The Delta Kappa Gamma Bulletin
International Journal for Professional Educators

Early-Career Educators

The Delta Kappa Gamma Bulletin

The *Bulletin*, an official publication of The Delta Kappa Gamma Society International, promotes professional and personal growth of members through publication of their writings. Three online issues per year, subtitled *International Journal for Professional Educators*, focus on research-based and documented works—applied and data-based research, position papers, program descriptions, reviews of literature, and other articles on announced themes or other topics of interest to educators. Two print issues, subtitled *Collegial Exchange*, focus on articles based on practice and experience related to education, the Society, women, and children, as well as personal reflections and creative works. All five issues include book and technology reviews, letters to the editor, poetry, and graphic arts.

Submissions to the *Bulletin*, a refereed publication, are reviewed by the Editorial Board and the Society editorial staff. Selection is based on relevance of the topics addressed, accuracy and validity, contribution to the professional literature, originality, quality of writing, and adherence to Submission Guidelines (see page 69). Editorial Board members evaluate each submission's focus, organization, development, readability, and relevance to the general audience of *Bulletin* readers. Due to the diversity of the *Bulletin* audience, material that expresses a gender, religious, political, or patriotic bias is not suitable for publication.

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Call for Submissions

Members are encouraged to submit manuscripts for consideration by the *Bulletin* Editorial Board. The Delta Kappa Gamma *Bulletin: Journal* accepts research-based articles including Action/Classroom Research, Qualitative Research, Quantitative Research, Reviews of Literature, Program Descriptions, Position Papers, and Book/Technology Reviews. The Delta Kappa Gamma *Bulletin: Collegial Exchange* accepts articles of a more practical, personal nature, including Classroom and DKG Practices/Programs, Viewpoints on Current Issues, Personal Reflections or Anecdotes, Inspirational Pieces, Biographies and Interviews, Book and Technology Reviews, and Creative Writing.

Submissions should be focused, well organized, effectively developed, concise, and appropriate for Bulletin readers. The style should be direct, clear, readable, and free from gender, political, patriotic, or religious bias. For more detailed information, please refer to the Submission Guidelines on page 69 and the Submission Grids on page 70.

Listed below are the deadlines and, where appropriate, themes. Although there is a suggested theme for each issue of the *Bulletin: Journal*, manuscripts on all topics are welcome. The *Bulletin: Collegial Exchange* is not theme-based.

Journal: **Systems to Address Quality Teaching (83-3; Online)**
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Collegial Exchange **(83-4; Print)**
(Postmark deadline is December 15, 2016)

No designated theme

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(Postmark deadline is March 1, 2017)

Training ✦ Cultural Change ✦ Meeting Diverse Student Needs & ✦
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Journal: **Generational Issues for Educators (84-1; Online)**
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Collegial Exchange **(84-2; Print)**
(Postmark deadline is August 1, 2017)

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From the Editor

At the 2012 International Convention of DKG in New York City, members voted to adopt Supporting Early-career Educators (SEE) as a second international project—a perfect choice for an organization made up of educators with a wealth of experience and a depth of understanding of the challenges of the profession. Efforts to attract, support, retain, advance, and mentor early-career educators have been embraced by chapters throughout the Society, and the articles in this issue provide insight into issues and answers related to the core purposes of this project.

Callahan's review of literature regarding the use of mentoring to improve retention of new teachers sets the stage for consideration of this significant approach to helping early-career educators. Reporting on an action research project, Lozinak focuses on the importance of the pairing process in establishing meaningful and productive mentoring relationships, and Glover and Harris provide insights into one unique pairing: a professional dyad made up of a teacher educator and an early-career educator.

A shift to areas beyond teaching but within the educational profession can create another kind of early-career experience as one must learn to deal with new obligations and responsibilities. Wiedmer and Cash discuss an online, distance-education program to prepare new supervisors and administrators with the skills and knowledge to make such a shift. Not surprisingly, part of the effectiveness of the program relies on each participant's selection of a mentor.

Drawing a focus to DKG, editorial board member Quinn shares an interview with a state organization leader to gain insights regarding work to support SEE. Discussing a study that drew participants from members of a DKG chapter, Dotson and Santos suggest that the results offer insight into ways to cultivate leadership among those beginning their careers in education. Providing a meaningful coda to the theme, editorial board member Perry-Sheldon reviews a book that presents nine case studies of working educators and highlights the complex challenges of teaching that motivate Society members to reach out to their early-career colleagues.

An article of general interest completes the issue. Ponners and Asim share some emerging educational technology tools—such as citizen science, virtual museums, and transmedia books—that can serve as a bridge from the formal classroom to informal learning environments in science education. Their suggestions can enlighten the work of novice and veteran educators alike.

In working with early-career educators, members of DKG can see a reflection of their earlier selves and perhaps can appreciate those who helped them in their professional journey. May this issue be an inspiration to educators to embrace the opportunity to "pay it forward" and to impact education locally and globally through attention to early-career educators.

Judith R. Merz, EdD
Editor

Encouraging Retention of New Teachers Through Mentoring Strategies

By Jaime Callahan

In this review of literature, the author identifies ways that mentoring can improve retention of new teachers who will subsequently be able to contribute to the transformation necessary for effectively increasing student achievement. Three areas are addressed using historical and current sources, including experts in the study of mentoring: (a) reasons that new teachers leave the profession and to what extent a mentoring program can address those concerns; (b) how to bridge the needs of new teachers with the attributes of an effective mentoring program; and (c) the positive effects of a strong, teacher-mentoring program. The author argues for the transformational effect of mentoring as a necessary part in changing the system of education in the United States.

The dream of making a difference in the life of a child is alluring. For all the right reasons, preservice teachers begin a voyage to change lives and contribute to the advancement of society by educating its youth. With optimism and a fresh perspective, new teachers accept their first jobs and immerse themselves, ready to fix the broken system of education described by the media. Unfortunately, within the first few years, the enthusiasm begins to dwindle. The stressors of teaching become intolerable, and many new teachers abandon the field, feeling misguided and defeated. Research suggests it takes 3 to 7 years for a beginning teacher to become experienced enough to be considered highly qualified (Long, 2010). Sadly, more than one-third of teachers leave the profession within the first 5 years (Shaw & Newton, 2014). According to Hughes (2012), experienced teachers are better teachers, able to produce higher rates of student achievement. If that is the case, how will schools grow experienced teachers when so many abandon the field within the first few years? The answer is to provide the support they need to encourage them to stay.

To understand the magnitude of teacher attrition, a dollar amount must be assigned to the loss. The cost of replacing a teacher is staggering. The National Commission on Teaching and America's Future reported an average national cost of more than $8000 to replace a teacher (NCTAF, 2007). The yearly costs of recruiting, hiring, and training new teachers nationally in 2012 was $2.2 billion per year in the United States (Hughes, 2012). According to a report conducted by the Alliance for Excellent Education (AEE, 2014), for example, Texas teacher attrition is among the most expensive in the nation, with costs soaring above $235 million statewide. With schools already in financial disarray, the additional cost of attrition is exponentially crippling. Schools must find a successful way to retain more new teachers, who will eventually become experienced teachers. Retaining a critical mass of faculty who have the necessary skills and experience would not only

relieve the financial burden of teachers leaving the profession but, more importantly, enable schools and districts to tackle bigger issues, such as reform and transformation in efforts to improve student achievement (Huling, Resta, & Yeargain, 2012).

The fulcrum for making major educational change is dedication to the success of the classroom teacher. Success comes down to a firm foundation in every single classroom. According to Shaw and Newton (2014), "If the most precious product developed in education is the student, then our most prized commodity should be the classroom teacher" (p. 101). Accordingly, the best idea for transforming public education in America is to develop and retain highly qualified teachers. To build the capacity for transformation, schools must build the capacity of teachers. This takes time, and the alarming attrition rate of newly hired teachers handicaps this endeavor.

Although not every teacher can be retained, schools can focus on and make improvements within specific areas to strengthen teacher retention. In a landmark study, Goodlad (1984) pointed out the issue of teacher isolation and the lack of opportunities to collaborate with peers. Anderson and Pratt (1995) related the effects of teacher isolation to poor student achievement. Mentoring programs have historically proven to reduce issues of teacher isolation, dating back to 1975 (Lortie, 1975). Research has suggested that mentoring programs advance the professional growth of new teachers, making them more effective in a shorter amount of time, improving student learning, and reducing the attrition rate of new teachers (Ingersoll & Strong, 2011). If mentoring programs can be helpful in reducing new teacher attrition, then they can also be useful in reducing the immense cost of replacing a teacher. Establishing a strong teacher-mentoring program with transformational teacher leaders is one way for school leaders to support new teachers in realizing their dreams of making a difference in the life of a child.

Mentoring

Pirkle (2011) defined a mentor as simply a master teacher, wiser and more experienced, who guides a new teacher through the probationary period and who observes and provides instructional support and feedback during the steep learning curve. "The experienced teacher understands the plight of the new teacher, so is best able to anticipate obstacles and dilemmas" (Pirkle, 2011, p. 44). According to Kent, Green, and Feldman (2012), mentoring is not a choice but a responsibility of everyone within the school system, because all have a vested interest in the success of new teachers.

A mentoring program is only as strong as its mentors. Researchers have listed several characteristics of effective teacher-mentoring programs. Highly qualified teaching is unquestionably necessary in advocating for effective teachers; therefore, strong professional development for mentors—i.e., training of the trainer—is essential. Teacher-mentoring programs must provide clear and concise goals for mentors to impart basic information and solicit feedback from the new teachers. Pirkle (2011) suggested mentors be provided with professional development in educational leadership. Mentors must be leaders, able

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to guide new teachers toward developing long-term professional goals, including helping new teachers discover the ways that students think in order to assist in the development of students' critical thinking and reasoning skills (Kent et al., 2012). Research has indicated that highly qualified and trained mentors may be connected to an increase in student achievement, improved student behavior, and greater teacher enthusiasm (Kent et al., 2012). When considering reasons that new teachers leave the profession, not being able to contribute to the school's culture, feeling unable to affect student achievement in a positive way, and classroom management issues are all on the table. According to Long (2010), behavior management is an area in which new teachers have begged for support and is listed as one of the main reasons for leaving the profession. A strong, well-trained mentor will work with new teachers to develop reflective practices through dialogue about classroom management and pedagogy, emphasizing the importance of building relationships with students and of developing caring values, such as respect, in the classroom.

> *Retired teachers have more time and flexibility to contribute to the development of the new teacher . . .*

Training effective mentors and fostering a school culture of inclusion are largely influenced by the school's principal. Ultimately, it is the principal who provides the environment to support the development of the productive relationships between mentor and mentee by creating a culture that supports the teacher-mentoring process (Kent et al., 2012). Principals have the opportunity to impact the mentoring program by allowing the mentor and beginning teacher to choose each other based on shared content areas, learning styles, age, gender, culture, and personality variables (Long, 2010). Although these characteristics may seem tenuous, they can have a large influence on the success of the mentoring relationship by helping to develop connection, trust, and engagement between mentor and mentee. In addition to allowing choice, principals can also organize a pool of mentors based on expertise to strengthen the flow of best practices among mentors as they support each other and develop ideas. Principals may also build the integrity of their new-teacher mentor programs by including expertise from retired master teachers (Huling et al., 2012). Retired teachers have more time and flexibility to contribute to the development of the new teacher, while also continuing to contribute positively to the growth of the teaching profession. Bridging the issues that lead to teacher attrition with the attributes of a strong new-teacher mentoring program will lead to improvement in new-teacher retention.

Impact of Mentoring on Teacher Retention

How can a teacher-mentoring program contribute to new-teacher retention? According to Hughes (2012), teachers enter the profession for a number of reasons, including vacation time, working conditions, salary, and the intrinsic value of helping students. These benefits have been determined by new teachers to be greater in teaching than in other professions. Unfortunately, once teachers are isolated within their classrooms, the benefits of teaching do not seem to be strong enough anymore. Kent et al. (2012) suggested a high percentage of teachers who leave the profession initially entered under-prepared, overwhelmed, and under-supported, producing the frustration that inevitably leads to premature burn out. Global research has acknowledged that mentoring must be an integral part of the induction phase of the new teacher in order to experience the success that will lead to retention (Kent

et al., 2012). If the greatest influence on student achievement is the classroom teacher, then the quality of the teacher is paramount (Shaw & Newton, 2014). According to Winters and Cowen (2013), teacher quality does not continue to improve substantially after 5 years; therefore, quality teachers must be developed within their first few years of teaching. Research has shown that teacher attrition correlates with teacher quality, in that the teachers who are not contributing effectively to student learning become disengaged and leave the profession (Winters & Cowen, 2013). Schools must be able to recruit, hire, and train highly qualified teachers, and one way to improve quality of teaching is by providing new teachers with a highly qualified mentor.

According to Ingersoll and Strong (2012), when new teachers specifically participated in a mentoring program, they were more committed to their jobs, had higher job satisfaction, and were more likely to stay within the profession of teaching. In addition, studies have shown that mentoring programs afford new teachers the ability to perform at a higher level in aspects of teaching such as keeping students on task, developing effective lesson plans, utilizing appropriate questioning techniques, adjusting classroom activities to meet student interests, cultivating a positive classroom environment, and establishing successful classroom management (Ingersoll & Strong, 2012). When new teachers participate in a mentoring program, research has shown positive gains in student achievement, as evidenced by higher scores on academic achievement tests (Ingersoll & Strong, 2012). The more successes a teacher encounters, the higher the job satisfaction. The higher the job satisfaction, the higher the rate of retention.

Impact on overall teacher success in the classroom is one benefit of new-teacher participation in mentoring programs. Research has also indicated that participation in mentoring programs not only provides an increase in job satisfaction, but is almost a necessity to combat the inexperience that exists within the teacher workforce. In the 1980s, there were approximately 65,000 first-year teachers in the United States (Ingersoll, 2012). By 2008, the number had increased to more than 200,000. This trend has slowed in recent years with a downturn in the economy. By 2011, a quarter of the teaching force had 20 or more years of experience; however, there were still 147,000 first-year teachers (Ingersoll & Strong, 2011). It is not difficult to imagine that, as a result of inexperience within the teacher workforce, providing additional support becomes critical. Statistically, the teacher workforce is composed of a large number of beginners and fewer veterans. New teachers are more prone to leaving the profession due to lack of support; therefore, the need for appropriate levels of new teacher support is paramount. Teacher retention, however, is only strengthened when the right types and numbers of supports are in place. To gain a positive effect on new teacher retention, the content, intensity, and duration of the mentoring program are important.

Characteristics of Successful Mentoring Practices

Mentoring programs for new teachers need to be consistent with well-planned and comprehensive professional development practices (Ingersoll, 2012; Kent et al., 2012; Rhoton & Bowers, 2003). Mentoring programs for new teachers are most effective when designed to focus on new teachers' fluctuating beliefs and limited experience, as well as on recognizing the short-term and long-term needs of new teachers. New teachers realize a greater impact on teaching practices when they receive content-specific support (Ingersoll, 2012; Rhoton & Bowers, 2003). Successful mentoring programs provide a new teacher with numerous and varied opportunities for open and honest communication with an experienced colleague. Mentors are a resource for suggestions on classroom management,

assistance and guidance in lesson planning and locating materials, wisdom gained from experience with school policies and procedures, and facilitation of reflective practice. The mentor teacher should not serve as an evaluator of the new teacher, but as a facilitator of the socialization process necessary for helping the new teacher adapt and become an essential part of the school environment and the profession of teaching (Leimann, Murdock, & Waller, 2008; Rhoton & Bowers, 2003).

The Texas Teacher Mentor Advisory Committee (TTMAC), in a 2015 report to the Texas legislature, identified seven key criteria of high-quality mentoring programs designed to improve the teaching ability of new teachers and improve teacher retention. These include mentor selection, mentor assignment, mentor training, mentor roles and responsibilities, program design and delivery, funding, and accountability. Mentors must have interpersonal skills, instructional effectiveness, leadership qualities, appropriate work experience, and content and grade-level expertise similar to the mentee. The effective and trained mentor develops the same skills in new teachers, allowing them to receive a solid level of support that will encourage retention. For ultimate gains and development, the mentor and mentee relationship should last for at least 2 years. Productivity increases when the mentor-mentee ratio is practical and easily managed.

To provide research-based support founded in best practices, mentors need specific training in areas such as best instructional practices, coaching skills, standards-based instructional delivery, adult learning, conflict resolution, behavior management, student engagement, and classroom management (TTMAC, 2015). New teachers need frequent, focused, and structured time to receive feedback in lesson planning, lesson delivery, and classroom management. TTMAC recommended that, at a minimum, mentors and new teachers meet once a week for at least 45 minutes or for 12 hours a semester. Focus on instructional delivery and student achievement should include interactions between mentors and new teachers that provide knowledge about district orientation, data-driven instructional practices, instructional coaching cycles, professional development, and professional expectations. The most effective mentoring programs incorporate opportunities for mentors to conduct classroom observations and provide supportive coaching. TTMAC proposed funding allocated to school districts that would provide new-teacher support in the first 2 years of teaching. Accountability and evaluation data of mentoring programs should then drive future decisions about improvement. An effective mentoring program may include some or all of the characteristics listed above but should always serve to provide the much-needed support desired by new teachers and prevent the feeling of isolation connected to giving up and leaving the teaching profession.

