faculty, student, academic affairs staff, family members, peers, etc.). By supervisors mobilizing their experience and campus resources, they can help inspire academic persistence and increase competencies that benefit the university and future employment in tandem.

The need for students to work while pursuing their undergraduate degree is a pressing issue in higher education. Working is pervasive among undergraduates in the United States (US), primarily in response to the issue of college affordability (Davis, 2012). In view of the increase of attending college and student loan debt, working during college is becoming less of a choice for undergraduates (Perna et al., 2006). One way to address this issue is by increasing the quality of the employment experience for students who work. Working while attending college is regarded as the new norm for college students (Sallie Mae, 2017). As of 2015, about 14 million college students worked while attending college, and for the past twenty-five years above 70% of undergraduate students enrolled in U.S. postsecondary institutions were employed (Carnevale, Smith, Melton, & Price, 2015). These trends exist regardless of other student characteristics, such as family income, financial dependency, enrollment status, type of institution, age, race, and marital status (Carnevale et al, 2015). Data extending from the 1990s to present suggests that students work an average of 30 hours per week. About 40% of them are undergraduate and 76% graduate students (Carnevale et al., 2015).

Table 1
National Undergraduate Working Average

| Year | Share Working % | Average Hours Worked |
|-----------|-----------------|----------------------|
| 1989-1990 | 77 | 30 |
| 1992-1993 | 72 | 31 |
| 1995-1996 | 79 | 30 |
| 2003-2004 | 74 | 29 |
| 2007-2008 | 75 | 29 |
| 2011-2012 | 62 | 29 |
| 2013-2015 | 78 | 30 |

Note. (Carnevale et al., 2015; NCES, 2017).

National statistics suggest over 7-in-10 students work while in college, and many are employed over 20 hours per week (Davis, 2012). This applies to Alpha University, as about 7-in-10 students work while attending the institution (Sesate, 2018). Many work to help with college affordability (Logan et al, 2016) and rising student loan debt (Bozick, 2007). Some students work at the university (Furr & Elling, 2000), others work outside the university (Astin, 1993, 1999; Di, 1996; Logan et al., 2016), while still others work multiple jobs (Beeson & Wessel, 2002; King & Bannon, 2002). For this reason, working and learning applies to most college students who attend postsecondary institutions.

Type of employment and academic persistence. Type of employment has an indirect relationship to academic persistence because the positive and negative aspects of working while

attending college have the ability to influence the outcomes of working learners. Attaining a bachelor's degree, higher self-reported cognition, and higher effective growth have been found to be more likely for students who worked at their higher education institution (Astin, 1993). These students had a greater chance of seeking out leadership opportunities from the college and were more likely to be engaged with the college experience, including participation in student government (Astin 1993, 1999), tutoring other students (Pascarella & Terenzini, 1991, 2005), and attending campus-based activities (Astin 1993, 1999). Students who work for their college were thought to have higher rates of persistence because of more time spent studying, participating in active and collaborative learning experiences, student interactions with faculty members (Kuh, Kinzie, Cruce, Shoup, & Gonyea, 2007), the development of civic mindedness (Barnhardt et al., 2019), and increased academic performance (Huie et al., 2014). It has been hypothesized that the more time students spend on campus, the more they gain awareness aware of campus-based resources related to persistence (Kuh et al., 2007).

The relationship between employment outside of one's college and academic persistence is complex. Working has been found to be of little influence on GPA or persistence (Harding & Harmon, 1999). Other findings have suggested students above the age of 25, who worked full-time, received mostly A and B grades (Rowan-Kenyon, Swan, Deutsch, & Gansneder, 2010). Therefore, for adult students, working is positively associated with grades and persistence. In contrast, adult students who were not employed at all reported lower grades than the full-time students who worked (Rowan-Kenyon et al., 2010).

A considerably larger group of studies have found type of employment and academic persistence research to be mixed. The scholarship is varied and complex, indicating that the problem within the literature has not been solved. These findings include positive (Beeson & Wessel; Huie et al., 2014; Pascarella & Terenzini, 1991, 2005; Salisbury et al., 2012), negative (Astin, 1993,1999; Attewell et al., 2011; Bozick, 2007; Di, 1996; Furr & Elling, 2000; Grant et al., 2005; King & Bannon, 2002; Perna, 2010), neutral (High, 1999; Pascarella & Terenzini, 2005), and curvilinear (Perna et al., 2006) impacts related to academic persistence and graduation. The range of studies on student employment and academic persistence are contradictory and deserve to be unpacked further.

Methodology

This chapter describes and details the methodology planned for this quantitative study. The problem, research questions and hypotheses are restated. The research design and study site are identified. The sample of students who participated in the research under IRB is discussed. Data sources used in this research are explained. Variables selected for this study sought to reduce omitted variable bias. Estimation and data analysis for the three research questions are identified.

Research Questions and Hypotheses

The research questions developed for this study included:

1. How does the relationship between type of employment and academic persistence vary by supervisor interactions?
2. What is the relative importance of supervisor interactions on academic persistence?
3. What is the relationship between supervisor interactions and competencies employers seek?

Design

Since this quantitative cross-sectional case study research is interested in the relationship among employment, student-supervisor interactions, and outcomes (academic persistence, competencies employers seek), it uses a quantitative approach (Creswell, 2013). A case study using quantitative analysis contains elements from an empirical-analytical scientific approach. A quantitative analysis in case studies depends on the phenomena under study, the research questions formulated, the type of case study, and sources of evidence used (Mills, Durepos, & Wiebe, 2010). In quantitative analysis, the goal is to strive for samples that are statistically generalizable to or of the population (Mills et al., 2010). This case study approach is cross-sectional and focuses on a snapshot in time of working learners at Alpha University (n=1434) examining persistence and competencies. This study is carved out of a larger, ongoing, mixed-methods study on type of employment and student outcomes, and uses a case study approach.

The larger mixed-methods study began in 2015, with research ongoing, at Alpha University. Alpha is focused on inclusivity and delivers education through multiple campus locations. 83% of students are undergraduates. In fall 2018, first-time freshman exceeded 11,000. Females were nearly 48% and males 52% of undergraduates. Nearly 64% were state residents. Non-racial/ethnic minorities comprised nearly 62% of undergraduates. Alpha was selected as a case study because it is similar to the national landscape regarding type of employment (NACE, 2017). For example, the ongoing study has found the vast majority (over 70%) of its working learners work one job (Sesate, 2018). Similarly, many of these students worked extensively (20 or more hours per week), especially those not employed solely or at all by Alpha (Sesate, 2018). This is comparable to national statistics which find over seven in 10 students work while in college, many working over 20 hours per week (Davis, 2012). Given all this, Alpha is an appropriate site for a case study on student employment.

Sample

The sample for this study was drawn from degree-seeking, non-online undergraduates at Alpha University whose primary institution affiliation is not employee and are not post-baccalaureate students (n=1,434). The sample sought to represent the critical mass of the undergraduate student body at Alpha University. Post-baccalaureate students were excluded because even if this population did not persist, they would still have a bachelor's degree to compete with in the labor market. International students were excluded from this survey because persistence is strong with this population (Mamiseishvili, 2012). Compared to U.S. students, international students typically display stronger college GPA's, degree plans, and academic integration positively related to persistence (Mamiseishvili, 2012). International students are also required to document the possession of adequate financial resources during the admissions process (Hill, Burch-Ragan, & Yates, 2001). Athletes were also excluded from this survey. One of the main reasons intercollegiate athletic programs are successful is due to the combined efforts made by the entire institution to ensure persistence occurs (Hill, Burch-Ragan, & Yates, 2001).

Moreover, the reason some athletes leave an institution may not have anything to do with working or academics generally (e.g., accepting a professional contract) (Beamon & Bell, 2002). Athletes also benefit from resources largely unavailable to non-athletes (e.g., extra tutoring and support resources) (Benford, 2007). Therefore, persistence includes other factors for international students and athletes. The sample was further limited to students who indicated they were currently employed on the survey (employed by Alpha/non-Alpha), allowing the focus to be on type of employment. By examining the experiences of working learners, this study may add

to the literature on academic persistence and competencies employers.

Data Sources

Data come from a pre-existing dataset comprised of two sources: (1) responses from the 2016 Alpha Student Employment Survey (ASES) and (2) student records. The 2016 ASES is a cross-sectional survey that utilized predominantly close-ended questions, thereby providing a snapshot in time of relationships between type of employment and student outcomes. It was administered in fall 2016 by Alpha University (n=1434). A strength of the ASES is that it is not limited to Alpha University student employees. Instead, it also includes students who work outside of Alpha. This is an important distinction as much of the existing literature focuses on employment inside of one's college (Astin 1993, 1999; Furr & Elling, 2000). Further, despite working being pervasive, most students do not work solely for their institution (Logan et al., 2016). Thus, the dataset is comprised of students who are the majority of working learners. Survey data were merged with student data from administrative records. Survey data provide employment data, including type of employer (Alpha/non-Alpha), supervisor interactions, and competencies. Student records ascertained and provided by Alpha University included persistence data, along with other control variables on demographics and student enrollment.

Findings

There were 1,434 participants included in this study. Most participants were female, non-underrepresented minority (URM), juniors/seniors, young, and higher performing students. About 6-in-10 participants were female, and 3-in-10 a URM. About 1-in-10 participants were freshmen, 2-in-10 sophomores, 3- in-10 juniors, and 4-in-10 seniors. Mean age is 23, and mean GPA is 3.36. Most participants were employed somewhere other than Alpha, and a plurality typically worked less than 20 hours per week. About 4-in-10 participants were employed by Alpha. Fewer than 1-in-10 participants provided no response regarding the number of hours they typically worked per week; less than 4-in-10 typically worked less than 20 hours per week; 3-in-10 typically worked 20-29 hours per week; and 2-in-10 typically worked more than 30 hours per week. Most participants did not interact with their supervisors for social support, supporting academics, or building confidence (Sesate, 2018). About 4-in-10 participants had a supervisor who provided social support, while 3-in-10 had a supervisor who supported academics, and 3-in-10 had a supervisor who built confidence. All descriptive statistics are found in Table 2.

Table 2
Descriptive Statistics (n=1,434)

| Variables | <i>n</i> | <i>%</i> | <i>M</i> | <i>SD</i> | Range |
|-------------------------|----------|----------|----------|-----------|-----------|
| Female | 853 | | 59.48 | | |
| URM | 407 | | 28.38 | | |
| Academic Level | | | | | |
| Freshman | 160 | 11.16 | | | |
| Sophomore | 252 | 17.57 | | | |
| Junior | 431 | 30.06 | | | |
| Senior | 591 | 41.21 | | | |
| Age | 1434 | | 23.02 | 6.60 | 18-70 |
| GPA | 144 | | 3.36 | 0.55 | 0.00-4.31 |
| Alpha Employed | 580 | 40.45 | | | |
| Hours worked/week | | | | | |
| Unknown | 69 | | 4.81 | | |
| <20 | 598 | | 41.70 | | |
| 20-29 | 446 | | 31.10 | | |
| 30+ | 321 | | 22.38 | | |
| Provides social support | 581 | | 40.52 | | |
| Supporting academics | 390 | | 27.20 | | |
| Building confidence | 402 | | 28.03 | | |

Note. Underrepresented Minority (URM): includes African American/Black, Hispanic/Latino, American Indian/Alaskan Native, and Native Hawaiian/Pacific Islander.

Of interest, no findings were significant for the three academic persistence models examined. However, all three job competency models evaluated were significant. The findings for the job competency model of teamwork has been selected for the purposes of this discussion.

Table 3
Logistic Regression using Teamwork as the Dependent Variable

| Variable | Model 4: Provides Social Support | Model 5: Supporting Academics | Model 6: Building Confidence |
|---------------------------------|----------------------------------|-------------------------------|------------------------------|
| | Odds Ratio (Robust SE) | Odds Ratio (Robust SE) | Odds Ratio (Robust SE) |
| Provides Social Support | 2.270*** (0.283) | | |
| Supports Academics | | 2.767*** (0.404) | |
| Builds Confidence | | | 3.316*** (0.489) |
| Male | 1.225* (0.148) | 1.085 (0.129) | 1.103 (0.133) |
| URM | 1.125 (0.149) | 1.143 (0.153) | 1.160 (0.156) |
| Academic Level | | | |
| Freshman♦ | | | |
| Sophomore | 1.022 (0.219) | 1.106 (0.242) | 1.027 (0.224) |
| Junior | 1.154 (0.232) | 1.182 (0.241) | 1.109 (0.229) |
| Senior | 1.406* (0.279) | 1.453* (0.293) | 1.394 (0.284) |
| Age (Years) | 0.971*** (0.009) | 0.969*** (0.009) | 0.972*** (0.009) |
| Cum GPA | 1.006 (0.106) | 1.036 (0.111) | 1.061 (0.115) |
| Alpha Employed | 1.415*** (0.190) | 1.441*** (0.194) | 1.484*** (0.201) |
| Total Hours Typically Work/Week | | | |
| Unknown♦ | | | |
| <20 | (0.106) 0.985 | 1.031 (0.283) | 0.937 (0.262) |
| 20-29 | 1.183 (0.327) | 1.199 (0.333) | 1.059 (0.300) |
| 30+ | 1.354 (0.391) | 1.368 (0.397) | 1.281 (0.379) |
| Intercept | 1.567 (0.780) | 1.563 (0.795) | 1.461 (0.751) |
| Observations | 1,434 | 1,434 | 1,434 |
| Pseudo R-squared | 0.0396 | 0.0445 | 0.0556 |
| Log Lik | -885 | -880.5 | -870.3 |

Note. Coefficients are in odds ratios. SE=Robust standard error in parentheses. Values rounded to hundredths place. Underrepresented Minority (URM): includes African American/Black, Hispanic/Latino, American Indian/Alaskan Native, and Native Hawaiian/Pacific Islander. ♦ = Reference group. Control Variables: Sex, URM, Academic Level, Age, GPA, Type of Employer, Hours Worked Per Week.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Supervisor Interactions and Teamwork.

Models 4, 5, and 6 have the dependent variable of teamwork and the independent variables of provides social support, supporting academics, and building confidence. All models found the relationship between each type of supervisor interaction and the competency of teamwork to be significant ($p < .05$). Accordingly, each null hypothesis was rejected. The

probability of developing teamwork skills is 60%. This suggests that it is more common to develop communication skills than teamwork skills.

As shown in Figure 1, the average marginal effect of having a supervisor who provides social support, as opposed to one who does not, is associated with about a 17% increase in the probability of developing teamwork skills.

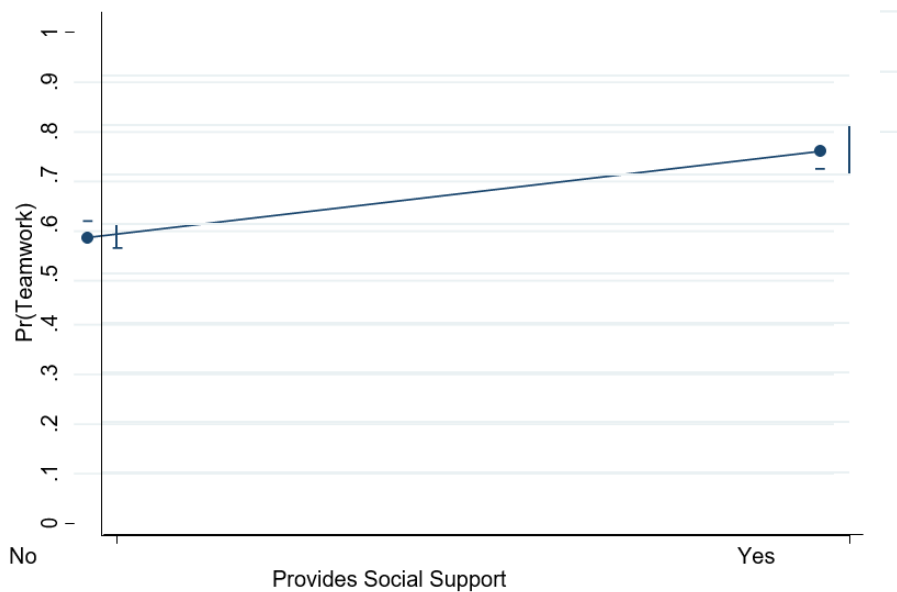


Figure 1. Model 4: Provides social support for teamwork.

As illustrated in Figure 2, the average marginal effect of having a supervisor who supports academics, as opposed to one who does not, is associated with about a 20% increase in the probability of developing teamwork skills.

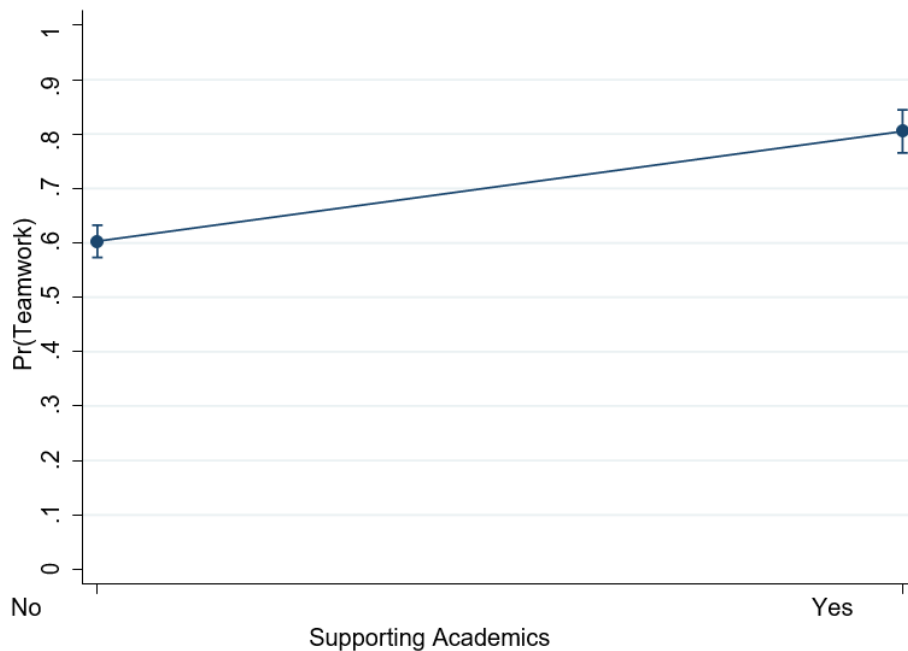


Figure 2. Model 5: Supporting academics for teamwork.

As identified in Figure 3, the average marginal effect of having a supervisor who builds confidence, as opposed to one that does not, is associated with about a 23% increase in the probability of developing teamwork skills.

