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The Delta Kappa Gamma Bulletin

Educational Research



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*The Delta Kappa Gamma Society International
promotes professional and personal growth of women
educators and excellence in education.*

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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* accepts Action/Classroom Research, Qualitative Research, Quantitative Research, Reviews of Literature, Program Descriptions, Position Papers, Book/Technology Reviews, Graphic Arts, Letters to the Editor, and Poetry for **print** issues (spring, fall) and **online** issues (summer, winter). 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. For more detailed information, please refer to the Submission Guidelines on page 91 and the Submission Grid on page 92. Listed below are the suggested themes of upcoming issues.

Summer 2013 (79-4) Education Paradigm Shifts (Online)

(deadline is March 1, 2013)

On-Line Certification • Economics of Education •
Distance Learning • Leadership • Privatization of Education •
Charter Schools • Home Schooling • Back to Basics • Merit Pay

Fall 2013 (80-1) The Future of Education (Print)

(deadline is June 1, 2013)

International Teaching and Learning • Constructivism • Technology •
Crisis Management • Safety/Violence • Changing Role of the Teacher •
Emergent Learning

Winter 2014 (80-2) Educational Technology (Online)

(deadline is September 1, 2013)

Tools • Software • Learning Content •
Community Building • Emerging Technologies

Submit all materials to:

***Bulletin* Editorial Staff**

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From the Editor

- ◆ What motivates teachers to engage in professional development?
- ◆ How does action research expand teachers' knowledge and understanding?
- ◆ How do the varied communication styles of men and women influence their participation in college classrooms?
- ◆ Can implementation of Professional Learning Communities for teachers enhance student achievement?
- ◆ Can implementation of a common core curriculum level the playing field for students?
- ◆ What are some of the instructional factors that help urban middle-school students achieve higher math scores?

Authors in this issue of the *Bulletin* sought answers to these questions through their research, and their work illustrates the ways that structured inquiry can advance knowledge about a wide variety of educational topics, such as teacher training, teaching methods, student learning, and classroom dynamics. Their articles also address and illustrate the breadth of methodologies available to educational researchers, including traditional quantitative and qualitative approaches as well as mixed methods, case studies, and unique hybrids such as *appreciative inquiry*.

Although not categorized specifically as research pieces, the general interest articles that round out this issue also contribute to readers' deeper understanding of education. Orlofsky describes a hands-on, problem solving approach used in a program for music educators. Haley-Mize and Reeves explore the *Universal Design for Learning* approach as applied to literacy, and Dewald, Halowich, and Chatfield define a new preparation approach for health educators. In their own way, each answers questions about education through their exploration of a topic.

In my work as a superintendent, I encountered individuals who illustrated polar-opposite attitudes about educational research. On the one hand were those who used the *research says* approach to support whatever argument they were advancing at the time. All too often, however, their focus was on *one* piece of research, without critical review of its appropriateness to the district's particular population, situation, and so forth—and certainly without consideration of findings on *the other side*. On the other hand were those who expressed total disdain for research, preferring their particular experiences as *proof* of an argument. In the minds of these individuals, researchers dealt with artificial situations and could manipulate data to reach predetermined conclusions; direct experience (as a parent, teacher, or citizen) was a better source of knowledge. Either point of view is discouraging because it undermines one's ability to enjoy the richness of educational research as a way to understand issues more fully, with the goal of improving education and, ultimately, society. I hope that *Bulletin* readers, as educators who promote excellence in education, may experience such richness of exploration in this issue.

Judith R. Merz, EdD
Editor

A Qualitative Inquiry: Teachers' Attitudes and Willingness to Engage in Professional Development Experiences at Different Career Stages

By Avis M. Masuda, Michele M. Ebersole, and Diane Barrett

In this qualitative study, the authors interviewed 16 teachers at different career stages to determine their attitudes and willingness to engage in professional development. The findings suggested that intent, value, and topic differed by career stages; however, regardless of their career stage, teachers were adamant that anything learned from professional development needed an application component and the content had to be relevant to their teaching contexts. Teachers' attitudes were also influenced by constraints that included time, money, and accountability issues.

In keeping with the mission of the Delta Kappa Gamma Society (DKG)—to promote professional and personal growth of women educators and excellence in education—and as teacher educators, our goal was to conduct a qualitative inquiry that might help us understand how better to support both our preservice and inservice teachers living and working in our rural island community in Hawaii. We envisioned a professional community that would provide professional growth opportunities throughout teachers' careers. As part of this endeavor, we offered a variety of workshops in both math and literacy and established a local affiliate of the National Council of Teachers of English.

Over the past 25 years, our own prior professional development (PD) experiences brought to mind a room full of eager teachers who were excited to participate in all-day workshops and engage in professional dialogue and who were committed to improving their practices. We read professional literature, collaborated and planned with colleagues, and shared ideas from each others' classrooms. We gave up our own personal time—and often our own funds—to attend various literacy workshops. A large group of us would meet on occasional Sunday mornings at the local bookstore to hear different speakers, participate in mini-workshops, and browse or read books together, then leave inspired to go back to school on Monday. Teacher teams from different schools would willingly attend district-sponsored workshops.

To launch our local affiliate, we had an opportunity to bring a national consultant to our island. The preservice teachers were eager, and we anticipated a favorable response from inservice teachers, even though we scheduled a Saturday event to accommodate teachers who had to travel a greater distance. To our dismay, we found it difficult to

convince and recruit inservice teachers to the workshop. Having worked with excited and eager teachers, and remembering our own past experiences, we wondered if we had become too disconnected or if attitudes toward PD had changed. If indeed teacher attitudes had changed, what might have led to this change? We decided to explore the question: *For teachers at different career stages, what influences teachers' attitudes and willingness to engage in professional development?* Our hope was to find answers that would also inform the work of our local DKG chapter, our newly established professional organization, and our teacher-preparation program.

High Quality Professional Development

Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) defined effective or high quality PD as providing for improvements in teachers' knowledge and instructional practice that would result in improved student learning. In a recent follow-up report on trends and challenges of PD in the United States over the past decade, these researchers noted that teachers across the nation had fewer opportunities for sustained PD (Wei, Darling-Hammond, & Adamson, 2010). However, teacher participation in PD in their specific content areas had increased over the past decade (Wei et al., 2010). Wei et al. also reported wide variation across states in participation in PD. Yet, despite such variation across the United States, the authors noted a consensus by researchers and practitioners regarding key qualities of PD that lead to significant impact on teaching practice and student learning. PD must be

intensive; sustained over time; embedded in teachers' day-to-day work in schools; related directly to teachers' work with students; able to engage teachers in active learning of the content to be taught and how to teach that content; coherent with

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district policies related to curriculum, instruction, and assessment; and structured to regularly engage teachers in local professional-learning communities where problems of practice are solved through collaboration. (Wei et al., 2010, p. 38)

Providing time to teachers is necessary for effective PD; however, Guskey and Yoon (2009) noted that simply providing more time is insufficient. High-quality PD that shows positive effects on student learning requires time, and “that time must be well organized, carefully structured, purposefully directed, and focused on content or pedagogy or both” (Guskey & Yoon, p. 497). Birman, Desimone, Porter, and Garet (2000) emphasized that the traditional conference approach is not effective in promoting change.

Although education leaders often regard workshops, especially one-time workshops, as ineffective, Guskey and Yoon (2009) reported that all of the studies in a comprehensive research review by Yoon, Duncan, Lee, Scarloss, and Shapley (2007) showed that workshops or summer institutes had a positive relationship to student learning. According to Birman et al. (2000), the impact is heightened if the PD takes place over more than just a single day and when teachers are encouraged to form supportive learning communities.

Professional Communities of Teachers

Observation of colleagues and sharing of practices are popular among practitioners (Boyle, While, & Boyle, 2004); however, these PD efforts are not enough. Darling-Hammond (2011) argued that professional communities of teachers do more than just share teaching tips. They “design and evaluate curriculum and instruction together in a way that allows them to share their expertise deeply and in a sustained and ongoing fashion” (p. 12). Nieto (2003) also applauded the power of teacher communities of inquiry: “Creating communities of learning among teachers is necessary if they are to remain connected to their profession, their students, and one another” (p. 124).

Research Methodology

This qualitative study was intended to help us better understand improvements we might make in our own profession as teacher educators and to help us offer high-quality PD to teachers in our community. The study took place in an ethnically diverse island community in Hawaii with a population of approximately 180,000.

Participants. Purposive sampling was used to gather data from 16 teachers who lived and worked in the community. Gender, age, ethnicity, teaching position, socioeconomic status of the schools in which they taught, and school type—private, public, charter—were factors considered in selecting participants. Four *Preservice* teachers, five *Beginning* teachers (1-5 years teaching), four *Midcareer* teachers (6-20 years teaching), and three *Late-career* teachers (20+ years teaching or retired) agreed to participate in the study. Years teaching included regular classroom teaching or years spent in support positions, such as resource teachers or curriculum coordinators. The teachers selected were representative of a typical case for each career stage.

Data sources. The three authors collected and recorded interview data. Interviews were selected as the data source because they captured the actual language used by these teachers and allowed the researchers to examine the discourses for similarities or differences in teachers’ perspectives across career stages. The audio provided a way to capture a verbatim record of what was said, as well as the tone and use of language and meaning by the participants. Researchers noted any irregularities during transcription. We wanted to be sensitive to the information being gathered during data collection. Each recording was

numbered, labeled, and dated.

Data-collection procedures. Researchers met to select participants; then each researcher contacted and conducted one-on-one interviews with participants. To accommodate teachers' busy schedules and to encourage participation, we conducted the interviews informally in various locations—schools, coffee shops, or homes. Interviews ranged between 10 and 30 minutes and were recorded digitally in order to ensure we accurately captured responses for validity. Four to five different interview questions were asked depending upon the career stage of the individuals. We chose to use semistructured and open-ended questions in order to allow the participants to focus on the subjective experience (Seidman, 1991). The questions were created collaboratively by the three authors and were designed to examine teachers' range of PD experiences, the characteristics of PD they found valuable, whether there was a perceived difference between PD they were mandated to attend as compared to PD they voluntarily chose to attend, and what sustained or motivated them to persist as educators. For example, the questions asked of inservice teachers were (a) How many years have you been teaching? (b) Describe some of the professional development experiences you recall over your career; Which professional development experiences were valuable to you as a teacher? (c) What made those experiences valuable? (d) Which sessions, if any, were *mandatory*? Which were *voluntary*? Is there a difference between the two for you? and (e) What keeps you going? Why do you continue to teach? Questions were modified according to teachers' career stage. The full list of questions is included in the Appendix.

Data analysis. We prepared the data for analysis by immediately transcribing each interview and writing corresponding researcher notes. Baker (1997) argued that data collection, selection, and transcription are not neutral processes. The presentation of transcript material (speech and action) in words, in particular formats or layouts, or in illustrations is read as part of a larger text, depicting ideologies. Transcription therefore assigns a social, political, or moral order to the scene being transcribed. Familiarity with these teachers' cultural speech patterns and intonations typical of the context, as well as the terminology used in their particular school context, was useful for deciding what data were representative to help answer our research question.

As Gee (2005) suggested for researchers, we picked out key words or phrases that seemed to have situated meanings with respect to career stages. For example, some of the *Late-career* teachers referred to *furloughs*. This was an issue for these teachers, as their PD days had been rescinded and utilized as state-directed, leave-without-pay days. *Furloughs* was not a term used with *Preservice* or *Midcareer* teachers. Analysis was a continuous and recursive process. We reviewed the audio recordings, re-read each teacher's interview transcript, and looked for words or phrases that possibly reflected emerging ideas about PD. We looked for recurring themes that linked these teachers' attitudes toward PD and their positions and that could possibly help answer our research question. Data were then analyzed using a constant comparison method (Glaser & Strauss, 1967). To ensure further validity, member checks were conducted with several teachers with regard to preliminary findings.

Findings

As we studied the data about teachers' attitudes and willingness to engage in PD, four different categories emerged: *Intent*, *Value*, *Topics*, and *Tensions*. Although threads from each of the categories wove together at different points in the analysis of data, we address

each of these areas separately here. Within each theme, we analyzed the data with respect to the teachers' various career stages.

Intent. For our analysis, *intent* was defined as purpose for participating in the PD activity. Teachers' attitudes toward PD and willingness to participate varied by career stage. *Preservice* teachers expressed a desire to learn "everything and anything" and perceived attendance as an obligation at their career stage. This finding makes sense given their novice stage in the profession. Without a specific teaching context and experience, the preservice teachers

“ Regardless of career stage, the teachers were adamant that anything learned from PD needed an application component; the content had to be relevant to their own teaching contexts, whether it was for the grade level or subject they taught or for the demographics of their students. ”

felt the need to attend as many sessions as they could to build their professional knowledge and skill. *Beginning* teachers were "overwhelmed with too much information" early in their careers but realized the importance of continued professional growth to support their development. At the same time, they were beginning to be selective about PD and preferred voluntary sessions that might best suit their unique teaching contexts and styles. A few *Midcareer* teachers mentioned engaging in PD for purposes of earning credit, implying that teachers participated in PD for extrinsic purposes, such as movement on the salary scale. When given the choice to attend PD activities, they suggested that if they paid to attend, they were more apt to have a positive attitude and more committed to participating in the activities. Teachers in the *Late-career* stage or retired from the profession noted they would rather attend voluntary PD that was "worthwhile" as opposed to attending mandatory PD sessions that were sometimes irrelevant and

being "shoved down their throats." Given the wealth of experience that comes with time in the classroom with students, teachers in the *Late-career* stage had seen many different initiatives and were able to select PD experiences that worked in their particular classroom contexts.

Despite the different intentions for participating in PD, the common theme that surfaced in the discussion related to overall professional goals and purpose. At every career stage, teachers fostered an inherent love for learning and acknowledged the need for continuous growth; all teachers in the study expressed their overall purpose in teaching as making a difference in the lives of children.