Conclusion

An abundance of research is available describing the importance of mentoring new teachers. What is lacking are data to confirm whether or not the current, established mentoring programs in schools and districts are effective at giving new teachers the confidence they need to be successful in the classroom. Research has clearly indicated that instilling confidence directly correlates with a teacher's decision to stay within the teaching profession. The confident teacher, armed with the skills to handle the ever-changing world of education, will positively impact student achievement. As global competition for resources and technology persists, teachers must have the experience necessary to teach the leaders of tomorrow effectively. The development and perpetuation of a dedicated new-teacher mentoring program will help build a foundation of competent teachers who are properly trained to do their jobs with excellence and who then grow into experienced teachers,

highly capable of leading the changes necessary for student growth and achievement in school and in life.

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Mentor Matching Does Matter
By Kathleen Lozinak

Current research clearly indicates that mentoring is an important part of teacher-induction programs. Mentor and mentee relationships have proven to be a lifeline for many early-career educators. The quality of the pairing process has been found to impact significantly the success of beginning teachers. The findings of this action research study provide evidence that educators and educational leaders should consider carefully how mentors are assigned to mentees. The action project involved the creation and implementation of a pairing procedure to assist in the assigning of mentors to new hires in need of state-required induction in one K-12 public school district.

Introduction

Teacher induction includes practices that help new teachers on the road to becoming educational professionals. Howe (2006) described the benefits of superior teacher induction as including the ability to attract better candidates, reduce attrition, improve job satisfaction, enhance professional development, and improve teaching and learning. It is well accepted that one aspect of superior teacher induction is a strong mentoring relationship (Ingersoll & Smith, 2011). Mentoring is a component of many state-facilitated teacher certification programs, but the pairing procedures for mentees and mentors are often left to the discretion of personnel in each district.

The study took place in a suburban Connecticut school district that employs more than 500 state-certified, full-time educators in 13 schools. District C historically employs 10-20 new teachers each year. State law requires all new teachers be assigned a mentor as the primary component of the state's teacher-induction program (McQuillan, 2008). The district leaders are responsible for soliciting veteran teachers to be mentors and sending them for state training. The current mentor-pairing procedure in this district is facilitated by the state-required district Teacher Education and Mentoring (TEAM) Coordinating Committee (TCC). The TCC examines the lists of new hires with less than 2 years of experience and of state-trained mentors and creates pairs based on main school assignment. At the time of the study, no criteria existed other than assigned location.

Problem

School District C makes a concerted effort to provide an appropriate level of induction for all new hires. An orientation is planned each year to include background information regarding the district, community, curriculum, benefits, and state requirements for new teachers. A mentor is assigned within the first month of school as required by the state, and training is provided to new teachers on how to use state resources such as sample papers, reflection paper guidelines, and mentor-meeting topic suggestions. Induction program "graduates" are celebrated with balloons and fancy pencils for their students at the conclusion of the state process. This current induction process has been in place since 2010 with minor changes from year to year.

The problem at the research site was that the matching of experienced and beginning teachers was perceived as ineffective by beginning teachers. Wong (2002, 2004, & 2005) and Johnson and Kardos (2002) provided evidence that beginning teachers need a comprehensive induction program that includes a strong mentor relationship. During an initial cycle of action research, new hires shared concerns regarding the effectiveness of their mentoring relationships. Districts struggling with budget constraints and time limitations often need to set priorities that may not allow for the kind of all-inclusive teacher support that has been proven to be the most successful. The matching of mentors and mentees solely based on building assignment proved ineffective in many cases and, in conjunction with other issues, caused some new teachers to leave the school district.

Research Questions

The purpose of this research study was to investigate how use of more detail in the mentor-pairing procedure could improve the perceptions of novice teachers regarding their mentoring relationships. The success of the intervention was evaluated based on new teachers' perceptions of the mentoring relationship. Two research questions (RQ) guided the study:

RQ1: How will utilizing a database of mentor specialties and availability during the pairing process affect the quality of mentoring relationships at District C?

RQ2: To what extent will the development of a mentor-pairing procedure improve the induction process at suburban school District C?

Review of Research Regarding Teacher Induction

To assist in answering the research questions, the researcher did extensive synthesis of the literature—summarized briefly here—in the areas of teacher attrition, comprehensive teacher induction, role of leadership, mentoring in general, and mentor pairing in particular. Although the majority of research by Wong (2002, 2004, & 2005) and Kardos and Johnson (2002) provided evidence that beginning teachers need a comprehensive induction program that includes a strong mentor, attention to the actual pairing was not a focus. The current action research project focused on how best to match beginning teachers with mentors. As a member of the district TCC, the researcher was able to obtain permission to make some changes to the district induction program but did not have the authority or the funding to make major changes. The chosen research questions related to how to be sure mentor and mentee pairings were effective were supported by the research of Kardos and Johnson (2002), who documented the need to pair new hires carefully with well-chosen mentors.

Howe (2006) and Bartell (2005) asserted that teacher induction is quite different than a mentoring program. Teacher induction includes, but is not limited to, mentoring. An effective induction program includes differentiated professional development activities, multiple support personnel, study groups, and strong administrative support. Wong (2004) agreed that induction is much more than having an assigned mentor and that

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comprehensive induction is needed to increase the odds of a beginning teacher being successful and to help reduce teacher attrition.

Iordanides and Vryoni (2013) conducted a study in Cyprus to assist in the review of a new teacher-induction program. One of the induction variables they explored was the ability of the school leader to create a positive school climate. Similarly, Fullan (2001) and Ingersoll and Smith (2004) claimed strong leadership could contribute to the smooth induction of new teachers. Their findings supported the previous research, as well as that of Johnson and Kardos (2002), who asserted that strong collaboration among all school stakeholders is important.

The research of Buchanan (2009) focused on teacher attrition and why teachers left their chosen profession. The former teachers cited poor pay and poor working conditions and repeatedly referred to a lack of collegiality in the profession. Positive mentoring relationships would be an important part of a needed support system by providing such collegiality.

> *". . . comprehensive induction is needed to increase the odds of a beginning teacher being successful and to help reduce teacher attrition."*

Kardos and Johnson (2010) did extensive work in the area of teacher mentoring. One research report looked closely at the mentor match and the nature of the mentoring experience. The report outlined the positive and negative aspects of the new hires' experiences with the mentoring relationship. Their findings showed that, although 78% of all respondents had a mentor, the quality of the mentoring was not consistent. One example of the inequity that Kardos and Johnson uncovered was that fewer than half of the new hires in hard-to-staff areas such as math and science and low-income schools had mentors in the same grade or subject area.

Overview of Methodology

Both quantitative and qualitative data were used to assess the impact of the intervention, which was based on matching mentors and mentees using specific information provided by each rather than simply using location. Initially, the researcher conducted a file review to ascertain the number of new hires and participants in the state induction program from the district. Data were documented relating to the average number of new teachers hired between August 2010 and March 2015. Information was also obtained relating to the number of state-trained mentors in the district. This information was used for estimating samples and population.

Participants. The sampling method utilized in this study was nonprobability sampling. In such purposeful sampling, cases or participants are selected based on their suitability for the study (Gall, Gall, & Borg, 2007). All participants were recruited via e-mail based on their status as a state-trained mentor, a former mentee, or a new hire—i.e., the groups that would best provide data to answer the research questions. Participants for interviews that occurred as part of the study were self-selected from the core participants; they volunteered to be interviewed.

Thirty-three new hires were assigned to eight different schools, including elementary, middle, and high schools, filling both regular education and special education positions. Of this group, 17 ultimately completed the placement-information sheet (Appendix A) and were paired with district mentors. Thirty-six trained mentors submitted information

regarding their expertise and preferences for mentoring (Appendix B) for the matching database. The size of the sample was tightly limited because only new hires who required state induction met the needs of the study. Additional participants included 34 currently trained mentors and 5 former mentees who had completed the induction process within the previous 5 years; these participants provided baseline data for current perceptions of the mentoring process. Four administrators also agreed to participate in the overall study.

Intervention. To initiate the intervention, the researcher received copies of the new hire questionnaire completed by all teachers new to the district and needing induction. Completed documents were then shared with TCC members during the pairing procedure. The actual intervention implementation began with a meeting of the district coordinating committee to match new hires with trained mentors.

A copy of the spreadsheet of available trained mentors was provided to the team along with matching information provided during the hiring process by new teachers needing induction. Each team member was in charge of a series of schools and the new hires in those buildings. Team members used the data from mentors and mentees to create a list of tentative pairings based on the mentors' and mentees' responses on the placement questionnaires. Consideration was given to preferred communication style, daily schedule restraints, as well as content and specialty areas. Building location was also considered but was not the only factor for pairing. Based on prior practice, committee members then contacted all prospective mentors to ask if they were available to serve as mentors for the designated time period. All matches were made as proposed, and results of the pairing procedure were sent to the district facilitator for entrance into the state's monitoring system.

Procedures

In addition to the placement questionnaires, the researcher used online surveys, interviews, and observations to collect data. To establish baseline data to answer RQ 1, the researcher surveyed current mentors and prior mentees regarding their perceptions of previous mentoring relationships (Appendix C). Volunteers were solicited to be interviewed using an open-ended interview process (Appendix D). Their answers also provided baseline data regarding their perceptions of mentoring relationships prior to the implementation of the pairing procedure.

To establish baseline data to answer RQ 2, the researcher analyzed the data from the mentors' and mentees' surveys and interviews (Appendixes C and D) to determine if their perceptions of former mentoring relationships reflected any negative perceptions. This information was later compared to postintervention survey and interview results. These baseline data would assist in determining if measurable improvement in the induction process occurred.

To gather postintervention data regarding RQ 1, the researcher e-mailed a link to a survey (Appendix E) to all new hires who had completed the initial matching questionnaire. Those current mentees were also contacted by e-mail to request their participation in an interview (Appendix F) conducted by the researcher. Volunteers replied to the researcher if interested, and interviews were scheduled and conducted. Interview notes were typed and coded for common themes.

Meetings were also scheduled with administrators. Field notes from meetings were typed and coded for themes. Online mentor journals were reviewed to obtain any evidence of positive or negative mentoring relationships. The journals were required as part of the state induction process and contained evidence of mentor meetings but little in-depth information that could be used to document improved relationships.

The researcher used e-mail to solicit volunteers for postintervention mentee interviews. Four of the 17 new hires agreed to be interviewed. The researcher sent an additional e-mail request in an effort to increase the sample, but no additional volunteers came forth. Interview questions were designed to provide insight into the teachers' points of view. Questions were carefully worded to avoid bias and not lead the participants in any way. Questions were field tested with a panel of experts that included a TCC member, the district facilitator, and a state trainer and liaison for the state induction program. Handwritten transcripts were typed and coded, and themes emerged for comparison to the baseline data.

To collect additional postintervention information to assist in answering RQ 2, the researcher recruited mentees by e-mail to request permission to observe a mentoring session. Initially, only one participant volunteered. During a mentee interview, one additional new hire agreed to have her meeting with her mentor observed. During the scheduled observations, the researcher took notes using a basic observation protocol (Appendix G).

Mentors currently paired using the new procedure were recruited by e-mail for interviews. Four volunteers participated in open-ended interviews. Their responses were handwritten and then typed and coded.

Mentors and mentees were solicited by e-mail request to keep reflective journals. Two beginning teachers agreed, and their journals were reviewed and coded for common themes. This information was combined with interview results as an evaluative tool for the impact of the intervention.

Informal meetings with administrators were conducted following the provision of informed consent and information regarding the purpose of the study. Notes were coded for common themes and used as supplemental information regarding teachers' perceptions of the mentoring relationship. Stringer (2014) suggested the use of multiple measures to assist in the completion of a credible study. The administrators provided an additional perspective regarding the induction process as a whole and the mentoring relationships in particular. Evidence of the level of the success of the intervention was derived from these multiple qualitative data sources.

Analysis process. The application of a thematic analysis involved the clustering of sets of data until patterns emerged. Constant comparison allowed for the coding of data across sources. Survey responses were tallied within and across participant groups for common themes. Observation notes and protocol tally sheets were reviewed. Meaningful sentences and phrases in notes from interviews were underlined. Those markings were reviewed, and any phrases not related to the research questions were crossed out. Each remaining phrase was grouped with others based on common ideas. Each of those clusters was named, and patterns were revealed (Kostere, Kostere, & Percy, 2009). A variety of direct quotes were collected to support each given theme.

Results

More than 100 currently trained mentors in the district received an e-mail inviting them to complete a survey (Appendix E) for baseline data. The survey was open for 2 months, during which time 34 responses were obtained. The six questions related directly to the mentor-pairing process and mentoring relationships. Of the 34 respondents, 25 reported an understanding of the pairing process. The survey responses also showed 32 of participants agreeing that having a mentor from the same school was important. Of the 34 mentors who responded, 28 thought it was important to align the schedule of the mentor with the mentee. Additionally, 25 of the respondents agreed that the consideration of outside commitments was important. On the question of the importance of teaching

style, responses were split, with 18 thinking it should be considered and 16 responding it was not important. Table 1 displays the responses that described the perceptions of mentoring prior to the intervention.

Table 1
Results of Mentor Survey

Mentor responses	Yes		No	
Understanding of Process	25	74%	9	26%
Same School Factor	32	94%	2	6%
Same Schedule Factor	28	82%	6	18%
Outside Commitment Factor	25	74%	9	26%
Teaching Style Factor	17*	52%	16	49%

Note. * One respondent did not answer this question.

Four mentors who had been paired with their mentees prior to the new procedure were interviewed (Appendix F). Questions related to their perceptions and understandings related to the mentor-matching process and experiences with mentoring. Mentors had a general understanding of the matching process but did not know the specifics. All participants agreed that schedules, grade level similarity, and common school were important considerations for matching. Of the mentors who were interviewed, 50% stated that personality should be considered if possible. Three of the four interviewees included some comments related to negative past issues with mentor relations.

Five questions (Appendix F) were asked of the five former mentees who had been paired with mentors prior to the intervention. Mentees had a general understanding of the matching process but limited understanding of the specifics involved. A similar focus on common grade, subject, and school was shared. Four of the five teachers interviewed reported having a positive relationship with their mentor. A new focus on the importance of the mentor being experienced emerged.

Administrative interviews were completed informally, roughly based on the questions in Appendix F, with three principals after the new pairing procedure was implemented. All reported a lack of understanding of the matching process and a desire to know more about the induction process as a whole. The administrators shared factors for consideration in the matching process that were similar to those of the mentors and both groups of mentees. They also added a need for mentors to have skills that supplement the weaknesses of new hires.

Postintervention survey (Appendix D) results were obtained from 6 of the 17 new teachers. Five stated they understood the pairing process that was used to match them with a mentor. All agreed that same school was important. Common schedules and consideration of outside commitments were important to five of the six respondents. Two agreed that the consideration of teaching style was important. All of the new teachers who

completed the survey responded that they had a helpful mentoring experience, adding to the evidence that the intervention had positive results.

The researcher conducted interviews with four mentors who had been paired using the new process. Three expressed concern that they did not understand the pairing procedure and maintained that same school placement was important. All of the mentor participants agreed that similar grade and content would be important for mentor relationships. Three mentors suggested a modified mentoring system that included a team approach, and two mentors shared ideas regarding major changes to the current state induction program.

Following the intervention, interviews (Appendix E) were conducted with four new teachers currently involved in the induction program. All reported positive relationships with their mentor. Two attributed their positive experiences to "luck," and one remembered completing a questionnaire during new-teacher orientation. Two advocated for changes to the program as whole. Though limited in number, these results serve as evidence of the success of the intervention as all reported positive perceptions of the mentoring relationships, if not of the induction process overall.

Two mentors involved in the intervention shared their mentoring journals. Both journals were very factual, with limited evidence of a positive or negative relationship. Journal entries were primarily summaries of conversations and plans of action. Mentors included comments related to what teachers were doing and issues that had been shared.

Two new hires and their mentors agreed to be observed during a weekly mentoring meeting. A basic observation protocol was utilized (See Appendix F). The observation provided evidence of positive relationships, including words of affirmation, encouragement, optimism, and confidence. The data were analyzed and coded for a ratio of positive to negative interactions. Behavior points observed included tone of voice, head nods, collaboration/working together, and attentive listening.

Conclusions

During the analysis of the surveys, interviews, and observations, five significant themes related to perceptions of the mentoring process and the impact of the revised matching process (Table 2) emerged from the patterns. The theme of "lack of knowledge of the pairing process" was common to the mentors, administrators, and mentees paired prior to the intervention. The intervention group mentees had some knowledge of the pairing process because they had completed the questionnaire. The concern reported by all four participant groups—administrators, mentors, former mentees, and intervention group mentees—was the importance of matching mentors and mentees in the same building. Providing a mentor in the same school was found to improve the induction process because the accessibility of the mentors to the mentees created a stronger sense of support. Prior mentees, mentors, and administrators urged that pairs should be at least of a similar grade or content area. One theme common to only mentors and administrators was the need for a more collaborative approach to new-teacher support. New hires and novice teachers advocated for a restructuring of the state induction program as a whole. All of these conclusions were shared with district and state-level administrators as the power to change the district and state level programs was beyond the sphere of influence of the researcher.