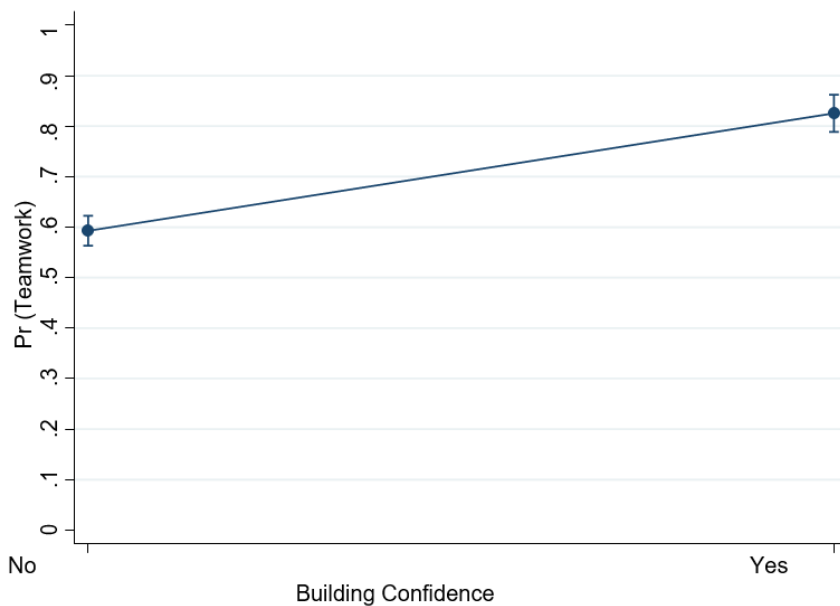


Figure 3. Model 6: Building confidence for teamwork.

Together these findings suggest that while any of the three types of supervisor

interactions are important for working learners, supporting academics is greater than providing social support. Building confidence, however, is most strongly related to the competency of teamwork, as opposed to providing social support or supporting academics.

Recommendations for Future Research

It is recommended that future research replicate this research in three ways. First, it would be informative to analyze data from additional years as it becomes available. While the research may potentially translate to other large, public, research institutions in the western United States, it may not do so to institutions with different characteristics and contexts. The results may change when examining other timeframes. Additional variables may also be added beyond what was used to conduct this research. For instance, financial aid variables are missing from this study. Additionally, this work may be extended to other student populations (e.g., online, athletes, or international students), and/or other competencies not examined here (e.g., conflict resolution, critical thinking, and interpersonal skills). Second, the same timeframe of fall 2017 should be examined at different large, public, research institutions, as well as those possessing different policy, missions and visions, and internal dynamics. In so doing, comparative studies would emerge from alternative institutions which account for context and other relevant factors. Third, national-level longitudinal data analyses would be informative. Despite a cross-sectional quantitative study providing a snapshot in time of Alpha University, it does not fully capture the trends or outcomes of the institution (Babbie, 2007). A national approach could provide further insights by examining the overall demands being imposed on state colleges or universities and how this relates to type of employment, supervisor interactions, and student outcomes.

Discussion

Despite the resources available at higher education institutions, degree-seeking bachelor's students are not graduating. Even for students who do graduate, employers do not believe students are prepared for the workforce. Academic persistence is an important metric to increase graduation outcomes and working is pervasive amongst those who attend college. Universities will need to reexamine this relationship as they prepare 21st century learners for the future global economy. Supervisors provide an underexplored outlet for working learners who are seeking learned job competencies as a form of mentoring. As the needs of employers only become more intricate in the future, supervisors can help students and the marketplace succeed through shared practices.

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Application of the Tri-Square Method in Measuring Changes in Learner Performance: Illustrating Measurement via an Innovative Triostatistics Method and Statistical Procedure

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Abstract

Measuring the impact of teaching on learning is necessary for discerning the relative effectiveness of different teaching models and methods. Frequently this determination is restricted to hypothesis testing involving the impact of a single variable on a specific performance measure. The common approach is to compare statistics for a treatment group versus a control group with a specified confidence level in order to accept or reject the hypothesis. While this approach may be adequate for clinical studies it is not very practical for a classroom environment where multiple input and output variables are in play. This paper presents the Tri-Square methodology from “Triostatistics” (Osler, 2014) for studying the interplay between a set of three input and three output variables within a culture or system to look for significance. This is a mixed methods model that can accommodate quantitative and/or qualitative variables. The value of mix methods statistical procedures was illustrated in a 2017 Academy of Process Education Workshop entitled, “Measuring The Impact of Teaching and Learning” conducted at the 2017 Academy of Process Education Conference. The power of the method is illustrated using student data from a recent Recovery Course. This paper illustrates the “PE: L2L” experiences, Triostatistics procedures, the PE philosophy, as well as models of the “Taxonomy of Process Education” first presented in the research article entitled, “AMOVA [“Accumulative Manifold Validation Analysis”]: An Advanced Statistical Methodology Designed to Measure and Test the Validity, Reliability, and Overall Efficacy of Inquiry–Based Psychometric Instruments”. The authors provided a series of models from the book “Interactive Statistics Methods” (Osler, 2012) to illustrate the various statistical methods during the PE workshop. That data is provided in this narrative to further illustrate utility of the Tri–Squared methodology.

Keywords: Accumulative Manifold Validation Analysis (AMOVA), Conceptual Framework, Learning to Learn (L2L), Process Education: Learning to Learn (PE: L2L), Taxonomy of Process Education (PE), Tri–Squared Analysis, Tri–Squared Test, and Triostatistics.

Introduction

Providing readily available procedures designed to measure the impact of teaching on learning is the goal and rationale for this paper. To first understand the need for a more adequate approach to teaching and learning measurement one must first comprehend “Process Education: Learning to Learn” (or “PE: L2L”). The next section defines and describes PE: L2L.

Defining Process Education and Learning to Learn

Process Education, “Learning to Learn”, and “Process Education: Learning to Learn

Experience” are each defined in detail to provide clarity:

1. Process Education: According to the “Academy of Process Educators” “Process Education” is defined in the following manner: “A performance-based philosophy of education which integrates many different educational theories, processes, and tools in emphasizing the continuous development of learning skills through the use of assessment principles in order to produce learner self-development.” (Process Education, 2017)

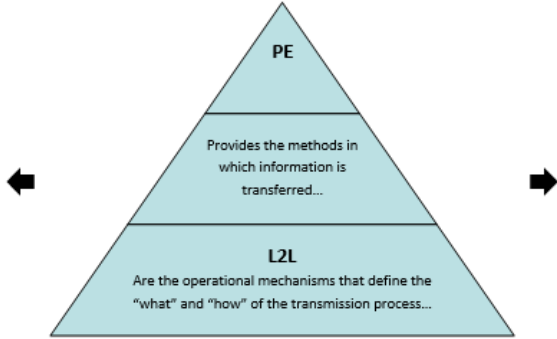
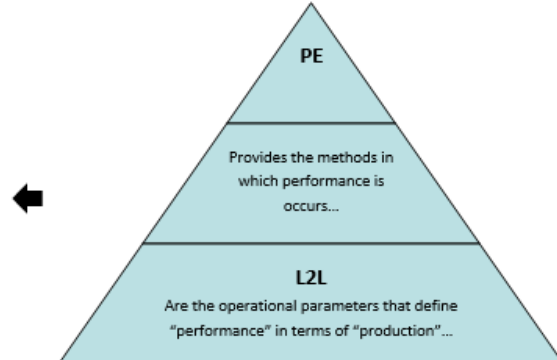
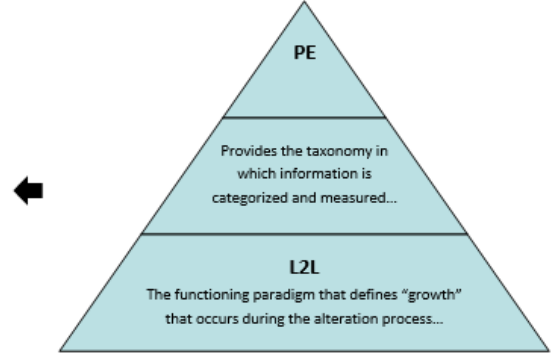
2. Learning to Learn: According to Rožman and Koren in their research work presented at the 2013 International Conference on Management, Knowledge and Learning “Learning to Learn” (or “L2L”) is defined as follows:

Learning to learn is the ability to pursue and persist in learning, to organise one’s own learning, including through effective management of time and information, both individually and in groups. This competence includes awareness of one’s learning process and needs, identifying available opportunities, and the ability to overcome obstacles in order to learn successfully. This competence means gaining, processing and assimilating new knowledge and skills as well as seeking and making use of guidance. Learning to learn engages learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts: at home, at work, in education and training. Motivation and confidence are crucial to an individual’s competence. (Rožman & Koren, 2013, p. 8)

3. “Process Education: Learning to Learn” Experience: The arena of “Process Education: Learning to Learn” is the use of Learning to Learn through the lens of Process Education concepts, models, measures, and strategies. As such, “Process Education: Learning to Learn” or “PE: L2L” is best defined through a constructs model that highlights the exactly how L2L is used in PE between the two areas. Table 1 follows and provides a construct model of PE and L2L with the unifying utilization model and methodology diagram displayed between the two.

Table 1

The “Process Education: Learning to Learn” Constructs Model

| Process Education (PE) (Apple, Ellis, and Hintze, 2016) | Defining Learning to Learn (L2L) Practices Utilized in Process Education (PE) in the Process of PE: L2L Experiences | Learning to Learn (L2L) (Kelly, 1999 as cited by Priestley & Humes, 2010) |
|---|--|---|
| 1. Methodologies; 2. Learning Process Methodology; 3. Reflection/ Meta-Cognition |  | The curriculum as content, and education as transmission (reproduction) |
| 4. Self-Assessment; 5. Performance Criteria; 6. Self-Growth/ Growth Mindset |  | The curriculum as product, and education as instrumental (production); and |
| 7. Accelerator Model; 8. Performance Measures; 9. Performance Model; and 10. Classification of Learning Skills |  | The curriculum as process, and education as development (transformation). |

Summary of Table 1: Table 1 exhibits, “The PE: L2L Constructs Model”. This model was created by the authors and refined via feedback by members of the “Academy of Process Educators”. The Table is organized with a list of 10 PE outcomes and experiences on the far

right with a definitive set of triangular models in the midsection that connect PE with L2L and on the far left are the 3 L2L definitions that accurately define curriculum as reproduction, production, and transformation respectively. A list of Triostatistical Methods, Models, and Metrics for PE: L2L follows in Table 2.

Support for Process Education and Learning to Learn

Process Education (or “PE”) has been in some form or fashion on the educational landscape for approximately 26 years. Support for its concepts and ideology have gained widespread backing. Evidence of this can be seen in the 2016 research article entitled, “25 Years of Process Education: Commemorating 25 Years of Scholarship in Process Education and the 10th Anniversary of the Academy of Process Educators” by Apple, Ellis, and Hintze. They state the following in support for PE in “25 Years of Process Education”:

As of this writing, Process Education (PE) has been around for 25 years. If it were a person, we would expect to see it making its own way in the world — standing on its own two feet, as it were — in contexts that no longer necessarily involve those who brought it into being. And so it is. The life and growth of this philosophical approach to education consists of various stages of growth, important milestones, and noteworthy contributions and achievements. And as it has grown and evolved in clarity, organization and utility, its impact upon higher education has only increased. Over the last 25 years more than 50,000 faculty, staff, and administrators have been exposed to the principles and practices of Process Education, largely through professional development and scholarly efforts. While there is no way to accurately tally those who have adopted even some of what Process Education offers, a diverse community of serious practitioners has evolved over time. The genesis of this group began with a series of conferences entitled Problem Solving Across the Curriculum (1990–1996) and the community grew between 1999 and 2002 and became more coherent as a result of a major scholarship effort (The Faculty Guidebook: 2003–2007), eventually culminating in the Academy of Process Educators (2007 to present). This group is not definitive; there are Process Educators who are not members of the Academy and, thanks to the “stickiness” of many of the ideas in Process Education — that they have import, attraction, and utility that are obvious to many educators — there are surely individuals who could be termed “Process Educators” who may well have never heard the term Process Education.” (Apple, Ellis, & Hintze, 2016, p.3)

Support for “Learning to Learn” (or “L2L”) is presented in the 2013 Oxford Review of Education research article by Pirriea and Thoutenhoofd (2013) entitled, “Learning to Learn in the European Reference Framework for Lifelong Learning” that states the following:

The hallmark of L2L is the development of a fluid sociality rather than the promotion of fluent task-oriented behaviour. Moreover, we believe that the embodied, situated, affective and creative dimensions of L2L have previously been subordinated to the cognitive dimension, and have thus received insufficient attention. This is partly due to the fact that for the last 50 years human capital theory has served as a powerful steering mechanism across the European political landscape (Gillies, 2011, p. 240). This article is intended to redress this imbalance, and more importantly to begin to clarify the epistemological basis of L2L. This will entail wresting this concept from a narrow identification with self-regulated learning and meta-cognition.” (p. 609)

The Process Education: Learning to Learn (PE: L2L) Conceptual Framework

There are critical components of implementing “Process Education: Learning to Learn” as dynamic and interactive learning experiences that foster and promote “self-growth”. This process can best be illustrated in the form of a concept map. Concept mapping by nature inherently displays all the various aspects of an ideology or procedure. Jabareen (2009) in his work “Building a Conceptual Framework: Philosophy, Definitions, and Procedure” defines a conceptual framework as

a network, or “a plane,” of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena. The concepts that constitute a conceptual framework support one another, articulate their respective phenomena, and establish a framework-specific philosophy. Conceptual frameworks possess ontological, epistemological, and methodological assumptions, and each concept within a conceptual framework plays an ontological or epistemological role. The ontological assumptions relate to knowledge of the “way things are,” “the nature of reality,” “real” existence, and “real” action (Guba & Lincoln, 1994). The epistemological assumptions relate to “how things really are” and “how things really work” in an assumed reality (p. 108). The methodological assumptions relate to the process of building the conceptual framework and assessing what it can tell us about the “real” world.” (Jabareen, 2009, p. 49).

Jabareen (2009) originally stated in his publication in the *International Journal of Qualitative Methods* entitled, “Building a Conceptual Framework: Philosophy, Definitions, and Procedure” the following:

that the main features of conceptual frameworks are as follows:

- 1.) A conceptual framework is not merely a collection of concepts but, rather, a construct in which each concept plays an integral role. According to Miles and Huberman (1994), a conceptual framework “lays out the key factors, constructs, or variables, and presumes relationships among them” (p. 440);
- 2.) A conceptual framework provides not a causal/analytical setting but, rather, an interpretative approach to social reality (Jabareen, 2009);
- 3.) Rather than offering a theoretical explanation, as do quantitative models, conceptual frameworks provide understanding (Jabareen, 2009);
- 4.) A conceptual framework provides not knowledge of “hard facts” but, rather, “soft interpretation of intentions” (Levering, 2002, p. 38);
- 5.) Conceptual frameworks are indeterminist in nature and therefore do not enable us to predict an outcome. To support this notion Levering (2002) has suggested that “the idea that human behavior can be explained and predicted is roughly based on the concept of external factors being caught in an accidental cohesion, and the idea that human actions can be understood, but not predicted, is based on the concept of freedom (p. 38);
- 6.) Conceptual frameworks can be developed and constructed through a process of qualitative analysis (Jabareen, 2009); and lastly;
- 7.) The sources of data consist of many discipline-oriented theories that become the empirical data of the conceptual framework analysis. Although conceptual framework analysis generates theories or conceptual frameworks from multidisciplinary bodies of knowledge, metasynthesis, a systematic synthesis of findings across qualitative studies, seeks to generate new interpretations for which there is a consensus within a particular field of study (Jensen, & Allen, 1996; Nelson, 2006; Sandelowski, Docherty, & Emden,

1997). In “metasynthesis”, which is both hermeneutic and comparative in nature, the researcher aims to expand our interpretation (Sandelowski, 1993) beyond existing qualitative studies from the same discipline (Paterson et al., 2009). Moreover, whereas conceptual analysis aims to produce concepts, metasynthesis produces metaphors, ideas, concepts, and more. Usually, metasynthesis initially selects studies and then identifies key metaphors, ideas, concepts, and relations in each one (Nelson, 2006; see also Campbell et al., 2003; Noblit & Hare, 1988 and Jabareen, 2009). (p. 51)

Effective Implementation of the Process Education Conceptual Framework

To facilitate effective learning experiences that are transformational in approach based on the way the curriculum is designed, how it is applied, and measured, requires an intentional engaged process (Mastery of the curriculum is critical for implementation). The process also involves developing the learning and growth environment that is transformational, affective, and effective in engaging the learner to a newly developed personal life vision. The facilitator has to create a public desire for a consistent measurement approach with clear performance criteria that challenges the learners to keep improving their performance. It also requires the facilitator to formally integrate methodologies.

There is a distinction that is important in facilitating learning that is transformational in order to produce designed learning outcomes. One of the aspects that is ignored is the experiential learning which involves active learning and training of the mind to think in a certain way that engages the learner to think and act. There are attributes to adult learning experience needed in fulfilling personal urgency and growing self-efficacy (non-cognitive leadership efficacy “Experiential learning” (Kolb, 2014) that also contribute to developing awareness on self-concept (Lynch & Chaves, 1975; Lynch, Norem-Hebeisem & Gergen, 1981). In the last 20 years (Apple, Ellis and Hintze (2016) have developed a L2L curriculum through the lens of Process Education that has been transforming the way higher education is done for over 25 years by focusing on growth and development. The PE: L2L curriculum development process has identified specific aspects that are effective in demonstrating change and a transformational learning environment that facilitators or learners have to apply in order to produce desired measurable learning outcomes in teaching and learning. However, there are eight institutional cultural and policy critical barriers that have been identified through teaching institutes and “learning to learn” camps by Pacific Crest that have been found to present challenges in the efforts of transforming teaching and learning. Table 2 that follows includes a list of those barriers that have been found to be critical in facilitating a culture of success in educational institutions that must be addressed in order to achieve the desired transformational and high quality learning environment and leadership (based upon the 14 aspects-Reds to Green presented in as “Figure 8 Scales used to describe red, yellow, and green performance in each aspect”, Beyerlein, Burke & Hintze, 2012).

Table 2.