Value. The perceived *value* or worth of the PD experiences was a central theme that surfaced in the data. Teachers' attitudes and willingness to engage in PD were closely tied to the perceived value or importance that the PD experience held for them. In turn, the value of the PD was closely tied to its perceived quality based on their experiences.

As mentioned previously, *Preservice* teachers valued "anything and everything" but emphasized the value of knowing how to apply what they learned from PD: "It is all important, but it needs application." The busy *Beginning* teachers were strapped for time and did not want "theoretical" information but rather "PD that doesn't need extra time to figure out how to use it." They also stated that a good use of PD time involved collaborating with peers. *Midcareer* teachers emphasized they valued "time to share with

other colleagues.” They also stated content-specific PD opportunities “were the ones most valuable,” especially if the particular content was a large part of their everyday curriculum. The *Late-career* teachers mentioned they valued digital resources that helped them connect and get ideas from other teachers.

All teachers at every career stage emphasized they valued PD experiences that were highly *relevant* to their teaching contexts and “specific to teaching ‘our’ students.” They also placed a high value on and were willing to invest time and money for practical strategies that they could “turn around and apply the next day.” Thus, all teachers valued relevant information that could be easily and immediately applied within their contexts.

Topics. The topics or types of PD experiences for teachers varied based on their career stage. *Preservice* teachers believed they needed “anything relevant and helpful,” whereas *Beginning* teachers were in “survival mode” and expressed they needed more PD in the area of “classroom management.” By *Midcareer*, teachers were building curriculum and pedagogical knowledge and thus wanted PD that helped them hone their craft in their teaching contexts. The *Late-career* teachers’ PD experiences revolved around new initiatives, such as learning about the Common Core State Standards or data analysis and accountability.

Tensions. Teachers were often conflicted by constraints that impacted their attitudes and willingness to engage in PD experiences. *Beginning* teachers expressed frustration with accountability pressures and often felt “overwhelmed with so many other things we have to do” and

with all the additional pressure of the accountability . . . I thought as a teacher I could be more engaging and nurturing, but I feel like I am more demanding and drilling it [information] into their heads instead of nurturing and giving the kids time to enjoy the process. I am rushing them through it [content] so they can remember and regurgitate.

Midcareer teachers were constrained by time as well. At that point in their careers they needed to weigh personal costs and family obligations against the value the PD experience would offer. The *Late-career* teachers had a history of PD experiences offered to them and articulated frustration with mandatory PD experiences that were irrelevant or imposed. They saw teacher-collaboration days were removed from their schedules and were designated as furlough days; thus, lack of job-embedded PD contributed to their frustrations. One teacher lamented, “There’s so much that teachers have to do now, that you just don’t have the energy or even the time to go . . . I think if someone ‘worthwhile’ came, I’d go.” For the *Late-career* teachers, tensions included limitations in access to PD opportunities. With budgetary cuts, fewer school-funded PD opportunities were available or increasing restrictions were placed on the types of PD; topics shifted from curriculum and instruction to PD driven by data collection, analysis, and interpretation.

Discussion

As professionals, the teachers all viewed PD as a means to continuous improvement in refining their pedagogical knowledge. *Early-career* teachers were more apt to embrace different opportunities to enhance their professional knowledge and did not necessarily differentiate between mandatory versus voluntary sessions; they were willing to go to “anything and everything.” On the other hand, teachers with more years of experience had built up a depth of knowledge and skill and were more selective about PD they chose to attend. They opted for PD that would provide new knowledge, such as using particular

technologies.

Regardless of career stage, the teachers were adamant that anything learned from PD needed an application component; the content had to be relevant to their own teaching contexts, whether it was for the grade level or subject they taught or for the demographics of their students. Teachers needed to be actively engaged in both the content and pedagogy, and PD had to be meaningful to them (Birman, et al., 2000).

These teachers' views toward contemporary PD were nuanced with concerns about accountability issues and standards-based reform; for example, the type and topic of PD were often *imposed* upon teachers. For teachers at schools under restructuring mandates or reform models, school-level PD dealt with data analysis and data-driven decision making, specific research-based instruction from external providers, and the use of technology. Although teachers complied with attending and participating in their school's PD, they often found these sessions overwhelming and perceived the information as being disconnected from their everyday teaching. They implied that too much was already being asked of them, there was "not enough time" to do everything, and yet they were being asked to do more.

Thus, the types and topics of PD appear to have shifted in such a manner that teachers perceive that the costs of attending or participating in PD venues outweigh the benefits to them. Here, cost equates to an investment of more time and effort on their part because, after they leave the workshop or training, they have to problem solve on their own how to implement teaching practices that will raise student achievement. The teachers viewed this type and these foci of PD as irrelevant or too demanding of their time—time that is already maximized on a day-to-day basis. Perhaps the unintended message conveyed by administrators, issuers of state-level directives, policymakers, and other external entities is that teachers are not doing enough to raise student achievement and must invest *more* time and effort. Although they are provided with PD that might focus on research-based strategies, they must still take additional time on their own to figure out how it can work in their unique teaching contexts and invest more time to develop or adapt their resources. PD is not always something they can "turn around and use tomorrow" or that shows them *how* to apply within their teaching context.

Therefore, as teacher educators, we concur it is critical to address what teachers view as valuable investment of their time. Teachers are willing to invest in PD that they perceive as valuable, where the *benefits* of what they are learning outweigh the *costs* of their precious time. According to Birman et al. (2000), "Professional development plays a key role in addressing the gap between teacher preparation and standards-based reform" (p. 28). For this role to be fulfilled, PD offered to inservice teachers must include a component linked to specific application in their teaching context. Teachers must have something tangible to show for their investment of time—something they can readily turn around and use in their classrooms: a strategy, teaching tool, handout, and so forth.

According to Guskey and Yoon (2009), critical elements of a strong PD workshop include research-based instructional practices, active learning experiences, and opportunities to modify practices to suit their teaching contexts. For example, in our work with a beginning teachers' study group, the first two authors provided teachers with professional literature, worked on a specific strategy to teach writing, helped them plan how they could implement the strategy in their individual classrooms, and held them accountable by having them bring back student work. We engaged in follow-up discussion about how the teaching strategy worked (or did not work) and their insights from the

experience. We then collaboratively worked through challenges for further teaching refinement and repeated the process.

The third author provided a hands-on math workshop focused solely on fractions and provided the teachers with samples of manipulatives. Because it was relevant to what they were currently doing, the teachers wrote and sent pictures of how they were able to implement easily the concepts and methods from the PD in the classroom. They also described how the students enjoyed the lesson and how they believed that all better understood the concept of fractions.

There are several limitations to consider in this qualitative study. These include a small sample size, as there were only three to four participants for each of the career stages. There was also a disproportionate number of females in the *Midcareer* and *Late-career* categories. Future research should involve more participants from varying districts across the state. Additionally, future research should include more content-specific questions and explore change in teaching practices and impact on student achievement.

Our local affiliate of the National Council of Teachers of English can offer a venue of teacher study groups focused on classroom practices. Moreover, because today's teachers value ideas from their peers and can easily access resources available via the Internet, educators need to remain open to the idea of online professional communities. Again, this speaks to the notion of teachers wanting information and resources that can expediently support their teaching.

In working with our preservice teachers, we are challenged in that we must provide broad preparation—K-12 across different categories of schooling: public, private, and charter. There is increased demand for more field-based experiences and within multiple settings, such as preparing elementary preservice teachers with experience in both primary and upper elementary classrooms. Our secondary preservice teachers may benefit from both middle-school and high-school field experiences. As we continue to refine our teacher preparation courses, we are now exploring the addition of lab credits where preservice candidates can gain experience working with K-12 students in an actual classroom setting. Perhaps we need to provide more expedient planning and teaching tools that can be used immediately within one's first teaching job—thinking tools that help new teachers plan and organize their curriculum and classroom setup or basic instructional frames that can help them through the first months of school.

As DKG women leaders, we ensure that our current program of work supports new teacher development, including the production of a resource booklet for new teachers. Despite the many challenges and constraints faced by our teachers, we know they are still committed to their profession; they are “there for the kids” and “love learning.” However, we must keep in mind when designing PD that teachers' everyday practices in the classroom demand much of their time and energy. Any PD must be worth their investment of time, and they must find value in gaining tangible knowledge that can support their teaching. The benefits to them *must* outweigh the costs. We remain committed to helping and supporting teachers in ways that benefit them as professionals.

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Appendix

Interview Questions

Preservice

- Describe your teaching experiences.
- Have you had professional development experiences? If so, describe.
- Which experiences did you find valuable? Why?
- As you think about your future teaching career, what types of professional development experiences might be helpful to you? Explain.

Inservice

- How many years have you been teaching?
- Describe some of the professional development experiences you recall over your career.
- Which professional development experiences were valuable to you as a teacher? What made those experiences valuable?
- Which sessions, if any, were “mandatory”? Which sessions were “voluntary”? Is there a difference between the two for you?
- What keeps you going? (Why do you continue to teach?)

Retired

- How many years did you teach?
- Describe some of the professional development experiences you recall over your career.
- Which professional development experiences were valuable to you as a teacher? What made those experiences valuable?
- Which sessions, if any, were “mandatory”? Which sessions were “voluntary”? Is there a difference between the two for you?
- What kept you going?

Demystifying Teacher Action Research: Lessons Learned from a Graduate Education Capstone Experience

By Andrea Honigsfeld, Maureen Connolly, and Shannon Kelly

This documentary account examines the development of an action-research requirement within the context of a graduate teacher-education program. The action research is a capstone performance for degree candidates in professional certification programs. Course professors offer a 2-semester learning experience that consists of two major phases: proposal preparation and implementation of the teacher research. In our critical examination, we found that the action-research requirement has evolved into a process with five intertwined stages that are systematically scaffolded to ensure success. Questions remain regarding the necessary steps to continue action research beyond the master's thesis.

Darling-Hammond (2006) stated that

Teachers need not only to be able to keep order and provide useful information to students but also to be increasingly effective in enabling a diverse group of students to learn ever more complex material. In previous decades, teachers were expected to prepare only a small minority for ambitious intellectual work, whereas they are now expected to prepare virtually all students for higher order thinking and performance skills once reserved to only a few. (p. 300)

In light of the challenge identified above, full-time members of the Division of Education at Molloy College determined that action research (AR) would become the capstone performance for candidates in our professional certification programs.

We concur with Johnson (2008), who defined AR as “the process of studying a real school or classroom situation to understand and improve the quality of actions and instruction” (p. 28). Since 1999, we have offered a 2-semester course that consists of (a) the proposal-preparation phase and (b) the actual AR implementation, each representing a semester's workload. The final outcome of the AR project is a degree candidate's master's thesis. We have found during the past decade or so that all constituencies face unique challenges:

1. Inservice teachers (who are professional degree candidates) are typically novice teachers who have recently been initiated to teaching and are required to conduct AR.
2. Professors are either assigned or volunteer to teach a year-long (2-part) course that is unlike any other graduate-education course they have to teach in the program. In addition, although many conducted extensive educational research when they earned their doctoral

degrees, these professors might not have conducted their own AR.

3. Administrators require that all AR projects are subjected to Institutional Review even though a project may not incorporate anything other than normal educational practices.

Literature Review

Bargal (2006) identified the eight principles of AR as follows:

1. Action research combines a systematic study, sometimes experimental, of a social problem as well as the endeavors to solve it....
2. Action research includes a spiral process of data collection to determine goals, action to implement goals, and assessment of the results of the intervention....
3. Action research demands feedback regarding the results of the intervention to all parties involved in the research....
4. Action research implies continuous cooperation between researchers and practitioners....
5. The small group plays a central role for decision-making and for achieving change in people....
6. Action research takes into account issues of values, objectives and power needs of the parties involved....
7. Action research serves to create knowledge, to formulate principles of intervention and also to develop instruments for intervention and evaluation....
8. Within the framework of action research there is much emphasis on recruitment, training, development, and support of the change agents.... (p. 383).



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Both cognitive theory and teacher-education practice affirm that teachers learn more effectively when ideas to which they may be exposed are both related to theory and embedded in practice (Darling-Hammond, 2006). AR bridges theory and practice for inservice teachers who continue to be (a) learning about educational theoretical constructs and (b) enhancing their personal and professional teaching philosophies as they also are immersed in the daily practice of instruction.

Berger, Boles, and Troen noted, "Teacher research, while a robust and interesting professional development activity for individual teachers, is strongly reliant on external supports and leadership as it battles against the

culture of schools” (2005, p. 103). Yet Berger et al. also identified six paradoxes that are inherently present in AR:

- (1) it must be mandated; it can't be mandated;
- (2) it must be championed by a strong principal; it can't be owned by the principal;
- (3) there must be an outside actor; the outside actor's role is questionable;
- (4) teachers must learn research skills; teachers must trust their own knowledge so as not to be overwhelmed by the things they need to learn;
- (5) teachers' teaching changes profoundly; teachers say their research confirms things they already knew;
- (6) for it to work as a whole school reform, teacher research must be woven into the fabric of the school culture; teacher research is contrary to the culture of schools. (p. 103)

Despite the obvious challenges noted by Berger et al. (2005), leaders at our institution firmly believe in teacher reflection and teacher research, as noted by the mission statement of the college: *Molloy College, an independent, Catholic college rooted in the Dominican tradition of study, spirituality, service and community, is committed to academic excellence with respect for each person. Through transformative education, Molloy promotes a lifelong search for truth and the development of ethical leadership.* Because we have identified the teacher as a reflective practitioner as the hallmark of our professional-education programs, we are dedicated to preparing degree candidates—both inservice and preservice teachers—who practice reflection *in action*—i.e., while engaged in a classroom experience—and reflection *on action*—i.e., through AR and lifelong learning (Schon, 1983).