Table 2

Coded Themes from Interviews

Themes	Administrators	New Hires	Prior Mentees	Mentors
Don't know pairing process	3/3 100%	3/4 75%	4/5 80%	3/4 75%
Need same school	3/3 100%	4/4 100%	3/5 60%	3/4 75%
Need similar grade or content	3/3 100%	N/A	2/5 40%	4/4 100%
Need team approach	3/3 100%	N/A	1/5 20%	3/4 75%
Need to restructure induction	1/3 33%	3/4 75%	4/5 80%	2/4 50%

All six new teachers responding to the survey stated they had a positive mentoring relationship. This information, combined with the interviews of four new hires, provided support that the detailed mentor-pairing procedure was effective.

Themes coded from all stakeholders participating in an interview uncovered multiple concerns relating to the current induction process in general; these issues were discussed at the local and state levels and might serve as a source for further cycles of action research. All four participant groups reported some aspect of the program that could be changed, modified, or deleted. Administrators requested to be more involved with induction of new teachers and better informed of district policies in this area. Administrators also voiced a concern with leaving the important work of mentoring in the hands of a single staff member. Their suggestion was to create a team approach to better meet the needs of new hires. State-trained mentors agreed it would be helpful to have a group of people working with the new hires.

Assignment in the same school was another area of interest for mentors and administrators. They expressed a belief that new teachers benefited from having a go-to person in the building. This outcome supported the use of a pairing procedure that solicits information from mentors and mentees on this topic. Mentors from the same building would be considered first if they were comfortable in the needed content or grade level.

The need for all participant groups to better understand the process was a matter not originally considered as related to the topic of mentoring relationships or induction. The preponderance of evidence in this area may be related to the focus on the current mentor-pairing procedure in the survey and interview questions. These questions may have led participants to consider what they did and did not know about the process as a whole.

The new teachers' focus on a restructuring of the induction process was evident in seven of the nine interviews done with the early-career educators. Beginning teachers

added comments on this topic when asked, "Is there anything else you would like to say on this topic?" Teachers believed planning, instructing, assessing, and modifying to be the most important parts of their work. Many expressed a concern that the induction program as it currently existed added to their feelings of frustration and exhaustion and impeded their ability to provide high-level, quality instruction. One new teacher stated, "Teaching isn't like any other profession. It is sink or swim. You are expected to know and be able to do everything." This mentee described her mentor as a lifeline and the state induction requirements as daunting.

> "Providing a mentor in the same school was found to improve the induction process because the accessibility of the mentors to the mentees created a stronger sense of support."

The results of the study were shared with members from TEAM at both the district and state levels. The study supports moderate change to both programs, including stronger communication with building administrators and outreach to mentors for inclusion of their information in the database. A request to participate from a district-level administrator might result in more mentors submitting their information. Other implications for practice include discussion of ways to create a team approach to mentoring, especially within specialty areas of art, music, high school content areas, and special education.

Limitations

Several limitations existed in this action research study. Action research itself has limitations. Action research does not carefully follow the scientific method and is sometimes questioned for its validity (Stringer, 2014). Action research, according to Stringer (2014), is not always generalizable as it is site-based and designed to address a specific issue in a specific place.

Sample size was also a limiting factor. The intervention group consisted of all new hires in the district. This population was dependent on budget issues, and the size of an inductee group varies year to year. Only 17 of the district's 20 new hires needed to participate in the state induction program and were thus eligible for participation in the study. This sample size was small and thus not generalizable.

Time was a limiting factor. This sample was limited to those teachers hired during the research window of July-September. New hires were paired with mentors before the start of the school year. Those beginning teachers were asked to participate in interviews and observations in the fall months. This narrow timeframe was needed to conclude research in a timely manner and to share results with stakeholders to compare perceptions of new hires regarding their mentoring relationships to the perceptions of those previously mentored.

Specific responses were generalized for ethical reasons. Due to the small sample, extra care was taken to avoid identification of subjects. These generalizations, though necessary, may be found limiting as the specific perceptions of the intervention and prior-mentoring group members will not be made available. The protection of the subjects requires careful consideration and was a priority of this research.

Recommendations for Further Research

The expectations of an action research study focused on improving mentoring relationships are quite broad in scope. The researcher expected that a change in the mentor-pairing process would improve mentoring relationships and that this improved relationship would improve the teaching practices of the new hires. Improved ability to deliver high quality instruction would assist in increasing students' learning and improve school climate and teacher retention. The results of this action research study and information obtained from the literature review lead to a recommendation for further research in the area of how positive mentoring relationships can, in fact, improve teacher practice and increase student learning.

In Sum

The purpose of this action research study was to investigate the perceived effectiveness of a modified mentor-pairing procedure by beginning teachers. New teachers were paired with mentors using the modified process. The study examined surveys, interview notes, and other sources of data to determine if the quality of mentoring relationships improved as a result of the change. All members of the intervention group reported a positive relationship. However, the extent to which that perception can be clearly related to the modified pairing procedure is unclear. Additionally, further research is needed to determine whether any improvement to a mentoring relationship has significant influence on teacher practice or student learning.

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Appendix A. Placement Questions for Mentees
Mentor/Mentee
Matching Questionnaire

Name _____

School _____

1. What times are you available to meet with your mentor?
   ❑ Before school   ❑ Lunch   ❑ Prep   ❑ After school   ❑ Evenings   ❑ Weekends
2. What days are you available for mentoring?
   ❑ Monday ❑ Tuesday   ❑Wednesday ❑Thursday   ❑ Friday ❑Saturday ❑Sunday
3. What is your preferred form of contact?
   ❑ Face to face   ❑ Phone   ❑ E-mail   ❑ Other
4. What is your content area or specialization?
   Grade _____
   Content area _____
   Specialization _____

Appendix B. Placement Questions for Mentors
Mentor Questionnaire

Circle all that apply.
1. When are you available to meet?
   before school   lunch   prep   after school   evenings   weekends

2. What days are you available?
   M T W Th Fr Sat Sun

3. What is your preferred form of contact
   Face to face   Phone   E-mail   Other

4. What is your content area or specialization?
   LA   Math   Science   SS   Music   Art   PE   Other

5. What grade levels have you taught?
   Primary   Middle Grades   6-8   9-12

6. How much time can you commit to mentoring each week?
   Less than one hour   one hour   2 hours   as much time as needed

7. Are you available to mentor outside your school?
   Yes   No

Appendix C. Questions for All District Mentors and Former Mentees
On-Line Survey Questions

1. Do you understand the district mentor matching process?

2. Is the consideration of teaching style important to the pairing of mentors and mentees?

3. Is the consideration of schedules and outside commitments important to the matching process?

4. Is same school assignment important to the matching process?

5. Was your mentor relationship effective?
   Survey designed and created by K. Lozinak, 2015

Appendix D. Interview Protocol for All District Mentors and Former Mentees
Interview Questions for a Selection of Mentors and Former Mentees

1. Please share what you know about the district mentor/mentee matching process.

2. What factors should be considered in the mentor pairing process?

3. Can you please describe your relationship with your mentor (mentee)?

4. If your relationship with your mentor (mentee) was in need of improvement, what factors could have assisted in providing you a more positive mentoring experience?

5. Is there anything else you would like to say on this topic?

Appendix E. Post Intervention Survey Questions for Mentors and Mentees
Intervention Group On-Line Survey

1. Do you understand the district mentor matching process?

2. Is same school assignment important to the matching process?

3. Is consideration of schedules important to the matching process?

4. Is consideration of outside commitments important to the matching process?

5. Is consideration of teaching style important to the pairing of mentors and mentees?

6. Is your mentoring relationship effective?

Appendix F. Post Intervention Interview Protocol for Mentors and Mentees
Intervention Group Interview Questions

1. Tell me what you know about the process for mentor/ mentee pairings in your district or school?

2. If you had power to change the process, what would you consider to be the most important factors in pairing beginning teachers and mentors?

3. What are some factors that are important to consider to promote an effective mentor/ mentee relationship?

4. If your relationship is in need of improvement, what factors could have assisted in providing you with a more positive experience?

5. Is there anything else you would like to say on this topic?

Appendix G. Observation Protocol
A recording of the meeting will be requested so researcher notes can focus on observable behaviors.

*TEAM participants	Positive Words	Positive Actions	Negative Words	Negative Actions

*Teacher Education and Mentoring (TEAM)
(Researcher will observe for evidence of positive relationships including words of affirmation, encouragement, optimisms, and confidence. Analyze and code for ratio of positive to negative. Behavior points to observe include tone of voice, head nods, collaboration/working together, attentive listening)

Professional Dyads and Culturally Relevant Literacy Through the Eyes of a Beginning Teacher Leader

By Crystal P. Glover and Chinyere Harris

The Professional Dyads and Culturally Relevant Teaching (PDCRT) project was established in 2013 to highlight the work of early-childhood educators committed to educational equity for all students. In this article, the authors explore the relationship within one professional dyad, made up of a beginning classroom teacher and a teacher educator, as they worked together to implement culturally relevant literacy practices in a large, diverse, urban elementary school in the southeastern United States. Concluding analysis suggested that professional relationships and ongoing, meaningful research endeavors between beginning teachers of color and teacher educators can positively impact teacher satisfaction and retention.

> *"I remain [in the classroom] because I feel that I have knowledge of content that my students need. I remain because I feel that I can help my students successfully navigate the educational system. I remain because I care about those I instruct, and I have a responsibility towards them."*
>
> Chinyere Harris, beginning teacher

Introduction

Teacher attrition rates substantiate the difficulty of sustaining quality teachers. Although actual percentages of teachers leaving the profession within the first 5 years vary between 5% and 50%, little uncertainty exists that attrition rates are elevated among beginning teachers. Coupled with the unique challenges associated with teaching in urban schools, the attrition rate of teachers in more diverse settings surpasses those of teachers in schools with lower rates of poverty (Gray & Taie, 2015). Supporting new teachers in these culturally and linguistically rich environments can lower the number of beginning teachers who leave the profession each year (Gray & Taie, 2015). Beginning teachers who are assigned mentors during their first year are less likely to leave the teaching profession than teachers who are not given the support of a mentor (Gray & Taie, 2015).

In 2013, reflecting this need for effective mentors, the Early Childhood Education Assembly (ECEA) of the National Council of Teachers of English (NCTE) established the first cohort of the Professional Dyads of Culturally Relevant Teaching (PDCRT). The purpose of the project was to

> create a space within NCTE for supporting early childhood educators of color and educators who teach children of color, English Language Learners, and children

from low-income communities in…generating, implementing, documenting, evaluating, and disseminating culturally relevant pedagogies in early childhood literacy. (ECEA, 2013, para. 4)

In this case study, an outgrowth of the PDCRT initiative, a beginning teacher of color and a teacher educator formed a professional dyad aimed at exploring culturally relevant literacy practices within an urban Grade 2 classroom. The pair worked in tandem to research, develop, and implement culturally relevant literacy practices aimed at improving literacy achievement rates, increasing the rates and types of parent involvement, and enhancing school-wide awareness of culturally relevant pedagogy. The research focused on the following research questions:

1. In what ways does working in a professional partnership influence a beginning teacher's perspectives on teaching and learning?

2. In what ways does working in a professional partnership impact a beginning teacher's pedagogical practices?

Culturally Relevant and Sustaining Pedagogy

Culturally relevant teaching is a theoretical framework that promotes the design of school curriculum based on students' cultural backgrounds and experiences (Gay, 2000). Culturally relevant teaching draws on the cultural knowledge, prior experiences, and performance styles of diverse students in order to make learning more appropriate and effective for them (Gay, 2000). Ladson-Billings (1994) identified three key components of culturally relevant teaching: cultural competence, academic success, and sociopolitical consciousness. *Cultural competence* implies that students appreciate and celebrate their own culture while being knowledgeable about and fluent in at least one other culture (Ladson- Billings, 2014). *Academic success* is a description of the progress students make based on their educational experiences, and *sociopolitical consciousness* integrates academic learning with problems that occur in the real world (Ladson-Billings, 2014). Ladson-Billings (1994) defined culturally relevant teaching as "pedagogy that empowers students intellectually, socially, emotionally, by using cultural referents to impart knowledge, skills, and attitudes" (pp. 17-18).

Culturally relevant teachers intentionally make connections between students' home experiences and their classroom experiences (Durden, Escalante, & Blitch, 2014). They

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establish meaningful relationships with students and families and readily recognize the funds of knowledge (Moll & Gonzalez, 1994) that students bring into the classroom. Culturally responsive teachers view students and families as valuable resources and work with them to create learning activities that are inclusive of students' lived experiences. As a result, students of culturally relevant teachers achieve higher academic success and are more engaged in the learning process (Kesler, 2011).

In 2012, Paris proposed the term *culturally sustaining pedagogy* as an extension of culturally relevant pedagogy. Culturally sustaining pedagogy acknowledges the tenets of culturally relevant pedagogy and enhances the framework with timely and insightful additions. According to Paris, the term culturally sustaining "requires that our pedagogies be more than responsive of or relevant to the cultural experiences and practices of young people—it requires that they support young people in sustaining the cultural and linguistic access to dominant cultural competence" (Paris, 2012, p. 95). Educators committed to culturally sustaining pedagogy recognize the power in both "the many and the one" in a pluralistic society (Paris, 2012, p. 95). Paris maintained that culturally sustaining pedagogy seeks to "perpetuate and foster—to sustain—linguistic, literate, and cultural pluralism as a part of the democratic project of schooling" (2012, p. 95).

Guided by the need for culturally relevant and sustaining pedagogy, members of the PDCRT adopted a theoretical stance based on the culturally sustaining pedagogy framework. Although each dyad conducted research using a different methodology, culturally sustaining pedagogy continues to undergird the collective work of the PDCRT.

Professional Partnerships: Schools and Universities

Favorable outcomes of relationships between K-12 schools and university teacher-preparation programs dominate the research on professional partnerships (Beardsley & Teitl, 2004; Reynolds, 2000; Rock & Levin, 2002; Stairs, 2010; Thompson & Ross, 2000; Wong & Groulx, 2001). Descriptions of school and university professionals working in unison to prepare future teachers, provide professional development for practicing teachers, and promote new and innovative teaching strategies in schools are prevalent and encouraging for researchers and school personnel alike. Less frequent are examples of college professors working with beginning teachers to support their transition into the field of education and strengthen their pedagogical practices. Although many studies examine the work between university professionals and preservice teachers, a void exists in the research on partnerships between beginning teachers and college of education faculty. Little has been reported to document the outcomes of cases in which teacher educators partner with beginning teachers for pedagogical purposes. Thus, the study discussed here was uniquely situated in the research on professional partnerships and contributed new findings to an area with limited findings.

Methodology

The professional dyad featured in this single-case research study was formed as part of a larger cohort of five teacher-teacher educator dyads across the country. Together, the group formed the first cohort of the PDCRT project, an initiative created by the Affirmative Action committee of the ECEA of the NCTE to "develop, evaluate, and disseminate culturally relevant literacy practices in pre-K through third grade classrooms" (ECEA, 2013, p. 2). The PDCRT was developed as part of a grant funded by the NCTE. Five professional dyads from across the country were selected to form the 2013-2015 cohort of the PDCRT. The teacher educators within each dyad were chosen by members

of the PDCRT board based on their research within the field of culturally relevant literacy pedagogy in early childhood education. The teacher educators then each selected a pre-K to Grade 3 classroom teacher to complete their dyad.

The PDCRT dyads met several times a year to discuss the research being conducted in their respective locations, which included North Carolina, South Carolina, New York, and Missouri. The dyads met weekly in their home states. Collectively, the entire PDCRT met at the NCTE conference each fall and during a summer institute each year. A variety of electronic communications (via Twitter, Facebook, Zoom, Vox, etc.) occurred among the PDCRT members. Each dyad identified target question(s), concern(s), or challenge(s) to investigate. All five dyads worked with culturally and linguistically diverse families, communities, and students of color in their areas. The dyads used varying methodologies and research designs to implement their studies. The remainder of this article highlights the work of one dyad and the relationship that developed between the beginning teacher and teacher educator who comprised the dyad.

> "The dyads used varying methodologies and research designs to implement their studies."

Setting. Arborwood Elementary School (pseudonym) is a large, diverse Title I elementary school of more than 800 students and located in a major metropolitan school district in the southeastern region of the United States. Title I schools receive federal funding to support the academic achievement of students from low-income families. At the time of the study, the Kindergarten through Grade 5 students at Arborwood were identified as 92% free/reduced lunch, 47% Latino/a, 39% African American, 5% White, and 8% other. The dyad implemented their study with two classes of Grade 2 students and their parents at Arborwood Elementary over the course of 2 years (one class each year). Several classroom teachers and community members became part of the study as well. At the start of the study, both members of the professional dyad were new to their respective positions. Harris was a beginning teacher at Arborwood Elementary, and Glover was a new assistant professor at the local university where Harris was obtaining her master's degree.

The demographic makeup of Harris's Grade 2 classroom at Arborwood Elementary reflected the school-wide population. Her students spoke several languages, including English, Spanish, Urdu, and French. The goal of the dyad was to investigate ways in which culturally relevant pedagogy could be used to improve oral and written literacy achievement for students in the classroom.

After getting to know the students and parents in Harris's classroom during the first month of school, Glover and Harris decided to build on students' funds of knowledge as a tool for generating interest and improving written and oral literacy skills of the students in Harris's classroom. The dyad identified several strategies that would allow the individual students to share aspects of their personal backgrounds, experiences, and cultures with the other members of the class in a written or oral format. These strategies included student presentations, morning news segments, student research, and parent collaborations. The researchers worked with students and parents to help prepare them for their participation in the lessons and activities. Various forms of data were collected before, during, and after each endeavor to showcase the students' funds of knowledge, the impact that presenting their funds of knowledge had on the students' self-efficacy, the impact that presenting their

funds of knowledge had on the students' oral and written literacy skills, and the impact that observation of funds-of-knowledge presentations had on the other students. Both dyad members wrote weekly reflections to capture their reactions to the experiences within the study.