Critical Cultural Barriers in Implementing Learning to Learn

| Barriers | Why are They Significant Barriers |
|---|--|
| 1. Fixed Mind | Close to 100% of incoming students lean strongly to a fixed mindset vs. growth mindset |
| 2. Self-evaluation | Individuals are unaware of the power of self-assessment |
| 3. Not owning student failures | Most faculty are unwilling to fully accept the responsibility for facilitating success for all their students |
| 4. Disdain for use of methodologies | Few faculty believe in the generalization of process knowledge as a model and believe that it dumbs down the expertise |
| 5. The limited Focus on knowledge vs. Learner performance | Most faculty focus teaching knowledge level but not performance of the learner and themselves |
| 6. Non-transformational learning culture (Red to green culture) | Change and growth are impacted by the educational culture that is established and unfortunately the current culture is non-growth culture |
| 7. Limited facilitators tool set | Facilitating a Learning to Learn Camp/Course requires a strong set of skills in facilitation, assessment, mentoring (constructive interventions) |
| 8. Minimal believe in the value of Educational research | Most faculty teach the way they were taught and rarely use research to inform teaching (common practice is try and error approach) |

Summary of Table 2: Table 2 illustrates, “Critical Cultural Barriers in Implementing L2L”. The Table is organized with a list of barriers on the right with adjacent definitions to the left that explain in detail why the barriers are significant. Educational research and its contributions in terms of value can address all of the critical Cultural Barriers that can impede effective PE: L2L implementation. There is a virtual plethora of research (both continuing and ongoing) that can and will allow the facilitator of PE: L2L to ground their work in empirical evidence that supports the most positive aspects of PE: L2L. However, the facilitator must be aware of the notion of superiority complex which can and will defeat all of their efforts in PE: L2L. This phenomenon is better characterized by the Dunning–Kruger effect:

The Dunning–Kruger effect is a cognitive bias wherein unskilled individuals suffer from illusory superiority, mistakenly assessing their ability to be much higher than is accurate. This bias is attributed to a metacognitive inability of the unskilled to recognize their ineptitude. Conversely, highly skilled individuals tend to underestimate their relative competence, erroneously assuming that tasks which are easy for them are also easy for others. As David Dunning and Justin Kruger of Cornell University conclude: "The miscalibration of the incompetent stems from an error about the self, whereas the miscalibration of the highly competent stems from an error about others. (Carlson, n.d.).

A profile of PE: L2L defeats and counters the Dunning–Kruger effect the next section

covers this topic in detail.

A Profile of PE: L2L Facilitator's Responsibilities [an In-Depth Profile]

Learning to learn experience requires the instructor as “PE: L2L Facilitator” to have specific set of instructional efficacy skills that informs practice and identifies the initial “self-growth learning conditions” to students. This set of PE: L2L skills includes: 1. How to help students identify their own learning risk factors; 2. How to develop student’s ability to identify their own learning outcomes; and 3. Development of student growth goals in the learning environment as an ongoing process. As such, a PE: L2L Facilitator of (for example) a “PE: Learning to Learn Camp” or a “specified course that adheres to PE: L2L principles” must engage students through a PE: L2L pre-assessment process. It is this process which helps the students to do the following: A.) Identify their own individual’s personal learning risk factors; B.) Obtain their own learning and growth goals; and C.) Build connectivity in at least three learning-related dimensions to aid them in building instructional-setting rapport. Subsequently, the PE: L2L Facilitator creates a “focused-on-self-growth” learning environment that holistically generates “a cultural desire for the transformational learning.” Accordingly, the Facilitator must know which PE: L2L process, tool, technique, or strategy is effective in driving both the learner and the learning environment towards “dedicated constructive intervention” designed to produce growth and a high-quality learning environment. It is also understood that the Facilitator has to have a clear understanding of the specified curriculum and its design, sequencing, and synergistic qualities that will uniquely allow students to leverage (in timely manner) opportunities to consistently advance and promote self-growth.

Further additional essential knowledge areas that are needed by the PE: L2L Facilitator include using the guiding principles of Process Education that are generally adhered to in one’s daily professional, family, and personal life (these are also considered to be “empowerment processes”). Indeed, the Facilitator of PE: L2L must know how to elevate his/her own practices in all the key PE processes in order implement the planned curriculum through PE: L2L effectively. This knowledge thereby aids the Facilitator in modeling “quality performance” in each of the following PE transmission of information processes: a.) facilitation; b.) assessment; c.) mentoring; d.) collaborating; e.) evaluating; f.) problem solving; g.) leadership; and h.) self-growth. Knowledge in each of the aforementioned eight PE information processes also requires the facilitator to have a very clear distinction between the two operative PE parameters of: 1.) Assessment [or “the arena of measurement”]; and 2.) Evaluation [or “the arena of judgment”]. The PE: L2L Facilitator thereby models their personal experiences and curriculum expertise in both of these operational arenas with their students. Thus, an effective PE: L2L Facilitator is also an engaging “PE: L2L Mentor” who then guides performance to advance assessment (via the practice) for the specific purposes of providing empowerment in the learning environment to enhance overall self-concept and in this manner elevate self-growth throughout the learning process. There are 10 primary characteristics that a PE: L2L Facilitator as a PE: L2L Mentor must have to both promote and sustain the process of self-growth in the learning environment they are:

1. Have a very strong belief in each learner’s potential for success, convey this clearly to each student consistently, and share personal experiences and results of previous students’ successes;

2. Are very caring individuals who connect with their students, build rapport and express this caring in a productive and meaningful way by putting student's interests first;
3. Have emotional toughness (strong affective skill set) that allows them to carry out tough love – holding their students accountable for their commitment and performance given very difficult personal factors and circumstances;
4. Consistently self-assess their own performance, learn and grow from these performances so their future PE: L2L performance continually improves and thusly they are much more successful for a greater percentage of the students under their care;
5. Continuously model a set of productive professional behaviors that students will and can emulate and use “a language of success” that produces positive reinforcement, encourages, and thereby creates an environment for productive growth;
6. Mentor the growth of their student's learning skills by letting learners do for themselves, learn by discovery, and provide constructive interventions when learners struggle with specific learning skills;
7. Put in extra effort to reach out to students who are having difficulties and are about to withdraw from the process and bring them back successfully;
8. Produce an enriching and engaging learning environment where there is a high expectation, a strong shared commitment, adventurous risk taking, inspiration and encouragement, temporary failure, quality assessment, reflection and documentation of growth, and steadily increasing challenges;
9. The facilitator also takes the responsibility for the performance and success of each learning team and member within the learning community by preparing facilitation plans for each activity and effectively implements a focus on higher levels of learning through critical thinking and having students teach each other through communication skills to learn intra-group and inter-group communication. Facilitation with improvisation must be used when necessary. This process then motivates via counsel, creates collaboration, sustains professional development, and gives quality feedback to grow the performance of each learning team; and
10. The Facilitator diagnoses key individual learning issues and in collaboration with each student come up with customized growth plan that addresses these learning issues. The Facilitator also challenges each student daily to help keep improving their performance by assessing work products, assessing the reflective and assessment produced by the students, and assessing student's self-assessments.

Practical Measurement of PE: L2L Using Statistics

The authors provided an in-depth workshop on statistical measurement during the 2017 Academy of Process Education Conference. The conference workshop to place in the following manner using the framework illustrated in Appendix A.

Measurement of Process Education: Learning to Learn for Assessment and Continuous Growth

Measurement is essential to Process Education: Learning to Learn. It is very evident in the assessment methodology, process, and procedures. There are two primary and very valuable tools that are essential to the measurement of PE: L2L and its outcomes. They are a vital part of

the science of “Triostatistics” which is the measurement field adjacent to PE: L2L. The Triostatistics assessment measurement procedures that have direct application to PE: L2L are Tri-Squared Analysis and Accumulative Manifold Validation Analysis or “AMOVA”. They are defined as follows: 1.) Triostatistics: The science and field of Triostatistics is comprehensively defined as follows: “The word “Triostatistics” is a portmanteau of the terms: “Trichotomous” and “Statistics”; that can also be referred to as “Triostat”, “Advanced Trichotomy” or “The Science of Trichotomy”. More definitively Triostatistics is descriptively defined as a branch of the science statistics that is the specific application of statistical methods, techniques, and strategies to a wide range of topics that are concerned with primary and post hoc measurements, the mathematics of trichotomy, innovative statistical measures, and in many cases the outcomes of the Tri-Squared Test. (Osler, 2014, p. 33)

At the heart of this statistical discipline is the application of the mathematical “Law of Trichotomy”.

The science of Triostatistics encompasses the design of Tri-Squared experiments, especially in education and social behavioral settings. However, the utility and flexibility of Triostat as a body statistical metrics allows it to be applied to a variety of sciences (through the use and application of the mathematical “Law of Trichotomy”) (Osler, 2014). Tri-Squared Analysis: The Total Transformative Trichotomous-Squared Test provides a methodology for the transformation of the outcomes from qualitative research into measurable quantitative values that are used to test the validity of hypotheses. The advantage of this research procedure is that it is a comprehensive holistic testing methodology that is designed to be static way of holistically measuring categorical variables directly applicable to educational and social behavioral environments where the established methods of pure experimental designs are easily violated.

The unchanging base of the Tri-Squared Test is the 3×3 Table based on Trichotomous Categorical Variables and Trichotomous Outcome Variables (see Table One Sample Research Report Table in the Appendices on p. 8). The emphasis the three distinctive variables provide a thorough rigorous robustness to the test that yields enough outcomes to determine if differences truly exist in the environment in which the research takes place. As it states in the IGI Global book entitled, *Handbook of Research on Educational Technology Integration and Active Learning* (Keengwe, 2015):

The Tri-Squared research procedure uses an innovative series of mathematical formulae that do the following as a comprehensive whole: (1) Convert qualitative data into quantitative data; (2) Analyze inputted trichotomous qualitative outcomes; (3) Transform inputted trichotomous qualitative outcomes into outputted quantitative outcomes; and (4) Create a standalone distribution for the analysis possible outcomes and to establish an effective—research effect size and sample size (see Figures 3 and 4 in the Appendices p. 11, respectively) with an associated alpha level to test the validity of an established research hypothesis (Osler & Mutisya, 2013, p. 14)

AMOVA which was first defined by Osler in 2015 in the research publication entitled “AMOVA [“Accumulative Manifold Validation Analysis”]: An Advanced Statistical Methodology Designed to Measure and Test the Validity, Reliability, and Overall Efficacy of Inquiry-Based Psychometric Instruments”, as follows

AMOVA: Accumulative Manifold Validation Analysis [“AMOVA”] is a specialized statistical methodology designed to test the internal and external validity of uniquely designed psychometric instruments. AMOVA uses a mathematically specialized form of

inquiry that is an arithmetic form of natural mean optimization that is parallel to the discipline of linear stochastic modelling. AMOVA is an in-depth statistical procedure for the internal testing of research instruments based on the metrics from a novel taxonomy based on and grounded in “Process Education”. This new taxonomy is referred to as the “Taxonomy of Process Education” (or “TPE”). (Osler, 2015, p. 20)

Osler further states in the 2015 research article “AMOVA” published in the 2015 the following:

The TPE is based off of the Process Education (or “PE”) four-level measures designed to measure self-growth. The Taxonomy of Process Education (TPE) is based off of the Process Education [PE] (Pacific Crest, 2015) four-level measures designed to measure self-growth. The PE four levels in particular are viewed as sequential stages (as levels and/or phases) of professional development. The four-level measures are also constructed to build towards the highest level of content knowledge or subject matter expertise and are: 1.) Emerging (the lowest level); 2.) Developing (the next stage that arises from Emerging and illustrates a higher level of self-growth and authentically-based learning); followed by 3.) Proficient (the next level and second highest level of growth displaying the ability to adequately implement the task and/or skillset); and lastly followed by 4.) Accomplished (the highest level demonstrating mastery of the topic, concept, task, skillset, and/or requirement). The PE four levels in particular are viewed as sequential stages (or phases) that through the TPE ideally measure “professional development” (Osler, 2015). Table 5 immediately follows and details the 0 through 4 metrics of TPE by providing a logical sequence of definitive categories, scalar characterizations, assigned weights, calculative outcomes, and data type descriptions. (Osler, 2015, p. 20)

Table 3.

The AMOVA Measurement Comprehensive Continuum of Self–Growth Table

| Repetitively Assigned Mathematical Weight | Equal to | Measurement of Self-Growth Scale | Identical to | Repetitive Weight Assignment Based on the Taxonomy of Process Education _{Self-Growth} | Identical to | Taxonomy of Process Education <i>Self-Growth</i> Weighted Accumulative Outcome | Parallel to | Mathematical Measurement Data Type Scalar Level |
|---|----------|----------------------------------|--------------|--|--------------|--|-------------|--|
| 0 | = | Empty | ↔ | None | ≡ | Non-Existent | | <i>Self-Growth</i> in terms of Learning is at the <u>Vacant Level</u> = Void |
| 1 | = | Weak | ↔ | Seldom | ≡ | Emerging | | <i>Self-Growth</i> in terms of Learning is at the <u>Nominal Level</u> = Name Only |
| 2 | = | Mild | ↔ | Occasionally | ≡ | Developing | | <i>Self-Growth</i> in terms of Learning is at the <u>Ordinal Level</u> = Rank Only |
| 3 | = | Strong | ↔ | Often | ≡ | Proficient | | <i>Self-Growth</i> in terms of Learning is at the <u>Interval Level</u> = Equidistant or Balanced in Area |
| 4 | = | Perfect | ↔ | Consistently | ≡ | Accomplished | | <u>Self-Growth</u> in terms of Learning is at the <u>Ratio Level</u> = Ideal from the Source or Starting Point |

Summary of Table 3: The defined in the Journal of Educational Technology (Osler, 2015) publication entitled, “AMOVA” stated the following that applies to the above table:

The AMOVA Continuum of Self–Growth provided above is designed to displays the sequential (left to right) relationship between the instrument values for the purposes of validation. In this manner the individual weighted outcomes have a multiple manifold applicable rubric that illustrates how scores were obtained, their relative value, and their expression in terms of the Taxonomy of Process Education in terms of Self–Growth. Table

4 follows and highlights “The Accumulative Crosswise–Validation Analysis Table.” (Osler, 2015, p. 24)

This Table expands the scope of AMOVA and measures learning by defining it through a self-growth categorization methodology. Through this categorization the “Taxonomy of Process Education” defines statistical data types as categories of learning that build upon one another that at the highest level illustrate that learning can be defined from a self-growth perspective. For example, as a maximum score of the integer “4” = “Perfectly Consistent Accomplished Ideal Learning from the Source” (that is at a Ratio Level and exemplifies a statistical “Ratio” data type). Figure 1 follows and details the “Taxonomy of Process Education” models.

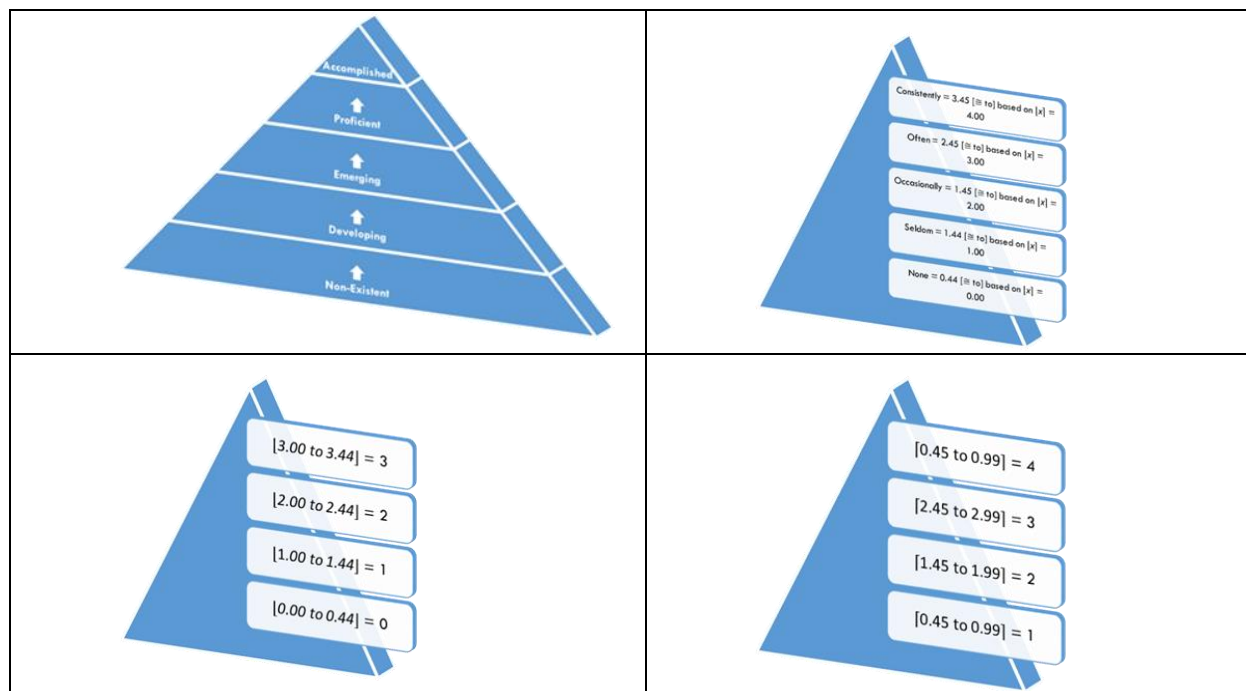


Figure 1. The Primary Model of the Taxonomy of Process Education in Terms of Self–Growth as Used to Measure All Types of Learning as Pure Forms of Professional Development

Summary of Figure 1: Image 1. The Accumulative Manifold Validation Analysis (AMOVA) Figure above is the “Taxonomy of Process Education in Terms of Self–Growth”. It is designed to illustrate the sequential hierarchal (from bottom to top) steps that one matriculates through from “No Experience” (i.e. “Non–Existent”) to a maximized “Accomplished” Level indicating the penultimate level of achievement of “Professional Development”. This particular taxonomy has universal applicability. The terms and associated values can be used to assess growth, disposition, content mastery, level of expertise, value of particular items, analysis of skill sets, the power relative to performance, the building of a specific set of measurement data (as in the course design “4A Metric” from Techtonics) (Osler, 2010), the creation of implicit goals and objectives, and the amount of assigned value to a particular criterion. The quantitative numerical equivalent of these “indices” or “indicators” can be found in Table 5 which displays the holistic “Taxonomy of Process Education: Learning to Learn Continuum Measurement Rubric” specifically for the Itemization of Accumulative Crosswise–Validation Analysis for the purposes of research instrumentation psychometric analysis. (Osler, 2015, p. 24)

Summary and Conclusion

The use of advanced triostatistics such as the Tri-Squared Test and that AMOVA triostatistical procedures can very efficiently and effectively measure novel methodologies such as Process Education: Learn to Learn. PE: L2L (effectively in the landscape of education K–20+) has the ability to transform all of education (in a multiplicity of sectors)—from the elementary classroom to the halls of higher education from the unique perspective of “learning as present, past, and future professional development”. The conceptual framework, metrics, measurement, strategies, and “Taxonomy of PE: L2L” can not only shed light on innovation in academia, but it can also greatly aid in the producing the next generation of educators who will shape and formulate how education will impact learners right now and in the near future.