Methodology

This documentary account examined the evolution of an AR requirement within the context of a graduate teacher-education program over the period of 10 years. We infused the appreciative inquiry (AI) approach with critical reflection based on the work of Grant and Humphries (2006), who suggested Critical Appreciative Processes (CAPs) as a possible methodology for this type of investigation. The AI procedure we applied built upon Cooperrider and Srivastva's four steps (as cited in Grant & Humphries, 2006) and was critically augmented by a final step of reflection. Below is a description of how the AI process was applied to our local context and operationalized in terms of evaluating the AR requirement at Molloy College:

1. Appreciating: First we must summarize what we value in the AR project as a graduate-education capstone requirement;
2. Envisioning: We must explore what amendments we should be making to this requirement in light of data collected each year;
3. Dialoguing: We must continue to engage in a collegial discussion about what the AR requirement should actually accomplish for our graduate students;
4. Innovating: We should also describe what the AR requirement is likely to look like as it evolves each academic year;
5. Critically reflecting: Finally, we must assess and reflect upon the merits and shortcomings of the AR requirement.

Data Sources

We designed three versions of a questionnaire that follows the AI model (available from authors by request) to collect evidence on the AR process and outcome from three

stakeholder groups: (a) all full-time education faculty, whether involved in AR or not (n = 14); (b) all thesis-course participants enrolled in the year-long thesis course at the time of the data collection (n = 22); and (c) randomly selected thesis completers who agreed to participate in the study (n = 8). Additional artifacts used as supplementary data sources included summary charts of all thesis papers completed between 2000-2009, archived course outlines identifying the course requirements, various iterations of our locally developed AR handbook specifying the requirements, thesis-committee meeting minutes, field notes, course feedback and evaluation forms, and critical reflections of course professors.

Inquiry Questions

1. What professional interests and goals are reflected in the AR projects?
2. What is feasible within the framework of current employment and graduate degree requirements?
3. How can we, as members of the Division of Education faculty, systemically support the development and implementation of high-quality AR projects?

Findings

In order to be able to answer Research Question 1, we collated all available thesis titles since the inception of the thesis requirement at our institution. Out of the 326 topics that we reviewed, the following four stood out as most frequently chosen topics:

- 27 topics targeted mathematics instruction (subgroups included technology and use of manipulatives; 8.3%);
- 26 topics were concerned with reading instruction (including reading comprehension and literacy; 7.97%),
- 26 topics explored teaching writing (7.97%); and
- 24 topics focused on cooperative learning (grouping, peer tutoring, and various cooperative teaching structures; 7.4%).

The remainder of the thesis papers ranged in their topics from Total Physical Response (TPR) techniques implemented with kindergarten English learners to social interactions in students with autism. They represented a broad selection of focus questions and a strong faculty commitment to and support for topic selection by the participating thesis students.

To address the complexity of Research Question 2, one researcher and one research assistant independently reviewed and coded all returned surveys from each of the three stakeholder groups. Analytic-coding practices were utilized; for each survey question and for each subgroup, the two researchers independently determined one or more larger categories that emerged. Then each looked for subcategories or themes within each of those categories. The two matrixes were merged into a single matrix that synthesized the major themes or findings according to the AI model (See Figure 1 as a sample section of the merged-data matrix, indicating the complexity of perspectives that presented themselves in the first step of the AI process, which is *Appreciating*).

The data matrix clearly shows that the three constituencies appreciated distinctly different aspects of the AR requirement in the graduate education program. Faculty found the AR project most beneficial for at least three outcomes: (a) reinforcing the Division of Education's conceptual framework regarding our shared belief in teachers being *reflective practitioners*; (b) empowering graduate students by offering a meaningful opportunity to develop ownership of a research topic and engaging in teacher research that is personally

relevant to them; and (c) making a tangible difference in their classrooms as they apply theory to practice. Thesis completers appreciated (a) how their academic writing skills had improved; (b) how they were able to make their own choices and engage in critical decision-making processes; and (c) how much impact they had on their own students as an outcome of the AR project. Finally, thesis-course participants who were actively engaged in the AR project during the course of the data collection appreciated that (a) they were able to design a study based on their own research interests and grow professionally on their own; (b) they were in the process of improving instruction for their students; and (c) they were able to apply the theory they were learning in graduate classes to practice.

Similarly, faculty, thesis completers, and current thesis students noted their unique perspectives on what changes to the AR requirement they would envision. Although all three groups emphasized the importance of promoting educational change, improving

instruction, and, as a consequence, also enhancing students' learning outcomes, at the same time faculty identified teacher leadership as a potential outcome of the AR requirement. Not only did each of the three groups identify various critical directions that the professional dialogue about the AR component of the graduate education program could take, the within-group responses among current students represented three levels of preferences: (a) the AR requirement should continue to be mandatory; (b) it should be viewed as an opportunity to develop research skills and to improve instruction; and (c) it should be redesigned to be less intensive and less demanding.

Ideas for innovation coming from faculty were abundant, whereas both thesis completers and students enrolled in the AR course expressed fewer ideas and a considerable level of uncertainty about how the AR requirement could or should evolve over the years.

Data Analysis from AR Surveys	
I.	Appreciating: Faculty Responses
a.	Reflective practitioners
i.	Improvement of craft
ii.	Evolution as teachers
iii.	Professionalism
iv.	Conceptual framework
b.	Area of interest
i.	Engagement
ii.	Ownership
iii.	Empowerment
c.	Theory into practice; Application of strategies
i.	Impact on students
ii.	Program culmination
iii.	Improved instruction
iv.	Intervention possibilities; benefit to students
II.	Appreciating: Thesis Completer Responses
a.	Writing ability
b.	Critical thinking/Choices
i.	Methods used
ii.	Materials chosen
c.	Impact on students
i.	Data-driven decision making
ii.	Benefiting students
iii.	Change
III.	Appreciating: Current-Thesis Student Responses
a.	Interest/ Self-improvement
i.	Meaningfulness
ii.	Interested in topic
iii.	Own content area
b.	Impact on students/ improved instruction
i.	Better understanding of student needs
ii.	Get results with students
c.	Theory into practice (Application)
i.	Engage in hands-on work
ii.	Enhance teaching
iii.	Literature review before study
iv.	Extra reinforcement given to students
v.	Help oneself in the classroom

Figure 1. A sample section of the merged data matrix.

Finally, as they were asked to reflect critically both on its merits and shortcomings, all three stakeholder groups shared similar concerns regarding the logistics of the AR requirement—such as the time commitment the course requires and how much more challenging the spring-fall course sequence is compared to the fall-spring sequence that follows the academic school year.

In order to answer Research Question 3, we reviewed thesis-related archived documents and collaboratively reflected on the development of the thesis requirement in our graduate education program. In our critical examination, we found that in more than a decade since its inception, the AR requirement had evolved into a process with five intertwined stages (see table) resulting in an AR process that has become increasingly more scaffolded and more public.

Table 1
Stages of Action Research

Stage	Associated Activity
Pre-AR Stage	Optional Attendance at AR Poster Sessions (Offered twice a year) Required Attendance at AR Orientation
Stage 1	Proposal Preparation Attendance at AR Poster Session
Stage 2	AR Implementation
Stage 3	Thesis Preparation
Stage 4	Poster Preparation

Even before entering the 2-semester AR course, candidates are invited to attend poster sessions offered by their peers who are at the completion stage of their theses. Most recently, faculty also started to invite the incoming cohort to an AR orientation in the semester before they enroll in the first of the two AR courses.

Stage 1 entails creating an AR proposal that includes (a) carefully defined AR questions, (b) an in-depth literature review, and (c) a plan for implementation (how candidates will collect and analyze their data). The proposal also requires IRB approval. Stage 2 involves the actual implementation of the proposal by following an AR plan and data-collection procedure. Stage 3 is intertwined with (a) the proposal preparation—because the entire proposal is revised to be included into the master's thesis, and (b) the implementation process—because data analysis begins as the AR project continues. Stage 4 starts several semesters before the candidate begins the AR project because attendance at poster sessions presented by previous cohorts is initially optional and then required at the end of Semester 1.

Discussion and Conclusion

The findings reported in a rather concise manner here indicated that developing, implementing, and successfully maintaining the AR requirement in a graduate-education program is a complex process. Because degree candidates who are required to complete a

year-long AR thesis have been encouraged to select their own topics and implement their research in varied authentic education contexts, faculty teaching the AR course had to be prepared to support all course participants and demonstrate high levels of pedagogical and research skills and substantial flexibility in doing so. We noted that stakeholders may view the same dimension of the AR requirement rather differently, as reported above in response to Research Question 2. Finally, as we examined the process of implementing the AR requirement for more than a decade, we found that, in order for the AR requirement to work in the graduate-education program at Molloy College, we need to address the paradoxes identified by Berger et al. (2005) in our own context:

1. We must mandate the design and implementation of AR within the context of a required course; *yet* we intend to instill the love of AR in our degree candidates so that they continue AR beyond the framework of our graduate program.

2. All faculty must advocate for AR; *yet* it cannot be owned by any faculty.

3. There must be an outside actor (course professor/mentor involved); *yet* the outside actor's role is questionable.

4. Candidates must learn research skills; *yet* they must not become so overwhelmed by what they need to learn that it interferes with their regular teaching duties.

5. Candidates' teaching must change as a result of their AR; *yet* their AR must also confirm what they already knew.

6. Members of the Division of Education, especially the AR course professors, must recognize their limited impact on large-scale, comprehensive school reform; *yet* they must educate a new generation of teachers who embrace teacher research as a potential part of their school culture.

In closure, the AR requirement continues to be the hallmark feature of the graduate education program. The findings from this study affirmed that AR, which fosters "self inquiry and increasing awareness of the researcher's own everyday life as the process unfolds" (Burgess, 2006, p. 423) provides a unique opportunity for graduate education students and their AR course professors to engage in high-quality professional learning.

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Genderlect and Participation in the College English Classroom

By Sarah M. Galvin, Martha R. Dolly, and Judith J. Pula

This study focused on the concept of genderlect, a term popularized by linguist Deborah Tannen to represent dialects specific to gender and to demystify traditional communication struggles between the sexes, helping to bridge the linguistic gap between women and men. We conducted this small-scale pilot study to explore the occurrence in today's college classroom of one specific characteristic: student participation. Using observations and surveys in two upper-level college English courses, we investigated male and female students' participation habits as well as their attitudes toward their participation. We concluded that males, at least in this class setting, tend to dominate class discussion. We suggest continued research to explore participation in relation to gender in various classroom settings yet caution teachers to avoid trying to apply traditional notions of genderlect to class-participation patterns.

Rivalry between men and women has been a source of entertainment in American culture for decades, and perceived differences in language play a part. Colloquial phrases such as “men are from Mars, women are from Venus,” taken from John Gray’s 1990s book, reflect popular notions of the *battle of the sexes*, a war supposedly fought on countless fronts, from spouses in divorce courts or counseling to advocates for Gay, Lesbian, Bisexual, and Transgender (GLBT) rights. However, recent developments in sociolinguistics and gender studies address the blurring of the traditional male-female binary. Awareness, questioning, and new conceptualizations of language behavior challenge supposed gender stereotypes. The growing acceptance of spectrums of sexuality and the continuing deconstruction of gender roles requires those interested in language behavior, and specifically in classroom discourse, to avoid looking at male and female speech in simplistic or binary ways. As more complex theoretical formulations of genderlect emerge, it remains to be seen whether the common notion of males and females in linguistic conflict will persist in the public arena.

In the realm of language and communication, many nonlinguists perceive men and women as representing different speech habits, almost as if from different planets. A cartoon by Dan Piraro (January 29, 2007) illustrated how comedy highlights such disputes. In the cartoon, a caveman returns home to say to a cavewoman kneeling over items on the ground, “What woman have?” The cavewoman cunningly replies, “While you were hunting, I was gathering—parts of speech. Here, try a pronoun.” Piraro’s work is not only witty but a reminder that the popular notion of differences between the speech of men and women are as rock solid as the stone age.

In her book *That's Not What I Meant!* (1986), linguistics professor, author, and researcher Deborah Tannen asserted, “Male-female conversation is cross-cultural communication. Culture is simply a network of habits and patterns gleaned from past experience, and

women and men have different past experiences” (p. 125). Boys and girls, Tannen said, “grow up in different worlds, even if they grow up in the same house. And as adults they travel in different worlds, reinforcing patterns established in childhood” (p. 125). Tannen popularized the term *genderlect* to represent dialects specific to gender. Placing men and women in different worlds speaking different dialects suggests a bleak outlook, though Tannen’s purpose has been to demystify traditional communication struggles between the sexes, helping to bridge the linguistic gap between men and women. Deemed marriage-savers in some reviews, two of Tannen’s best-selling books about genderlect—*You Just Don’t Understand* (1990) and *That’s Not What I Meant!* (1986)—focused on illuminating male-female conversation, particularly as it affects the dynamics of relationships. Although Tannen’s expositions on genderlect have helped men and women consider and address possible differences in their communication, and her studies are cited in some linguistics textbooks (e.g., Fromkin, Rodman, & Hyams, 2011), recent sociolinguistic theory moves beyond analyzing gender variations in terms of linguistic features (such as tag questions) and conversational styles to consider how a variety of factors, including status, figure in to individuals’ speech habits.

When genderlect was first being researched, as early as 1973 by linguist Robin Lakoff, the focus was on languages that had distinctly different rules or patterns for men and women (Fromkin et al., 2011; Motschenbacher, 2007). Although originally narrow and binary in nature, the scope of genderlect has broadened in accordance with the growing fields of feminist studies and gender studies. Newer concepts of genderlect treat it as *performative*, not “as a characteristic a person *has*, but as an activity a person *does*” (Motschenbacher, 2007, p. 258). Therefore, as linguist Motschenbacher explained in *Can the Term ‘Genderlect’ Be Saved?* (2007), “gendered practices . . . have to be studied

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contextually in actual language use and not primarily on the level of the language system” (p. 259). This allows genderlects to exist on an expansive spectrum, similar to gender itself; one person may blend various aspects of different genderlects as applicable to a given situation (pp. 259-263). Motschenbacher equated the most comprehensive usage of *genderlect* with the discussion of style: “This notion of style is an appropriate starting point for the description of linguistic genderisation as a process of identity construction that may exhibit context-dependent intra-gender, and even intra-individual, diversity” (p. 261). In this way, “linguistic gender research [becomes] one facet in the interdisciplinary study of gender. . . . Gender styles, then, are the variable ways people do gender linguistically” (p. 263). Genderlect, as a flowing, changeable characteristic of one’s gender-identity, is therefore a constructive and descriptive element in culture and society rather than grounds for the *Battle of the Sexes*.