Data collection. The dyad held weekly meetings in person, via phone, Skype, or Facetime. During the meetings, the dyad deliberated on shared readings from the PDCRT, discussed new or developing research themes and ideas, shared their written reflections, and debriefed on the outcomes from the previous week. Oftentimes, the meetings would commence with an informal reflecting period that allowed Harris to describe her experiences in the classroom, including frustrations, challenges, and successes. Glover began to take written notes during these sessions, and the written notes became part of the data that the researchers collected.

In addition to written reflections from their weekly meetings, the dyad collected student work samples, videos, student reflections, and parent surveys. The dyad also met with the Grade 2 students individually and in small groups to collect interview and focus-group data regarding the children's reactions to the classroom activities. Pre- and postintervention literacy data collected from district literacy assessments served to further inform the data collection process. The dyad documented their work in biyearly reports to share at their PDCRT fall and summer institutes.

An interesting development occurred approximately 3 months into the first year of the project. As fellow teachers became aware of the research being conducted in Harris's classroom, interest in culturally relevant literacy grew among other teachers. The dyad decided to expand their research to include school-wide endeavors to increase awareness about culturally relevant teaching. Harris took the lead and initiated a school-wide Culturally Relevant Teaching Committee. She worked with the committee to design professional development opportunities to promote and advance teachers' awareness and use of culturally relevant literacy practices. Several new sources of data, including teacher surveys and written reflections on professional development, came from the work of the Culturally Relevant Teaching Committee.

A full analysis of the data collected in the larger study is available for review (Glover & Harris, under review). The current article highlights the reflections of the dyad members on their work as a professional partnership. Specifically, the authors of this article speak to the benefits of partnering beginning teachers with experienced educators to encourage self-reflection, to advance and inform classroom research, and to promote professional growth and development for classroom teachers and university faculty. The portion of the data described in this study came from the written reflections of the early-career educator in the dyad. The weekly reflections, collected over the course of 2 years, were transcribed and coded using conventional content analysis (Hsieh & Shannon, 2005). The data were inductively analyzed to identify recurring patterns or common themes. Conventional content analysis was chosen in order to describe the phenomenon. The researchers identified keywords and phrases from the transcripts and generated codes based on reoccurring patterns in the data. The following section outlines the three overarching themes that were derived from the data.

Results

Participating in the professional dyad had a profound impact on Harris during her first 2 years as a teacher. She often reflected on the ways in which her participation in the dyad influenced her perspectives on teaching and learning. Harris believed that being a member

of a professional partnership allowed her to take risks and grow as a teacher with the security of having support from an experienced educator in the field. Her weekly written reflections over the course of the 2-year study fell within three broad themes or categories: first-year challenges, the dyad relationship, and "a voice and a vision."

  First-year challenges and teacher attrition. During the first few months of the study, Harris was primarily consumed with the day-to-day duties of teaching. Having sole control of a classroom for the first time, she often felt overwhelmed by the obstacles she faced within her classroom and grade level. For Harris, however, the biggest challenges came from the friction she felt outside the walls of her classroom.

  Assured of her beliefs in culturally relevant pedagogy, Harris had little difficulty modifying her instruction to reflect culturally appropriate practice. She worked easily with her dyad partner to design lessons, activities, and other strategies that would allow her students to demonstrate their funds of knowledge and improve their written and oral literacy achievement. What she did not expect was the rejection she received from other teachers who did not share her passion for culturally relevant pedagogy:

> From the paradigm of being a first-year teacher in my own classroom, there were many positive, memorable, and exciting experiences. However, there were also challenges. The main challenges that I faced were persuading other educators within my school that culturally responsive pedagogy/teaching (CRP/CRT) can increase learning in literacy, and that I was knowledgeable enough to lead them in learning how to apply CRP/CRT. I feel that when you are a first-year teacher and you are not a teacher from the dominant culture, credibility in some situations can easily become a tremendous opponent that can sometimes be used as a justification to nicely place your ideas on hiatus. (Harris, written reflection)

  When the rejection from other teachers became a daily reality for Harris, she turned to the professional dyad as a source of reassurance and support. Confident in her beliefs about the value of culturally relevant pedagogy for a diverse classroom population, Harris remained vigilant in her efforts to reach her students' literacy needs through instruction that was based on their backgrounds, experiences, and beliefs. She worked with her dyad partner to design opportunities for her students to showcase their funds of knowledge and build their oral and written literacy skills.

  Over time, Harris began to contemplate the larger context of her colleagues' reaction to culturally relevant pedagogy. While reflecting on her own resolve to remain in the teaching profession, Harris hypothesized why many teachers choose to leave teaching within the first few years. Harris's strong belief in culturally relevant teaching prompted the following written reflection at the end of the study:

> The number of students of color in our school system is increasing. I believe beginning teachers leave the teaching profession because they are not equipped with knowledge of how to instruct and discipline in culturally responsive ways that students of color can access and make connections to. Many teachers have little understanding of the students they teach. Some are not taught how to make connections with diverse students, others are afraid to learn how to make connections with diverse students, and others are guided by their own biases (both covert and salient). All of these things lead to teacher attrition out of the profession. (Harris, written reflection)

The influence of the professional dyad was undeniably present in Harris's words. She clearly believed that knowledge of culturally relevant pedagogy was connected to teacher attrition. In her eyes, teachers without knowledge of culturally relevant pedagogy are ill-

equipped to teach the diverse student populations that comprise today's public schools, while teachers entrenched in culturally relevant pedagogy fare better as a result of their knowledge of culturally relevant pedagogy. Later, Harris solidified her beliefs with the quote that appears at the beginning of this article. She personalized her beliefs about teacher attrition and beginning teachers by describing the reasons she chooses to stay in the teaching profession:

> I remain because I feel that I have knowledge of content that my students need. I remain because I feel that I can help my students successfully navigate the educational system. I remain because I care about those I instruct, and I have a responsibility towards them. (Harris, written reflection)

Dyad relationship. The positive personal and professional relationship that evolved for both members of the dyad was unmistakable. The act of learning, researching, hypothesizing, and revising their mutual work created a powerful partnership that placed both members of the dyad in the roles of leaders and learners at varying points throughout the research. Being vulnerable to the process helped both Harris and Glover stretch their thinking about issues of equality, systemic racism, and cultivating culture within early-childhood classrooms. Harris summarized her thoughts on the dyad relationship in a written reflection documented at the end of Year 2:

> *The act of learning, researching, hypothesizing, and revising their mutual work created a powerful partnership . . .*

> Working in a Dyad was an extremely positive experience for both my first and second years of teaching. The Dyad relationship offered to me a source of support and guidance. It was an interaction which allowed me a space to problem solve, acquire and apply new ideas and pedagogy. As a result of the Dyad interaction, I learned how to incorporate my student's diversities: ethnicity, culture, and languages into my instruction. My Dyad work created deeper relationships with the parents and students in my classroom. (Harris, written reflection)

Harris's reflection illustrates her appreciation for the dyad relationship and the subsequent relationships she developed with her students and their parents. Harris suggested that engaging in a meaningful professional partnership with her dyad team member strengthened her ability to infuse culturally relevant literacy practices into her classroom instruction. Earlier in the study, Harris wrote the following reflection, in which she seemed to expand on her thoughts about the dyad relationship:

> The teacher educator I worked with provided support. I felt that she was a consistent advocate for me. She offered suggestions and culturally responsive ways to meet district standards. Our educational philosophies were always in alignment. I was very fortunate to have a teacher educator. She was a beacon who reminded me to follow my heart, my philosophy, and beliefs as an educator. (Harris, written reflection)

During her first and second years of teaching, Harris appeared to depend on her relationship with her dyad partner as supplemental to interactions she had with her assigned school mentor. In many of her reflections, she compared the two relationships, indicating where she felt the dyad relationship provided elements that she believed were missing from the acquaintance she had with her mentor. In the following statement, Harris reflected on the chasm between her mentor's perspectives and her own teaching philosophy.

The main difference [between the mentor and dyad relationship] was the paradigm through which educational pedagogy was applied. The mentor who was assigned to me by my school and state offered guidance that mostly favored European-based content and responses. There was discussion of differentiation, but within the frames of learning European-based content.

My school-assigned mentor was also the mentor of other teachers on my grade level. Whenever there was disagreement, I felt my mentor swaying towards the opinions of the other teachers. I recall her encouraging me to follow the views of the other teachers because it was my first year. Well, I just could not abandon my educational philosophy. (Harris, written reflection)

For Harris, the need to be culturally relevant was paramount in her diverse classroom. She opted to forgo the advice of her assigned mentor in favor of the work she and her dyad partner were doing to implement culturally relevant literacy strategies in the classroom.

> " *Her participation as a dyad member influenced her vision for teaching and learning.* "

Her words showed evidence of her development as a teacher leader rather than a beginning teacher afraid to challenge the status quo. These words would eventually foreshadow her leadership and work as a trailblazer of culturally relevant pedagogy at Arborwood Elementary School.

A vision and a voice. In the majority of her reflections, Harris expressed gratitude for her experiences within the dyad. She spoke graciously about the things she learned through her dyad work and the impact it would have on her teaching for years to come. In one such reflection, Harris wrote about the influence of her dyad work on her classroom instruction as well as her professional development:

I gained insight on how to make content accessible to all students, and how to incorporate the essence of each student into my instruction. As a result of the Dyad interaction, I was introduced to a network of educators who are advocates of culturally responsive pedagogy, equality and equity in education. I have also been afforded the opportunity to continue my work within education and equity in education by working with the Early Childhood Assembly of the NCTE. (Harris, written reflection)

Of particular significance was the way in which Harris began to view her role as an educator. Although beginning teachers are apt to view themselves as novice educators with a great deal to learn, Harris clearly began to see herself as a teacher leader:

For me personally, I feel that my role of teacher leader is stronger. I have a more defined voice. I have gained a clearer understanding of how students should be taught and how to provide them an equitable and equal education that the students can see themselves in and take ownership of. By ownership of education and instruction I mean that my students know that: they evaluate it, they question it, and they choose to accept or deny it. (Harris, written reflection)

Based on her words, Harris was able to recognize the power she held as an educational leader. Her work within the dyad and the PDCRT empowered her and inspired her to empower her students. Her participation as a dyad member influenced her vision for teaching and learning. She began to reject banking systems of teaching (Friere, 1970) and placed value in student ownership within the learning process.

Implications: Early-Career Educators Benefit from Targeted, Ongoing, Two-Way Support

Teacher attrition among early-career educators continues to deplete the field of well-intentioned, aspiring new instructors. Although the reasons behind this phenomenon remain plentiful, the findings in this study confirm others that suggest the importance of support and professional development as salient factors in the retention of early-career educators. What makes this study unique, however, is the manner of support that the beginning teacher in this study received and reciprocated.

To begin, the support that was given in this study was focused in a specific area of relevance to the beginning teacher. The study occurred in a diverse, urban school with a majority of culturally and linguistically diverse students from many countries. Many came from immigrant families of poverty and limited education. Teachers in a school such as the one featured in this study require knowledge of culturally relevant practices to meet in the best way possible the needs of the students and parents within the school and community. By participating in a professional dyad aimed at increasing knowledge and awareness of culturally relevant pedagogy, the early-career educator in this study received targeted support relevant to her specific teaching context. The support was also aligned with the beginning teacher's philosophy and beliefs about teaching and learning.

Another unique component of the support offered in this case study was the timeframe in which it occurred. The beginning teacher received weekly feedback and support from a teacher educator within her field of study. Outside of the weekly meetings, the dyad met for extended sessions with four other dyads twice a year for a period of 2 years. The dyad partners also presented their research at regional and national conferences several times a year. Although the official timing of the PDCRT cohort has ended, the dyad members have continued their research, providing a continuous means of support for the early-career educator as she has completed her third year of teaching.

Perhaps the most significant element regarding the topic of support and early-career educators from this study was the support rendered by the beginning teacher. At the start of the study, the teacher educator took on a leadership role in securing and managing the parameters of the study. The lines between leader and learner quickly dissipated as both members of the dyad became givers and receivers of support. When the beginning teacher in the study decided to expand the research study to include professional development for other teachers in the field, she took on the role of supporter for other teachers, both novice and veteran, who hoped to learn more about culturally relevant teaching. Likewise, she showed support to her dyad partner as she provided input about ways to disseminate information about CRT to preservice teachers at the local university.

Giving and receiving structured support allowed the beginning teacher in this study to move from novice teacher to teacher leader. Teachers who take on leadership roles within their schools and communities have greater ownership and voice in the educational process. These teachers are less likely to abandon the profession when challenges arise. These teachers are more likely to pass along qualities of ownership, empowerment, and self-worth to their students. The findings in this study suggest a favorable, long-term impact of structured, ongoing, two-way support for beginning teachers, their students, parents, colleagues, schools, and communities.

Conclusion

Although this article features a professional dyad made up of a teacher educator and a classroom teacher with similar educational philosophies, the potential for professional dyads in the field of education is unlimited by content area, grade level, research interest, educational philosophy, or even geographic location. The opportunity to work closely with a peer has been shown to have a positive impact on both participants and their students (de Kleijn, Meijer, Brekelmans, & Pilot, 2013; Gradwell, & DiCamillo, 2013; Scheeler, Congdon, & Stansbery, 2010). Future research is needed to document the outcomes of dyads with diverse structures.

> *Working with carefully selected university partners can enhance the teaching and learning experiences of beginning teachers.*

In the case highlighted in this article, one beginning teacher came to understand and respect the challenges of the profession as she sought to improve the literacy achievement of her culturally and linguistically diverse Grade 2 students. Working with carefully selected university partners can enhance the teaching and learning experiences of beginning teachers. With the guidance and support of a professional partner, the teacher was able to accomplish her goal during the typically turbulent and tumultuous first years of teaching. Although a school-appointed mentor was present and accessible, the beginning teacher in this study was unable to maintain a meaningful, sustained relationship with the school-appointed mentor due to time and philosophical constraints. Ultimately, the relationship between the dyad members sustained the work and plight of the beginning teacher while supporting her growth and development as a teacher leader.

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Training New Supervisors and Administrators: An Online Program Model

By Terry L. Wiedmer and Cindy S. Cash

The authors describe an online, distance-education course offered as part of a master of arts in education program for licensure as a school administrator. Attracting students both nationally and internationally, the program illustrates the effective use of online education focused on a problem-solving approach to provide the kind of preparation needed by educators seeking professional fulfillment or transitioning to a different career path within the profession. The authors emphasize the collaboration of education and technology experts to implement a course formerly offered in face-to-face or blended formats.

Introduction

The transition from classroom teacher to supervisor or administrator is a career change that should be given attention. Although one remains in the same field—education—the knowledge, skills, and dispositions needed for such a change are considerable, and a strong program for training is essential. Given the intensity of demands for an early-career supervisor or administrator, can a quality program be delivered online? Educators at Ball State University believe they have developed an effective online program to prepare new supervisors and administrators for this career change.

Ball State University offers many key academic programs via distance education, including nursing, teacher education (elementary and secondary), and educational administration and supervision with principal licensure, the program discussed here. Other online BSU programs include the MBA and degrees in health, public relations, journalism, curriculum, and educational technology. In addition, many blended programs are offered to include online and onsite work. In fact, although BSU has been offering online programs since the 1990s, the university has recently earned several awards in distance education. BSU received the 2014 Strategic Innovation in Online Education Award for meeting strategic and innovative goals for online education–the highest award or distinction given by the University Council for Educational Administration (UCEA), an association of leaders in online education. BSU is accredited by the Higher Learning Commission and is a member of the North Central Association of Colleges and Schools (Ball State University, 2016b). Such awards and accreditation acknowledge the commitment BSU has to a high quality distance-education program that remains professionally current and competitive.

EDSU 650 Supervision of Instruction, a 3-credit graduate course taught strictly online, is discussed here as an example of best practice in online programming to prepare new supervisors and administrators. During the regular academic year, EDSU 650 is offered via distance education in a 16-week format (fall and spring semesters) with an average of

40 enrollees each semester. EDSU 650 is also taught in a 5-week summer session with an average enrollment of 35-40 students. The course contents are based on a 16-week series of modules to accommodate fall and spring semester schedules. Summer school collapses the 16 modules to 5 weeks as enrollees are typically out of school and have greater flexibility to engage in course projects, lectures, meetings with people, and assembling their professional portfolio artifacts.

EDSU 650 Supervision of Instruction is designed to analyze the supervisory functions of the superintendent, supervisor, and principal. The course lays the philosophical basis for supervision at all levels of the school system from early childhood through secondary education. Specifically, EDSU 650 is designed to help enrollees develop an understanding of the principles and processes of supervising instruction within the framework of teacher growth through the integration and balance of theory, research, and practice in the field of instructional supervision. EDSU 650 is a required course in the administration and supervision Master of Arts in Education (MAE) graduate degree program that does include principal licensure. Initially the course was taught strictly face-to-face on campus and at remote sites throughout Indiana. Next, EDSU was taught in a blended-learning format, with instruction being conducted in the BSU distance-education television studio to accommodate live students and those remotely connected via the Internet. Since the 2005-2006 academic year, EDSU has been available to students strictly online. Students enroll for the course from all over the world and share freely with their course colleagues and instructor.