The implementation of the triostatistics measurement analytics presented in this narrative (AMOVA and Tri-Squared Analysis in particular) can greatly enhance the understanding of “education as a science” as the active development of the comprehensive field of “Eduscience” (Osler, 2013) as comprehensive field. The implications are great and truly expansive for the growth and sustainable future of academicians as leaders in the academy. It is these leaders who seek to address, “the challenges and social change that demands a reconceptualization of education as a process to emphasize entrepreneurship and leadership throughout the academy” (Osler & Mutisya, 2013, p. 21). The measurable contextual texture of this change in education begins with the paradigm shift brought on by the measurement of learning (via novel statistical measures such Tri-Squared and AMOVA) and the implementation of comprehensive learning models such as PE: L2L. The measurement of PE: L2L directly addresses “transformational change” by thereby providing an acceptable data analysis conceptual framework that is grounded in years of research and training from both Europe and the United States. The advent of the PE: L2L conceptual framework measurement methodology now provides PE with a researchable acumen of credentials and metrics that allows educational researchers to further interpret the in-depth and rich complexities of learner self-growth through the lens of self-concept. The widespread use of measurable PE: L2L in this context creates a uniquely empowering and dynamically engaging learning methodology that has a professional development perspective that is both approachable and plausible. This ultimately will push the body of knowledge in education (and all of the related fields that it both nurtures and touches) into new and vast expanses of creative learning environments established through energetic innovation that is focused on proprietary student development, authentic professional development, and capacious self-growth.

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Appendix A

Title: “Measuring Impact of Teaching and Learning”

**Facilitators: James Osler and Masila Mutisya (North Carolina Central University)
Steve Beyerlein (University of Idaho)**

Description: Beginning with principles of educational research, methods for validating effectiveness of teaching/learning in different venues will be explored. These include specific teaching/learning practices, course design and delivery, and degree programs. Added value from quantitative and qualitative methods will be outlined along with applications for mixed methods studies. Building from this foundation, strategies for acquiring evidence of educational effectiveness of Process Education theory will be examined. It is hoped that this workshop will create a core group committed to research teaching/learning methods that explore personal and professional development implied by the Profile of the Collegiate Learner.

Session Outcomes:

1. Clarify the role of Measurement, Assessment, and Evaluation in Educational Research.

2. Overview statistical models used to examine educational research questions.
3. Identify personal applications for mixed method tools in Educational Research related to Process Education.

Materials:

- Overview of Measurement module from Faculty Guidebook (1.4.1)
- Visual Taxonomy of Educational Research Methods (derived from pages 88, 89, 91 in James Osler's Interactive Statistics Methods text);
- Video on the Tri-Squared Method https://www.youtube.com/watch?v=n7q5_9-LsEE;
- Shared Governance article from IJPE that illustrates use of Tri-Squared Analysis; and
- Profile of the Collegiate Learner and associated rubrics.

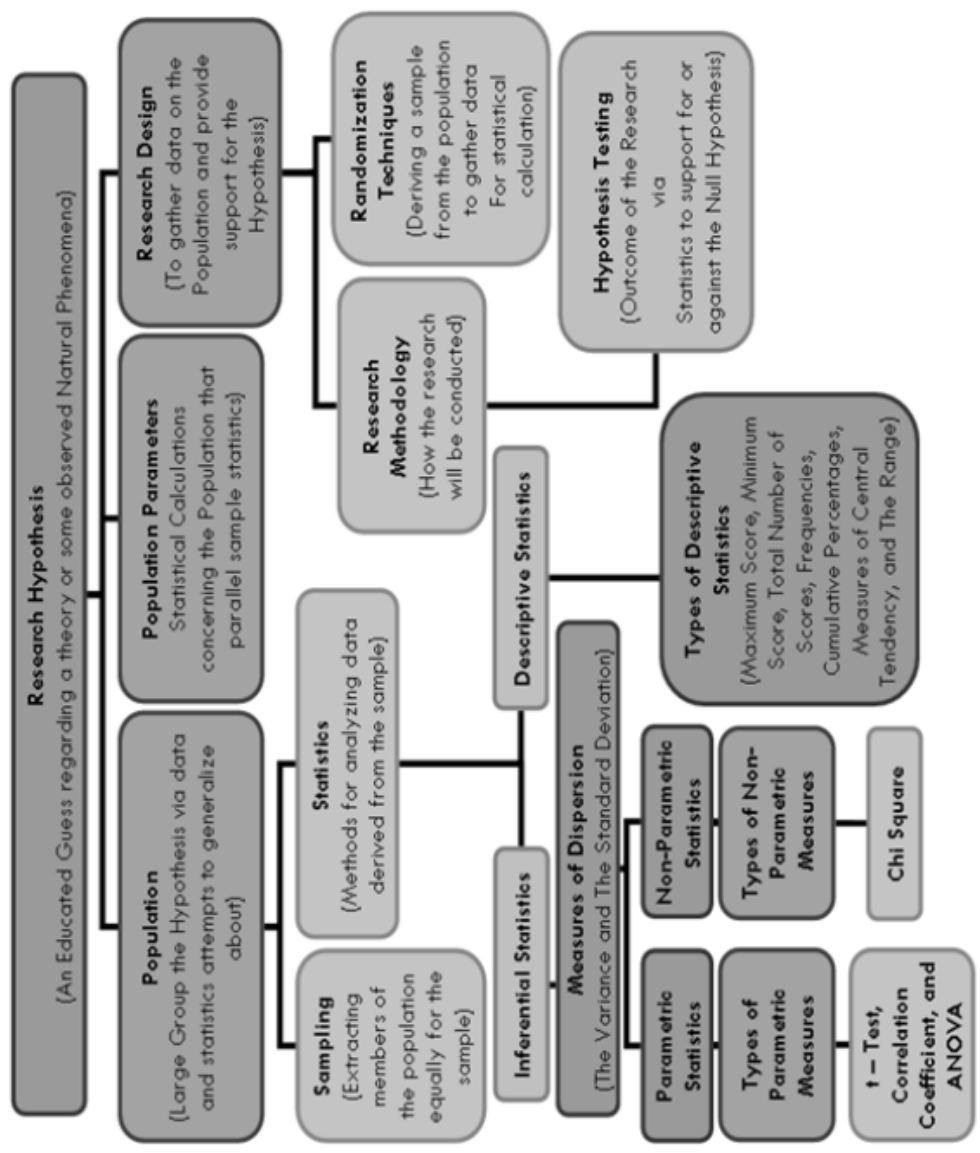
Session Timeline:

- **Pre-Workshop Critical Thinking Questions (posted on Academy Forum)**
 - a) What principles of measurement do you find most intuitive? What principles do you find most confounding/challenging? Why?
 - b) What are the strengths and liabilities of quantitative, qualitative, and mixed methods in educational research?
 - c) Which of the educational research methods shown in the Visual Taxonomy have you used previously? How did you apply these?
 - d) What are the benefits of using the Tri-Square method in the IJPE shared governance article? What questions do you have about its application?
- **Synthesis of Academy Forum postings (30 minutes)**
- **Group Processing of a case study (30 minutes)**
 - Steps in applying the Tri-Square method
 - Literature Review on academic leadership/shared governance
 - Frame compelling Research Questions/Hypotheses
 - Design quantitative and qualitative instruments for collecting data
 - Select categorical variables and outcome variables
 - Choose effect size, sample size, and desired alpha level
 - Formulate mathematical hypotheses about interactions between variables
 - Use Tri-Square to quantify significance of hypothesized interactions
 - Alternative categorical variables and outcome variables (Masila)
 - Q/A and participant discussion (all)
- **Tools for Process Education Research (25 minutes)**
 - Profile of the Quality Collegiate Learner and associated rubrics (Steve)
 - Examples of student work associated with measuring growth (L2L examples)
 - Brainstorming collaborative PE research topics related to the L2L (all)
- **Workshop Assessment (5 minutes)**

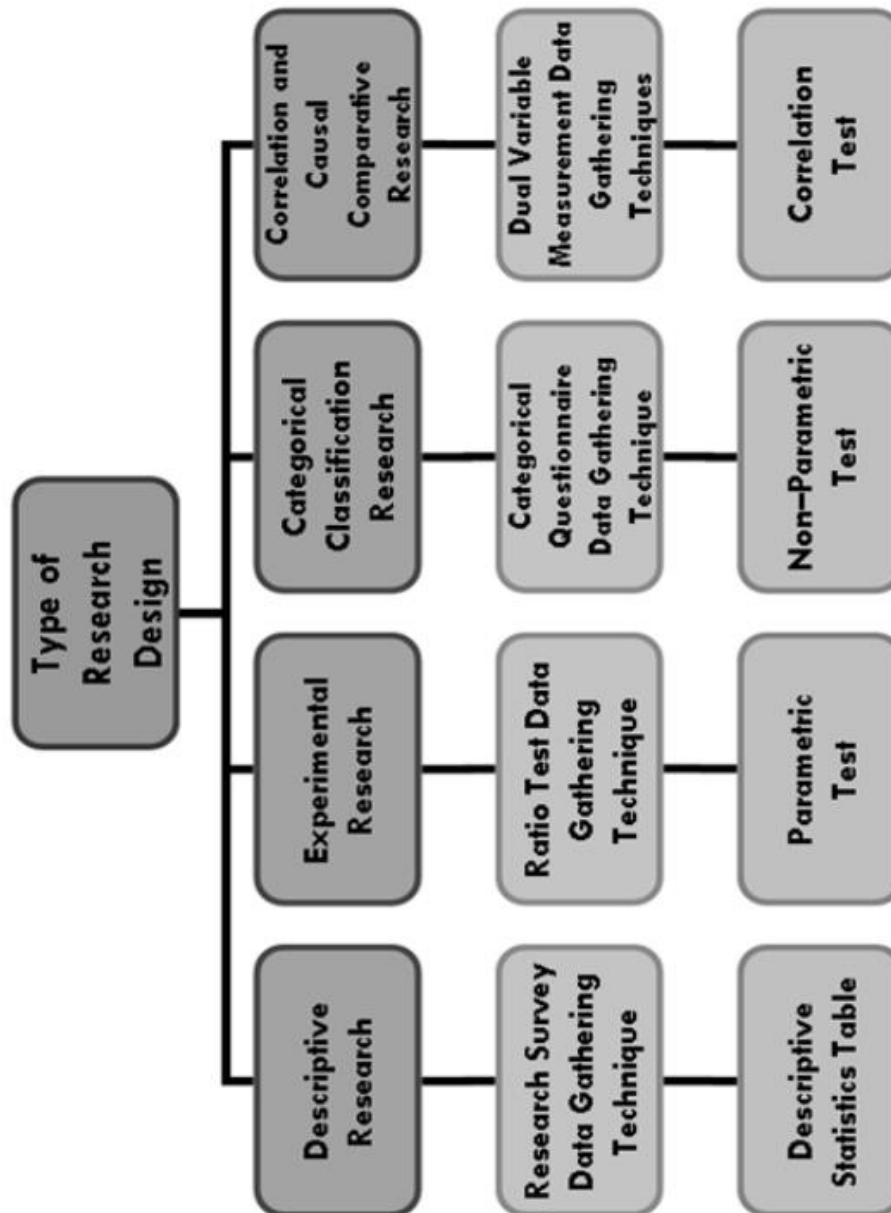
Explaining Visually the Value of Mixed Methods Research

The authors provided “A Visual Taxonomy of Educational Science Statistical Measurement Methodology” from the Osler (2012b) book, “Interactive Statistics Methods ©” used During the 2017 Academy of Process Educators Workshop (the Visual Taxonomy follows on the next three pages).

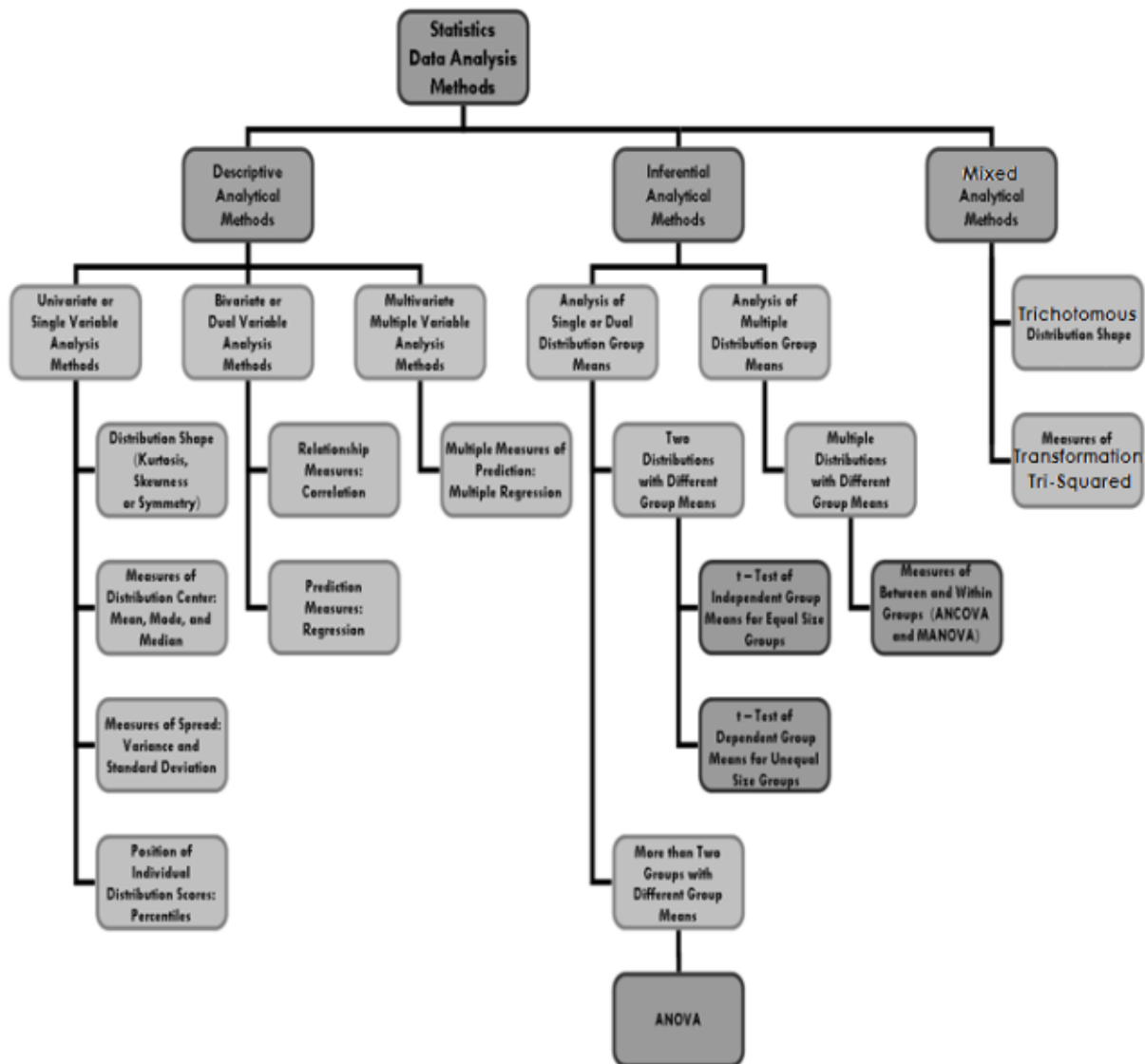
A Visual Taxonomy of Educational Science Statistical Measurement Methodology:
From the Book Entitled, “Interactive Statistics Methods™ ©” by James E. Osler II



The Research Design Model Illustrating the Four Major Types of Investigations Typically Conducted by Researchers with the Associated Types of Research and Data Gathering Methods



The Statistical Data Analysis Methods Model Illustrating Data Analysis Methodology Based upon the Selection of the Type of Data



91 [Modified]

INTERACTIVE STATISTICS METHODS E-BOOK™: A Comprehensive Guide to Statistical Formulae, Methodology, and Techniques. Osler Studios Incorporated ©, All Rights Reserved.



Equity in Education Connects Students Achievement and School Improvement

Dr. X

Abstract

This paper examines the importance that positive school culture and climate has on students, especially those who attend urban schools in the United States. A clear understanding of what school culture and climate entail is a critical first step in finding ways to promote strong versions of these in today's schools. Studies have demonstrated that schools that ensure a positive leaning culture are correlated with higher achievement, graduation rates and overall student success. Efforts to improve these aspects are largely reliant on teacher leaders and school administrators. Unfortunately, historical efforts, including increased funding, to provide equal opportunities for all public-school students has not been realized. We argue that teachers and administrators must employ tools of climate and culture to build achievement through equity to ensure a high-quality education for all students.

Keywords: Equality, School Climate, School Culture

Introduction

Twenty-first century schools need a major overhaul. They have the major challenge of educating a new diverse population that requires much more than just basic reading, writing and arithmetic. They need cultural intelligence, high-impact learning skills, language proficiency, and overall quality education.

In this article, we examine the role that climate and culture play in enhancing school equity and increasing student achievement. Specifically, we will review some of the literature around these topics and their relationship to school equity, funding mechanisms, and best practices.

It is important to note that the challenges facing urban school systems pertaining to student achievement and school improvement are not entirely unique to metropolitan areas, nor are all urban school systems confronted with the same challenges. Urban schools do, however, share some unique physical and demographic characteristics that differentiate them from suburban and rural school districts. In comparison to suburban and rural districts, urban school districts are frequently marked by higher concentrations of poverty, greater racial and ethnic diversity, larger concentrations of immigrant populations and linguistic diversity, and more frequent rates of student mobility (Kincheloe, 2010).

As a consequence, the relationship between school climate and culture is a complex topic for urban schools. Fortunately, there is a movement among educational associations to address this issue. One such effort by the National School Climate Council has resulted in the National School Climate Standards. These five standards address school climate for policymakers. The five standards are:

1. The school community has a shared vision and plan for promoting, enhancing and sustaining a positive school climate.

2. The school community sets policies specifically promoting (a) the development and sustainability of social, emotional, ethical, civic and intellectual skills, knowledge, dispositions and engagement, and (b) a comprehensive system to address barriers to learning and teaching and reengage students who have become disengaged.
3. The school community's practices are identified, prioritized and supported to (a) promote the learning and positive social, emotional, ethical and civic development of students, (b) enhance engagement in teaching, learning and school-wide activities; (c) address barriers to learning and teaching and reengage those who have become disengaged; and (d) develop and sustain an appropriate operational infrastructure and capacity building mechanisms for meeting this standard.
4. The school community creates an environment where all members are welcomed, supported, and feel safe in school: socially, emotionally, intellectually and physically.
5. The school community develops meaningful and engaging practices, activities and norms that promote social and civic responsibilities and a commitment to social justice. (Pickeral, Hughes & Hutchison, 2009)

The national trend is to promote a positive school climate and culture. It is believed that these factors will enhance students' learning opportunities and make schools better. On this basis, we will now explore the definitions of climate and culture in order to outline their importance for school improvement.

What is Climate and Culture?