In the course of the past few decades, genderlect issues have become one element in analyses of classroom discourse. Focusing specifically on the classroom, Tannen, in her article “Teachers’ Classroom Strategies” (1991), asserted that the standard trend in classroom participation is for men to talk more. She described how boys and girls develop different linguistic styles because of “sex-separate peer groups”:

Typically, a girl has a best friend with whom she sits and talks, frequently telling secrets. . . . For boys, activities are central . . . [they] tend to play in larger groups that are hierarchical. . . [and] use language to seize center stage. (Tannen, 1991, B1).

Compared to girls’ more private and personal sociolinguistic experience, boys’ competitive sociolinguistic experience is said to better prepare them for the classroom setting, where ideas are spoken and challenged in front of an audience (Tannen, 1991).

Tannen’s assertion was supported by James’ and Drakich’s (1993) review of 12 college classroom-participation studies conducted between 1976 and 1990; none of those studies showed that females consistently participated more than males, but three revealed that males always dominated. Two studies reflected no difference between the sexes, and only one suggested that, in some circumstances, females participated more. Most notably, 9 out of 12 studies claimed that females never dominated class discussions (James & Drakich, 1993). As Fromkin et al. put it in their classic linguistics textbook, *An Introduction to Language*, males’ dominance in “mixed speech situations” is seen “in classroom situations in which boys dominate talk time”; they cited a study that found that boys “were eight times more likely to call out answers than girls” and suggested that teachers may “encourage this dominant behavior” (Fromkin et al., 2011, p. 449). Yet, according to linguist Deborah Cameron, although men do tend to speak more than women in formal settings, the difference may have more to do with status than with gender (Mooney, 2008).

With such findings and claims in mind, we were curious to see how college men and women participated in classroom discourse two decades after the James and Drakich (1993) review. We therefore conducted a study to explore one specific characteristic of genderlect in the college classroom: student participation. Rather than considering variations in linguistic features or conversation styles, we wanted to investigate whether today’s male and female students demonstrated differing participation habits and attitudes.

Participants

We observed students from two upper-level English courses primarily for English majors, here labeled English 1 and English 2, at Frostburg State University; these classes constituted a convenience sample. The two classes were the same size (total enrollment

20), with the same number of males (4) enrolled in each. All students were native English speakers of traditional college age except for one non-native English speaker and one nontraditional-age student, both females, in English 1; all students involved except for two females in English 1 were English majors, primarily sophomores and juniors.

Materials and Procedure.

We collaboratively designed the study's coding system to tally all instances of participation during six sessions of each class (labeled chronologically in this report as 1-6, preceded by class number, e.g., 1.4, 2.6); one researcher served as the observer. Each of the 12 tally sheets consisted simply of *Male* and *Female* columns in which each student's participations could be noted with a slash. In collecting data from six class sessions of each course, we observed the frequency of male participation compared to female participation in class discussion; students were not aware that their participation was being observed. In both classes, participation in class discussion was purely voluntary; teachers did not call on individuals or require anyone to speak. We also collaboratively designed an attitudes questionnaire, given to all students present (19 in each class) on a given day once observations were completed (see Appendix A). Completing the questionnaire was voluntary, and the students were unaware of the participation tallies.

Results and Discussion

Our classroom observations showed that the male students, despite being vastly outnumbered by females, generally participated more. The survey results indicated that although both males and females generally felt fairly confident about participating, more males than females felt extremely confident. Perhaps most interesting, the multiple-choice survey question about satisfaction with participation level showed that, in both classes, more men than women expressed a desire to participate more than they did, regardless of current participation level. As shown in Appendix A, between one half and three quarters of men expressed a desire to participate more, as compared to one quarter to one half of women. Perhaps, regardless of level of participation, women tend to be satisfied with their level while many men wish to participate still more, even in some cases to the extent of truly dominating discussions.

The males' existing level of dominance was most directly seen in the ratios of participation frequency tallied during each session. The classes averaged between 23 and 31 participations per session; of those, the males accounted on average for slightly more than half of the participations in English 1 and for about one quarter of participations in English 2, even though females outnumbered males four to one in both classes. As shown in the Figure, in almost every English 1 session, males had the majority of participations. The only two exceptions were the 1.3 session, when males and females spoke the same number of times, and the 1.5 session, the only session where females held the majority of participations, even though females accounted for 80% of both classes. In that 1.5 session, the ratio of females to males present was higher than usual, 5:1 compared to the average ratio of 3.74:1; given the high engagement level of most of these males, the absence of one male from the 1.5 session reduced the males' participation rate from over 50% of all participations in other English 1 sessions to less than half in that one.

Considering the disproportionate number of females to males, the most revealing results come from examining averages. The male students averaged more participations per person than the females in every class session tallied for English 1. The English 2

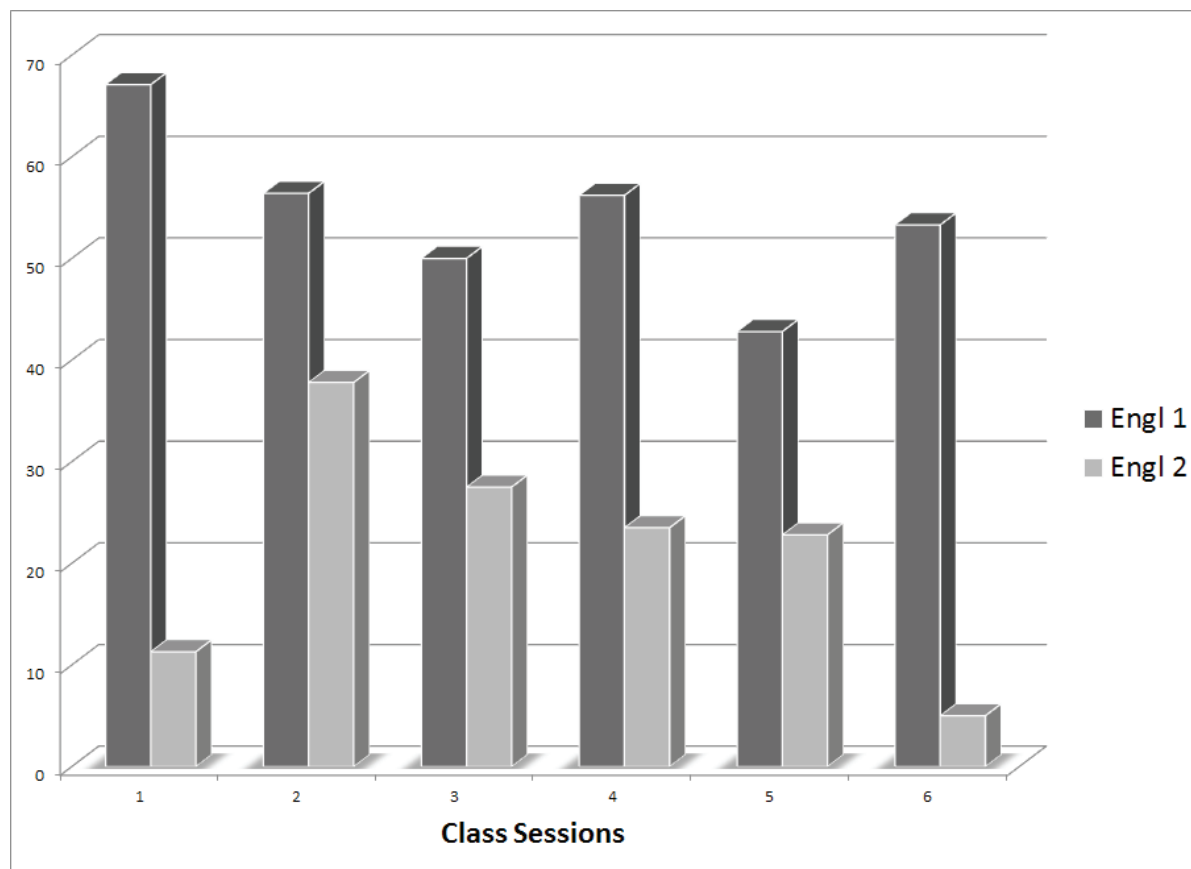


Figure. Percentage of males participating during English 1 and English 2 class sessions.

course tallies revealed similar results, although not quite as consistently or dramatically. In this class, males averaged more participations per person than did females in three of the six sessions. During Session 2.4, the males and females averaged the same number of participations per person, leaving two sessions, 2.1 and 2.6, where females accounted for the majority of participations. Overall, the tallies supported earlier studies showing that males generally participate more frequently than females in terms of average number of participations per student. We did not, however, consider the length, substance, or quality of males' and females' contributions in any of the sessions.

In addition to counting participations, we attempted to determine students' level of confidence when considering participating by using a scale from 1 to 10 to measure perceived degree of anxiety or confidence. As seen in the appendix, 100% of the males in English 1 selected 10, the highest degree of confidence. Females in both classes averaged 6.33/10. In English 2, only one female rated herself at the highest level of confidence; in English 1, four females did. For males the average confidence level in English 2 was 5.75 (lower than for females), with only one of the four males in English 2 selecting the highest level. Thus, in English 2, only two students, one male and one female, rated themselves at a confidence level of 10 as compared to a greater number of highly-confident males and females in English 1. Nevertheless, the English 2 males participated more than one might expect given their reported confidence levels.

Students' comments on surveys regarding their attitudes toward class participation served to elaborate on their perceived levels of confidence. Five of the 15 female students in English 1 who completed the survey specifically noted that they felt pressure from peers and instructor to know the right answer or understand a concept before speaking, while

two thirds apparently did not experience such pressure. Several English 2 women made bold comments concerning their participation. One female declared, “I like making my opinions heard even if they’re wrong,” while another asserted, “It’s rude to sit back and be inactive.” Echoing the highly-confident males of the English 1 class, one English 2 female wrote, “[P]articipating a lot is something that comes naturally and it is difficult not to do so.” In English 2, two males stated that they simply enjoy discussion and expressing their opinions; the other two expressed insecurity about participation. One male stated that “conversation moves too fast for me,” and the other wrote, “I . . . feel intimidated sometimes by my classmates who seem to have a better grasp on the material than me.”

Considering our findings in light of genderlect theory and research, we found some evidence to support the claims of Tannen (1991) and others regarding greater participation by males in classroom discourse, but we also found some evidence to the contrary and note that these findings cannot be simplistically attributed solely or even mainly to gender. Although we did find some support for Tannen’s (1991) claims, especially in English 1, in English 2 we found less. Two of the four English 2 male students lacked the aggressive confidence that has been considered typical in traditional formulations of genderlect, and some women seemed to relish controlling class discussion as much as men have been thought to do. Many students may indeed, as Tannen found, monitor their participation, but rarely did these English majors do so in order to avoid dominating the discussion. Tannen suggested that the fear of public judgment can deter female students from participating, and one third of the female students surveyed in English 1 made comments reflecting such a fear. Four females in English 2 fit Tannen’s characterization, indicating fear of being judged for incorrectness or for being “know-it-alls.” However, we found little indication that today’s female students, unlike Tannen’s 20 years ago, “hold back . . . because they don’t want to dominate” (Tannen, 1991, B1).

Tannen (1991) also claimed that males generally experience greater confidence in public debate situations, and the comments given by English 1 males did uphold this concept, as all but one of the English 1 males said that their outspoken participation habits were a part of their nature. The English 1 findings for both males and females seemed consistent with the James and Drakich (1993) material as well as with Tannen’s findings, although Tannen (1991) conceded that not every student will fit a strictly male or female pattern. Our findings cannot be neatly attributed to notions of genderlect differences in any simplistic sense or to popular beliefs that “men are from Mars” while “women are from Venus.”

In a 2008 interview, linguist Deborah Cameron, discussing her book *The Myth of Mars and Venus: Do Men and Women Really Speak Different Languages?*, noted that evidence

“ We . . . conducted a study to explore one specific characteristic of genderlect in the college classroom: student participation. Rather than considering variations in linguistic features or conversation styles, we wanted to investigate whether today’s male and female students demonstrated differing participation habits and attitudes. ”

does exist that men talk more than women “in more formal situations where status is a factor” (Mooney, 2008, p. B20). However, the underlying explanation was that, in such situations, men often hold higher status than most women present, so their greater amount of talk is a function not of their gender but of their status. The college English classes studied here did not seem to involve differences of status in the most obvious sense, yet status-related factors such as class standing or reputation as a *good student* might have come into play. What we clearly saw was that, when greatly outnumbered by the opposite sex, most male English majors nevertheless participated at high levels with little to no discomfort; presumably such men were familiar with and comfortable in such a setting.

In our data, some connection between participation and confidence seemed to exist, although it may not be as simple as higher confidence equating with higher participation and vice versa. In English 1, where male confidence was extremely high, male dominance was also greater, yet one of these confident males rarely participated, possibly due to lack of interest. Participation may be a function of confidence, personality, and status, as well as of situational factors. As teachers well know, any two classes, even ones as similar in size and makeup as English 1 and English 2, can exhibit vastly different dynamics, and students, whether male or female, will not necessarily participate in the same way in different classes, even ones within their major.

Given the small size of these two classes and especially the few males enrolled, we venture to say only that some interesting dynamics emerged, which may or may not be somehow gender related. Additional research in classes of different types, levels, and male-female proportions is needed to further explore participation patterns. Certainly the dynamics of an upper-level college English class may be quite different from those of other classes in which one gender is a distinct minority.