The knowledge base emphasized is focused around key concepts that school administrators and supervisors need to embrace to be responsive, respected, and qualified leaders within a public school system. These concepts include the role and responsibility of decision makers and key areas of research focused on becoming and remaining professionally knowledgeable, socially aware, and technically- and tactically-proficient, future-oriented leaders. Leadership within the public school system holds an obligation to seeking solutions to educational issues.

Students enroll in the BSU distance-education courses to achieve both career advancements and personal fulfillment and participate via the Blackboard learning management system. This virtual learning environment uses Web-based server software, features course management, is customizable, and allows integration with student

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information systems and authentication protocols. Primarily, the instructor uses Blackboard to add online elements to this EDSU 650 Supervision of Instruction course that had initially been taught face-to-face and now is taught strictly online.

Course Contents

EDSU 650 course contents feature basic and advanced theoretical and research-based studies that include teaching and learning processes, school improvement, organizational theory, leadership and management functions, professional staff development, as well as the moral and ethical dimensions of education. Ultimately, the course objectives and related student-generated projects are designed for students to acquire essential knowledge and skills for instructional improvement and to engage in collaborative problem solving. Accordingly, as reflective practitioners, students are provided opportunities to research and explore staff recruitment, selection, development, and retention as key components of their future supervisory and administrative roles.

For those in the administrative role, one area of concern is providing adequate staff development, which has been directly linked to the implementation of curricular and instructional innovations and overall improvement in the quality of the educational environment (Drake & Roe, 2003; Killio, 2008). EDSU focuses on staff development as a key component of instructional supervision. Societal change is ever-present and ongoing. Education is in a constant state of transformation and rarely stable, which demands an ongoing need for continuous learning by staff and retooling of the school vision. Regularly scheduled staff development is encouraged and emphasized throughout the course as a key component to successful instructional supervision to enhance the educational experience within a school district (Killion, 2008; Marzano, Waters, & McNulty, 2001).

> "*Given the intensity of demands for an early-career supervisor or administrator, can a quality program be delivered online?*"

The development of instructional supervision is profiled historically throughout the course, and supervisory functions are detailed to include management and services, instructional leadership, and the interpretations of these functions to both internal and external publics. The role and importance of instructional assessment of performance (evaluation) are addressed through the analysis of locally-adopted teacher evaluation assessment tool(s) and of the RISE Evaluation and Development System, adopted by the Indiana Department of Education (2011). Developed by the Indiana Teacher Evaluation Cabinet, a group of educators whose teachers won excellence in teaching awards, RISE is a system built on the belief that all teachers deserve consistent and meaningful feedback to continue to grow as professionals. Featured in this teacher-evaluation component of EDSU 650 are three competency areas: (a) administrative/supervisory issues; (b) program/curricular issues; and (c) instructional/partnership issues.

EDSU 650 students evaluate a colleague using an adopted and approved teacher-assessment tool and apply the clinical supervision format of the cognitive coaching model (Costa & Garmston, 1985) that incorporates the preobservation conference, observation, and postobservation conference. Students use the locally-adopted teacher evaluation tool or the Indiana State RISE Evaluation System to complete this EDSU 650 course project.

The clinical supervisory procedure is emphasized to ensure that the teacher is an active participant in the process of evaluation, observation, and integration of actual instructional observational data provided by the supervisor.

Recognized sources of knowledge for the EDSU Supervision of Instruction students include philosophy, theory, research, and craft knowledge. Three-quarters of students' assignments are project-based and are required of all enrollees:

- Development of an administrator/supervisor portfolio in electronic or hardcopy format;
- Evaluation of the student's portfolio by an administrator or mentor (using the instructor-developed evaluation rubric);
- Student's self-evaluation of the portfolio using the same instructor-developed evaluation rubric;
- Participation in the discussion board;
- Completion of online job application;
- Self-evaluation; and
- Interview project.

Students also select one project, worth one-quarter of their grade, from among the following project-based options: staff development plan; research-based paper on supervision for all generations; peer evaluation; or the teacher-book staffing plan. In addition, all students create and place in their professional portfolios—but do not submit to the instructor—their resumes and/or curriculum vitaes (CV), a personal brochure, and a listing of Web-based resources of professional organizations and current issues to which they can refer as they conduct their administrative or supervisory internships and duties.

One of the first EDSU projects that each student completes is the identification and agreed willingness of an onsite instructional leader (mentor) to review and assess the student's portfolio using the evaluation tool developed by the instructor. Students and their mentors rate this unique and prized course component as extremely valuable. The students' identified mentors include superintendents, assistant superintendents, principals, and assistant principals with whom the students work throughout the semester; typically, students also conduct the required course interview with their mentors. At the end of the course, each student presents his or her electronic or hardcopy portfolio to the identified mentor for evaluation.

The student's mentor or portfolio evaluator (and generally speaking, current supervisor) has first-hand exposure to the student's resume/CV, brochure, and delineation of Web-based resources. The student's mentor evaluates these items along with the rest of the portfolio contents using the instructor-prepared rubric. The mentor signs the rubric and gives the student his or her portfolio evaluation. Using the same portfolio rubric, the student evaluates his or her own portfolio and signs the rubric. The student then scans and submits both of the portfolio evaluations to the instructor via the online course-management system, Blackboard. Each student is encouraged to establish a portfolio format, contents, and presentation that can be maintained throughout his or her career.

EDSU 650 graduate students have identified the project-based learning (PBL) course requirements described above as a dynamic approach to teaching and student learning. The students are able to explore these instructional-supervision, real-world issues and challenges while simultaneously developing cross-curricular skills through their active and engaged learning. Research indicates that students are apt to retain the knowledge gained through this PBL approach more readily than through traditional, textbook-centered

learning. Students often find these assessments more meaningful and thrive on their self-identified, real-life issues (Boss & Kraus, 2007).

Modular Design

Online courses require a learning management system. As noted earlier, BSU uses Blackboard (Blackboard, 2016) for student and instructor interface. This virtual learning environment, using Web-based server software, features course management, is customizable, and allows integration with student-information systems and authentication protocols. It has been used to create online elements for this EDSU 650 course that had initially been taught face-to-face and now is taught strictly online.

Within the overall Blackboard framework, the EDSU 650 course is divided into 16 modules—a 16-week arrangement delineated in the course syllabus and via a graphic organizer. The graphic organizer is a 6-page document that details students' weekly participation requirements, activities that are aligned with the individual course modules, and project due dates. The graphic organizer complements the course syllabus and summarizes key components in an easy-to-read format. The course components are easily identified on the course's Blackboard learning management system Web site via specific tabs aligned along the left-hand side to assist students in accessing the course components: *Announcements*, *Meet Your Instructor*, *Syllabus*, *Graphic Organizer*, *Course Modules*, *Assignments*, *Course Documents*, and *Discussion Board*; additional tabs are accessible for quick reference to supportive materials that enhance the online learning experiences. All students have access to supportive assistance regarding the use of Blackboard as a learning management system, as well as access to grades, e-mail, and supportive software products.

A unique Blackboard folder has been established for each module. Once the student logs into a course module, he or she can review the module contents: topics, overview, requirements, announcements, course-packet sections covered, identified Web sites (topical), Mediasite link(s), and Student To Do's—assignments and so forth. Each module also contains objectives defining what a student will be able to do by the end of the segment, as well as directions for preparing and submitting specific projects and assignments. Contained within the folder for each module are the specific PowerPoint presentations, notation about specific course-packet pages covered, listing of additional resources, and, often, student samples of completed projects from previous semesters for current students' reference, collaboration, and sharing.

Course Packet, Materials, and Text(s)

As instructor, Wiedmer developed a comprehensive course packet to include the various instructional supervisory topics addressed throughout the course. Free of charge to students, the course packet includes numerous chapters and appendices to assist students in receiving sample Indiana public school teacher- and staff-evaluation forms from current Indiana superintendents and personnel directors, staff development plans, and numerous tools and resources that are of use and interest to principals and instructional supervisors. The course-packet appendices include copies of materials, resources, research reports, and reference materials. Not only is the course packet able to be downloaded to the students' desktops and printed, but several instructor-developed PowerPoint presentations (in pdf-file format) accompany each of the course chapters and are shown and discussed in Mediasite videos for each course module. The PowerPoint presentations can also be downloaded from the course Blackboard site. Another resource, *Teachers: A Tribute to the Enlightened, The Exceptional, the Extraordinary* (Yow & Firstenberg, 2001), referred

to as the "Teacher Book," is available free of charge to course enrollees, compliments of its authors.

iLearn–Course Design and Instructional Assistance

Support of an online course by appropriate instructional designers is critical to the success experienced at BSU. Course design begins with assignment of an instructional designer to the course instructor to collaborate and design the online course. Members within the university's Integrated Learning Institute (iLearn; Ball State University, 2016a) serve as a collaborative team of instructional designers, learning technologists, developers, and researchers whose mission is to create high-quality learning experiences for faculty and students. iLearn is committed to ensuring quality programs are deployed, and, accordingly, BSU personnel use Quality Matters (QM) rubrics before deployment is set for each new or redeveloped course. QM is a nonprofit group that provides standards

> " *Support of an online course by appropriate instructional designers is critical...* "

and certifications for everything from professional development for online educators to course- and program-review designation. BSU has been an institutional QM member since July 2012, and, in 2016, was the first online and distance-education program in the United States to be designated a certified Learner Support Program (Ransford, 2016). Additional institutional guidelines, Title 34, and FERPA (weekly engagement and federal guidelines) are part of the review process to comply with state and federal regulations. BSU is committed to staying current in research and to implementation of innovative technologies to enhance the learning experiences based on best practices and to fulfill course objectives with quality learning.

Course Evaluation: Students' Comments

Each student is required to assess himself or herself at the end of the EDSU 650 course and provide responses to open-ended questions that provide feedback to the instructor and instructional designer for course improvement and maintenance. All course evaluations are anonymous. BSU evaluation personnel tally and summarize all course evaluations and provide a final report via e-mail to each instructor. This important service enables and encourages each instructor to review the course and its contents to ensure all enrollees receive optimal teaching and learning opportunities.

The course was previously taught in both face-to-face and blended formats. However, comments shared here are strictly based on the students' online experiences and supportive materials:

• Having my self-selected mentor/portfolio reviewer assess my professional portfolio has been a great opportunity for me to develop a relationship with a mentor who is new to administration—this has been a great choice to work with someone who is new to the position and still remembers being a leadership student—she will be a great reference someday.

• The interview component of the course was very insightful and allowed me to see what motivates and cultivates a successful school environment—*that is, compassion for the learner!*

⁺   This aspect of the class [interview component] was very beneficial to me. I was able to have so many questions answered by a professional. It gave me great insight to the daily tasks of an administrator—and I was able to establish a positive relationship with my mentor that will transcend time and my professional career.

⁺   The materials on the course "Blackboard" Internet-driven resource site should not be changed . . . they are excellent and very helpful for me and other students to generate quality projects . . . they were great and very helpful, especially as a distance education student. The examples were the most helpful.

⁺   One of the most inspirational things that I have learned from this course is the importance of staying current on the topic of "Best Practices" for classroom instruction . . . I plan to read up on trying some new instructional techniques out with my students as well. My first step towards becoming an instructional supervisor will begin on improving my own classroom instruction; this was a very important takeaway for me . . . Leading by example and with humility. . . I am also very interested in reading more on the topic of leadership and working with my principal next year.

Conclusion

EDSU 650 Supervision of Instruction is a very popular and widely requested online 3-credit graduate course in the BSU Educational Administration and Supervision MAE course sequence. This project-based, online course successfully enrolls a full load of students—approximately 40 students per semester—from the United States and throughout the world.

> " *Course enrollees engage in the development or updating of their professional portfolios and are brought up-to-date with current related research and best practices in instructional supervision.* "

Course enrollees engage in the development or updating of their professional portfolios and are brought up-to-date with current related research and best practices in instructional supervision. As teacher leaders, the EDSU 650 students engage in course-related administrative supervisory roles and prepare to serve as school principals, supervisors, and superintendents. The instructor and instructional designer engage in ongoing professional efforts to ensure that the course contents, modes of delivery, and projects and assignments remain meaningful, state-of-the-art, and research-based regarding best practices of instruction within this online course. Students' evaluative comments have encouraged the instructor and instructional designer to retain or minimally modify the course projects and assignments.

Students have reported that the working relationships they develop with their self-selected mentors have been very positive. Many have self-reported that, subsequent to completing the EDSU 650 online course requirements and their graduate degrees, they have become assistant principals, principals, assistant superintendents, or superintendents. As they work to transition to a new career path in education, these leaders are very appreciative of the guidance and input that their EDSU instructor and mentors provided to help them be qualified to assume important school leadership roles throughout the United States and the world.

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Interview

Getting Serious About Letting Early-career Educators Know DKG Cares: Zeta State Organization's Emotional, Professional, and Consistent Mentoring of Early-career Educators

By Angela Quinn

This interview continues a series initiated by members of the Bulletin's *editorial board. The goal of the series is to feature interviews conducted with Delta Kappa Gamma members or other educational leaders on a topic related to the theme of the issue. Here, editorial board member Quinn interviews a state organization leader to gain insights regarding work with Supporting Early-career Educators (SEE), an international project of The Delta Kappa Gamma Society.*

With many educators leaving the profession early in their careers, those of us who prepare, hire, mentor, and teach alongside those educators see a dilemma. We also see the need to understand why these young men and women are choosing other career paths and what we can do to fill the voids these teachers find. To strengthen our chosen profession, we must help these early-career educators adjust to the changes and cope with the stresses a career as a new teacher can bring to their lives. Linda Hollingsworth, First Vice-President of Zeta State (Mississippi), recently shared her vision for improving mentoring and early-career educator support in her state organization and how that vision is becoming a tangible, visible success story for the early-career educators as well as for the health of the chapters in Zeta State (ZS).

AQ: *Because we are talking about teaching and early-career educators, tell me about yourself and your early teaching.*
 LH: I have just retired from the classroom and miss it, but I know that being a support for teachers who come after me is a responsibility I cannot shirk. Children with special needs have always been at the heart of my teaching, so that is where I started. When I began my first teaching job in 1970, I was blessed in that three of my professors at the "W" (Mississippi University for Women) saw something that made them select me to teach an Experimental Class for Children with Learning Disabilities (a program written by those three college professors and funded by Mississippi.) These classes were set up in several

schools within our state. I was able to be a part of the class creation and preparation from the beginning, which involved testing students, selecting teaching materials, training for their use, and making home visits to the children who would be a part of our classes. It was an honor to have been involved in this ground-breaking program.

Since that first job, I have taught all grades and levels within special education: resource classes, nongraded, and self-contained classes. In one school, I was asked to set up a class for developmentally delayed kindergarten students who were also a part of general education classes. Watching these little ones included in a general education class to learn from their peers and then to be able to go to classes to improve their specific areas of need was very rewarding! I was given the opportunity to teach general education classes within elementary and middle schools, providing me a chance to work with students of various needs and talents. While my husband was in the Air Force, I also had the privilege of teaching third grade at a NATO base school in San Vito dei Normani, Italy! It is wonderful to have a variety of experiences, and teaching children offers a definite variety!

AQ: *You mentioned having recently retired and, as I hear often from teachers who do retire, missing it. With so many young people leaving our profession, what or who has kept you teaching?*
LH: Teaching is an uphill battle many times. As educators, we must be ready to go into challenging situations—not having a room but a hallway, not enough teaching materials, sometimes no support from other teachers or administration. It's difficult work. I chose education because I wanted to be a part of something spectacular and breathtaking. I know, firsthand, that watching a child understand and learn something for the first time is spectacular and breathtaking.

I also recognize that, having started my career in that special program, I had a huge support system to lift me up and to help me with the needs of my students and my own emotional needs. That kept me going! Within this first year of teaching, I did watch as other novice teachers were discouraged and even wanted to quit because they did not have the support or help from veteran teachers who taught just a door from their room. Even early on, though I was "green," I tried to support my colleagues by visiting their rooms and commenting on what they were doing within their classes. They began to come to me and ask about certain teaching techniques (why, I am not sure). I listened, commented, and we shared ideas—especially if they were having problems working with students who

Linda Hollingsworth, a member of Pi Chapter, is the 2015-2017 Mississippi State Organization first vice president and EEC chair. After retiring in 2009 from Rankin County Schools in Mississippi as a resource and inclusion teacher for special needs students, she missed the activity and relationships teaching brings and returned to the classroom. She retired again in May 2016 from Simpson Academy, where she taught 5th and 6th grade math and social studies. Hollingsworth has been a member of DKG for more than 30 years. jujo7381@gmail.com

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were behind in some of their academics. We became a team. I was useful to them and supportive—little ole me, a novice myself!

I chose education as a career because of the children and the desire to see that light as they learn, trite as it may sound! I kept teaching for many years because of the support of many giving teachers around me who cared enough to ask, "What do you need? How can I help?"