School leaders often use the terms climate and culture interchangeably. While the two are related, the literature differentiates these concepts in essential ways. For instance, the National School Climate Council (2007) described school climate as "the quality and character of school life... based on patterns of students', parents', and school personnel's experience of school life and reflects norms, goals, values, interpersonal interactions, teaching and learning practices, and organizational structures" (para. 1). Similarly, Peterson and Deal (2009) noted that "climate emphasizes the feeling and current tone of the school, the emotional content of the relationships, and the morale of the place" (p. 9). Meanwhile, the Glossary of Educational Reform define school culture as:

the beliefs, perceptions, relationships, attitudes, and written and unwritten rules that shape and influence every aspect of how a school functions, but the term also encompasses more concrete issues such as the physical and emotional safety of students, the orderliness of classrooms and public spaces, or the degree to which a school embraces and celebrates racial, ethnic, linguistic, or cultural diversity. (Great Schools Partnership, 2019, para. 1)

Gruenert and Whitaker (2015) argued that culture and climate are constructs that describe the school environment: The former influences one's values and beliefs, while the latter "constitutes those values and beliefs in action" (p. 22). Similarly, the Alliance for Education Solutions (AES) defines school climate as "the feel of the school (the schools' attitude), the behaviors and points of view exhibited and experienced by students, teachers and other stakeholders" (2019, p. 1). The AES conversely defines school culture as "the way things are done in the school (the personality of a school), the underlying norms and values that shape patterns of behavior, attitudes and expectations between stakeholders in the school" (p. 1).

Gruenert (2008) more concisely defined school climate as “ethos, or spirit, of an organization” (p. 57), and the school culture as the personality of the organization.

In short, school climate refers to the individual experiences, attitude and feelings that students, teachers, and staff have about the school, while school culture typically refers to the long-term physical and social environment, which captures the interactions between teachers and other staff members as well as the beliefs, values, and assumptions they share (Gruenert, 2008). Both school climate and culture play a significant role in educational equity and school improvement, which we will discuss below.

Why Does School Climate and Culture Matter?

It is essential that school leaders work to create a safe, caring, responsive, and positive school culture to ensure that individuals receive the opportunities to be successful throughout their lives. Peterson and Deal (2009) concisely highlighted how important a positive school culture is for student achievement: “the key to successful school performance is heart and spirit infused into relationships among people, their efforts to serve all students, and a shared sense of responsibility for learning” (p. 7). Research also supports that the quality of the school climate may be the single most predictive factor in any school's capacity to promote student achievement (Jones & Shindler, 2016). School climate can be equated to a school personality, insofar as it is the visible aspect of the overall school environment.

A positive school climate has an effect on improved academic outcomes among diverse students (Astor, Benbenisty, & Estrada, 2009), the motivation to learn (Eccles et al., 1993), and increased high school graduation rates (Kena et al., 2014). Moreover, a series of studies have found that a positive school climate is correlated with decreased student absenteeism in middle school and high school (Gottfredson & Gottfredson, 1989; Rumberger, 1987) and lower rates of student suspension in high school (Lee, Cornell, Gregory & Fan, 2011).

Along with an increase in student achievement and higher graduation rates, a safe school climate is associated with a decrease in risky behaviors (Catalano, Haggerty, Oesterie, Fleming & Hawkins, 2004) and lower rates of student suspensions and discipline issues (Lee et al., 2011). Furthermore, a growing body of research suggests that a positive school climate is critical to effective risk prevention (Berkowitz & Bier, 2007) and health promotion efforts (Gottfredson, Najaka & Wilson, 2002; Juvonen, Le, Kaganoff, Augustine & Constant, 2004).

School climate has also been shown to affect middle school students' self-esteem (Hoge, Smit & Hanson, 1990) and to mitigate the negative effects of self-criticism (Kuperminc, Leadbeater & Blatt, 2001). In early adolescence especially, a positive school climate contributes to less aggression and violence (Gregory et al., 2010), less harassment (Kosciw & Elizabeth, 2006), less sexual harassment (Attar-Schwartz, 2009), lower levels of drug use, fewer self-reports of psychiatric problems (LaRusso, Romer & Selman, 2008) and fewer behavioral problems (Wang, Selman, Dishion & Stormshak, 2010).

The first step in changing a school's climate and culture is simply recognizing their existence and involving other stakeholders in meaningful decisions (Bulach, 2001). In fact, according to Bulach (2001), “a school's culture cannot be reshaped without some level of trust between the principal, the faculty, and the staff” (p. 50). Trust is the glue that holds the people together and keeps the school in harmony.

Influence of Leadership on Student Achievement and School Improvement

School principals are responsible for motivating teachers and students to achieve the highest levels of proficiency. Schools with higher performance are usually characterized by highly engaged principals who create a “collective leadership team” composed of teachers, parents, students, and members of the community. Indeed, “the most effective change in school culture happens when principals, teachers, and students model the values and beliefs important to the [school]” (Stolp, 1994). The collective leadership team has a powerful role to play in advancing the positive outcomes of student achievement, equity and school improvement. In a select number of schools, there are teacher-leaders who work with the principals to carry out the school’s mission and ensure that equity and inclusion are maintained. As Katzenmeyer and Moller (2001) noted, “the principal cannot be the only instructional leader in the building. Teacher leaders contribute to moving the leadership role [...] to improve student learning” (p. 2).

Osseo-Asare, Longbottom and Murphy (2005) maintains that effective teacher-leaders are those who support the building principal and commit to a collaborative working environment. Smith and Andrews (1989) indicated that the team approach works especially well in decision-making. Through their involvement in daily and critical decisions, teacher-leaders can represent the interests and concerns of the teaching staff and ensure that the principal’s decisions meaningfully impact teachers’ work.

The school principal is responsible for making sure that the schools’ policies are executed in such a way that the learning environment remains safe and conducive for academic achievement. According to Day, Kington, Stobart and Sammons (2006):

behavior policy and practice, leading to a safe orderly working environment and an academic emphasis are necessary for task achievement (effective teaching and learning and thus students' academic progress), while the student-focused environment concerns social cohesion and creates a positive climate for learning (p. 16).

Likewise, Goodard and Hart (2007) explained that “the leadership role of the principal in a multicultural society requires strategies of inclusion to create a culture of equitable access for all children” (p. 175). The school leader has the ability to make a difference in a school and to address the multi-dimensional nature of the school by recognizing that equity in education is the fair and equal treatment of all students and member of the school. When this commitment is made by the principal, the teachers and students benefit from this practice.

School funding plays a major role in school equity and quality, however, achieving an effective collaboration between school staff requires more than just intent; funding is a critical ingredient that can bolster or diminish the efficacy of such efforts. Thus, the next section offers a brief outline of the major role that funding plays in school equity.

The Evolution of Title-I Funding

In 1965, President Lyndon Johnson created the Elementary and Secondary Education Act (ESEA) in recognition of the fact that economic isolation and poverty—and specifically their debilitating social consequences—are the most significant barriers to progress. For almost 50 years, Title-I of the ESEA has been the conduit for thousands of districts and schools across the country to direct critical funds towards those students who need them the most. Since its inception, Title-I has sought to ensure educational equity for students from marginalized economic backgrounds who are at the highest risk for underachievement and dropping out.

Title-I is a funding resource from the section of the ESEA that is specifically targeted toward children in poverty. These funds from the federal government go to states, which then send these funds to local school districts, which in turn allocate the monies to individual schools

with high poverty rates to improve their students' academic achievement and close achievement gaps. The amount of Title-I funding is based on a formula that counts the number of families living in poverty in a school attendance area. The schools that receive Title-I funding are called Title I schools.

The Title-I program is currently appropriated at more than \$14 billion, but the funding is insufficient to serve all eligible children. This inequity has resulted in some school districts needing to ration services by focusing on those school buildings with the highest percentage of low-income children before serving eligible children in other buildings (Mageau & Noonoo, 2014). In some schools where the number of children living in poverty is 40% or greater, a school can make use of what is called a Schoolwide Model, where funds are used across the entire school's population; other schools with smaller incidences of poverty can use a Targeted Assistance Model that focuses on eligible children. In any case, these federal funds must "supplement, not supplant" local and state dollars.

Effects of School Funding and Spending

One of the best ways to identify equity disparities is to identify gaps in spending and funding allocation for education between states and school districts. The largest share of the revenue for schools comes from state and local dollars, which together support about 90 percent of the total budget. How these dollars are distributed within states can create sizable revenue gaps between school districts based on the poverty rates of the students who are served.

According to the Education Trust (2012), there are significant differences by state: the poorest school districts in the nation (those in the bottom quartile) received \$1,200 less per pupil than the wealthiest, top-quartile districts. The most deprived districts in six states received at least five percent less than their wealthy counterparts; in one state, Illinois, the poorest districts received nearly 20 percent less. However, the opposite pattern was seen in 17 states: the most impoverished districts received at least five percent more dollars per pupil compared to those with the lowest poverty rates; poor districts in Ohio, Minnesota and South Dakota received about 20 percent more. Weighted funding formulas count pupils based on need in order to achieve equity. The federal Title-I formula, for example, is based on a calculation that assumes educating students in poverty costs 40 percent more than the necessary per-pupil allocation (Augenblick, 1997).

The Education Trust also repeated its analysis of funding inequity using Title-I's formula. When adjusting for the additional needs of low-income students, the analysts found that the gaps were wider than when comparing dollar-to-dollar. In high-poverty districts, per-pupil revenues were \$2,200 less overall than in low-poverty districts, showing that many states still have a long way to go to close the funding gap (Education Trust, 2012). Another method of analyzing school funding to determine the rate of low-income students is to calculate the amount of Title-I funding alongside the percentage of free or reduced lunches that are served.

In the next section, we will discuss how equity and inclusion in school climate and culture augment students' achievement and performance. We will specifically highlight some studies that address public school improvement through equality and educational quality as tools for improving public schools.

The Role of Equity and Inclusion in School Climate/Culture

In order to build a positive school climate and a culture of mutual respect, school administrators need to infuse the learning environment with principles of equity and inclusive education (Ontario Ministry of Education, 2013). An equitable school climate requires self-

knowledge/reflection, a framework of cultural awareness and specific knowledge about the different cultural experiences of students and their families (Kalyanour & Harry, 2012). Strategies that foster equitable school climates include keeping diverse schools emotionally and physically safe, making high expectations culturally responsive, designing multiple pathways to meaningful participation, and caring for students' unique emotional needs (Ross, 2013).

Any comprehensive effort to transform schools should incorporate an inclusive school culture (Schnorr, 1997). The main characteristics of inclusive school culture are: (a) all students are welcome to attend the schools in their attendance zone, where they and their families are valued members of the school community; (b) the school culture reflects shared values of equality, democracy, high expectations, diversity, collaboration, and the belief that all students are capable of learning and contributing; (c) students with varied needs and abilities take part in shared learning experiences while working toward individualized learning outcomes with necessary supports and adaptations, and (d) administrators motivate and support school staff toward the achievement of a shared mission and establish shared leadership in a professional community (Janney & Snell, 2013).

Equity vs Equality in Education

In public education, the term equity can be defined as fairness (Breveman & Gruskin, 2003). While it is often used interchangeably with principles of equality, equity encompasses a wide variety of educational models, programs, and strategies that may be considered fair, but not necessarily equal. On this point, Cook-Harvey et al. (2016) defined equity as "the policies and practices that provide every student access to an education focused on meaningful learning" (p. 1). Darling-Hammond, Wilhoit, and Pittenger (2014) similarly defined equity as policies and practices that provide every student with access to the in-depth skills that contemporary society requires for students to learn independently throughout their lives. An equitable system also does not treat all students in a standardized way, but differentiates instruction, services, and resources to respond effectively to students' diverse needs so that they can develop their full academic and societal potential. Some have said that "equity is the process; equality is the outcome." This idea is sometimes concisely expressed as a cultural approach to equity education, given that equity (what is fair) and may not reflect strict equality (what is applied, allocated, or distributed equally). In an equitable system, deep learning skills are taught by competent and caring teachers who are equipped with sufficient resources to promote effective teaching and learning (Darling-et al., 2014). However, P-12 schools may experience different layers of inequity such as societal, socio-economic, cultural, programmatic, staffing, instructional, assessment and linguistic inequity (Abbott, Guisbond, Levy & Sommerfeld, 2014).

The Issues of Equity and School Reform

Despite the federal government assuming the critical role of promoting equity for underserved children and youth (Darling-Hammond, 2010), there remains a view that equity stops at "adequacy" (Brighthouse, Harry & Swift, 2008). This viewpoint becomes increasingly problematic when considering that the United States is more diverse now than it has ever been in its history. According to the Pew Research Center (2012), 85 percent of the country was White in 1960, with African Americans constituting the largest minority group with 11 percent of the total population; meanwhile, Asians, Hispanics and Native Americans represented less than 5 percent combined. Today, the White population is about 63 percent of the total and is expected to fall to half by the year 2050. The demographic shift is most evident in our public schools, where

children of color are already the majority in the western and southern regions of the U.S. (NCES, 2015).

Lane, Linden, and Stange (2018) point out that many gaps in education are due to inequalities in outcomes and resources. Indeed, even the neighborhood that a school is located in can greatly determine how much money flows into that school district. School finance reform is needed to address the disparities of low-wage and minority families. The key to solving this problem and improving these funding disparities is to contribute substantially more funding to poorer districts and “incentivize” these teachers – after all, if the “best teachers” are routinely picked up by richer schools, there has to be some compelling reason for those teachers to go to lower-income schools. Sometimes that’s passion, but those teachers should also not be economically “punished” because they wanted to help poorer students.

According to Cook-Harvey et al. (2016), the federal government uses another method to monitor spending, beyond Title-I: the equity factor, a measure of how much per-pupil expenditures vary across districts within a given state. The U.S. Department of Education calculates the equity factor for each of the 50 states, Washington D.C., and Puerto Rico by comparing per-pupil expenditure for each school district with the average per-pupil expenditure for the given state. This result is then weighted according to district population size and poverty level.

Title I Part A of the No Child Left Behind Act provides another avenue for the federal government to distribute money to school districts. Using the school finance equity factor, officials can calculate a portion of the federal grants made to local school districts under this act. This subset of Title I grants is called Education Finance Incentive Grants or the "EFIG". Granted, the EFIG formula has a different task than other Title I distribution formulas, insofar as it accounts for the distribution of expenditures across school districts and rewards states that more equitably distribute funding. Moreover, once the money is allocated at the state level, the formula provides more significant grant aid to high-poverty school districts in less equitable states. Specifically, the EFIG formula provides funding to school districts based on four variables: (1) weighted low-income student population, (2) per-pupil expenditure, (3) effort (which measures the state's effort in providing funding for education per pupil compared to relative wealth as measured by the state's per capita income) and (4) equity (which measures the degree to which education expenditures vary among school districts within the state). While the financing of schools is mostly left up to states and local school districts, the federal EFIG formula aims to encourage states to ensure equitable funding.

Funding is pivotal to making schools function and equipping students with the tools needed to be successful. When school districts have adequate funding, school building leaders are endowed with the resources to provide teachers with practical professional development training, purchase relevant technology, and repair aging buildings to ensure safety and sustainability. In short, money supports the implementation of equitable school practices, largely by inspiring innovation and teacher morale.

Conclusion

The literature offers several suggestions for improving equity in our schools. According to Wenglinsky (1998), the most common proposal is financed equalization. The vast majority of underfunded school districts are those that have a significant number of students of color. These students’ social-economic status limits their access to the resources that would elevate them to a more sophisticated level of learning. According to Bergman et al. (2019) “[...] the American

dream is like climbing a ladder for white Americans, whereas it's more like being on a treadmill for black Americans" (p. 1). Schools are supposed to be the great equalizer, but reality often falls short.

In conducting this research, both authors of this article realized that we have lived in low-income neighborhoods and attended their public schools. Neither one of us knew we were living in poverty because the children we saw at school were the same children we played with in our neighborhood. It was not until we both attended the community high school, which was a magnet for all the middle grade schools, that we became aware of a world of economic difference. With a range of socio-economic statuses under the same roof, we quickly understood that we were less well off than other students.

Meanwhile, Kuh (2008) proposed high-impact educational practices that can be used to impart essential learning principles. One way that schools can hew closer to this ideal is to adopt high-impact educational practices (Kuh, 2008). There are ten high impact educational practices that have great promise for helping students from different learning backgrounds improve their academic achievement. The high impact practices are: first-year seminars and common intellectual experiences, developing learning communities, offering writing intensive courses, working in small group collaborative projects, learning how to conduct research, performing service learning and volunteering in the local community, developing ePortfolios, for middle and high school student as well as college student internship and co-op opportunities, being exposed to diversity and global learning, and for advanced students nearing graduation creating a capstone project. Unlike many colleges and universities, low-income school districts are not using or able to use Kuh's (2008) high-impact practices and are failing to engage students in what works. Hence, their achievement suffers, and their future becomes uncertain. Kuh's approach requires training teachers and district funding. These combinations can make a radical difference in the quality of education that urban school children receive.

Another critical factor for creating a healthy and vibrant learning community is the school's principal (Smith & Andrews, 1989). Thus, school districts need to invest in their leadership in order to bolster students' academic achievement. Specifically, we suggest that schools hire and train building principals who can mobilize scarce resources toward goals such as creating a positive climate; monitoring student progress and teacher performance, and making teachers feel genuinely valued as members of a team of educators. The building principals can be more effective in advancing a good school climate and culture if they use participatory management, involving teacher leaders in the campaign for school improvement. As Lumpa, Whitaker and Whitaker (2000) postulated, effective principals are those who can work with teacher-leaders to develop healthy school environments.

The principal has the authority to develop an agenda that works for all member of the school community. She can promote school climate and get the teachers, students, parents, and community involved in building an exemplary school climate program. The simple act of being positive goes a long way in building a school, helping other stakeholders and staff to feel a sense of trust that is necessary for shaping the school environment around student achievement.

Schools can also partner with educator preparation providers (EPP). In their capacity to award teaching degrees to candidates, EPPs are responsible for training prospective teachers on various issues, including classroom management and technology integration. Public school districts should collaborate with EPPs in order to inform their curriculum and standards, particularly as they relate to school climate, culture, equity and inclusivity. In this way, teacher

candidates will be better equipped to understand and care about each student regardless of their social-economic status, race, or idiosyncrasies.

With our experiences as both teachers and school administrators, we are convinced that boosting school and student achievement is a necessary and obtainable goal. When educators, communities, and parents work together to develop comprehensive, well-conceived, and practical education for their students, it transforms their lives and eventually transforms society at large. But to reach this end, educators must employ the tools of climate, culture, and equity; this entails a strong belief that all students can learn, should be treated fairly, and deserve a quality education (Rodriquez, 1990).