Conclusion

We can summarize our results by stating that males often dominated class discussion in this setting in spite of, or perhaps even because of, being greatly outnumbered by females. Males' dominance was more dramatic in English 1 than in English 2, however, so it may be that English 2 participation rates were more typical of English classes or even of classes in general; more data may help explain more fully male and female participation in class discussions. In any case, students do not necessarily engage in class discussion in some uniform *male* or *female* manner, as overly simple notions of genderlect might suggest. Our data supported the notion of a spectrum of variation in classroom discourse, possibly connected in some ways to gender, personality, status, or particulars of a given setting or community. Our findings seem consistent with a conception of genderlect as what people do with language, possibly varying from one setting to another, more than with linguistic traits they possess simply by virtue of being males or females.

Awareness of participation variance in a classroom is one component of understanding classroom discourse, something many teachers may find of interest. As a bridge between culture and linguistics, genderlect deserves further research, including in the classroom setting. Although not an outdated theory, genderlect should be seen for the complex issue it is rather than reduced to simple formulas or *Mars vs. Venus* dichotomies. Similarly, although teachers may wish to have participation tallied in their classes to see what they can learn about their own students' behavior, they should not seek simple applications of genderlect notions to the classroom. However, because students may be dissatisfied with their class participation, it may be an issue worth addressing in some manner, not

necessarily in relation to gender differences but perhaps in relation to individual traits and class-specific dynamics.

Each class constitutes a community of males and females with its own dynamic. By considering students' patterns of engagement and genderlect, teachers might better promote involvement in learning and a comfortable classroom environment for all.

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Appendix
Survey Results – Attitudes towards Participation

English 1	English 2
Total Surveyed: 19 15 F 4 M	Total Surveyed: 19 15 F 4 M
<i>Anxiety/Confidence Level of Participation</i> Females 26.67% of females had 10/10 confidence level 6.33/10 average confidence level Males 100% of males had 10/10 confidence level 10/10 average confidence level	<i>Anxiety/Confidence Level of Participation</i> Females 6.67% of females had 10/10 confidence level 6.33/10 average confidence level Males 25% of males had a 10/10 confidence level 5.75/10 average confidence level
<i>Self-Evaluation of Participation Amount</i> Females 26.67% of females would like to participate more 66.67% of females were comfortable with their participation 6.67% of females would like to participate less Males 50% of males would like to participate more 50% of males were comfortable with their participation	<i>Self-Evaluation of Participation Amount</i> Females 53.33% of females would like to participate more 46.67% of females were comfortable with their participation Males 75% of males would like to participate more 25% of males were comfortable with their participation

These data were collected through a short survey that asked the following questions:

Choose One:

- A. I would like to participate more in class
- B. I would like to participate less in class
- C. I am comfortable with how much I participate in class

When considering participating in class, I feel . . .

1 2 3 4 5 6 7 8 9 10

shy/anxious

confident

Please offer any additional comments, attitudes, or feelings about class participation or above responses.

Urban Education and Professional Learning Communities

By Deborah J. Williams

Leaders of an urban school district organized more than 200 schools into smaller professional learning communities (PLCs) so that teams of reading teachers could collaborate for the purposes of learning, joint lesson planning, and problem-solving. The purpose of the study was to determine if urban students' reading achievement increased as a result of weekly collaboration among teachers in a large, urban school district in Texas. Repeated measures ANOVA results and pair-wise comparisons from quantitative findings revealed that statistically significant growth rates ($p < .05$) occurred after PLCs were established. Qualitative data showed that teachers perceived PLCs as impacting their classroom practices and students' achievement. Sixteen categories and two subcategories provided support for four broad themes that emerged from teachers' responses to focus-group interview questions. The current investigation represents the reading portion of a larger study that analyzed students' reading and math data over a 5-year period for increases after initiating PLCs as the primary professional-development strategy for teachers, principals, and other educators.

Background

From the inception of *Why Johnny Can't Read* (Flesch, 1955) to the No Child Left Behind Act of 2001, leaders at the state and national levels have given great attention to the most effective ways to develop quality educators. This national attention on teacher training, curriculum, and instruction is outlined in detail with each revision of the Elementary and Secondary Education Act of 1965 (ESEA). An urban school district in Texas borrowed the notion of Professional Learning Communities (PLCs) from the business sector and facilitated this professional development strategy with more than 200 schools.

In Texas and across the nation, significant achievement gaps continued to exist between different student groups. Illustrations of such variations between subgroups were evident in the spring 2010 Texas Assessment of Knowledge and Skills (TAKS) reading data. Students who met standard included 81.2% of African Americans; 84.8% of Hispanics; 93.6% of Whites; 83.1% of Economically Disadvantaged students; 49.9% of Special Education Students; 68.5% of Limited English Proficient (LEP) students; and 74.9% of At-Risk students. As a result of consistent collaboration among teachers, students' reading achievement increased across the district.

Literature Review

This review encompasses research studies and literature that reported increases in

organizational change or student achievement data after consistent facilitation of PLCs. Consideration of professional collaboration began with Follett (1924), whose interest in the human-relations movement in business led to self-governing ways of relating in the workplace. Since Follett's time, the ideas of relating and professional collaboration in the workplace have burgeoned into the development of PLCs in school districts as an alternative to the *one-shot* staff development approach. This augmentation was largely due to growing evidence that when teachers consistently collaborate and problem-solve, student achievement is enhanced (NSDC, 2001).

In 1969, Chin and Benne investigated different strategies to impact teacher change and concluded that the normative-reeducative model was most effective with influencing change in teachers' classroom practices. With the normative-reeducative model, teachers viewed change as a natural process because they were directly involved in decision-making. Chin and Benne reported that, through collaboration over a period of time, teachers were empowered with problem-solving techniques.

In the 1970s and 1980s, attention to collaboration continued to flourish in organizations. Burns' (1978) idea of transformational leadership supported Follett's (1924) work on relating in the workplace to further develop the notion of PLCs. PLCs were undergirded by a human and participatory philosophy that manifested through collaboration in the workplace regarding organizational improvement. Knowles (1979) advocated that a traditional assumption regarding adult learning—that a person was fully equipped to practice a profession upon completion of formal professional training—proved ineffective. According to Knowles, the rapidly changing technology and communal or shared situations caused a person's skill level to depreciate unless he or she engaged in a lifelong program of professional development. For instance, an individual who fluently used a typewriter in the 1970s probably required ongoing professional development in the workplace in order to operate a computer and word-processing program in the 21st century. Knowles' assumption contradicted the *one-shot* workshop model for professional development and increased support for job-embedded collaboration and learning.

Little (1982) conducted an ethnographic study that involved three high-performing and three low-performing schools in an urban school district for a 19-week period and concluded that the amount of collaboration among teachers was the primary difference between the high- and low-performing schools represented in the study. Sparks (1983) extended Chin and Benne's theory (1969) that one-shot presentations did not allow for gradual change, which entails opportunities for regular discussions of problems related to the implementation of new learning. DuFour and Eaker (1998) advocated that one of the most promising strategies for sustained, substantive school improvement was developing the ability of teachers and principals to function as PLCs. After completing a correlational study involving 46 secondary teachers, Guskey (1985, 1986) proposed the following alternative professional development model: (a) change is gradual and challenging; (b)



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teachers need regular feedback on student achievement; and (c) teachers require ongoing support and follow-up after the first training.

Findings from studies conducted in the 1990s augmented support for PLCs. McQuarrie and Wood (1991) outlined misunderstandings regarding classroom practice that were discussed by teachers during weekly PLCs. For instance, teachers rarely made connections to instructional issues in their classrooms by attending one staff development session designed to encourage improvement. The one-shot staff development approach did not align with research and theory that underpinned teacher change (Chin & Benne, 1969; Sparks, 1983; Guskey, 1985). McQuarrie and Wood concluded that change, specifically in classroom practices, is accomplished in phases over time.

Similarly, Hoban, Hastings, Luccarda, and Lloyd (1997) found that participation in weekly PLCs among high-school science teachers enhanced both the teachers' and students' learning. In their analysis, Hoban et al. summarized an innovative 3-year professional development program, called *Enhanced Action Learning*, that used PLCs. During PLC meetings and collaborative sessions, teachers collectively focused on science content and how to address science skills at each grade level. As the establishment of PLCs strengthened collaboration among these teams of high-school science teachers, major changes occurred in their classroom practices that ultimately positively impacted students' learning.

By the 21st century, school districts across the country continued to replace the one-shot workshop model for teacher development with organized PLCs. An illustration of such a shift in professional development strategies was evident in Linek, Fleener, Fazio, Raine, and KleKamp's findings in 2003. Collaboration between university professors and a public school district resulted in improved student achievement at three of the lowest-performing elementary schools. Once more, findings supported continuous collaboration as pivotal to shifting the education focus from *how teachers teach* to *how children learn*. Castle, Arends, and Rockwood (2008) collected student achievement data over a 6-year period from two low-performing elementary schools with similar demographics. Students at the elementary school where teachers participated in weekly PLCs showed a 35% increase in fourth- and fifth-grade reading scores. Mokhtari, Thoma, and Edwards (2009) described reflections from two reading specialists and a principal who served students at an elementary school in the midwestern region of the United States. Students showed improvements across all grade levels after the principal established PLCs and collaborated alongside teachers. Fischer and Hamer (2010) facilitated professional development at a middle school over a 5-year period. As a result of consistent professional learning, state-mandated-testing results improved in mathematics and reading by more than 10 percentage points.

The current study added credence to Chin and Benne's (1969) findings that changes in classroom practice occur when teachers participate in the change process. According to Hord (2009), the mission of a school is student learning, and the most important variable in whether students achieve is teaching quality. PLCs provide a vehicle for teachers to problem solve and improve their teaching.

Method

This study followed a causal-comparative research design and utilized mixed methods. According to Patten (2009), a causal-comparative research design allows researchers to examine the past for causes of a current circumstance when it is not possible to carry out an experiment. A combination of purposeful and stratified sampling was employed for selection of the 76 participating schools and 35 teacher interviewees. Because this study

represented the reading portion of a larger study, 17 of the 35 teachers taught reading or language arts. These types of samplings allowed the principal investigator to select participants from low-, medium-, and high-performing schools for exploration.

The primary investigator explored teacher perceptions of PLCs and potential cause and effect relationships that may have accounted for variations in student achievement. The TAKS was the instrument used to collect quantitative data for reading over a 5-year period. A repeated measures ANOVA was used to analyze overall percentage passing within elementary, middle, and high school groups. Within-group variances and contrasts determined if scores changed significantly during district-wide implementation of PLCs. The significance level was set at .05.

The qualitative portion of the study consisted of nine audio-taped focus-group interviews; each focus group was comprised of three or four teachers. Responses from focus-group interviews provided support for four broad themes: (a) collaborative teacher learning; (b) data-driven decisions; (c) curriculum, instruction, and student learning; and (d) school culture.

Findings

The study explored two research questions: (a) What differences existed in the overall percentage passing in reading achievement data for elementary, middle, and high schools during district-wide implementation of PLCs? and (b) What were teachers' perceptions of PLC activities and their impact?

The answer to the first research question was that several statistically significant improvements occurred in student-achievement data during district-wide implementation of PLCs. Repeated measures ANOVA and pair-wise comparisons revealed statistically significant differences in elementary, middle, and high school achievement on the TAKS in reading after 3 years (2006-2010) of district-wide implementation of PLCs. A small effect size of .33% for mean percentage passing in elementary reading was noted (Table 1). Large effect sizes of .75% for middle schools and .67% for high schools were noted for mean percentage passing in reading (Tables 2 and 3).

Table 1

Repeated Measures ANOVA Results for Met Standard on Elementary Schools TAKS Reading

Test Year	Mean Percentage	Standard Deviation
2006	79.1	7.0
2007	78.0	7.3
2008	81.1	6.7
2009	80.3	9.1
2010	82.2	9.0

Note. Wilks' Lambda = .669, $F(4, 35) = 4.32$, $p = .006$, $h^2 = .33$, $h^2 = .33$

Table 2
Repeated Measures ANOVA Results for Met Standard on Middle School TAKS Reading

Test Year	Mean Percentage	Standard Deviation
2006	71.4	15.3
2007	82.3	9.5
2008	87.3	6.8
2009	85.4	7.7
2010	83.3	9.4

Note. Wilks' Lambda = .250, $F(4, 16) = 12.0$, $p < .001$, $h^2 = .75$

Table 3
Repeated Measures ANOVA Results for Met Standard on High School TAKS Reading

Test Year	Mean Percentage	Standard Deviation
2006	82.0	14.0
2007	82.3	14.3
2008	84.0	12.0
2009	87.2	10.6
2010	90.1	8.4

Note. Wilks' Lambda = .327, $F(4, 13) = 6.68$, $p = .004$, $h^2 = .67$

The answer to the second research question was that teachers at elementary, middle, and high schools believed that PLCs provided avenues for them to learn and positively impacted their classroom practices. Teachers' responses from audio-taped focus-group interviews led to 16 categories and 2 subcategories of valuable feedback (see Figure). These categories and subcategories provided support for four major themes: (a) collaborative teacher learning; (b) data-driven decisions; (c) curriculum, instruction, and student learning; and (d) school culture.