AQ: *So, from early on, you were interested in building support systems and teams for yourself and those with whom you worked. More recently, you've been very vocal in your state organization about the need to build support systems for our early-career educators and how, as a positive residual, Delta Kappa Gamma Society International can recruit and retain members through work with early-career educators. When and how did you first notice a need to reach out to early-career educators through DKG?*

> " *As a Society,*
> *it is our responsibility*
> *to support, guide, help rally,*
> *and mentor*
> *our fellow members*
> *in the education field.* "

LH: As I stated earlier, I saw the need to reach out to other new teachers when I was a new early-career educator myself. I reached out to them because there was a NEED. I have always been a "my glass is always half full" kind of person, so it was not difficult! I think that sometimes we see others who may have a need and we do not respond because of the fear we won't be able to meet that person's need. I try to tell my chapter members and those in our state organization with whom I speak that it is not necessarily our responsibility to meet anyone's need but to extend our interest in them and see if we can do something to help. Early-career Educators (ECE's) need our help; even the most confident individual will need help when faced with the challenge of education! It is the nature of the career. We, as veteran teachers, retired or not, must face the fact that we lose the best in our field each year because they have no one who will just listen and be a support. I believe more than anything that having someone making time to listen and be supportive is their greatest need, and we have a lot of knowledgeable, supportive listeners in DKG!

AQ: *What initiatives have you or other officers in ZS Organization begun to mentor early-career educators to stay in the field?*

LH: Our state organization is divided into three districts and, as the 2013-2015 ZS second vice president, it was one of my duties to assist the district directors and assistant directors in the planning of their district meetings held every other year. As I began to plan with these directors, I wanted them to plan programs that really exemplified our DKG Purposes and projects as much as possible. Within that planning, I used as much information from the international Web site as I could about our projects, Schools For Africa and SEE: Support for Early-career Educators. Many of our chapters give and support Schools For Africa, and we are proud of that response. However, Africa is miles away, and few of us get to really see those results. Because of my own interest and experiences and because the other project seemed more present, I wanted our state organization members to know about SEE, a project about teachers helping teachers—and seeing, first-hand, the results of our goals and efforts. I knew that many of our chapters already had some type of new-teacher mentoring project and were doing a fantastic job each year with these programs;

however, I wanted to "light a fire" under all of our chapters to rally and support all teachers with 5 or fewer years of experience in their areas. I sent an e-mail flyer to our 40 chapter presidents and encouraged them and their members to invite at least one early-career educator to each district meeting. The flyer explained SEE and why taking a physical role in the support and mentoring of new teachers across our state is so important. The flyer and follow-up communication from each district director encouraged each chapter to pay the registration fee for their ECE and send all of their information to the appropriate district director so that each ECE could be recognized at the meetings. All ECE's were recognized and given an inexpensive gift of appreciation and a brochure about DKG. We had a total of 27 ECE's recognized at the three 2014 ZS district meetings. This number didn't achieve my goal of 100%, but it was a start! That was our beginning—recognizing that all of our chapters needed to be involved because we want to keep our new teachers with the excitement and joy of teaching where it belongs—in our classrooms!

AQ: *And how did your members respond?*
LH: Chapters were very excited when they saw the turnout of these new teachers at our district meetings, and it gave us a chance to talk about who we are and what we do in DKG. I had many chapters ask me to come and speak to their members on how to get started and how to set up a SEE Project committee within their chapters. With help from others in my state organization, I put together an informational notebook that I gave to each chapter when I visited, and it was their start to add to along their journey of mentoring. Part of that notebook offered an interview sheet for a new ECE to fill out, which would give the chapter insight into her needs as a teacher and as an individual. Brief guidelines as to how to setup a SEE Project committee were sent to all chapters with encouragement to create and add to the suggestions given and to make it workable for the chapter members. I also shared information from the international Web site and information on navigating the Web site to locate program suggestions and ideas for SEE! As I worked with the state chapters, I wanted them to see that our responsibility as teachers is to be a support for these ECE's, and our responsibility as DKG members is to educate them on who we are, what we have to offer them, and how we can be a support to them!

"From Mentoring to Membership" really became my slogan! That is what SEE is all about for me. We support the teacher and get a member! What could be better? We also may get a great teacher for life! ZS has embraced the SEE project and I am proud of our accomplishments. At the 2016 ZS district meetings, a workshop for ECE's was held that gave these new teachers a chance to hear about DKG and how we can give them help and support in numerous ways! Most of our state chapters adopt ECE's in their areas and help them throughout the year, invite them to chapter meetings, and, at the appropriate time, invite them for membership. ZS has also made the SEE Project initiatives part of our Honor Chapter criteria.

AQ: *It may be too early to answer this question, but have you seen an impact of the SEE project and early-career educator initiatives in Mississippi?*
LH: Because of the SEE Project outreach and initiatives of our chapters, there is interest in DKG and, in some areas, we have noted an increase in chapter membership, particularly among younger members.

AQ: *I know we have posted a lot of hours of mentoring in our state. Can you share some statistics from district or state reports with me?*

LH: ZS chapters have posted many hours since 2014. At our 2015 ZS Convention, the SEE Report listed 1,319 mentoring hours completed by 25 out of 40 chapters. This was the first time that the International SEE Project forms were submitted to the second vice-president. Chapters started using these forms to monitor their volunteer hours and what activities they were actually doing to help new teachers.

A time of accountability was at hand! I am proud to say that the SEE Reports submitted by February 1, 2016, to our ZS second vice-president showed a grand total of 2,430 mentoring hours—an 84% increase over the 2014-2015 report, with 29 out of 38 chapters reporting hours. We are seeing progress, and our chapters are using the tools they have been provided by our state and international organizations to improve their members' DKG experiences.

AQ: *Of the activities that chapters report, which do you see as most impactful?*
LH: Chapters providing emotional and career support to ECE's in their chapter activities have the most impact when those activities and that support are consistent throughout the year and even throughout the summer for the teachers. It is important to take something to a new teacher and meet her and tell her that you are here for her, but if you never come back or you are not consistent with the visits, the impact is lost. Many of our ZS chapters have been very busy throughout the year and have been consistent with their mentoring and supportive help.

For example, members have helped to move in and set up classrooms for new teachers, helped to align lesson plans with Common Core, or offered training for using anchor charts and improving classroom management skills. They have also been delivering "happy" bags filled with numerous supplies, giving out gift cards and snacks with a DKG contact person's name in each bag, hosting teas and brunches in several county areas several times during the year, and providing supplies for Christmas or other parties and celebrations. Chapter members read stories throughout the year in kindergarten classrooms and volunteered to help at all holiday parties and arts and crafts projects through the year. I can't list everything they did, but I would like to do so—because so many ideas were very simple but very unselfish. ZS members shared time with new teachers in the afternoon to give encouragement and support as they needed it and provided consistent help with early-career educators seeking National Board Certification. Other ideas required funds; however, spread across a chapter, most were affordable, such as gift cards for spa treatments, manicures, and pedicures to help boost new teachers' morale—always with a supportive note of encouragement and a DKG contact! We are serious about our ECE's knowing that we care!

AQ: *What are some of your personal favorites or most unique ideas you've seen reported?*
LH: It is difficult to choose just one of the activities that our chapters report, but, as I have mentioned earlier, consistency is key. These new teachers need to see us. One ZS chapter plans meetings at the end of each 9 weeks for their ECE's. The meeting has a theme for all new teachers, and the DKG members provide professional development on specific topics of interest, such as time management, classroom management, dealing with difficult problems, teacher morale, and so forth. They also provide refreshments and door prizes. More importantly, the members help the ECE's to evaluate their 9 weeks to reflect on what was great and what could be changed. Throughout the year, they give the new teachers supply bags and goodies. The chapter also sends out articles to new teachers that

focus on problems or situations they might encounter. These articles may be about grading, staying on track with paperwork, keeping up morale, and (generally) making it through the first year. From the beginning of the year to the end of the year, this chapter is mentoring their ECEs, emotionally, professionally, and consistently.

AQ: *What's next? What would you like ZS Organization and DKG internationally do that you feel is still a missing piece?*

LH: SEE is here to stay in our state organization, and we believe that as our chapters mentor new teachers, we will see increase in our membership. We encourage all state organizations and chapters to be purposeful and consistent in their mentoring of new teachers in their geographical areas. We need to work together to make sure we are impacting as many new teachers as we can in each area or district! This must be an organized effort across the Society! As a Society, it is our responsibility to support, guide, help rally, and mentor our fellow members in the education field. If we do not take this challenge, education and our Society will suffer. SEE: Support for Early-career Educators should be the eternal project for our DKG Society.

> " *From the beginning of the year to the end of the year, this chapter is mentoring their ECEs, emotionally, professionally, and consistently.* "

Mark Craig, a pastor in Dallas, Texas, tells a story about a little boy growing up on a farm. His father asked him to go to the barn to get something. The little boy protested, stating it was too dark and he was scared. The father realized that he could use this moment to teach his son an important lesson, so he took a lantern and took the boy to the porch. He gave the lantern to him and said, "Hold up the lantern, son. How far can you see?" The boy said, "I can see to the tree." The father told him to walk to the tree. Hesitantly, the boy walked with the lantern to the tree. "Now, hold up the lantern again. How far can you see now?" "I can see to the chicken pen," the boy answered. So, the boy walked to the chicken pen. "Hold up your lantern again, son. Now how far can you see?" "I can see the barn, father." And thus, the young boy learned that he could walk to the barn in the dark by holding up the lantern! We are the light! In many situations, we are the lantern holder that lights the way for others to see the path. If we see each as lantern holders, then we will surely be able to help others on the path—especially those early-career educators who remind us so much of ourselves.

Mary, Mary, Answer my Query: How Does Your Leadership Grow?

By Kaye B. Dotson and Syntia Santos

The authors discuss a study that examined a group of experienced educators, members of a Delta Kappa Gamma chapter, who had shown outstanding qualities as educators. Most demonstrated leadership in or beyond the classroom. When these experienced individuals reviewed and reflected upon their unique quests in becoming educator leaders, they were able to conceptualize and define their involvements. The findings in this article offer insight into cultivating leadership in others who are beginning their service in education. The authors present the experiences of the participants and provide strong findings relative to supportive factors for leadership-skill development with which DKG members may enjoy identifying.

Introduction

Women's organizations, social clubs, societies, sororities, professional organizations, or other groups—however they may identify themselves—recognize the significance of leadership to service. In particular, organizations such as The Delta Kappa Gamma Society (DKG), an international education society for women, assuredly recognize the significance of leadership for teachers (Bull, 2015). A major purpose of DKG is to advance the professional interests and position of women in education. The mission of the organization is to promote the professional and personal growth of women educators and excellence in education, for which leadership is critical.

Developing and advancing effective teachers with the ability to recognize opportunities, overcome obstacles, collaborate, support, and instruct is more critical than ever before in the current social, economic, and political environment. With the multitude of situational factors and challenges from within and without the profession that educators face daily, who better to direct the course of education in these turbulent times than proven, veteran teachers? To be in a position to direct the course of other educators, one must have knowledge of education, qualities of leadership, and the willingness to step forward and lead. In sum, the significance of developing leadership among educators has never been more vital.

Literature Review

DKG members comprise a group invited to membership because they have demonstrated outstanding qualities as experienced educators (DKG, 2015). Many have specifically demonstrated leadership in or beyond the classroom. The opportunity for such members to reflect upon and conceptualize their own unique routes toward becoming educational "movers and shakers" may prove helpful in determining how to share key

skills and dispositions with other educators who may also be on the road to leadership (Benis, 2006; Madsen, 2010). By considering and reflecting upon the experiences they have encountered along the way, veteran educators may be able to identify and promote similar opportunities for developing teachers. Researchers have conjectured that women pursuing leadership positions in education can gain enormous benefit from the experiences of other women (Lussier & Achua, 2007), a factor of some significance to this study as DKG is a professional organization for women. Women leaders are considered to be more engaged in rewarding followers' behavior and more focused on the aspects of leadership that promote effectiveness (Lussier & Achua, 2007), factors that can result in sustained and beneficial support to other women.

Without doubt, organizations such as DKG support and nurture members' strengths in multiple areas of development. Because members are invited to the organization on the basis of previously demonstrated and exceptional skills, dispositions, or expertise, they present a well from which researchers may draw knowledge based upon experience. Examining this information can lead to the identification of specific behaviors that initially led these members in the direction of critical leadership skills and dispositions. What types of activities, opportunities, experiences, or personal relationships promoted the mindset and competencies necessary to help these women maximize skills to become successful and valuable leader educators? Who or what equipped them to be able to offer so many benefits to their colleagues and students?

Purpose of the Study

The overarching intent of this study was to share and support educators in their leadership development and to identify leadership opportunities for others. It is important for leaders to recognize their own personal contributions; to conceptualize the specific behaviors, activities, opportunities, or personal relationships that were critical in the development of effective leadership; and to share ways to encourage others in the pursuit of leadership in the field of education. Therefore, the objective of this study was to determine the kinds of experiences honor society members perceived led to their personal leadership development in order to be able to encourage leadership competence in others.

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Dr. Syntia D. Santos obtained her PhD in counseling and counselor education at North Carolina State University in 2014 and her MEd in school counseling at the State University of New York at Buffalo in 2006 as a Fulbright scholar. She worked as professor and program coordinator in her home country, Honduras, in the school counseling program at the Universidad Pedagógica Nacional Francisco Morazán. Santos is currently working as assistant professor in the Department of Interdisciplinary Professions at East Carolina University. santosfigueroas14@ecu.edu

Description of Participants

Sixty-two members of the DKG honor society from Beta Upsilon Chapter, Eta State Organization (NC) were solicited to participate in focus-group interviews. Participants represented members from five counties in this southeastern state of the United States. The sample population was a purposive sample, as participants were selected based on the knowledge that all were members of the DKG honor society for women educators. Not all members of the chapter were present for the focus groups due to other commitments but, as this was a purposive sample, the researcher was able to plan for its size; furthermore, the researcher was able to verify that all respondents met the criteria (Rubin & Rubin, 1995) for membership in the group. Because the purpose of the study was to determine the specific behaviors, activities, opportunities, or personal relationships educators in this group might identify as critical to the development of effective educator leaders, this purposive sample was adequate.

Research Questions

This study addressed the following research questions: What kinds of significant experiences lead to development of leadership skills in women educators? What can successful leaders teach us about how to continue the cycle of effective leadership?

Method

Information for this qualitative study was collected through small focus groups and in-depth interviews. The data gathered were used to move toward a thematic analysis of the kinds of significant experiences or interactions that education honor society members credited for development of their own personal leadership skills.

Five focus groups consisted of five or six members. Participants were selected from members attending a Delta Kappa Gamma meeting and were randomly seated in the 5 groups. Interviews were conducted in person within the focus groups based upon a protocol approved by an Institutional Review Board. Each group had a leader who asked the questions and recorded the answers. One of the researchers circulated among the groups after the initial introduction to the questions and purposes. The group leader initially asked each participant to describe the context of her teaching experience and the number of years invested in the profession. Succeeding questions were designed to emphasize the experiences and interactions that participants perceived to have been instrumental in their leadership development. Specific interview questions included the following:

1. Do you consider yourself to be a leader?

2. Name and briefly describe the top three experiences in which you have participated as a leader (most significant to you).

3. Did the culture of your schools advance or inhibit your leadership opportunities? Share any details you deem significant.

4. In your experience, who had the most impact on your development as a leader? You may mention more than one. Can you describe briefly how or in what way?

5. How many years have you served as an educator? What did you teach and in what grade levels?

Rationale for Research Design

The rationale for the use of qualitative research in this study was to pursue greater recognition of unique leadership configurations among individuals within the group. The researcher did not want to lead the subjects with specific choices for answers but

rather to allow them to share any information or experiences they deemed significant in a conversational flow, as qualitative research supports (Denzin & Lincoln, 2000). The synergy among participants in the focus groups and the researcher, as educators, helped to engage participants more actively than would be possible in a structured survey. The interview format allowed the researcher to probe beyond initial responses. In most cases, the researcher had an opportunity to observe, record, and interpret nonverbal communication, providing further depth to the process.

Data Analysis

Interviews were recorded, transcribed, and analyzed in conjunction with the researcher's observations and field notes, which provided support to the findings. These observations and field notes were captured by the researcher both during and immediately after the focus-group sessions. The data were examined and coded using several methods, including identifying recurring phrases, significant statements, and elements of meaning. Commonalities and themes among the participants' experiences were identified and examined as required in research of this nature (Creswell, 2007). Additionally, as a strategy for validation, the investigators followed a peer review or peer examination process. The second author reviewed the study as a whole, including process, data, and findings, to ensure quality and trustworthiness (Merriam, 2009). Participants' responses to the open-ended interview questions were analyzed to identify significant phrases. All of the words, phrases, and sentences that constituted responses to the open-ended questions were read. The researcher analyzed the significant phrases independently. These phrases were coded, and phrases that contained one piece of information relevant to the research questions constituted the units. The units consisted of nonrepetitive, nonoverlapping significant statements or words (Lincoln & Guba, 1985).

Findings: Educational Leadership

Thirty-two of the 62 possible respondents participated in the study, offering a response rate of 51%. The average length of teaching experience reported by respondents was 28 years.

The overwhelming majority of respondents in this study perceived themselves to be leaders. Of the respondents, 30 (94%) reported that they perceived themselves to be leaders, while 2 (6%) reported that they did not perceive themselves to be leaders. Only one respondent (<1%) used the word "some" to describe her perception of herself as a leader.

Five themes emerged regarding leadership roles in which respondents perceived they had served. These themes, in order of rank, included

1. School Leaders and Instructional Leadership
2. Church Leadership
3. School and Educational Associations Leadership
4. Community and Family Leadership
5. Political Leadership.