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Failure to Complete BSN Nursing Programs: Students' Views

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Abstract

This phenomenological research study investigated the lived experiences of students who did not succeed in completing a 4-year baccalaureate nursing school (BSN) program. The sample for this study included students who failed to complete baccalaureate nursing programs within the last ten years. The geographical area of the sample included students who attended schools in the central and south-western Appalachian counties of the state of West Virginia and the bordering counties in Ohio, Kentucky, and Virginia. A total of 18 participants were interviewed and the interviews were recorded so the data would be collected in a systematic way to facilitate data analysis. There is little empirical data regarding retention in a BSN program and students' views as to why they were unable to complete their BSN program. Further research is needed to understand nursing student attrition, especially students' perceptions, which would help nurse educators identify nursing students' needs, review program's policies, and possible curriculum changes needed to help students successfully complete their nursing program.

Keywords: Nursing Education, Persistence, Student Perceptions and Motivations

Introduction

A nursing shortage has been predicted in the United States due to the aging nursing workforce and the future needs of the baby-boomers as they age. The Government Affairs Committee of the American Nurses Association (ANA) predict that by 2022 that the United States will need to produce more than one million additional nurses to fill both new nursing jobs and replace the wave of retiring nurses. The premise of this study is that if we better understood why students fail nursing schools, faculty could support program or policy changes, or initiate admission procedures that would better predict student success in baccalaureate nursing programs; thereby, the predicted nursing shortage could be mitigated.

According to the National League for Nursing, the national dropout rate for nursing programs in the United States is 20%, and this high attrition rate is considered problematic. The National League for Nursing Accrediting Commission set the desirable retention rate at 80%. The national attrition rate for nursing programs are too high, with as much as 50% in some baccalaureate nursing programs (Merkley, 2016). Most studies have shown that most of these nursing students leave in the first semester of the nursing program. The nursing shortage supports the need to improve the NCLEX-RN pass rates and to decrease the attrition rates of nursing students. Attrition of nursing students is a concern for nursing educators because it is a significant problem affecting nursing programs throughout the United States and is associated with the critical nursing shortage. The shortage of trained nursing faculty has also been identified as a primary factor in the nursing shortage, with more than 75,000 qualified applicants from baccalaureate and graduate nursing programs in 2018 (AACN, 2019). This nursing faculty shortage has an impact by limiting the number of students that are admitted to nursing programs, which also impacts the nursing shortage.

Due to the current U.S. nursing shortage, and an admission waiting list of candidates in

pre-nursing courses, nursing programs are challenged to produce more graduates who can pass the NCLEX-RN on their first attempt and start their practice as a nurse. The problem of nursing student attrition for BSN nursing programs is that it affects the nursing students and faculty, the reputation of the nursing program, and the approval of the nursing program by state boards of nursing, as well as the national accrediting organizations, such as the National League for Nursing Accreditation Commission (NLNAC) and the Commission on Collegiate Nursing Education (CCNE). Finding a way to decrease the attrition rate would help meet the students' goal of becoming registered nurses and the nursing program's goal of preparing students for providing competent care as registered nurses.

Methodology

This is an exploratory descriptive study of qualitative approach, and the purpose of this study is to gain a better understanding why students fail to complete nursing programs to assist nursing faculty to implement changes that would help prevent attrition in baccalaureate nursing programs. Because it is a qualitative research, the number of participants was defined during the data collection, which was concluded when the researcher could understand the experience lived by the former BSN nursing students. Minimal research has been done on this topic, and this researcher could not identify any research that had asked the students themselves why they failed or did not complete their program.

The sample consisted of 18 participants who volunteered to participate and there were no known risks for participation. A Realistic CTR-51 cassette recorder along with a digital back-up recorder was used to record the 18 participants' interviews so that the interviews could be literally transcribed. There was a compensation of \$50.00 for participation in the approximate 45-minute interview. The semi-structured interview was conducted using eight open ended questions related to nursing students' experiences in relation to their experience in their BSN program.

This study is based on these eight research questions listed below:

1. What were your years in nursing school like?
2. Describe the parts of nursing school that you enjoyed the most.
3. Describe the parts of nursing school that you disliked the most.
4. What were the reasons that caused you to be unable to complete nursing school?
5. What would you do differently if you had another chance to attend nursing school?
6. What criteria do you think faculty should consider when admitting students in the BSN programs?
7. Was nursing school different than what you expected it to be?
8. What would your advice be to students who are currently entering nursing school?

Findings

The key themes this researcher identified are presented below:

Early Intervention Is Important

Early intervention and good support from faculty are important for nursing students successfully completing their BSN program. It is important for faculty to demonstrate a supportive and caring role in advising students and referring them for tutoring or help. The following are quotes provided by participants.

I didn't realize I was failing until it was too late. I waited too long to say anything. It might

be helpful to have someone watching closely and meet with students before they get low grades.

It might be helpful to have one of the faculty watching closely and meet with students before they get low grades.

I would get a tutor on day one!" stated one participant when asked what you would do differently if you had another chance to attending nursing school. Another participant stated, "I was very shy my whole life, but I would try to get to know the professors and where their career interests lie, as many of them were still practicing nurses. Maybe if they would have got to know me on a more personal level and maybe care more about my success.

I failed the pharmacology nursing course by .04. I looked at my options and I found it would be quicker to change my majors, complete my degree, and then go into an accelerated nursing program, than to just wait to repeat the course and still keep going.

Nursing school is tough, and it needs to be tough. School is tough, but the nursing field is tougher.

I had never failed a class before. Failing out was depressing, and embarrassing. I think it was just a bunch of things that caused it.

The first semester wasn't easy, but it was doable. I had just come out of high school and never really had to try [study] in high school. In the second semester [of sophomore year] everything was different and by the time I realized that I had to study, it was too late.

Family and Work Played a Role in their Success or Failure

Participants reported that lack of family support was a negative factor as students attempted to complete their nursing programs. In addition, work factored as a negative support for nursing program success.

I had a job that did not support me to form a work schedule that supported my attending nursing school.

My family was not supportive of me attending nursing school.

I had difficulty find a babysitter to attend class and clinicals.

I think failing out may have made me more determined in a way. I knew that I really wanted to be a nurse. My parents were never supportive of me becoming a nurse, plus the job I had at the time was not supportive of my school schedule.

Make sure your life is very stable and able to accommodate giving your life to the nursing program.

Good Study Habits and Time Management Skills are Key to Success

Participants noted that a lack of study habits and time management skill were negative support factors for success.

I don't like to ask for help. I kept telling myself that I could do it, but I couldn't. I was memorizing to get through nursing school. I did okay until it got to the critical thinking and I could no longer succeed by memorizing.

You have to have a good understanding of physiology and pre-requisites. The teacher can make the difference in doing well and understanding it.

I think that the hardest part were the exams. The application style test questions were very difficult. I had never had those types of NCLEX style test questions before.

Advice from former students were:

Find a tutor in the nursing program. Preferably find someone older and who has taken the course.

To have your priorities in order. Do not procrastinate.

READ YOUR BOOKS!

Write out your notes instead of on your computer.

I would recommend study groups, flash cards, reading instead of focusing on the power points.

Good Support from Faculty

Participants commented that having positive support from nursing faculty contributed to nursing course success, however few reported having this support.

I felt like you were just a number. The teachers weren't really very personal. The faculty were nice and they knew your name, but you felt like they really didn't care about your success.

I had gone to my advisor a couple of times, but it wasn't until the end of the semester when she finally offered to say we have tutors that our students who have taken these same classes before." The participant stated, "I wish that my advisor had told me that about a year ago.

I felt that the students in the nursing program were not as friendly as I had hoped they would be. A lot of them were already friends so they would just sign up for the same clinical. The faculty did not rotate the clinical groups.

This participant stated that she was from another state and felt like she was not able to meet other

students because the students in her clinical groups already were friends before college and would register for the same clinical group.

One of the most compelling stories was from a participant, who was a single mom with two special needs children, attending a BSN nursing program. Her parents were passed away and she did not have any family as a support system to help with her childcare while she was attending school. Her mom had been a nurse and she had always wanted to become a nurse also.

I had to be on site to catch the shuttle to the hospital at 6:30 am and my advisor told me this when I was talking to her about my upcoming clinical schedule. I told her that the earliest that daycares in the area opened was 6:30 to 7 am. I had a 3.76 GPA and had worked hard to get this far. Both of my parents were deceased and had no relatives or friends that I could leave my two special needs kids with and take to daycare. There was no flexibility offered. There were no options that I could take. That was it.

She had gone to her advisor and the head of her nursing program to see if there was a way that she could make up that extra time (15 minutes for clinical) somehow and was just told no. She had no options but to withdraw from the program and started looking for a nursing program that would be more flexible to work with her in getting her special needs children to day care so she can attend clinical at the hospital. She said that she eventually found a nursing school several states away that was willing to work with her and moved her two children there so she could finish nursing school. At the time of the interview she was close to graduating. Against all odds, she never gave up her dream of becoming a nurse.

I think a lot of students do not understand what nurses do and what the school consists of. Maybe some sort of introductory course could be provided that would enlighten the students.

A class to prepare you for those NCLEX style questions and to prepare you for the BSN nursing program would have been helpful.

This comment about an introductory course was expressed by several of the participants being interviewed.

As a result of this study, this researcher has made some changes teaching as a nursing faculty. This researcher developed a new course for the freshman and newly admitted sophomore nursing students to help prevent attrition and prepare them for the BSN program at a public university in the eastern part of the United States. The students report feeling better prepared for the nursing program after completing the course and it has received very positive evaluations from the students. Topics covered in this course include the history of nursing, legal issues in nursing, nursing theories, social media and nursing, using APA when writing papers, evidence-based practice research, medical terminology, and using the library and writing center for resources. Guest speakers who work in different nursing careers are also invited to talk to the students to make them aware of the many job opportunities nurses have today.

Conclusion

It is important for faculty to develop a supportive and caring role in advising students and referring them for tutoring or help (Scarborough, 2013). Sometimes it is easy to assume that all

students are aware of these resources. Faculty should try to think outside of the box to find solutions or ways to help students be successful. Being approachable so the student feels comfortable to ask for assistance is important so that early intervention can occur. Showing the student that faculty care about their success is very important also. The findings could be used to help identify possible relationships to retaining nursing students and completing their nursing degree. The findings could also help prevent attrition and be used to support recommendations for program and policy changes.

Leaders in nursing programs throughout the U.S. are concerned about the critical need to improve student retention (Aul, 2017). By analyzing data and identifying problems with BSN nursing student attrition and failure, and allow for interventions to decrease the attrition rate, the goal of improving student success can be met (Zhang, Chernaik & Hallet, 2017). Findings of studies investigating success of baccalaureate student success during the program have not been consistent. Further studies on nursing student attrition, especially students' perceptions, would help nurse educators identify nursing students' needs and possibly make curriculum changes needed to help students become successful in completing their nursing program. Interventions to decrease the attrition rate in BSN nursing programs and other nursing programs throughout the United States will also help to meet the nursing shortage in the future.

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Educating Others on the Power of Women in Leadership Positions in the Church

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Abstract

As educators, it is important to continue to educate others on the importance of including the voice of women in top leadership positions. Women face many barriers to employment in general. This paper seeks to provide recommendations and suggestions that may assist leadership to openly address the immediate needs of women. The purpose of this paper is three fold: 1) present a review of the information that focuses on the importance of including women in top leadership opportunities; 2) include a review of helpful strategies to assist women in remaining and striving for promotions in the church, especially the African Methodist Episcopal Church; and 3) provide helpful future directions and considerations on the topic. This paper seeks to shed a positive light and dialogue.

Keywords: Church, Leadership, Women

Introduction

Women are not well represented in top key positions in certain Black Churches. As educators, it is important to continue to educate others on the importance of including the voice of women in leadership positions. This paper reviews some available literature on the topic. Women face many barriers to employment in general. The purpose of this paper is three fold: 1) present a review of the information that focuses on the importance of including women in top leadership opportunities; 2) include a review of helpful strategies to assist women in remaining and striving for promotions in the church, especially the African Methodist Episcopal Church (A.M.E.); and 3) provide helpful future directions and considerations on the topic. This paper seeks to shed a positive light on ways that educators can dialogue to create an atmosphere to communicate strategies to encourage more collaborative efforts to include women more often in the top leadership positions. By noting the importance of this effort in this conceptual effort, the author hopes that educators will aim to spread the awareness through the word in conceptual and empirically based ways at conferences, seminars, workshops, and international symposia globally.

Vital Questions

Why are women not given the accolades deserved in top leadership roles? That is the question of the hour. Furthermore, the role of women, as leaders in the church is equally important. Are measures developed that assist women as leaders in being and remaining successful in top leadership positions? To provide women with the proper professional development opportunities, organizations must view women as diverse, unique, and equally as important as men in positions in leadership.

Diversity/Women Leaders

The diversity that women bring to an environment is a rare gem. The diverse differences that women bring should be celebrated. Yet, women, at times, are not included or are at times devalued. There is a need for further exploration into the barriers women experience in work environments or positions. In addition to the discussions to explore these challenges women face, more exploration should go into how to enhance better environments. There are certain questions that can be asked about women. For instance, why are women not being recruited more into certain top leadership positions? Is there enough literature that explores how to stop this miscarriage of justice? Why are organizations not doing more inclusive efforts? These questions are important to explore related to women.

According to Warner, Ellman, and Boesch (2017)

Women are 50.8 percent of the U.S. population. They earn almost 60 percent of undergraduate degrees and 60 percent of all master's degrees. They earn 47 percent of all law degrees and 48 percent of all medical degrees. They earn 38 percent of MBAs and 48 percent of specialized master's degrees. They account for 47 percent of the U.S. labor force and 49 percent of the college-educated workforce (para. 1).

In a search for information related to this topic, certain women's names tend to come up in the literature searches such as Jarena Lee and Bishop Vashti. These names are great names in the history of the A.M.E. Of course, there are many great women in the history of the A.M.E. as the list is infinite. According to Abernethy (2018), women are not represented in key leadership positions even though women have gained some strides of the church to include them. However, since 2000, women have not seen efforts or enough dialogue aimed at increasing the number of women in top positions like Bishop. Abernethy (2018) noted:

In African American churches, women's leadership includes all areas of responsibility—from the more traditional roles as leaders of women in missionary societies and women's groups, to congregational leaders in areas such as Christian education and pastoral ministry. My reflection on women's leadership in African American churches will include a brief overview of women's leadership, potential impediments to women's leadership, approaches to addressing these obstacles, some of the contributions of African American women, and signs of hope and encouragement. While African American women represent an estimated 66–88 percent majority (Barnes, 2006) in African American churches, men still tend to hold most of the leadership roles. The greatest disparity in women's leadership is in the pastoral role, specifically the senior pastor. Despite these challenges, women are being ordained and appointed as pastors and bishops at increasing rates. The appointment of Bishop Vashti Murphy McKenzie in 2000 as the first woman bishop of the African Methodist Episcopal Church was an important step toward gender inclusivity. (para 1-2)

With the scant information available on women and their roles in the African Methodist Episcopal Church from 2000 to 2019, it was a surprising to learn that the women currently are still going through the same exclusion issues as women in the 1800's and 1900's in the church. Historical wrongdoings toward women such as racism, sexism, and unequal pay would seem to change the feelings towards women in leadership in the Church. However, despite the many challenges, positive successes of women in leadership positions, and the changes over decades, there appears to continue a cycle of historical non-inclusive efforts repeating themselves in reference to the treatment of women in leadership (e.g., low pay/unequal pay, smaller churches with low or almost no members, racism, sexism, among others).

Based on a review of the literature, there was one article that provided some interesting findings on the presence of women in some of the denominations. The denominations that participated are the only ones listed: currently, the American Baptist Churches USA and Evangelical Lutheran Church in America are the only groups in the analysis with women in their top leadership positions. Susan Gillies is interim general secretary of the Baptist churches and Elizabeth Eaton is the presiding bishop of the Lutheran group. The Episcopal Church had a woman, Katharine Jefferts Schori, serving as presiding bishop from 2006 to 2015. In the United Methodist Church, another woman, Rosemarie Wenner, served two terms as president of the council of bishops, an international body charged with providing spiritual leadership to Methodists around the world (The church does not have its own governing body in the U.S.; Wenner, who is German, is based in Europe). The Unitarian Universalist Association has had women running in the past three elections for president, but, so far, no woman has won. This year, there are candidates. The Union for Reform Judaism, the central leadership arm of Reform Jewish congregations in the U.S., has never had a woman president. However, a woman, Denise Eger, serves as president of the Central Conference of American Rabbis, the principal organization for Reform rabbis in the U.S. Additionally, another woman, Daryl Messinger, is the chair of the North American board of trustees, which is the top lay leadership post in the organization. Many churches, including many of the largest denominations in the United States, such as the Roman Catholic Church, the Church of Jesus Christ of Latter-day Saints (LDS) and the Southern Baptist Convention, do not allow women to be ordained or hold top church leadership positions (Sandstrom, 2016).

Though the A.M.E. Church was not on the list in the above article, one may surmise that women in the A.M.E. denomination have similar situations. From the author's general observations with traveling to out of state and in state churches in certain geographical areas, the women most likely are not as represented as much in top leadership positions (i.e., positions like Bishop or similar high positions). In personal observations and reviewing some articles on this topic, the A.M.E. does have credentials and qualifications for women to become Evangelists, Itinerant Deacons, Presiding Elders (Belin, 2016) more than the top leadership positions such as Bishop and others. Over the last decade, through personal observations, there seems to be an increasing number of women represented as Elders in the A.M.E. church. In an attempt to locate any data on this area, the author could not find any research available as of this date.

Background Information

In the literature on women and leadership, there is a plethora of information on women and their role in corporations and entrepreneurship. In the area of women and leadership in the A.M.E Church, it is scant or the information lists certain women and their individual accomplishments. Considering scant information available on women in top leadership positions in the AME church, this section of the paper is dedicated to certain strategies that the A.M.E. Church may utilize to increase the number of women in top leadership positions in the church. These strategies are based on the literature as innovative ways to support their growth. The strategies presented in this paper are mentoring, sessions or focused meetings to educate, empower, and to train others to work to promote women to top leadership positions, and focus on the accomplishments of women that deserve the promotion to top positions.

Strategies for Including More Women

Focused Dialogue

The A.M.E. Church can host seminars, conferences, and General Conference meetings related to women's issues and being recruited and retained in top leadership positions. This type of focused efforts calling attention of women and challenges in leadership would open a dialogue that would include the voices of women and men who are passionate on this topic. Influential female leaders can serve as main presenters at these meetings. In addition, the voices of women in the lay and in other leadership positions can be included. Some of these meeting topics can relate to the glass ceiling, mentorship of women, and positive ways to enhance the representation of women in key positions. Additionally, educators can employ names of educators across the state, internationally, and regionally, who can be major discussants at these targeted meetings. The Bishops of the A.M.E. can note these meetings as intentional meetings that focus on trainings to stop some of the injustices that have occurred historically. Moreover, the meetings can be held around significant months related to Women's Day, Founder's Day, and Civil Rights. Many educational training topics can stem from this concept. The A.M.E. has several theological seminaries. These institutions of higher learning can be chosen as beacons of education to host the conferences for the training to educate others on the women empowerment sessions.