Collaborative teacher learning. Each participating teacher agreed that professional collaboration was facilitated on his or her campus. The process of building knowledge and support was collaborative, either by learning from colleagues or learning from other sources. Teachers expressed appreciation for opportunities to learn with their teams rather than in isolation. For example, teachers reported that their knowledge was increased when they compared and contrasted different techniques they used to help students master the TAKS standards in reading. Curriculum specialists were invited to present at PLCs, which increased teacher knowledge. At some schools, teachers reported that principals

Prompt	Sample Responses	Supporting Categories	Theme
1. What does professional learning mean to you?	<ul style="list-style-type: none"> • “To me, it means sharing your knowledge with one another.” • “Of course it means learning from district specialists.” 	<ul style="list-style-type: none"> • Process of building knowledge and support • Collaborating, sharing, and learning from colleagues • Learning from other sources 	Collaborative Teacher Learning
2. Do teachers at your school engage in professional collaboration?	<ul style="list-style-type: none"> • “Yes, absolutely.” • “Yes, we do have weekly PLCs.” 	<ul style="list-style-type: none"> • Collaboration 	Collaborative Teacher Learning
3. Describe the activities you are involved in during professional learning community sessions.	<ul style="list-style-type: none"> • “Fourth and fifth grade collaborate weekly.” • “We analyze data, engage in common lesson plans, and assessments” 	<ul style="list-style-type: none"> • Horizontal and vertical PLCs • Informal collaboration • PLC activities 	Curriculum, Instruction, and Student Learning
4. What are some of the reading and math skills you have discussed during PLC sessions?	<ul style="list-style-type: none"> • “Making inferences and context clues because these are the major problems we have in reading.” • “In the English department, the number one thing we talk about is analysis and evaluation of literary concepts.” 	<ul style="list-style-type: none"> • Reading skills • Successful teaching strategies 	Curriculum, Instruction, and Student Learning
5. After discussing ____ and ____ skills, how did students respond to your instructional delivery of those same skills?	<ul style="list-style-type: none"> • “The kids like it when they use a graphic organizer to agree or disagree.” • “When students work on high level tasks, they are more engaged.” 	<ul style="list-style-type: none"> • Positive student responses in reading • Successful teaching strategies 	Curriculum, instruction, and Student Learning
6. Have weekly PLCs impacted your teaching and your students’ learning of reading and math? If so, how?	<ul style="list-style-type: none"> • “Another aspect of PLCs is feedback from 3-week common assessments.” • “The data can come from an online district database, 3-week common assessments, and TAKS.” 	<ul style="list-style-type: none"> • Student data sources • Collaborative assessments 	Data-Driven Decisions
7. What do you think is the greatest contributing factor to your school’s current academic rating? Why?	<ul style="list-style-type: none"> • “We work together.” • “We’re doing all these things because we want to be exemplary.” • “We need consistency in our leadership and accountability for teaching.” 	<ul style="list-style-type: none"> • PLCs embedded in school culture • PLCs emerging • Dissatisfaction with current performance • Variables that support or hinder the establishment of PLCs 	School Culture

Figure. Summary of responses, categories, and themes from audio-taped interviews.

Note. Sample responses in column two represent only 2-3 of the 17 participating teachers.

participated in book studies along with them.

Data-driven decisions. Teachers reported that data from multiple sources, such as teacher observations and anecdotal notes, student work samples, weekly common assessments, district database, TAKS scores, Iowa Test of Basic Skills (ITBS) scores, and Scholastic Achievement Test (SAT) scores were used to inform instruction. Those interviewed indicated that the majority of time in their PLCs was focused on student assessment data. Teachers from high-performing schools reported that weaknesses in student data revealed weaknesses in their instructional practices.

Curriculum, instruction, and student learning. Teachers outlined several reading skills and teaching strategies they discussed during PLCs to address students' needs collectively. Reading discussions centered around, but were not limited to, the following skills: fluency, inference, vocabulary development, analysis of characters, theme, tone, mood, context clues, and critical thinking. Effective instructional strategies teachers discussed during PLCs and used to help students master reading skills and strategies entailed use of common academic language, hands-on activities, projects, graphic organizers, rhymes, mnemonic devices, real-life situations, skill-based small groups, and student-generated class presentations.

School culture. Several patterns emerged from teacher responses by subject, level, academic-performance ratings, ethnicity, gender, and experience. Most notable was that all teachers agreed that professional collaboration was implemented on their campuses. Moreover, teachers at the high-performing schools found that collaborating before school, in the hallways, during lunchtime, and other times of the day was just as helpful as scheduled PLCs. A collaborative culture assured that all teachers had a forum for questions and problem-solving.



Teachers analyze data and collaborate on strategies in a PLC.

Discussion

Findings in the current study provided three main implications for practice in school districts, as well as practice in the private sector. First, this study contributed to research on PLCs by providing further evidence that potent connections among student achievement, teacher collaboration, and change continue to exist in the 21st century (Chin & Benne, 1969; Little, 1982; Sparks, 1983; Guskey, 1985; NSDC, 2001; Castle, Arends, & Rockwood, 2008). Significant increases in the reading mean percentage passing on the TAKS occurred during district-wide implementation of PLCs. The extent of collaboration that focused on student achievement among teachers may have accounted for variations in the overall mean percentage passing score for each school. If teachers only collaborated formally, their participation in PLCs may have been to project compliant behavior rather than to analyze students' data. This implication is consistent with previous research that change is gradual and challenging (Guskey, 1986; McQuarrie & Wood, 1991).

Second, because student achievement in reading appeared to improve as a result of district-wide implementation of PLCs, this urban school district should continue PLCs as a professional-development strategy for K-12 teachers. In the current study, teachers reported that during PLCs they learned by collaborating with one another and from

other sources. This implication provided further evidence that an established culture of teacher collaboration is critical to student achievement (Little, 1982; Hoban & Hastings, 1997; Linek et al., 2003; Fischer & Hamer, 2010). In 2009, Hord concluded that the most important variable in student achievement is teaching quality. Research presented in this study confirmed that consistent participation in PLCs influenced teaching quality and student learning.

The third implication involves school culture. PLCs seemed embedded in the cultures of campuses rated as *Academically Recognized* or *Academically Exemplary*, where more than 80% and more than 90% of the students, respectively, passed the TAKS. For example, focus-group interview data revealed that these teachers collaborated before school, after school, and during lunch time, as well as during scheduled PLC sessions. These teachers reported that, along with their principals, they identified issues and also collaboratively solved the issues based on data. In contrast, teachers at campuses rated as *Academically Acceptable*, i.e., with at least a 70% passing rate, reported less collaboration, and, during the interview, they focused on issues such as school-wide discipline, ill-prepared colleagues, and what they considered as lack of principal support. Perception of the principal as detached from PLCs and from the process of problem-solving school-wide issues seemed to contribute to low-performing rates on the TAKS. According to Mokhtari, Thoma, and Edwards (2009), students showed improvements across all grade levels after the principal established weekly PLCs. Perhaps principals might consider consistently participating in PLCs alongside of teachers to assist with analysis of data and problem-solving to ensure that students' needs are addressed.

Three limitations affected this study and lay foundation for further research on PLCs in this urban school district. First, several schools included in the study had newly assigned principals who were still learning about their teachers and the school's culture. At the time of data collection, the teachers were not fully acquainted with the principals' expectations and communication and leadership styles. Therefore, further research is needed to assess truly the impact of the principal and PLC. Second, teachers at *Academically Unacceptable* campuses opted out of audio-taped focus-group interviews, leaving no insights into their PLCs and school culture. Further research at these campuses would provide insight into strengths, weaknesses, and the type of support that is required to accelerate student performance. Third, the majority of teachers who participated in the focus-group interviews were African American and White females. Future investigations might target feedback from males, Hispanics, Asians, and Native Americans. Additional insights from the perceptions of males and minority teachers could enhance an understanding of the relationship between PLCs, student achievement, and reform.

Conclusion

The PLC is a concept that stemmed from the business sector. When implemented as a professional-development strategy, PLCs can lead to organizational improvements in the areas of job-embedded learning through collaboration and shared data-driven decisions. The purpose of this study was to determine if the reading achievement of students in urban schools increased as a result of weekly teacher collaboration in the form of PLCs. The current study utilized quantitative and qualitative methods and concluded that student achievement increased over a 3-year period. However, based on feedback from teachers, variations in elementary, middle, and high-school achievement may have been related to different variables such as school culture, the level of collaboration between teachers, and

involvement of the principal. Finding the right equation for improving any organization is a monumental task. Nevertheless, results from this study provide strong support that collaboration through PLCs is an important piece of the equation for continuous improvement.

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Enacting a Common Core Curriculum: The Kenya Study

By Jill B. Branyon

The introduction of the Common Core Curriculum in the United States has some worried that the country will have a national curriculum and remove control of education from the states. In Kenya, a nation that has utilized a national curriculum since colonial times, the author studied the factors that affected the learning experiences of students. The results indicated that a common curriculum does not necessarily mean students receive the same education. Both external and internal factors contribute to curriculum enactment, but the internal factors carry most of the impact in the classroom. The author explains the findings in Kenya and suggests their applicability in understanding the implementation of a common core curriculum in any setting.

The introduction of the Common Core Curriculum in the United States has some worried that the country will have a national curriculum and remove control of education from the states. The Common Core Curriculum (CCC) is a state-led effort that was coordinated by the National Governors Association center for Best Practices and the Council of Chief State School Officers (Common Core State Standards Initiative, 2012). The CCC was developed collaboratively with teachers, school administrators, and experts in order to provide a consistent framework for preparing students for further studies and the workplace. The CCC assists students and families with a concise set of goals that remain standard from state to state, thereby enhancing the learning experiences of all students. Although many nations worldwide have a national curriculum, this approach does not guarantee common educational experiences for all children. Teachers still determine what types of learning opportunities students experience in the classroom. Therefore, a study of teacher perceptions of the curriculum and their students provided helpful insight into curriculum enactment.

In Kenya, a national curriculum has been in place since colonial times, when high-school students sat for the Cambridge Exams. The national curriculum today is proposed by the Ministry of Education and consists of detailed guidelines, syllabi, schemes of work (a year-long plan), and a comprehensive national exam. A common curriculum has some advantages. The national content is laid out so that all students have access to the same knowledge. Students gain advantages on national exams because the national curriculum is the basis for the Kenyan national exams in Standard 8 (8th grade) and Form IV (12th grade). In one respect, a common curriculum levels the playing field for all students regardless of where they live in the country and may offer the same advantage in the United States.

However, a common curriculum does not necessarily guarantee an equal education. Each school enacts the curriculum according to the resources available, the teachers' training, and teacher beliefs and decision-making. Another issue that comes into the situation in

Kenya is the idea that the comprehensive national exams are the final determining factor for moving into the next level of learning. Candidates compete for opportunities to further their education through successful attempts in these exams. Furthermore, the pressure to perform well on exams is not limited to primary and secondary education. Students in preschools and kindergartens also compete to enter into the most prestigious elementary schools (Bennaars, 1998). Kenya practices an open-enrollment plan related to schooling in which candidates may apply for admission to any school if they meet the admission criteria. Students are not assigned to particular schools based on where they live. Students can apply to several types of schools: (a) government-run schools that often have well-trained teachers and adequate resources; (b) private schools, which could be mission schools that open most often in areas of poverty or where schools are rare or could be for-profit elite schools that offer many amenities; and (c) community or *harambee* schools, where parents and community leaders band together to provide a school for the children in the community. The resources and teacher preparation in these different types of schools are wide-ranging from abundance to scarcity.

Two Schools in Kenya

In this study carried out in Kenya, the author sought to understand how teachers enacted the common curriculum and what influences affected their beliefs and decisions regarding their enactment. The author learned that although the schools used a common curriculum, the results showed marked differences in the students' learning experiences (Branyon, 2002). The naturalistic case study included two economically diverse schools and four teachers. One veteran and one novice teacher were chosen from each school. The study included a comparison of the income level of the students, the teachers' understanding of the common curriculum, and the factors that affected teachers' enactment strategies. The research question was *Why were the students in the two schools receiving such diverse educational experiences, as evidenced by their diverse achievement levels, in spite of focus on a common core curriculum?*

Although the schools and students were economically diverse, the teachers were of the same ethnic group, and the two schools were located in the Kenyan highlands. Both of the schools were located in a provincial town center, but they were on opposite ends of the town. The first school was a for-profit, elite school located opposite the golf club and on a grand boulevard. The second school was run out of a church in a walled compound found on a dirt alleyway lined with garbage and rummaging goats. The school structures were adequate in both locations. The classrooms, however, bore little resemblance to each other. The elite school had clean and brightly colored walls covered with learning aids and shelves filled with manipulatives and teaching aids, while the dark, dusty, and sparsely furnished church preschool had only the bare essentials and some handmade teaching aids.

Both schools utilized the *Guidelines for Early Childhood Education* (Guidelines) that

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outlined the curriculum deemed appropriate for preschools and kindergartens in Kenya (Kenya Institute of Education, 1999). Teachers in the area were trained by the District Centers for Early Childhood Education (DICECE; Godia, 1992). Three of the teachers in the study had training by DICECE; the first-year teacher at the elite school received training in the capital city of Nairobi. Her training included the Guidelines but was more extensive and included more theory and reflection than the government-sponsored DICECE training. The four teachers in the study were all well versed in the national curriculum found in the Guidelines. So the question remained, if teachers were from the same ethnic group, had similar training in the use of the Guidelines, and implemented a common curriculum, why did students receive such diverse learning experiences?

The researcher sought to answer this question through a 2 ½ year-long presence in both schools, using 20 hours of observations for each teacher and classroom, reflective journals, and 10 hours of interviews with each teacher, as well as 10 written interviews. The teachers and schools benefited from the study through the introduction of new ideas such as journaling and reflecting and through generous contributions of school supplies to each school. All interviews were taped and transcribed. Additionally, lesson plans, timetables, and samples of student work were analyzed and compared. The data were collected, coded, and grouped to see discrete patterns. The five-step process proposed by Marshall and Rossman (1995) was used to categorize data and generate themes. During the process, codes were adjusted and changed as data gave new insights into the ways that the teachers enacted the curriculum. Member checking was used to ensure accuracy, and triangulation of data from observations, journaling, and interviews strengthened the analysis.