Respondents saw themselves, overwhelmingly and not surprisingly, as **School Leaders and Instructional Leaders**. Seven respondents reported serving in the area of professional development, offering staff development to other teachers, training teacher assistants, and mentoring interns and other new teachers. Two reported the distinction of serving as school or district level "Teachers of the Year," which involved speaking at public events and serving on various county- and district-level committees. One participant reported serving as the

first kindergarten teacher in the state and being called upon to visit parents in their homes to promote kindergarten attendance. Others reported a range of activities from serving on state committees to develop tests to chairing multiple committees, including on topics such as school improvement and media and technology. Respondents served as Web masters, math coaches, and Battle of the Books coaches. Five participants reported that they had served on an administrative level as principals, assistant superintendents, and assistant principals for the state's Department of Public Instruction. Four respondents recognized leadership initiative in their efforts to earn advanced or additional degrees or National Board Certification, while one of those four credited her work with other teachers seeking to achieve National Board Certification as her most significant leadership opportunity.

The next area in which respondents most strongly identified as leaders was categorized as **Church Leadership**. Fourteen respondents reported leadership roles as church leaders, including as choir directors, women's circle group leaders, and Bible study or Sunday school teachers. Interestingly, findings in this study highlighted the distinct role of organized religion in nurturing women's leadership.

The third area of identification for respondents was leadership in **School and Educational Associations.** Respondents reported serving as district representatives for honor societies and as members of various school and educational association committees. Several served as chapter and club presidents, and one respondent reported serving as North Carolina Association of Education (NCAE) District President. Another responded that she was part of a grant through the National Science Foundation and received intense training in school math leadership that led to ongoing presentations to faculties and conferences at the regional, state, and national levels.

The fourth area of leadership reported was **Community and Family Leadership.** Members reported serving as officers and presidents for local community clubs. One person reported serving as president and district governor of the Rotary, while one served as the Scouts assistant dean and troop leader. Family and family-centered community organizations offered opportunities for leadership for these participants.

The final area of leadership involvement in this study was identified as **Political Leadership.** Members reported service as elected members of boards of commissioners, boards of directors, and the North Carolina General Assembly.

Findings: Was the Culture of Schools Inhibiting or Empowering?

Examining the issue of how individuals developed as leaders raised the question of whether the culture of schools helped or hindered this development. Twenty (63%) of the participants shared positive feelings in terms of the school culture's impact on the advancement of their leadership opportunities. Participants emphasized the importance of available leadership opportunities and the value of feeling appreciated, encouraged, supported, and trusted. The majority of these educators stressed that other teachers encouraged and validated them, with or without the principal. One reported simply that she saw a need for stronger leadership in her school and stepped forward. These educators reported opportunities to join committees, lead initiatives, and assume responsibility. One participant specifically expressed that "principals saw my leadership skills and gave me opportunities in leadership." One career teacher nearing retirement said, "Teacher leadership has changed over my career. There are more opportunities now for teachers to be leaders."

Trust and encouragement were key factors in the sense of empowerment that several of the participants reported: "The school encourages teacher leaders, and my principal

comes to me for many things. He trusts me to lead the staff and he trusts me and gives me multiple responsibilities." Another participant mentioned, "I worked in some very good schools and was encouraged to grow." Another referred to peer support, noting that she "had team feeling with teachers even if the principal was not like the leader; faculty worked together. We supported each other. Found strength and direction among ourselves."

Eight (25%) of the participants, however, reported feeling inhibited by the culture of the school. They described negative environments, lack of opportunities, and lack of support. One respondent reported that, although she had in the past felt that her experience was valued and as a result was called upon to serve in leadership capacities, she no longer believed her experience was considered important and found few opportunities to lead in her current environment. She recognized few opportunities to serve as a leader and, in fact, reported feeling inhibited in the process.

Administrators' skill, or lack thereof, in specific areas such as primary or elementary education, was cited as a factor in inhibiting leadership opportunities. A retired educator remarked that teachers had been denied leadership opportunities primarily because her administrators lacked knowledge and training in her field of elementary education and thus were uncertain about suggested initiatives. One participant simply said, "inhibited... poor administrator." Another reported, with some chagrin, that she had led a committee, planned and prepared a trip to Washington, DC for the committee, and then was removed from the committee by her principal just prior to the event—without any discussion. She felt and was, in fact, powerless. She clearly believed her leadership was inhibited in this school culture due to the administrators. Another long-retired educator said, in her day, "The good old boys were in control and (you) don't rock the boat."

Findings: The Who, What, and How of Impact on Leadership

In regard to who had impacted these participants most in the area of leadership, three themes emerged: **school leaders or instructional leaders; coworkers; and family members**. Regarding what impacted leadership, the themes that emerged from the data included **encouragement and support; mentorship and opportunities; example and role models; and utilizing one's personal abilities, especially to support others.**

The most noted group that participants believed had impacted their leadership growth was reported as **school leaders or instructional leaders.** One respondent stated that "she [her instructional leader] saw something in me that I didn't see myself." Another retired educator shared that she was the first of "Ott's girls," referencing a superintendent who exhibited a history of tapping women educators to pursue principalships. Participants reported that principals, superintendents, and supervisors opened doors to them, trusting them, "having faith" in them and, in some cases, thrusting them into leadership positions.

The second most noted group that participants believed had impacted their leadership growth was identified as **coworkers**. The support and encouragement of other teachers had a motivating influence on the reported development of leadership. Support and encouragement were listed over and over as attributes brought by other educators in inspiring these educators to step out of the box and take chances through their own leadership. "Co-teaching, co-planning, and bouncing ideas off each other" motivated teachers to lead. One participant reported, "My coworker, Linda, influenced my development as a leader. I learned by the example she provided in areas of multitasking and caring."

Family members were identified as the final group that participants perceived had impacted their leadership development. Spouses, children, parents, siblings, and extended family "encouraged, believed in, and supported" these career-educator leaders. These key

people often provided the example. Family members "pushed" these teachers to pursue degrees and higher education. One participant responded, "My father's influence—his love of reading and wanting us girls (four of us) to get an education" was significant in her leadership growth. Again, the word "trust" was emphasized with the participants' knowledge that close family trusted them to be able to "lead and help others."

Discussion

The participants in this study, members of DKG and recognized leaders in the field of education, shared their experiences regarding leadership. Their life stories tallied with the purpose of the study to help determine specific behaviors, activities, opportunities, and personal relationships that the participants identified as critical aspects of effective leadership development.

The most significant areas where participants were involved in leadership roles were school and instructional leadership, school and educational associations, community and family, church leadership, and political leadership. Not surprisingly, women were able to engage in leadership roles at work in the field of education, at home as caregivers, and in the community through various organizations. Unexpectedly, participants mentioned organized religion as another source of leadership opportunities despite the traditional position of men as religious leaders (Braude, 2008).

Within the culture of a school setting, it was evident that school personnel could play a significant role in promoting the development of leadership skills and experiences. The data suggested that effective administrators, provision of good leadership, access to opportunities, supportive environments, and encouragement were all key factors to advancing an individual's leadership skills. Conversely, the lack of those supportive factors could inhibit leadership growth among educators. Furthermore, participants referred not only to the availability of leadership opportunities, but also to the fair access and distribution of those opportunities.

Focusing specifically on who had impacted participants the most in the area of leadership and how, participants emphasized school or instructional leaders, coworkers, and family members, particularly women figures who played the role of teachers, mentors, role models, facilitators, and encouragers from areas of their lives such as home, work, church, and community. Some of the participants also alluded to their personal roles and their opportunities to mentor others. Learning from those who were willing to share experiences with them and seizing their own opportunities to share their experiences with others appear to have made important contributions to their development.

The findings of this study aligned with the extant literature in the topic of leadership development emphasizing the relevance of professional mentorship (Ehrich, 1994; Myers & Anderson, 2012); access to leadership opportunities (Diamond, 2014; Linehan & Scullion, 2008); encouragement and support to assume leadership roles (Diamond, 2014; Ehrich, 1994; Myers & Anderson, 2012); and the significant role of others, particularly in regard to learning from other women's experiences (Lussier & Achua, 2007).

Conclusions

The results of this study may lead educators to seek opportunities that emphasize skill development and relationship building such as continuing education and collaboration to develop their abilities. Educators in leadership positions and administrators must acknowledge their role and responsibility in the process of developing future leaders. Offering leadership opportunities, mentorship, and encouragement may promote leadership

skill development and increase participation. DKG members have an opportunity to help in the development of future leaders and to influence change by being active listeners to new teachers, facilitating meetings and group sessions to share ideas and vision, and calling these new teachers to action. Previous studies regarding women's leadership development support the findings of this study (Diamond, 2014; Ehrich, 1994; Myers & Anderson, 2012).

The findings were limited by the qualitative nature of the study to the specific population of one chapter of DKG and to the participants' recollections of their experiences. Future research may expand the target population, add quantitative measures, and develop longitudinal studies to improve understanding of the phenomenon under study. The authors would like to see other DKG chapters conduct similar research with focus groups from those chapters. It would be interesting to see what conclusions are drawn in other countries. Personality traits and skills, self-efficacy, and self-image may also be areas of interest for further exploration. In addition, studying the effectiveness of training, curriculum, and mentoring programs may also be considered for future studies. Analysis of the role of administrators and the leadership strategies utilized in the field may be valuable for future decision making. It would also be relevant to study the process of transferring knowledge and skills to other women. Finally, as a result of the surprising finding in this study highlighting the distinct role of organized religion in nurturing women's leadership, a future study examining this segment of the current study would be interesting.

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Book Review

Case Studies of Challenges in Education: A Review of *Schooled: Ordinary, Extraordinary Teaching in an Age of Change*

By Barbara Perry-Sheldon

*T**his article continues a series of occasional book or Web site reviews contributed by members of the* Bulletin's *editorial board. Perry-Sheldon provides a review of a book illustrating the challenges of education in modern times through exploration of nine case studies.*

Fernandez, A. L., & Lutz, C. (2015). *Schooled: Ordinary, Extraordinary Teaching in an Age of Change.* New York City, NY: Teachers College Press. 160 pages. ISBN 9780807757369.

As the subtitle of *Schooled* acknowledges, this is an age of change, especially when it comes to education, teaching, and schools. Anne Lutz Fernandez and Catherine Lutz, the authors of *Schooled*, posit that broad "social and economic changes are making teaching harder" (p. 5) and, at the same time, the multiple and often contradictory reform efforts create a "disconnect" for educators and the public. When coupled with uncertain compensation and a decline in professional prestige, teachers are leaving the profession in record numbers while some incorporate the best of the changes and others challenge the system. The authors present nine case studies of working educators to explore the teachers' views toward the current state of education, to consider why people teach in such challenging times, and to inspire "meaningful conversation about the complex challenges of teaching and learning in America today" (p. 6).

The well organized and easy to read book includes an introduction from the authors; a foreword by Ann Lieberman, a renowned scholar from Stanford University; the nine case studies; and a conclusion. In the introduction, Fernandez and Lutz present several facts about the current state of education and teaching in the United States to
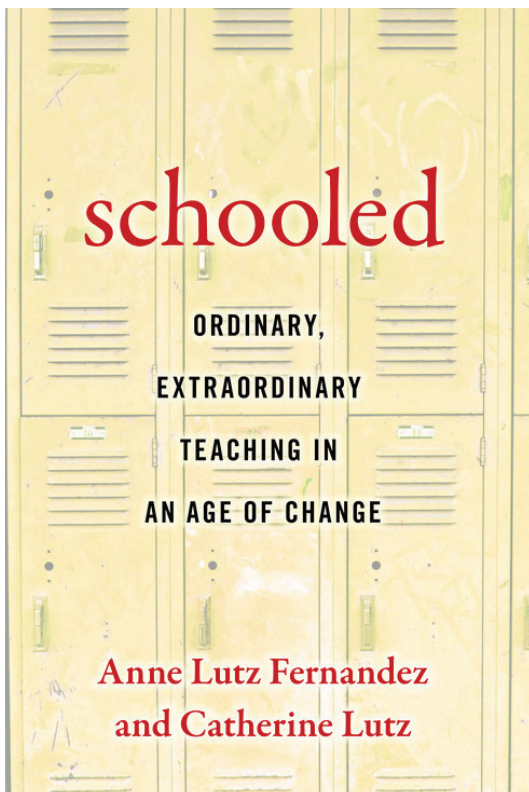
set the context for the case studies. More than 3.7 million teachers constitute the largest national workforce; the pool of teachers is increasingly female and white, now about 84% respectively. Approximately 56% hold a master's degree, but many make less than their degree level would earn in other careers. They work in increasingly diverse types of schools, including charters, magnets, and special education and vocational centers as well as traditional schools; about 10% of students are served by independent, primarily religious schools, and 1.8 million are home schooled. The student population is increasingly diverse and economically challenged. Surveys indicate job satisfaction is the lowest since the 1980s, but teachers indicate they teach because they enjoy the profession, especially their relationships with their students, parents, and colleagues. Although many teach because of this enjoyment, weak student motivation, debates over curriculum, falling salaries, negative public perceptions, and other factors are influencing who enters the profession and how long they remain.

As persons engaged in education and the study of culture, the authors, who are sisters, wanted to explore factors influencing why teachers teach given the current reform climate. Fernandez teaches English and has taught in both middle and secondary schools in Connecticut for 15 years. Lutz teaches at Brown University and is the past president of the American Ethnological Society. Through social media, professional organizations, and friends, the authors identified and screened teachers for their study. They readily acknowledge that the nine chosen for their study may not be representative of all teachers but argue that they are diverse. For example, the group includes a home schooler, a teacher at a charter school and one in a Catholic school, a teacher on a reservation, teachers from various grade levels and subjects, as well as those who entered teaching through alternative certification.

The authors observed and conducted an extensive interview with each teacher. The interview focused on the individual's motivations, challenges, philosophy of teaching, and reflections on the profession and current state of education. Each chapter presents a narrative about one of the teachers, along with supporting points and information from other researchers related to points raised by the teacher. The authors note in their conclusion that their observations and interviews with the teachers were not filled with negative tirades about the challenges of teaching today. Although frustrations with current social and economic trends and challenges were shared, the nine teachers shared more of "their pleasures than pains" (p. 115).

Some common themes emerge from the case studies and are summarized in the conclusion. One theme made clear, especially by the teacher who came to the United States from Finland, is micromanaging; teachers wish they had more control over their work in meeting the needs of their students rather than the micromanagement and top-down reform that comes with scripted curriculum materials and so many standardized tests. Another theme that emerges is related to teacher attrition, which much research indicates is related to pay, status, and working conditions (p. 76). For example, pay is highlighted in

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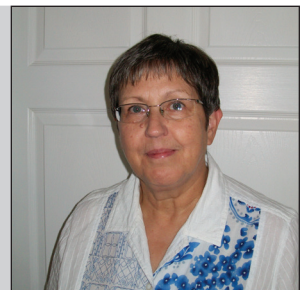
the chapter on Lisa, a science teacher. The authors note that American "secondary school teachers are paid 72 cents on the dollar earned by all working college graduates compared with 90 cents on the dollar" (p. 40) in many other countries. Austerity is affecting not just teacher pay, but also class size and access to resources. Prestige is often related to salaries, and studies note that teaching is held in lower esteem in the United States than in many other countries. Many teachers think their work is undervalued. The authors noted, "American teachers are being made to work harder—not smarter—than their counterparts in other industrialized nations" (p. 75), spending some 7 hours more in preparation each week than the average in some other countries and up to 42% more time in direct teaching. Many teachers said that, although they are generally asked to do too much, at times "they are asked to do too little"— their expertise and training are underutilized (p. 117). Another theme relates to teaching children with diverse needs and backgrounds, from immigrant children to adolescents on drugs to children with special learning needs.

> *Surveys indicate job satisfaction is the lowest since the 1980s, but teachers indicate they teach because they enjoy the profession, especially their relationships with their students, parents, and colleagues.*

The authors note it is imperative that teachers use their "individual voices and collective voices" (p. 118) to stay motivated to teach and maintain their commitment to their students. They argue that teacher voices must be heard in the debates on education. They conclude that "with the experience and expertise of teachers at the center of a stronger, smarter national commitment to better educating our children, this age of change can be a phenomenal one" (p. 118).

Schooled is a wonderful, readable book to share with local critics of education and policy makers and to discuss at a Delta Kappa Gamma meeting or as a selection for a teachers' book club. The authors go beyond just presenting the teacher case studies by including discussion questions and suggestions for further reading in each chapter. Points made throughout are well documented, and an index is included.

Reading these case studies affirms that teachers are real people with a commitment to helping students but who come with their own personal challenges in addition to dealing with the current negative discourse about education and conflicting reform movements. For those still in the classroom, *Schooled* echoes many of their own views and situations. For those who have been out of the classroom for a long time or those who have never taught, the book affirms "what it means to teach with passion and talent in a changing social, cultural and political environment" (Foreword, np).

Beyond the Classroom Walls: Technology Infusion Advancing Science Education

By Pamela Ponners and Sumreen Asim

The authors argue that Web-based technologies have an immense capacity to be used in education and highlight implementation of educational technology in supporting science-content learning. Their goal is to inform educators of some emerging educational technology tools—such as citizen science, virtual museums, and transmedia books—that can serve as a bridge from the formal classroom to informal learning environments.