Focused Meetings on the Glass Ceiling

The glass ceiling is defined as an invisible upper limit in corporations and other organizations, above which it is difficult or impossible for women to rise in the ranks. "Glass ceiling" is a metaphor for the hard-to-see informal barriers that keep women from getting promotions, pay raises, and further opportunities. The "glass ceiling" metaphor has also been used to describe the limits and barriers experienced by minority racial groups. It is "glass" because it's not usually a visible barrier, and a woman may not be aware of its existence until she "hits" the barrier. In other words, it's not an explicit practice of discriminating against women — though specific policies, practices, and attitudes may exist that produce this barrier without the intention to discriminate" (Lewis, 2019, para 1-2).

There are many conferences that focus on diversity, inclusion, and barriers in promotions. In reviewing the topics at these conferences, few conference agenda booklets have topics that deal with the challenges of women in denominations and the lack of promotion of these women in top leadership positions. The A.M.E. leadership team may need to employ more intentional efforts to discuss this in detail. For example, to discuss the glass ceiling and how this can affect the women in the A.M.E, there are certain articles that can be noted.

Johns (2019) stated that the glass ceiling is a term from the 1980's in which the government noted that there were many barriers to employment faced by women that were not always observable or easily seen. Therefore, in 1991, the Congress instituted a Glass Ceiling Commission that would examine the plight of women in employment situations and start a dialogue to promote change on behalf of women leaders (Johns).

Focused Meetings on Inclusion

Amberbazi (2019) stated that inclusion "refers to a cultural and environmental feeling of belonging and your voice be heard" (para. 1). It is an alarming feeling when a person is a part of an organization but may feel isolated or not included. For the consummate professional

experiencing exclusion from others, what is the best course of action? For some, coming across the positive way is the best solution when in management or other positions. It is sometimes hard to prove that one is being treated differently when in a position. If the person cannot show evidence of the incidents of being treated differently, it can prove to be a stressful period in employment.

Focused Meetings on Women in Leadership Positions/A.M.E.

Focused meetings that discuss the impact of women leadership in the church are essential. The major female leaders in the A.M.E. are essential to bring in as keynote presenters. In these meetings, there should be a dialogue presented that notes the historical roles of women in the church and how now it is vital that the roles of women in top leadership positions in denominations is a must. With these presenters and smaller breakout sessions, there could be a white paper developed that can then be presented to the General Conference of the A.M.E and other annual, district, and statewide meetings of the church.

Mentoring

Mentoring is defined as a person serving in a role with another person as a guide or a sponsor through certain professional development goals. For women who plan promotion in the A.M.E. Church, the best mentor is one who is affiliated with the organizational culture. First and foremost, it is hoped that the mentor is an avid person truly interested in diversifying the culture in the top leadership positions in the A.M.E. by choosing to include women. According to Hawkins (2019)

As with any relationship, mentoring takes two. A fruitful mentoring relationship does not exist solely because of either party's participation; it requires both. That is, mentors typically set the tone of the relationship by making the first move to invite the mentee out to lunch, for drinks, or to a networking event. Through opportunities for the mentee to be involved in the mentor's career, the mentee can engage in the mentor's story and learn from the mentor's wisdom. At the same time, the mentee has a responsibility to engage the mentor by following up to keep the momentum going. So many miss out on great mentoring relationships by failing to email a mentor or potential mentor after first meeting and receiving a mentor's business card. Or, on many occasions, the mentee does not keep the mentor in the loop when it comes to sharing successes, awards, honors, new jobs, or professional achievements. It does not take much to send an email with a link to an article that you just published or something that you think might be of interest to your mentor. These simple moments turn into opportunities to check in with one another and further develop your relationship. Both parties involved must put in the work and remain committed to the process, but as the mentee seeking advice and help from a mentor, you should make sure to do your part. (p. 1)

The information on mentoring is plentiful. The mentoring articles from 1980- current day are dedicated to examining the professional development aspects of mentoring that are significant to promote or advance people in certain positions or to achieve accomplishments. There are some interesting dissertations on mentoring and the positive outcomes associated with mentoring as well.

The mentoring literature provided some insight into the benefits of mentorship. Decker (2019) noted that

Mentorship is a critical component of success. According to the Stanford's Graduate School of Business, 80% of CEOs have had a mentor. The Small Business Administration cites 70% of businesses that have been mentored stay in business for over 5 years. The reasons are many. Mentors provide insight and knowledge not found in books; they have often walked the same path as their mentees. Most importantly they open networks which lead to opportunities that would not be available without their influence. A mentor makes a difference. The problem for women is often people select mentees who remind them of their younger selves. If men make up the ranks of leadership, they are mentoring other men. This must change if we want more women leaders (para. 1).

Joining Other Networks and Organizations

It is essential for any woman interested in being promoted in any organization to understand the politics and culture of the organization. With this understanding, the person must understand the written and unwritten rules. Women should understand that there are times that being popular will not be the best technique if there is a need to stand up for certain issues and misdoings in an organization. Therefore, attending other organizations, conferences and global meetings that promote change is essential.

Future Directions

Based on the research and observations, women, by far, can serve as top leaders in the A.M.E. church. Women need to prepare for a church, organization, and denomination that may not be ready for women to serve in high numbers in certain top positions. It creates an atmosphere of uncertainty when women are not well represented or not allowed to serve in certain positions (Cook & Glass, 2014). The glass ceiling may be a way to explain why the number of women in top leadership positions is scarce in the A.M.E. There may be other reasons for a low number represented but without enough empirical and qualitative research being conducted, the reasons cannot be explored. Consequently, until more empirical and qualitative studies are conducted to examine this challenge closely, there may be more decades of seeing the same occurrence, only one or two women in the top positions in the A.M.E. The studies that are mixed approach studies will serve to reveal more reasons and answers to questions.

Conclusion

In conclusion, women are valuable and deserve more attention in the leadership area. This paper reviewed some research available on the topic and identified certain strategies that can yield more information about women and leadership opportunities. From an overall analysis of the research, master's thesis, dissertations, and general books and articles on women in the A.M.E., this area needs more exploration. The strategies noted were more opportunities to host focused meetings that provide a dialogue for women voices to be heard. Mentoring, focused meetings, symposia, workshops, seminars, are noted as strategies to enhance women's professional development opportunities. Future research should be intentional and inclusive as well include a dialogue that addresses the needs and barriers that women face along the long journey to climbing the ladder to top leadership positions in the A.M.E. Despite the major accomplishments women have made over the last 50 years, there are still many more hurdles to endure before women are represented at the same numbers as men in the top leadership positions in the A.M.E. Positions of Bishop, Presiding Elder and the like are closer than farther away. Like the women before us, "we too shall overcome and one day see our sisters represented in more

numbers at the mountaintop of the Bishophood. Keep climbing my Sisters and I will keep writing.”

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Teach and Transfer: Evaluating Teacher Candidates' Literacy Lessons for Strategic Instruction

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Abstract

Teacher candidates take a variety of methods classes, but the degree to which they embed those principles in their lessons and effectively develop students' literacy proficiencies remains in question. The purpose of this mixed design research study was to conduct an initial inquiry of emergent data of nine teacher candidates' ninety lesson plans to discover how literacy components were to be taught with strategic methods during field experience.

Keywords: Lesson Plans, Literacy, Teachers

Introduction

Teachers today are tasked with developing skills and using strategic methods to scaffold competent readers who are equipped to navigate, analyze, decipher, and create complex texts. Gone are the days when teachers simply relayed content knowledge to their students; we understand that effective teaching and learning is much more complex (Savage, Burgos, Wood, & Piquette, 2015). Strong teacher preparation programs harness pedagogical expertise for the field (e.g., school partnerships) alongside academic research and theory (American Association for College for Teacher Education, 2010). The International Literacy Association (2010) clearly articulates that teacher candidates must use evidenced based, differentiated, reading and writing pedagogical approaches including print and digital resources. Most states have adopted the Common Core State Standards for English Language Arts that demand authentic, rigorous, and worthy instruction. Of the many standards for reading/literacy listed in the CCSS, particular focus is bestowed on comprehension and text complexity

The CCSS recognized the importance of developing literacy abilities, noting that students “must read widely and deeply from among a broad range of high quality, increasingly challenging literacy and informational texts to be college and career ready” (Fang & Pace, 2013, p. 105). It called for close, attentive, and purposeful reading of disciplinary texts to gain key ideas and details, understand writing craft and structure, and critically evaluate knowledge, claims and evidence. Current recommendations for teaching close reading typically involve selecting quality text: asking more, deeper, and text-dependent questions; and seeking answers to those questions through multiple readings and group discussion (Fang & Pace, 2013).

Effective use of technology is another dimension of successful literacy instruction. Studies have shown that the ways in which teacher candidates are exposed to and taught how to

incorporate technology to facilitate their instruction varies widely (Lee & Lee, 2014). Models are needed by which educators can integrate technology into lesson planning and instruction. Only then can it be determined to what extent teacher candidates are transferring what they learn at their university programs into planning and providing best practices in literacy instruction.

Theoretical Premise

Reflecting on the cognitive-social constructivism instructional base, learning is two-fold in the teacher education field experience including: (1.) In the cognitive modeling process, university professors are guiding teacher candidates with textual content knowledge across subjects encompassing the literacy areas, skills, and methods. Teacher candidates are facilitating their students' learning to comprehend text with background knowledge and make connective interpretations with appropriate tools for example Rosenblatt's "transactional theory of efferent meaning and aesthetic experience developed by reader-responses" (Farris & Werderich, 2011, p. 244); and (2.) In the social constructivism process, teacher candidates and university supervisors are collaborating about content to be taught, connections to content knowledge and strategies to guide their students successfully through social interaction with peers in actively engaged settings. As suggested by Kim (2001), social constructivism is learning through social interactive activities based on students' collaboration and synthesized information for better understanding of meaning. Learning occurs because of constructed strategy.

Review of Literature

Studies of pre-service teachers have highlighted the contradictions between the ideals espoused in their university classes and the realities of their school placements (McCarthy, Woodard, & Kang, 2014). In Grossman, Smagorinsky, and Valencia's (1999) longitudinal study of teacher learning across different settings, they found that both the social contexts for learning (e.g., the culture of the school, the culture of the pre-service program) and individual characteristics of the learner (e.g., knowledge and beliefs about content) affected the tools and interactive provisions used appropriately by teachers across contexts.

Collaboration

A growing body of research shows that collaboration improves students' learning outcomes. When studying qualities of successful schools, Anig (2015) described that a high degree of trust between administrators and teachers was an essential ingredient in making successful schools tick. This sentiment may be generalized to include the trust and collaboration necessary between pre-service teachers and their cooperating teachers. Other factors that came from trust were crucial, including close communication with parents, strong ties with community service providers, effective use of data that identified and responded to problems, and ongoing team-orientated support focused on continually improving teaching practices (Anig, 2015, p. 32).

Lesson Planning

Lesson planning, an ingredient for success, is an intense, deliberate, cooperative process for defining content, materials, and methods that is most likely to lead all students to mastery. Planning produced a detailed road map, charting a path from current levels of understanding to desired levels of mastery (Wiggins & McTighe, 2005). The teachers in high-performing urban schools specified precisely what students would be expected to understand or demonstrate before the lesson ended. "Teachers from Texas posted a three-part objective: (1.) What students would learn; (2.) How they would learn it; and (3.) How they would know they learned it" (Johnson,

Uline, & Perez, 2014, p. 52).

Technology: An important area for both in-service and pre-service teachers to master is the integration of technology into their teaching. Pre-service teachers express more confidence and proficiency in computer use than experienced teachers do (Russell et al., 2003). Integrating technology into classroom instruction can increase student motivation, learning efficiency, curiosity, and creativity (Molins-Ruano, Se, Santini, Haya, Rodriguez & Sacha, 2014). This study sought to determine the extent that teacher candidates' literacy lesson plans include strategic methods for example an evidence of collaborative alignment in literacy instruction as opposed to merely focusing on prescribed content and using technology tools for motivational purposes.

Method

The mixed study adhered to the models of quantitative research design that developed "descriptive exploratory analyses" in a "clinical" experience and led to "inferential" interpretation of literacy instruction (Onwuegbuzie & Combs, 2010, p.400). "Within the case study," the process included simultaneously "collecting data, developing categories, and coding to comparatively analyze the manifest content" (Onwuegbuzie & Combs, 2010, p.405). The emergent data collection expanded beyond initial findings of strategic methods taught. Figures were used to demonstrate the expanded emergent data of Number of Types, Teachers' Use by Grade Levels of Literacy components' categories namely Areas and Skills, Strategic Methods, and Resources for the quantitative calculation process.

Independent Variables

Independent variables were identified as required, structured, non-changing controls inclusive of rules, training, and instructions that form the instructional base of Field Experience. Also, all teacher candidates had passed online modules and assessment of the Teacher Education Technology Competencies (TCA).

Dependent Variables

The dependent variables are the base for spontaneous responses of teacher candidates to responsibilities and instructional application. The individual spontaneous responses were demonstrated in effects of varied instructional abilities, dispositions, and flexibility in selection of literacy components, collaborative relationship development with the classroom students, peers, and cooperating campus teachers, willingness to adapt and modify for different types of learners, and tolerance levels of adhering to new instructions and practices.

Contextual Factors

Settings. The students for each grade level and the total for each classroom include the following: (a) Two kindergartens (38 students); (b) Two first grades (33 students); (c) Three third grades (57 students); (d) One fourth grade (14 students); and (e) One fifth grade (24 students). The school placements were located in rural communities within a 45-minute drive of the Midwest university.

Participants

Data for this study were collected from nine university students (8 female, 1 male) at a state university in the rural, Midwest. Of the nine participants, six were dual majors (double

major of elementary education and special education), and three were elementary education majors. With consideration of the level of their lesson plans and teaching performance, the nine students were categorized 2-4 with 4 being the highest. The teacher candidates were enrolled in the course "Field Work in Elementary Education." This is a supervised practicum, typically during their junior year (one or two semesters prior to their student teaching experience) in which elementary education majors have a teaching experience in an elementary or a middle level classroom.

The teacher candidates were in classrooms for five days per week for a total of twelve weeks during the Spring 2015 semester. They were required to spend at least 2.5 hours a day in a classroom, for a minimum total of 120 hours. The program is organized so that they spend eight weeks in the morning, and four weeks in the afternoon, allowing teacher candidates the opportunity to experience the different facets of the school day.

Each candidate was required to teach a minimal number of required lesson plans consisting of 10 literacy, five math, five social studies, five sciences, and five others that included the integration of subject areas (i.e., literacy and social studies, math and science). Within the ten literacy lessons, comprehension and writing were to be addressed. The cognitive process development structure was adhering to the lesson plan components as follows: (a) Subject Area; (b) Objective; (c) Rationale; (d) Resources; (e) Management Organization; (f) Modeling Procedures; (g) Guided Practice; (h) Checking for Understanding; (i) Student Practice; (j) Closure; (k) Assessment; (l) Academic Language; (m) Accommodations; and (n) Lesson Extensions. The teacher candidates had been trained in writing lesson plans with these same scripted, collaborative components in elementary levels (primary and intermediate) reading courses.

Collaboration

The teacher candidates worked closely in collaboration with their classroom cooperating teacher as well as their university supervisor. They worked with their cooperating teacher in planning and implementing instruction, including curriculum integration of technology, guiding student learning, and evaluating student progress in the elementary school curriculum. When they were not teaching, they were assisting the teacher with classroom responsibilities. The teacher candidates reflected and collaborated with their university supervisor in several ways. The candidates also participated in weekly office meetings that the university supervisor held at the university. During this weekly time, there was discussion regarding their progress, teaching, the required edTPA assignment, and any questions that they might have. The university supervisor observed the teaching of each candidate throughout the semester for at least two lessons. After each teaching observation, a cognitive process-social constructivism conference was held with the university supervisor so that the teacher candidate was able to discuss the outcomes (teaching and applying) of the lesson, student learning, and reflect reflections upon strengths and improvement areas.

Materials and Procedures

The nine teacher candidates submitted their required lessons of 10 each for a total of 90 lessons to the university supervisor for scoring. The lesson plans with confidential numbering were transferred to one of the research authors for the analysis purposes of the paper. The teacher candidates' designated identity number and grade levels were mixed intermittently as well. Individual lesson plans were analyzed using an emergent data selection process that identified

the types of literacy components planned in each grade. Frequency tallies were calculated for each type found in the lesson plan. The next step was to list and categorically arrange the items from emergent data. To prevent duplication, items were organized and numbered, and placed into each category. The purpose was to find out exactly which grades had teacher candidates intensifying instruction with an increased number of types in comprehension and writing even vocabulary.

Following tally marks for components explicitly listed in the lesson plans; SAS software was utilized to calculate frequency distributions, means, and standard deviations; and data were further categorized by grade levels (K, 1, 3, 4, and 5) in an attempt to look for emergent trends. During the emergent data collection by grade levels, a comparison was made showing literacy number of items by categories in Grade 3 with Other Grades. The purpose was to find out exactly which grades had teacher candidates intensifying instruction with an increased number of types in comprehension and writing even vocabulary.

The quantitative data collection of teacher candidates' instructional lesson plans provided a baseline from which to make conclusions and recommendations for teacher candidate lesson planning and pedagogical integration.

Results

Data collection of Number of Types of Literacy Components was calculated with three sections consisting of Total, Frequency of Occurrences, Number of Types, Mean, and Standard Deviation (see Figure 1).

| Literacy | Total Frequency of Occurrence | Number of Types | Mean | Standard Deviation |
|-------------------------------|---|----------------------------|-------------|---------------------------|
| Phonics | 34 | 3 | 11.33 | 6.81 |
| Writing | 23 | 4 | 5.75 | 6.95 |
| Spelling | 7 | 1 | 7 | NA |
| Comprehension | 228 | 25 | 9.04 | 10.92 |
| Vocabulary | 65 | 5 | 13 | 19.99 |
| Syntax/ Grammar | 17 | 1 | 17 | NA |
| Strategic Methods | Total Frequency of Occurrences | Number of Types | Mean | Standard Deviation |
| Hands-on Active Engagement | 42 | 1 | 42 | 4.32 |
| Think/Pair/Share | 9 | 1 | 9 | 1.10 |
| Graphic Organizer | 17 | 1 | 17 | 0.69 |
| Think/Respond | 2 | 1 | 2 | 0 |
| Interactive Dialogue | 19 | 1 | 19 | 1.70 |
| Story Map | 1 | 1 | 1 | NA |
| Resources | Total Frequency of Occurrence | Number of Types | Mean | Standard Deviation |
| Technology Tools | 49 | 1 | 12.255 | 6.45 |
| Book Genre | 9 | 1 | 9 | 0.49 |
| Skill Book | 3 | 1 | 3 | NA |
| Graphic Novels | 1 | 1 | 1 | NA |
| Tall Tale | 6 | 1 | 6 | 2.83 |
| Fiction | 23 | 1 | 23 | 3.13 |
| Book Parts | 1 | 1 | 1 | NA |
| Poetry | 7 | 1 | 7 | 0.55 |

Figure 1. Summary of Instructional Planning: Number of Types of Literacy Components.