The findings were that teachers were impacted by various external and internal factors that affected their enactment of curriculum and thereby impacted student learning. The external factors were divided into *Minimum*, *Medium*, and *Maximum Impact* factors. The differences were found in the interviews and observations when some factors mentioned did not seem to have great effect on the curriculum while other factors were quite influential in the curriculum enactment.

External Factors

Among the *minimum impact external factors* were parental influence and the Guidelines. Although teachers said these affected what they did in terms of planning and instruction, they did not really impact the enacted curriculum. Although parents wanted their children to get ahead, they were more interested in the results, not in how the curriculum was implemented. The teachers in this study used the Guidelines when writing out their schemes of work (long-term semester plans), but beyond that, the Guidelines did not seem to be part of the implementation of instruction or of teacher reflections.

Teachers in the elite school used the Guidelines along with other imported learning materials, but the church preschool teachers focused entirely on the skills necessary to get into Standard 1 (first grade). As a result, the preschool teachers avoided many of the developmentally appropriate curriculum ideas in order to focus on the real goal: acquiring a coveted place in the best elementary school.

Medium impact external factors included training, materials, and salaries. Although all of the teachers had received training in the Guidelines, there was little or no ongoing training. The teachers at the church preschool did not have time for more training. The elite, downtown school did have occasional ongoing teacher training, including a variety of resources and teacher meetings that sometimes included training. The elite school

had an abundance of teacher resources and materials, and expectations were that these resources would be used and well-maintained. At the church preschool, the materials were all handmade by the teachers, and any existing learning centers were found in a corner, where the materials were covered with dust and cobwebs, indicating that they were not used in teaching.

Salaries were another external factor for these teachers. The church preschool charged low fees and therefore paid low salaries: the top salary was 2,950 Kenyan Shillings per month (approximately U.S. \$35 a month). However, the elite school paid a top wage of 11,000 Kenyan Shillings (approximately U.S. \$135 per month). At the church preschool, there was a poverty of fees, resources, ongoing training, and salaries that resulted in a minimizing of the curriculum to be just what was needed to get into the desired primary school. At the elite school, the fees were high, as were expectations, resources, ongoing training, and teacher compensation.

The *maximum impact external factors* included the timetable, Standard 1 interviews, and ability grouping. The timetable was set by the school and included time for instruction, breaks, cleaning up, recess, and lunch. The timetable, displayed in each class room, was described by the teachers as a way of organizing lesson plans, schedules, and time. Teachers reflected on what had been covered during the day and what had been omitted due to time constraints. The teachers both revered and regretted the time table. It kept them on track, but it also limited children's experiences because there never seemed to be enough time in the table for everything. All teachers mentioned the need to adhere to the timetable and how it interfered with learning. The curriculum was driven and constrained by the timetable.

The overall goal of leaders of both schools and of all four teachers was to ensure that the children got into the right schools. With a geographically open enrollment policy, along with costs associated with schools (although education at the primary level is free), teachers worked to make sure that students found places in the right schools. The children were assessed on the school skills that youngsters learn in Standard 1 (first grade) in order to ensure that they were ready to enter that Standard. The United States has a slightly different take on this idea, called *school readiness*, and any child found lacking is termed *developmentally delayed*. Yet both nations approach the idea that children need to be ready to begin school with certain skills and knowledge. The ever-looming interviews for Standard 1 seats pushed the teachers to cram isolated school skills into every lesson. Copying from the board was the norm. Small hands wrapped around a pencil copied and recopied words and numbers. Children were grouped by ability in all four classrooms studied. In fact, each ability group received a different type of curriculum and instruction. For the teachers in this study, grouping was based in intuition, not assessment data *per se*. In some respect, this grouping and approach to teaching resembled differentiated instruction (Tomlinson, 2000).

Internal Factors

The *internal factors* included the teachers' practical theories, which included teacher knowledge and attitudes and teacher stories, such as perception of self and decision-making strategies. The internal factors were all considered maximum factors in curricular enactment and decision-making. The Table summarizes the internal factors by school and by teacher, clarifying each teacher's views. All four teachers believed that completing work was equal to success. In both schools, students learned the skills to enter Standard

1. Although the curriculum enacted at the church preschool was more narrow and skills-based, the children did have opportunities to enter primary school. Further study would be needed to see how these students succeeded in their primary-school experiences.

Table

Summary of Internal Factors

	Church Preschool		Elite School	
	Veteran Teacher	Novice Teacher	Veteran Teacher	Novice Teacher
Practical Theory: Teacher Knowledge	Traditional teaching practices, Poor English skills, must pass Standard 1 interviews, low knowledge of child development	Traditional with some innovations Moderate English skills, intuitive theories, Preferred active learning	Developmentally appropriate practices, nurture theory, build child confidence, good English skills	Developmentally appropriate practices, Good English, Child development theory, varied learning experiences
Practical Theory: Teacher attitudes	Highly structured, teacher-centered, no consideration for differences in learners, pass the interviews	Played with children, loving toward all, ignored a child with learning disabilities	Positive attitude nurturing patient with children, offered choices, Gentle	Positive attitude All children can learn at their own paces. Enthusiastic towards learning
Teacher Stories: Perceptions of Self	Keeper of the status quo, must pass exams, not confident to try new ideas	Novice teacher Minimal risk-taker, tries new ideas, confident in teaching	Confident in her theories of learning, relational and nurturing toward students	Risk-taker and problem solver Confident teacher Researches new ideas to help students
Teacher Stories: Decision Making strategies	Reactive in class Defensive Not reflective Not well organized Relies on routines Must finish work	Inter-active Problem solver Adjusts as class needs it, open to new ideas, must finish work, somewhat reflective	Uses routines to organize class, individualized learning, children have choices, must finish work, reflective	Reflective, Multiple opportunities to learn, pro-active problem solver, Must finish work

The analysis indicated that the teachers in the low-income school seemed more limited in their approaches to teaching. According to Dr. Barbara Koech, a veteran instructor of

early-childhood education at Kenyatta University (personal interview, 2001), teachers working with children in poverty may also have a *poverty of ideas*. She used this term to indicate that teachers in these situations may have difficulty making decisions in complex situations and could be fearful of taking risks. They may not have the confidence to try new or innovative ways of teaching. At the church preschool, the teachers focused on the basics needed to pass the interviews. They maintained the *status quo*. At the elite school, teachers enriched the curriculum with multiple experiences and individualized instruction. The expectations were higher because the parents paid higher fees and came from wealthier families. The teachers' perceptions of the students and what they needed in terms of learning experiences varied with their concepts of success.

The study mirrored a study by Lubeck (1985), in which she compared a Head Start school with a church kindergarten. Lubeck found ethnicity and socioeconomic status to be dividing lines. She concluded in her study that the curriculum and student-learning opportunities were primarily affected by ethnic differences. In the Kenyan study, ethnicity was held constant. However, the issue of socioeconomic status was a primary factor in the way curriculum was enacted and student-learning opportunities were presented.

Conclusion

This case study revealed that internal factors overcame all other factors in determining the types of learning experiences children received. Teachers' perceptions affected the enactment of curriculum, the opportunities that students had to learn meaningful curriculum, and the instructional strategies that engaged students to expand their opportunities for advancement. Although this study cannot be generalized readily beyond these particular teachers and their schools, the implications justify looking more deeply into teachers' perceptions and decision-making as they relate to curricular enactment.

The education of all children depends upon finding ways to enhance such perceptions and decisions so that teachers truly internalize and act upon the concept that *all children can learn*. Individual teachers have made the leap toward new perceptions and decision-making skills that have impacted student achievement. Among those who are well known are Ron Clark (2012), who taught in an inner-city school in New York City's Harlem district and increased test scores significantly; Deborah Meyer (Fliegel, 1994), who founded Central Park East School in New York City and used progressive methods and high expectations to enhance success drastically for previously failing students; and Jaime Escalante (Jesness, 2002), who offered AP Calculus to students who were performing poorly at Garfield High School in East Los Angeles. In Escalante's case, the entire class ultimately performed so well that test administrators thought cheating had occurred. These educators' stories demonstrate the power and influence of a single teacher on students from diverse cultures and circumstances.

Ultimately, all teachers should consider what beliefs and biases may drive them to perceive themselves or their students wrongly and whether they truly believe all children can learn. Simply implementing a common core curriculum will change very little until teachers determine that all children should have the same access to important content and support to learn (National Governors Association, 2009).

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Interview

Women in STEM Research: An Interview with Dr. Janice Koch and Dr. Yael Wyner

By Beverly J. Irby

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, Dr. Irby interviews two researchers in the field of Science, Technology, Engineering, and Mathematics education.

In my own experience, I have found that if a concerted effort is not made to include girls and women within the focus of research, they are often left out. The same happens in the field of Science, Technology, Engineering, and Mathematics (STEM). According to the 2011 U.S. Department of Commerce Report, women (a) hold fewer STEM positions than do men, (b) hold a disproportionately lower number of undergraduate STEM degrees, (c) have fewer STEM role models, and (d) are less likely than men to work in a STEM-related field even if they hold a STEM degree.

Two women educators and scholars are trying to make a difference in STEM education. They, themselves, are role models for other educators to emulate in the encouragement of promoting women in STEM. Dr. Janice Koch is Professor Emerita at Hofstra University, Long Island, NY; Past-President of the Association for Science Teacher Education (ASTE); and a Board member of the Clearinghouse for Women's Issues, Washington, DC. Dr. Yael Wyner is Assistant Professor of Secondary Education with a joint appointment in Biology at the City College of New York, part of the City University of New York. In this interview, Drs. Koch and Wyner discuss research in which they are engaged and how they came to this point in their STEM careers.

Dr. Koch, please share with readers your concept of the purpose of research and the type of research in which you are engaged.

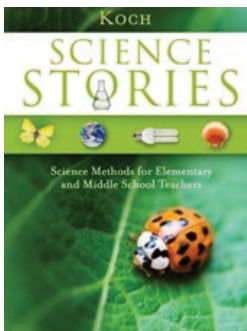
Educational research helps us to explore what works best on behalf of student AND teacher learning and growth. Teaching and learning is a dialectic—an exchange and clarification of ideas and concepts. There is much to say about the goals of educational research, but, in the end, we hope that what is discovered is applied in the public-school classrooms and not existing for its own sake.

For example, I studied the ways in which girls and young women became engaged in science in precollege education. I was under the impression that great science teachers would make all the difference for young girls and young women. I learned, upon doing my research, that it is not that simple. In fact, in one of my studies, I learned that informal science experiences such as after-school clubs, visiting museums, living near a zoo,

volunteering on emergency medical vans, and the like had enormous impacts on young females' desires to participate in branches of the natural sciences. Learning this, I became interested in informal science education and the work that museums and science centers do that could inform science education in the formal setting. Dr. Wyner developed a novel approach to teaching about human impacts on the environment with her *Ecology Disrupted* program described below. Using materials from the American Museum of Natural History, we developed a curriculum that is an example of strong science education and making real life connections that especially engage girls and young women.

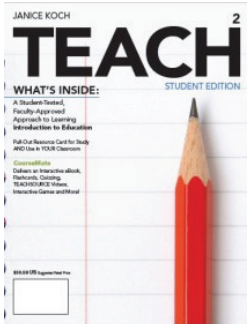
Dr. Koch, what is your background? What interested you from early childhood in research in your particular area?

I grew up in the Bronx in the inner city, and I craved opportunities to explore nature. I loved the local parks, and I was the type of little girl who would lie on the grass and stare at cloud formations while allowing tiny ants to walk on my hand as I examined them. Once a month my family would go out to a nearby restaurant, and I was the type of child who would mix salt and pepper, ketchup and sugar into the complimentary glass of water served on the table. "Oooh," my father would say, "she is so messy." "Don't be silly," my mother responded. "She is experimenting.....maybe she will be a scientist one day." My seventh grade teacher noticed my interest in science and encouraged me to apply to take the test for the Bronx High School of Science in New York City. That was a life-changing experience for me and launched my career in biology, environmental studies, chemistry, and science education.



Dr. Koch, in what other projects are you engaged that relate to your professional career?

When I began my work with future elementary-school teachers, I was hoping to encourage them to locate what I refer to as their own *scientific selves* as a way to model to children that science is for everyone. This propelled me on a journey to write a college text that would motivate elementary and middle school teachers to *do science* with children. That was in 1996, and now *Science Stories* is in its fifth edition as a science-methods book that can be really useful. In 2004, I was asked to think about what I would most like for college students who are considering a career as a teacher to know and to be able to do. I wondered: Could I write an introduction-to-education textbook? I did a lot of research on the history of American public education and the rapid changes that the information technology revolution and federal legislation have brought about in the last 20 years and discovered that I could encourage college students to be reflective personally about their decisions to become teachers. The text, called *Teach*, is now in its second edition and challenges readers to understand the highly personal nature of becoming a teacher.



Dr. Wyner, please tell readers about your current research project with the National Science Foundation.

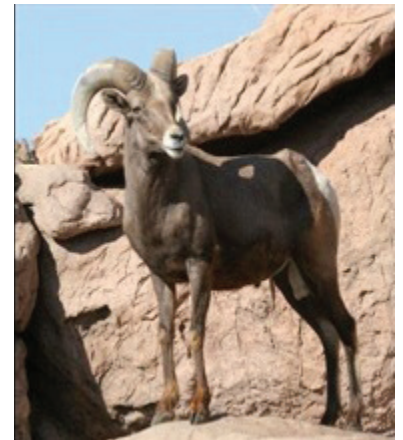
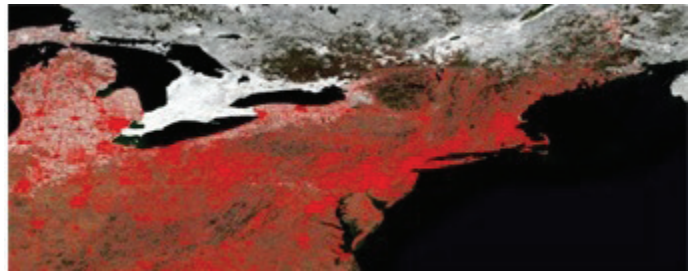
We are in the sixth and final year of our National Science Foundation funding for *Ecology Disrupted*. This is a collaborative project with the American Museum of Natural History in New York City, where we bring media about published ecology research originally produced by the Museum for its exhibit halls into New York City public-school

classrooms. The goal of this project is for students to use the scientific data that underpin the Museum's media pieces to link daily life and environmental issues to disrupted ecological function. We have tested the curriculum in the classrooms of more than 70 New York City public middle- and high-school teachers and found that this curriculum increases student learning of both human impact and ecological function as compared to students who used their regular ecology curriculum.