Why Teach beyond the Classroom Walls?

As American society develops into a more knowledge-based one, it has become critical that individual citizens possess science, technology, and mathematics skills in order to benefit from and contribute fully to the world at large (National Research Council [NRC], 2011). The intent of this article is to provide a brief overview of educational technology tools in relation to informal science education in order to support learners within and across various learning environments.

What Educators Know So Far

Teachers seeking to incorporate educational technology tools need to consider several factors connected to learning outcomes and goals. Current science and technology curricula give educators new roles and responsibilities that go beyond the traditional; educators are now facilitators and guides who assist student learning by having the students construct their own knowledge. This perspective on teaching and learning is rooted in constructivist philosophy. Technology tools for learning are appealing to youth today (Gee, 2003). These tools provide for rich learning environments that allow for personal experiences, social experiences, and real-world learning situations. Informal learning environments—and the learning that occurs within them—are enriched by the effective use of technology (Lai, Khaddage, & Knezek, 2013). The effectiveness of technology integration in core content areas remains a goal for educators in this digital age. Ultimately, the goal for educators is to inspire people to become life-long learners (Christensen, Overall, & Knezek, 2006).

Who Are the Occupants of the Digital Age?

Two major occupants of the digital age exist in the educational world: the digital native, also known as the Net Generation, and the digital immigrant, also known as the digiteacher (Barnes, Marateo, & Farris, 2007; Lindsey & Davis, 2010). Both occupants play a critical role in the use of emerging technology in classrooms. Digital natives are defined as "those currently between the ages of 11 and 30, who have grown up completely steeped

in technology and, for the past 12 years, the internet" (Tapscott, 2009, p. 106). A more detailed list of character and learning traits of the digital native, extracted from *Teaching and Learning with the Net Generation* (Barnes et al., 2007), includes a need for instant gratification, use of multitasking, a tendency to be easily bored, and a desire for different forms of communication. Similarly, Hay (2000) found that the digital native wants more hands-on, inquiry-based approaches to learning and is not as willing to be a passive learner. In contrast, Barnes et al. (2007) found that digital natives often lack information-literacy skills; they typically have weak critical thinking skills; and they are less likely to be content with any delayed gratification in the classroom.

Everyone who does not have the characteristics of a digital native is, according to Prensky (2010), a digital immigrant, defined as "those of us who were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology" (p. 1-2). Among the digital immigrants are a few educators who excel in leading the technology movement in education. They are known as the "digiteachers" (Lindsey & Davis, 2010, p. 13) and constitute a small, but growing, population of the digital world. They are the teachers who are competent in teaching digital natives. In today's educational settings, a digiteacher is not necessarily classified by his or her technology ability but more by technology tolerance and acceptance.

Teachers must adjust to the new needs and characteristics of the Net Generation. They cannot continue to deliver educational messages in the same old, analog way. Accessing videos, putting exams on line, and using technology in a more active role in education are becoming the norm, and the digital immigrants must learn how to match their Net Generation students to the online tools that are now available to educators.

What Are Formal and Informal Learning Environments?

Formal. Classroom learning contexts are formal learning spaces. These learning spaces are the most commonly used infrastructures in education. Inquiry-based teaching, which is a learner-centered approach, is an integral part of teacher preparation, which includes Dewey's (1938) idea of connecting to students' interests by providing active, experiential learning and Kolb, Boytzis, and Mainemelis's (2000) experiential learning in the learning process. Keeping the main vision in mind, educators at universities need to teach theory, practice, and pedagogy within content methods courses to align with the necessary *tools* to

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teach the students of the twenty-first century. Inquiry is, by its nature, a personal process, unique to individuals. Bransford, Brown, and Cocking (2000), in *How People Learn*, suggested the best understanding of science occurs when students incorporate what they have learned from activities and programs that raise interest and confidence. Therefore, science education should expand beyond the walls of the classroom via educational technology because innumerable benefits of such an approach include authentic learning, social interaction, and incorporating student interest.

   Informal. Some authors make the distinction between learning that is intentional versus learning that occurs in the "wild," referring to outside the classroom realm (Branford et al., 2006). Teaching beyond the classroom walls bridges the information learned in a formal classroom environment to real-world contexts. According to the National Science Teachers Association (NSTA) Web site, informal learning takes place in many contexts, ranging from after-school programs, aquariums, universities, museums, nature clubs, zoos, parks, playgrounds, libraries, Web sites, as well as a student's home (NSTA, 2012). Several terms encompass learning in these environments, such as *non-formal learning,* often associated with organized learning outside the formal classroom (Carlson & Maxa, 1997); *out-of-school-time learning* (NRC, 2010); *lifelong learning* (Rennie, Feher, Dieking, & Falk, 2003); and *experiential learning* (Kolb et al., 2000). For the purposes of this article, informal learning includes all of these concepts.

> *Current science and technology curricula give educators new roles and responsibilities that go beyond the traditional...*

   Informal learning facilitated by institutions such as zoos, nature centers, educational Web sites, and online games are referred to as designed learning environments, which are a subset of informal learning environments (NRC, 2010). With recent educational technology carving a new niche in possibilities, geographic, physical, and time constraints are not an issue for most learners in the United States, and institutions such as museums are able to reach an even greater public through the use of the Internet. Thus, media representation and digital technologies can be used in conjunction with traditional classroom inquiry-based approaches to promote engagement in authentic activities in informal learning contexts, which are highlighted in this article. The adoption of educational technology as a part of designed learning environments has the capability to develop deep, interconnected learning of content through the use of twenty-first century skills.

Emerging Learning Technology

   Learning technology tools are used within and outside the traditional classroom environments. As mentioned by Cuhadar and Kuzu (2010), technologically-infused constructivist learning environments provide students with tools that can be used to learn as well as create information. Interaction is one of the main components of such designed learning environments (Adams, 2006; Cuhadar & Kuzu, 2010). The key focus of social constructivist learning and teaching, as described by Bronack, Riedl, and Tashner (2006), is engaging students in productive thinking, analyzing, and synthesizing of ideas through the individual and social construction of knowledge. The aforementioned skills are not just germane to science but support requirements in science, technology, engineering, and math (Table 1).

Table 1
Design Process Comparison

Science	Technology	Engineering	Mathematics
Observe	Define the problem	Identify the need	Problem solving
Define the problem	Brainstorm	Define the problem	Mathematical communication
Infer	Research and generate ideas	Search for solution	Reasoning and proof
Formulate hypothesis	Identify criteria	Identify constraints	Communication
Predict	Specify constraint	Specify evaluation criteria	Connections
Measure	Explore possibilities	Generate alternate solutions	Representation
Control variable	Select an approach	Engineer analysis	Appropriate tools
Experiment	Develop a design proposal	Optimization	Precision
Analyze data	Build a prototype or model	Decision	
Evaluate hypothesis	Test and evaluate design	Design specification	
Communicate results	Refine the design	Communication	
Formulate theory	Make it and create it		
	Communicate results		

Note. Modified and adapted from Frantz, De Miranda, & Siller (2011).

Therefore, the overall field of **digital STEM education** embraces technology in order to facilitate learning for students. Examples of educational technology tools include citizen science, virtual museums, and transmedia books.

Citizen science. One example of a Web-based application that promotes the types of thinking required for digital STEM education is citizen science, in which citizens of all ages make local observations that they transmit by means of the Internet to researchers who collect and analyze data. For example, Project Noah (http://www.projectnoah.org/) allows students in the K-12 setting to share their observations about local habitats. When students engage in Project Noah, they are not only making observations but also learning about the environment and becoming advocates for environmental protection within their

own local communities. Similarly, the Cornell Laboratory of Ornithology engages the public in scientific investigations surrounding bird-watching (www.ebid.org). Another citizen science project, conducted by a group of international volunteers known as CoCoRaHS (http://www.cocorahs.org), involves observation of spiders, butterflies, and weather data and allows participants to log in real-time data to share with the online community. These programs share situated, authentic, well-designed, and mediated experiences that involve a broad spectrum of learners.

Virtual museums. Museums capture their visitors by having them engage with exhibits. Visitor manipulation at exhibits facilitates the learning process. In the same way, some museums have attempted to engage a broader visitor base through incorporating an Internet application called virtual museums. The virtual museums are creating an alternate to physical, onsite field trips. These designed learning environments allow users to interact and navigate museum learning exhibits through virtual spaces.

> *Examples of educational technology tools include citizen science, virtual museums, and transmedia books.*

Virtual field trips that are broadcast online add a new dimension to a museum's programming platform. Some virtual museums may include experiences such as a Webcast in real-time that allows visitors to participate in a tour or demonstration. For example, a museum staff member, typically a scientist, could provide a tour of a specific research site. This type of program allows for two-way communication between the scientist and visitors via virtual spaces. Exemplar programs in this category include Liberty Science Center's Live From: Cardiac Classroom (http://lsc.org/for-educators/live-from-surgery-program/cardiac-classroom/) and the Museum of Science and Industry's Live at the Heart project (http://www.msichicago.org/education/field-trips/learning-labs/live-from-the-heart/). Other virtual museum Web sites that also bridge formal and informal learning are The Exploratorium (www.exploratorium.edu), Franklin Institute Science Museum (www.si.edu), Museum Online (www.mos.org/museum-online), and Koshland Science Museum (www.koshland-science-museum.org).

Transmedia books. There is a new digital tool on the block: Move to the side ebooks; here come *transmedia* books. A transmedia book defies the limitations of printed text and "pushes the reader well beyond the physical limits of the pages of the book" (Cohen, Ducamp, Kjellstrom, & Tillman, 2012, p. 1). A transmedia book is "a traditionally printed book that uses multiple media though the use of QR codes and augmented reality triggers to access Web-based technology" (Ponners, 2015, p. 7). Through the use of quick response (QR) codes and augmented reality (AR) graphics, readers can access the Web-based technology while reading and interacting with the printed, traditional book. For example, graduate students from the University of North Texas have developed a transmedia book for K-2. The book has a traditional reading component as well as an interactive digital component. The young students who read *Skills That Engage Me* (Ponners & Asim, 2014) use mobile technology tools to access YouTube videos, interactive museum sites, and reflective and interactive assignments as they learn about STEM careers and skills. *Skills That Engage Me* is supported by a teacher's manual that contains a variety of lessons and resources for the instructors to tailor to needs of the learners. The project is a collaboration between individuals in the College of Education and the Learning Technology Department. This type of technology tool has been shown to help enrich the learning of digital natives.

Conclusion

As society moves towards a knowledge-based culture, producing literate citizens who are proficient in science, technology, engineering and mathematic skills becomes ever more critical (NRC, 2011). Because new knowledge is assembled on the experiences and discussions of the learner, the dynamic process of learning needs to involve a broad spectrum of learning environments (Bruner, 1977). Educational technologies can provide enrichment and extension experiences through such means as citizen science, virtual museums, and transmedia books, thus expanding the learners' horizon beyond the classroom walls. In the current digital age, learning must become a lifelong experience. With technology at the forefront, both learners and instructors have ever-changing roles allowing for continued efforts to combine content learning that links both formal and informal spaces. Educators challenged to engage learners in authentic, meaningful learning in classrooms today need to take advantage of the latest educational technologies to expand personally relevant learning to capture the minds of the occupants of this digital age. It is the educator's responsibility to stay updated and informed on the latest educational technologies.

> *Move to the side ebooks; here come transmedia books.*

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A Special Note of Interest

At the 2016 International Convention in Nashville, Tennessee, members approved an amendment to the *International Standing Rules* regarding articles published in the *Bulletin*– specifically, to **allow publication of abstracts in languages other than English.** This amendment was a direct response to concerns raised at the 2014 International Convention regarding equity and inclusiveness within the Society's journal.

After considerable research as requested and assigned by the international president, members of the Editorial Board and the Communications and Publicity Committee recommended the amendment and specified the following strategy:

English remains the official language of the Society, and articles will continue to be published in English. However, if an author so desires, she may submit a translation of the abstract of her article from English to her native language. This translation will be published under the heading of "supporting information" to the article. The responsibility for accuracy will remain entirely with the author(s), and a disclaimer will be displayed to this effect with any "supporting information" published.

For clarity, the abstract will be published in both English and the native language; the article will be published in English only. Publishing abstracts is an inclusive option that will eliminate or minimize the considerable credibility and fiscal issues related to publication of full articles in languages other than English even as it provides an element of inclusion for members for whom English is not the native language.

If you have questions about this process, contact bulletin@dkg.org .

Bulletin Submission Guidelines

Submissions from members will be accepted for review provided that:
- The submission is not being considered concurrently in whole or substantial part by another publisher.
- The *Bulletin* has exclusive option of possible publication for a period of 6 months following receipt of the submission.
- The author assumes responsibility for publication clearance in the event the submission was presented at a professional meeting or is the direct product of a project financed by a funding agency.
- Authors are responsible for accurately citing all quoted and bibliographic materials and for obtaining permission from the original source for quotations in excess of 150 words or for tables or figures reproduced from published works.
- Co-authors are permitted. At least one author must be a Delta Kappa Gamma member.

Manuscript Preparation

- Although there is a suggested theme for each issue of the *Journal*, manuscripts on all topics are welcome. The *Collegial Exchange* is not theme-based.
- Manuscripts should be focused, well organized, effectively developed, concise, and appropriate for *Bulletin* readers. The style should be direct, clear, readable, and free from gender, political, patriotic, or religious bias. Topic headings should be inserted where appropriate.
- Please see Submission Grid on the following page for specific requirements of the types of manuscripts appropriate for publication.
- Use *Publication Manual of the American Psychological Association*, current edition, for manuscript preparation. Visit the APA Style website at www.apastyle.org.
- Double space the entire manuscript, including quotations, references, and tables. Print should be clear, dark, and legible. Pages must be numbered.
- References should refer only to materials cited within the text. Nonretrievable material, such as papers, reports of limited circulation, unpublished works, and personal communications, should be restricted to works absolutely essential to the manuscript.
- Abbreviations should be explained at their first appearance in the text. Educational jargon (e.g., preservice, K–10, etc.) should be defined as it occurs in the text.
- Place tables and figures on separate pages at the end of the manuscript. Use Arabic numerals and indicate approximate placement in the text.
- Photos, graphics, charts, etc. that may enhance the presentation of the manuscript may be included. Contact the editorial staff (bulletin@dkg.org) for information regarding the use of photos.

Submission

- One submission per author per issue.
- Submit electronically, in Microsoft Word format, to bulletin@dkg.org. Do not submit PDF files. For a manuscript, include definitive abstract, photo of author(s) [see below], and biographical information. Biographical information must include author(s) name(s), occupational position(s), Society and professional affiliations (list offices held), address(es), phone number(s) and e-mail address(es).
- Electronic/digital photo files must be saved in JPG or TIFF format and must be a minimum of 1.5" x 1.5" with a 300 dpi resolution. For photos submitted to enhance text, include caption/identification information.
- For poems and graphic arts, submit name, address, and chapter affiliation. A photograph is not required.
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Bulletin Submission Grid

Publication	Submission Type and Description	Word Length	Requirements
Journal	Action/Classroom Research: Organized, systematic, and reflective analysis of classroom practice with implications for future practice in teaching and learning.	1,500-4,000	Abstract; documentation; bio; photo
Journal	Qualitative/Quantitative/Mixed Methods Research: Essentially narrative with nonstatistical approaches and a focus on how individuals and groups view and understand the world and construct meanings from their experiences (Qual)/Gathers and analyzes measurable data to support or refute a hypothesis or theory through numbers and statistics (Quan)/Utilizes both qualitative and quantitative data to explore a research question (Mixed).	1,500-4,000	Abstract; documentation; bio; photo
Journal	Position Paper/Viewpoint: Defines an issue; asserts clear and unequivocal position on that issue, provides data and references that inform that position, and argues directly in its favor.	1,000-1,500	Abstract; documentation; bio; photo
Journal	Review of Literature: Presents supporting and nonsupporting evidence to clarify a topic and/or problem of interest and value to educators; synthesizes and critiques the literature; draws conclusions; mentions procedures for selecting and reviewing literature; may include narrative review, best evidence synthesis, or meta-analysis.	1,500-3,000	Abstract; documentation; bio; photo
Journal	Program Description: Provides an overview and details of a single program in an educational setting. Goals, resources, and outcomes are included. No marketing or promotion of a program is allowed.	1,500-2,000	Abstract; documentation; bio; photo
Journal	Book/Technology Review: Combines summary and personal critique of a book, Web site, or app on an educational topic or with educational relevance.	400-700	Introduction; documentation; bio; photo
Collegial Exchange	Classroom Practice/Program: Describes practice or initiative used in a classroom to advance educational excellence	700-1,200	Bio; photo
Collegial Exchange	DKG Chapter/State Organization Practice/Program: Describes a practice or initiative used by a chapter or state organization to advance the purposes of DKG	700-1,200	Bio; photo
Collegial Exchange	Viewpoint on Current Issue: Defines and addresses an issue related to education, women, children, or DKG	700-1,200	Bio; photo
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Collegial Exchange	Technology Review: Combines a summary and personal critique of an educational application, program, or piece of hardware that is useful in the classroom or that is useful in the life of an educator	400-700	Bio; photo
Journal or *Collegial Exchange*	Letter to the Editor: Responds to items previously published in the *Bulletin*	200-300	Author's name; chapter/state
Journal or *Collegial Exchange*	Poetry/Creative Work: Original expressions in any creative format	NA	Bio; photo

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