Data collection of Teacher Use of Literacy Components was calculated with the three sections consisting of Total, Frequency of Occurrence, Number of Teacher Use, Mean, and Standard Deviation (see Figure 2).

| Literacy | Total Frequency of Occurrence | # of Teacher Use | Mean | Standard Deviation |
|----------------------------|--------------------------------------|------------------------------|-------------|---------------------------|
| Phonics | 34 | 6 | 5.67 | 4.18 |
| Writing | 23 | 8 | 2.88 | 1.51 |
| Spelling | 7 | 3 | 1.17 | 1.15 |
| Comprehension | 228 | 9 | 38 | 11.96 |
| Vocabulary | 65 | 9 | 10.83 | 2.64 |
| Syntax/ Grammar | 17 | 7 | 2.83 | 1.51 |
| Strategic Methods | Total Frequency of Occurrence | Number of Teacher Use | Mean | Standard Deviation |
| Hands-on Active Engagement | 42 | 7 | 6 | 4.32 |
| Think/Pair/Share | 9 | 5 | 1.8 | 1.10 |
| Graphic Organizer | 15 | 7 | 2.14 | 0.69 |
| Think/Respond | 2 | 2 | 1 | 0 |
| Interactive Dialogue | 19 | 7 | 2.71 | 1.70 |
| Story Map | 1 | 1 | 1 | NA |
| Resources | Total Frequency of Occurrence | Number Of Teacher Use | Mean | Standard Deviation |
| Technology Tools | 49 | 7 | 7 | 6.45 |
| Book Genre | 9 | 7 | 1.29 | 0.49 |
| Skill Book | 3 | 1 | 3 | NA |
| Graphic Novels | 1 | 1 | 1 | NA |
| Tall Tale | 6 | 2 | 3 | 2.83 |
| Fiction | 23 | 6 | 3.83 | 3.13 |
| Book Parts | 1 | 1 | 1 | NA |
| Poetry | 7 | 5 | 1.4 | 0.55 |

Figure 2. Summary of Instructional Planning: Number of Teacher's Use of Literacy Components

Discussion

Teacher candidates' lesson plans specified explicit details depicting effective best practices and cognitive process development for the most part. Literacy Areas and Skills were detailed with delineated skills in all areas; Strategic Methods exemplified social constructivism as two general broad areas (Hands-on, active engagement; Interactive Dialogue) with vague descriptions of each types for example these questions for elaboration may be considered: (1.) How were the students specifically engaged? (2.) How were the students interacting with

dialogue (i.e., literature circles, student generated or teacher led questions)? (3.) How were students' or teachers' using the technology? In Teacher Use, two other methods, graphic organizer and interactive dialogue, had more use in lesson planning but were without elaborative specifics. Graphic organizers were generally included, while the literacy focus skill was not specifically identified.

Analyzing types of literacy components designated by grade levels revealed the highest number of occurrences in Literacy Areas and Skills. In the Grade 3 and Other Grades, the analysis sought to find if instruction was intensified in Grade 3 to strengthen the challenges of text difficulty and complexity. Close and in-depth reading in relation to cognitive-social interaction led to conceptual evaluation (Fang & Pace, 2013).

Strategic Methods had higher frequency of occurrences in Hands-on, active engagement; Grade 3 had a high number of graphic organizers but was vague as to type and skill related; Interactive Dialogue was taught across the grade levels with the highest in Grade 3. In Resources, Technology Tools were used across all grade levels and the highest frequencies in Grades K and 5. Fiction was taught in Grades K-4 and was highest in Grade 3. How was Fiction taught with Read aloud, genre type (i.e., Biography), or story elements? These findings in Technology Tools and Fiction confirm that no specificity was evident. Teacher Candidates' diverse instructional use of technology depends on opportunities and taught technology integration (Lee & Less, 2014). In Strategic Methods, Other Grades were higher in Hands-on active engagement and Interactive Dialogue; Grade 3 was slightly higher in Graphic-Organizers, but all other methods and grade levels were comparatively the same. In Resources, Technology Tools had the highest number of frequency and percent; and all other resources had comparatively the same frequency and percent.

Conclusions

The purpose of the research study was to conduct an initial inquiry to find out how teacher candidates planned literacy instruction with strategic methods during field experience. Evidence supported the collaborative instructional structure of specific teams (university and school campus personnel) for guiding teacher candidates to improve student achievement as was suggested by Johnson, Uline, and Perez, 2014. Depicting effective best practice, all of the first literacy section, Literacy Areas/Skills, included subskill delineation that was evident of explicit details.

Most lessons were well planned with two literacy sections lacking descriptive terms: (1.) Strategic Methods, high use (Hands-on, Active Engagement, Interactive Dialogue, and Graphic Organizers); and (2.) Resources, high use (Technology Tools, and Book Genre, mixed). If Graphic Organizers had a few keywords added depicting types of practice and assisting students' retention purposes, and social constructivism development, the lesson plan instruction may have aligned for better objective mastery (Johnson, Uline, & Perez, 2014). If Hands-on, Active Engagement and Technology Tools had been better aligned, clarified and exemplified with specifics details and a few descriptive words in the lesson plans, opportunities to more information may have occurred. Applying the learner's content knowledge and social contextual factors may affect interaction and the selected tool provisions (Grossman, Smagorinsky, & Valencia, 1999).

The results of the study by grade levels and comparison of Grade 3 and Other Grades suggest that instructional planning had been intensified in Grade 3 in comprehension, writing, and vocabulary. The Other Grades need inclusive use of elaborative keywords and may need

specific skills found in strategic methods and resources so that literacy components are clearly understood, consistently aligned, and delivered accordingly. All teacher candidates had been trained and assessed on computer competencies prior to entering the Teacher Education program, but teacher use of technology tools were used three times more in Other Grades than Grade 3. What made this difference in technology tools use? Were the classrooms better equipped with technology or were the grade 3 campus teachers using technology less?

Reflective questions for future study may strengthen written lesson plans and enhance the interactive cognitive-social constructivism that was supported by Kim (2001). Do Teacher Candidates' lesson plans exemplify explicit literacy constructive strategies to better connect content; draw upon students' natural curiosity; and contribute better textual interpretations? Examples of social constructivism are student-generated questioning, problem solving, inquiry, and cooperative sharing among peers. In addition, another question comes to mind about guiding our students for expanding knowledge, social constructive interaction and global cultural appreciation.

In the future, do we set learning goals and guide teacher candidates' lesson plans? We glean from Nunan (2005) the significance of learned information and vocabulary and critical thinking and sharing which will enhance the effects of the future of our students. Our challenge for the future is to rethink lesson planning literacy components and better explain precise cognitive-social constructivism that is presented in brief implied terms in this study's current lesson planning. The results of the study may support and promote lesson planning of teacher candidates' cognitive development of explicit, precise keywords, as was taught in 2 courses by scripting lesson plans, and connecting specific skills that describe strategic methods and resources; thus, teacher candidates implementing the social constructivism process may connect to students' collaborative reading success in evidenced based instructional settings. Teacher candidates and their students learn from a detailed road map, charting a path from current levels of understanding to desired levels of mastery (Wiggins & McTighe, 2005).

Table 1

Summary of Variables in Study

| Variables/Levels | Description | Data Obtained From |
|-------------------------------|--|---------------------------------------|
| WSAT math RIT Scores | Mean scores of the Western State Achievement Test | Western State Department of Education |
| WSAT language arts RIT scores | Mean scores of the Western State Achievement Test | Western State Department of Education |
| Mean Growth Target scores | Pre-set mean scores that indicate successfully passing the WSAT subscales | Western State Department of Education |
| 7 th Grade Level | Students enrolled in the 7 th Grade who had math and language achievement test scores | Western State City Middle School |
| 8 th Grade Level | Students enrolled in the 8 th Grade who had math and language achievement test scores | Western State City Middle School |
| Bridges Instruction | <i>Bridges'</i> online Learning Styles Inventory (LSI) developed by the Bridges Transitions Company | Western State City Middle School |
| Fast ForWord Instruction | Educational products were developed by Scientific Learning, Inc. designed to promote academic learning | Western State City Middle School |
| Traditional Instruction | Traditional academic program, delivered through regular class and coursework, exclusive of the specified technological interventions. | Western State City Middle School |
| Economic Status | Students defined as economically disadvantaged or who were listed as qualifying for free or reduced lunches. Students defined as non-economically disadvantaged were listed as students who did not qualify for free or reduced lunches. | Western State City Middle School |
| Gender | Male and female students | Western State City Middle School |
| Ethnicity | Students identified as minority (African-American, Hispanic and Native American.) Students identified as non-minority (students who were not African-American, Hispanic and Native American) | Western State City Middle School |

Participants and Data Collection Procedures**Rausch Unit Scale Scores**

Students in the school who did not meet the individual mean growth target were identified as at-risk for the purpose of this study and were selected to participate in the *Fast ForWord* and *Bridges* computer assisted interventions. *Mean Growth Target* is defined as the average amount of the Rausch Unit (RIT) growth observed for students in the latest Northwest Evaluation Association (NWEA, 2005) normed study. The RIT scale can be compared, in theory,

to a meter stick which is made up of equal units of measure, for example, centimeters. RIT scores are considered to be reliable and accurate indicators of achievement growth over time.

RIT Scores Are Grade Independent. Since WSAT tests are adaptive and the test items are based on student performance, not age or grade, identical scores across grades mean the same thing. This allows growth to be measured independent of grade level (NWEA, 2005). A primary objective of the research study was to determine the impact of technological interventions on the academic achievement of middle school students.

As a result of their previous performance on state mandated assessments, approximately 100 seventh and eighth grade students who failed to meet the Mean Growth Target on the WSAT RIT language arts and math subscales were identified as at-risk. These students participated in the *Fast ForWord* and *Bridges* technology program.

FastForWord Learning Intervention Program. A group of at-risk students were selected to participate in the *FastForWord* learning intervention program. According to the developers, *Fast ForWord* products are designed to promote academic learning success. Scientific Learning, Inc. (2004) promotes the concept that strengthening these skills results in improved critical language and reading.

Bridges Learning Intervention Program. This research project also included a different group of at-risk students who participated in a second technological intervention called *Bridges*. This program intended to provide assistance to students in the development and improvement of study skills and academic dispositions. *Bridges'* online Learning Styles Inventory (LSI) improves study habits, attitudes and behavior, motivation, and helps students get on a successful academic track (Bridges Transition Company, 2004). The LSI is used in the education community to diagnose middle school students' unique learning styles based on an analysis of their personal preferences.

Traditional Academic Program. A third group of students who met or exceeded the Mean Growth Target scores and were not identified as at-risk students, participated in the traditional academic program as defined by the state standards in math and language arts. The traditional academic program was delivered through regular class and coursework, exclusive of the specified technological interventions. Approximately 400 students participated in the traditional academic program.

Data Analysis

Data were adequately inspected for any missing values with no problems noted. The following assumptions, as recommended by Hair et al. (2005), were checked: linearity of the phenomena measured, constant variance of the error terms, independence of the error terms, collinearity, and normality of the error term distribution. The variance inflation factor (VIF) was examined to ensure correlation models did not exceed a VIF value of 10.

Reported as Pearson's R^2 , correlation coefficients were produced using the simultaneous solution multiple linear regression (MLR) analysis procedure. According to Hair et al. (2005), MLR allows researchers to determine a correlation between a dependent variable and the best linear combination of two or more predictor or independent variables. The correlation coefficients indicate the strength of the correlation. An F statistic from an ANOVA tests the significance of the R^2 . The threshold for determining significance was set *a priori* at an alpha level of 0.05. Beta weights of the standardized coefficients were examined to determine the unique importance of independent variables in the model.

A priori assumptions of normality and homogeneity for the ANOVA were examined and

satisfied (Hair et al., 2005). An alpha level of 0.05 was set *a priori* for the ANOVA. The MLR analysis, ANOVA, and descriptive statistics were run using the Statistical Package for Social Sciences 12.0[®] (Norusis, 2003).

Results

Table 2

Descriptive Statistics of RIT Scores by Intervention

| Intervention | Subject | Fall 2014 | | | Winter 2015 | | | Spring 2015 | | |
|---------------------|----------|-----------|--------|-------|-------------|--------|-------|-------------|--------|-------|
| | | n | M | SD | n | M | SD | n | M | SD |
| <i>Bridges</i> | Language | 79 | 212.10 | 10.88 | 63 | 212.46 | 8.18 | 61 | 215.62 | 8.86 |
| | Math | 79 | 218.87 | 13.16 | 63 | 221.74 | 11.52 | 61 | 225.67 | 11.09 |
| <i>Fast ForWord</i> | Language | 23 | 213.17 | 6.96 | 50 | 202.90 | 9.57 | 51 | 205.67 | 10.53 |
| | Math | 23 | 224.52 | 11.06 | 50 | 209.62 | 12.21 | 51 | 215.61 | 10.40 |
| Traditional | Language | 414 | 220.21 | 10.57 | 273 | 211.99 | 8.49 | 379 | 225.80 | 10.67 |
| | Math | 414 | 230.23 | 14.97 | 273 | 225.08 | 11.76 | 379 | 239.86 | 12.42 |

Even though the traditional instruction groups had higher mean scores than the at-risk Bridges and FastForWord groups in each set of scores, it is noted that small achievement gaps existed between Bridges, FastForWord, and traditional learning groups.

An MLR analysis was conducted to determine which of the computer assisted interventions by grade level accounted for a statistically significant amount of the variation in the dependent variable: WSAT language arts and math subscale test scores for each of the three testing periods. The analysis reported R-squared values of the variation in student achievement in language arts and math on the basis of the predictor variables (see Tables 3 & 4).

RIT Language Arts Subscale Analysis

The ANOVA results at an alpha level of .05 were statistically significant for each of the testing periods. The researchers rejected the null hypothesis due to the fact that predictions on the RIT language arts subscale test scores can be made on a better than chance level when the predictor variables are simultaneously entered into the model. The Pearson's R indicated moderate correlations between the dependent variable and the best linear combination of the predictor variables (see Table 3).

Table 3 shows that the predictors, gender, learning interventions, and economic status were statistically significant predictors of student achievement in the fall testing period. Predictor variables gender, grade level and interventions were statistically significant in the winter 2015

testing period. Gender, grade level, intervention, and economic status were statistically significant in the spring 2005 testing period (Table 3).

Table 3

Summary of Multiple Linear Regression Model Analysis for the Predictors of Student Achievement for RIT Language Arts

| Predictor variable | Fall 2014 | | | Winter 2015 | | | Spring 2015 | | |
|---------------------------|-----------|-------|---------|-------------|--------|---------|-------------|-------|---------|
| | β | t | p | β | t | p | β | t | p |
| Constant | | 27.37 | .000*** | | 23.81 | .000*** | | 27.63 | .000*** |
| Gender | .130 | 3.17 | .002* | .119 | 2.01 | .045* | .122 | 3.15 | .002* |
| Grade level | .054 | 1.31 | .190 | .128 | 2.19 | .029* | .111 | 2.86 | .004* |
| Intervention | .302 | 7.31 | .000*** | .200 | 3.38 | .001** | .434 | 11.12 | .000*** |
| Ethnicity | -0.063 | -1.53 | .127 | -0.019 | -0.318 | .750 | -0.066 | -1.70 | .091 |
| Economic status | -0.210 | -5.06 | .000*** | -0.106 | -1.81 | .072 | -0.170 | -4.36 | .000*** |
| <i>R</i> -squared value | | .293 | | | .084 | | | .276 | |
| Adjusted <i>R</i> -square | | .082 | | | .067 | | | .269 | |

* $p < .05$, ** $p < .01$, *** $p < .001$

RIT Math Subscale Analysis

The ANOVA results at an alpha level of .05 were statistically significant for each of the testing periods. The researchers rejected the null hypothesis due to the fact that predictions on the RIT math subscale test scores can be made on a better than chance level when the predictor variables are simultaneously put into the model (see Table 4).

As shown in the Table 4 the predictor variables gender, learning interventions, and economic status were statistically significant predictors of student achievement in the fall testing period. The predictor variables gender, grade level, and interventions were statistically significant in the winter 2015 testing period. Gender, grade level, intervention, and economic status were statistically significant in the spring 2005 testing period (see Table 4).

Table 4

Summary of Multiple Linear Regression Model Analysis for the Predictors of Student Achievement for RIT Math

| Predictor variable | Fall 2014 | | | Winter 2015 | | | Spring 2015 | | |
|---------------------------|-----------|----------|----------|-------------|----------|----------|-------------|----------|----|
| | B | <i>t</i> | <i>p</i> | β | <i>t</i> | <i>p</i> | β | <i>t</i> | |
| Constant | | 17.99 | .000*** | | 14.03 | .000*** | 14.03 | .0 | |
| Gender | -0.084 | -2.11 | .035* | -0.004 | -0.070 | .970 | -0.128 | -0.336 | .0 |
| Grade level | -0.084 | 5.32 | .000*** | -0.183 | .290 | .004* | .229 | 6.02 | .0 |
| Intervention | .307 | 7.62 | .000*** | .226 | 3.52 | .001*** | .439 | 11.47 | .0 |
| Ethnicity | -0.080 | -2.01 | .045* | .021 | .233 | .739 | -0.054 | -0.142 | .1 |
| Economic status | -0.214 | -5.80 | .000*** | -0.139 | -2.19 | .029* | -0.164 | -4.30 | .0 |
| <i>R</i> -squared value | | .194 | | | .103 | | | .305 | |
| Adjusted <i>R</i> -square | | .186 | | | .083 | | | .298 | |

* $p < .05$, ** $p < .01$, *** $p < .001$

Conclusions and Implications

The conclusion for this study affirmed the key research question. Data indicated that there was an increase in the number of student's meeting growth targets on the state mandated assessment. The overall school-wide student achievement, as measured by WSAT scores, increased by 22% following the first year of implementation of the Fast ForWord and Bridges interventions [reported by the middle school administration]. The academically at-risk students who participated in the technology intervention programs did increase their average academic achievement above the Mean Growth Targets on WSAT language arts and math subscales achievement of the prior year. The overall increase in achievement for the middle school indicated a possible cause and effect of the technology intervention on language arts and math achievement.

Implications for Future Study

A planned future focus of the analysis of data collected in this project will include the effect of gender, socio-economic status, and ethnicity on middle school student language arts and math achievement. The same groups of at-risk students will be included as participants in this analysis. This future study will be conducted to link at-risk student participation in the Bridges and Fast ForWord intervention strategies with language arts and math achievement

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