This curriculum was developed as a method to link daily life and environmental issues to ecology. Currently, New York City school children learn ecology and human impact separately in different semesters of study. The *Ecology Disrupted* curriculum seeks to link these two topics explicitly into one study unit. In this approach, students learn about the importance and complexity of normal ecological function by studying the environmental issues that result when people disrupt them. The curriculum uses the same intellectual approach that the field of genetics uses to understand gene function. Simply put, geneticists learn gene function by studying the phenotypes that result from mutations that disrupt normal gene function. In this curriculum, students learn the complexity of functioning ecosystems by studying the environmental issues that result from daily-life actions that disrupt normal ecological function. The use of ecological disruption to mediate the relationship between environmental issues and daily life unlocks the ecological complexity that connects daily life to environmental issues and shows students the important role that ecology plays in their lives.

This curriculum is comprised of two case-study modules that explore the relationship between ecological principles and human impact and daily life. Each case study is constructed around questions that ask students to link everyday human actions to an environmental issue. One seven-class-lesson case study asks students "How might snowy and icy roads affect Baltimore area's water supply?" and another six-class lesson case study asks "How might being able to drive from Los Angeles to Las Vegas in just 4 hours put the bighorn sheep at risk?" In these exercises students investigate case-study-specific data to learn how salting roads in Baltimore and how highways in the desert mountains between Los Angeles and Las Vegas disrupt ecological function. For example, the Baltimore case study is used to help students learn how salting roads for safe travel disrupts abiotic factors and water runoff in the Baltimore watershed, eventually leading to saltier drinking water supplies. The bighorn sheep example is used to help students learn how highways, built to connect Las Vegas to Los Angeles and help the Vegas economy, disrupt the bighorn sheep habitat, thus making it hard for sheep from different mountaintop populations to mate and leading them to become inbred.

Students are asked to consider sustainable solutions to each of these problems, such as using alternative solvents to melt snow and ice in Baltimore and elevating sections of Nevada's highways to allow sheep and other animals to cross under the highways in order to mate with animals on neighboring mountains. Finally, students are asked to apply the same methodology to other environmental issues that are caused by



Real-world problems regarding the Baltimore area and bighorn sheep allow students to apply knowledge

different human actions that disrupt the same ecological function. For example, students learn how the environmental issue of light pollution caused by the basic desire for people to see at night changes abiotic ecosystem components. This change in abiotic environmental factors harms living organisms such as aquatic insects that lay their eggs at night. These insects perceive the artificially lit surfaces as water and consequently lay their eggs on dry land. After students connect the environmental issue to ecology and daily life, they once again develop sustainable solutions that recognize the human and ecological components of the environmental issues. In the latter example, students can research and describe new types of lights designed to reduce scattered light rays. These lights help people see better at night and also help to reduce the effect of artificial light at night.

Dr. Wyner, please tell us what interested you in developing this line of research.

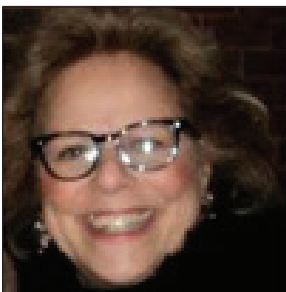
I became interested in developing this project when I was teaching environmental science to students at Hunter College High School, a public school for gifted learners in New York City. I had recently completed my PhD in conservation biology and was excited to be teaching environmental issues to young learners. At the same time that I was teaching environmental science, I also taught a conservation biology elective, and I realized very quickly that my conservation biology students, almost from the very first day, had a much easier time connecting daily life and human impact to ecology, while my environmental-science students seemed to view all of these topics as unrelated well into the school year, despite the fact that their teacher was a conservation biologist.

At this point, I began to examine closely the curricula of both the conservation biology and environmental science courses. This led me to realize that daily life, environmental issues, and human impact were separate topics in the environmental-science course but

were treated as one integrated study topic in conservation biology. Suddenly it dawned that the conservation-biology perspective was the key. This perspective led my conservation-biology students to develop a deep understanding of the interplay between daily life, environmental issues, and ecological processes. My environmental-science students, without the benefit of the conservation-biology perspective, were unable to make this connection. I thus developed *Ecology Disrupted* as part of my effort to bring this conservation-biology perspective to my environmental-science students, to help them learn the many ways in which our daily life interacts with ecology function.

Dr. Wyner, how did you get interested in science research?

I have always been interested in scientific research, largely because



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of my interests in the environment, but particularly through my attraction to cute, fuzzy mammals (which I only later discovered were called *charismatic mega fauna* by conservation biologists). In fact, my PhD thesis research was on conservation units of lemurs of Madagascar. After I completed my thesis research, my interest grew to encompass education, because I began to believe strongly that if people did not fully comprehend how our actions affect the natural world, then we would just continue to behave in the same ways that were negatively impacting our planet. Then, once I began to teach, I became interested in learning what were the best ways to help students interact and understand their relationship to the natural world. Unexpectedly, this learning process has helped to expand my interest beyond the charismatic animals to which I was originally attracted. In fact, my new NSF project is all about plants—using street trees to help students connect and interact with the biodiversity in their midst. It is clear to me that undertaking this *Ecology Disrupted* research project enlarged my interests in ways that I would never have foreseen when I began.

Impact of Instructional Practices on Students' Mathematics Achievement in Urban Middle Schools

By Brian McDonald, Barbara Polnick, and Rebecca A. Robles-Pina

The purpose of this study was to investigate differences in instructional practices (traditional and standards-based) of urban, middle school teachers whose students had high academic gains on state-mandated mathematics tests ($N = 60$) and teachers whose students had low academic gains ($N = 40$). The Mathematics Teacher Questionnaire (Weiss, Banilower, McMahon, & Smith, 2001) was used to collect the data. A causal comparative design was used to collect data, and a one-way Analysis of Variance (ANOVA) and Multivariate Analysis of Variance (MANOVA) were used in data analysis. The findings indicated that teachers whose students had high academic gains in mathematics were more likely to use standards-based teaching practices such as (a) developing students' conceptual understanding of mathematics, (b) making connections between mathematics and other disciplines, and, (c) using the textbooks as a resource rather than as the primary instructional tool.

Teacher quality is one of the most researched fields in education, with more recent research focused on the relationship between teacher quality and student achievement (Darling-Hammond, 2000; Darling-Hammond & Youngs, 2002; Goe, Bell, & Little, 2008; Rice, 2003; Wilson & Floden, 2003; Wilson, Floden, & Ferrini-Mundy, 2001). This strand of research supports the generalization that the effectiveness of the teacher is the single most important predictor of student learning (Darling-Hammond, 2000; Ferguson, 1991; Haycock, 1998; Sanders & Horn, 1998; Webster & Mendro, 1997). There is, however, little consensus regarding the precise definition of the teacher-quality variables that define the effectiveness of teachers (Stodolsky, 1996). Rice (2003) and Wayne and Youngs (2003) conducted a comprehensive review of the literature that identified and examined variables believed to be related to teacher effectiveness, but these reviews were broad and did not focus on any single subject area.

Past studies on teacher effectiveness have included variables such as teaching practice, teacher preparation and qualifications (Lewis et al., 1999), as well as teacher self-efficacy (Ross, 1998; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Effects of specific teacher characteristics, such as experience and degree level, tend to be inconsistent across studies of teacher quality (Hanushek, 1996; Wayne & Youngs, 2003), with a general assumption being that the between-classroom variation in student achievement is a result of variation in teacher effectiveness (Phillips, 2010).

More recently, value-added models have been increasingly used to estimate teacher effects (Phillips, 2010). Value-added studies measure student achievement using gain scores calculated by subtracting a pretest score from a posttest score of achievement (Harris & Sass, 2006). Value-added models are considered to be more accurate estimates of teacher effectiveness because they limit external factors that may be incorrectly attributed to the effectiveness of teachers (Burkam, Ready, Lee, & LoGerfo, 2004; Downey, Von Hippel, & Broh, 2004; Phillips, 2010).

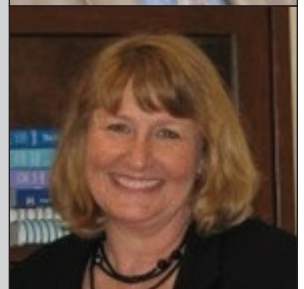
The gap in the literature is related to (a) comparing mathematics teachers on their students' gain and loss scores on state-mandated mathematics tests; (b) comparing urban, middle school teachers; and (c) comparing the two groups of teachers on their standards-based practices such as those proposed by the National Council of Teachers of Mathematics (NCTM; 1991). In general, current research has been effective in distinguishing between more and less effective teachers, but the models used in these studies did not allow for the identification of specific teacher characteristics that are correlated with increased student achievement (Phillips, 2010).

Thus, the purpose of this study was to determine if there were differences in the instructional practices between urban, middle school teachers (N = 60) whose students had consistently earned high academic gains on state-mandated mathematics tests and teachers (N = 40) whose students had consistently earned low academic gains. The research question used to guide this study was: Is there a significant difference between two groups of middle school mathematics teachers, those with high student mathematics gain scores and those with low student mathematics gain scores, regarding teachers' instructional practices (traditional and standards-based)?

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Literature Review and Theoretical Framework

Current theories have evolved that conceptualize the impact of teachers on student achievement regardless of the school's population (Wright, Horn, & Sanders, 1997). These theories are grounded in the belief that the teacher is the single most important predictor of student learning and that ineffective teaching can and does result in inadequate academic progress of students (Darling-Hammond, 2000; Darling-Hammond & Youngs, 2002; Marzano, 2003; Rice, 2003; Wilson & Floden, 2003; Wilson, et al., 2001). This belief has become more urgent as researchers continue to document the challenges experienced by educational practitioners in their struggle to improve the academic performance of students in urban school settings in the United States, especially at the middle and high school levels (Gersten et al., 2008; Hiebert et al., 2003). One area of particular weakness for urban middle and high school students is mathematics (Hiebert et al., 2003).

A large body of empirical research that utilized longitudinal data regarding the student-teacher links has attributed more of the variation in student achievement in core academic areas, including mathematics, to specific school and teacher factors (Goldhaber & Brewer, 1997; Gordon, Kane, & Staiger, 2006; Nye, Konstantopoulos, & Hedges, 2004; Rivkin, Hanushek, & Kain, 2005; Rowan, Correnti, & Miller, 2002; Sanders, Saxton, & Horn, 1997).

“ . . . the teacher is the single most important predictor of student learning and . . . ineffective teaching can and does result in inadequate academic progress of students. ”

For instance, the construct of teacher effectiveness has been measured and operationalized based on an array of concepts such as (a) a teacher's general ability (Bolyard & Moyer-Packenham, 2008); (b) teaching experience (Ferguson, 1991; Ferguson & Ladd, 1996; Fetler, 1999; Goldhaber & Brewer, 1997; Hawkins, Stancavage, & Dossey, 1998; Hill, Rowan, & Ball, 2005; Rowan, Correnti, & Miller, 2002); (c) pedagogical knowledge (Bolyard & Moyer-Packenham, 2008; Goldhaber & Brewer, 2000; Hawkins et al., 1998); (d) subject matter

knowledge in mathematics (Darling-Hammond, 2000; Darling-Hammond & Youngs, 2002; Wilson & Floden, 2003; Wilson et al., 2001); (e) mathematics teachers' certification status and certification routes (Darling-Hammond, 2000; Fetler, 1999; Goldhaber & Brewer, 2000); and (f) mathematics teachers' behaviors, practices, and beliefs (Fang, 1996; Guarino, Santibanez, & Daley, 2006; Love & Kruger, 2005). For the purposes of this study, we examined teachers' instructional practices.

Teachers' Instructional Practices

The effect of instructional methods in mathematics on student achievement, as measured by standardized tests, has been the subject of several research studies (Berry, 2003; Davenport & Anderson, 2002; NCTM, 2000; Sanders & Rivers, 1996). Major studies addressing the use of appropriate pedagogy, another critically important teacher characteristic, are described in this section. The release of *Professional Standards for Teaching Mathematics* by the NCTM in 1989 fostered the conversation about the level of implementation of recommended instructional strategies (e.g., Ball, 1990; Cohen & Ball, 1990; Spillane & Jennings, 1997). This conversation focused on the need for a shift in instructional focus from exposing students to low-level drills of procedures and

rote learning, both products of minimum-competency testing reforms, to a thinking curriculum, emphasizing higher order, more complex learning skills and strategies that strengthen those skills (Resnick & Resnick, 1992).

Even though the number of studies that have investigated the implementation of standards-based instruction and its impact on student achievement is relatively small (Lauer et al., 2005; Ross, McDougall, & Hogaboam-Gray, 2002), some have found statistically significant relationships between these two variables. Cohen and Hill (1998) examined the relationship between teachers' instructional practices and their students' academic achievement on the California Learning Assessment System. The survey data were collected from 1,000 elementary teachers in California. Findings revealed that student achievement in mathematics was higher in schools where teachers used varied instructional strategies ($p < .05$). After the initial mathematics reform movement, Mayer (1998) found that there were higher student-growth rates with teachers who used NCTM-driven instructional practices. This growth occurred even when progress was measured by traditional multiple-choice tests. This finding was in direct contrast to the findings of earlier studies indicating that mathematics teachers found success using traditional practices that focused on memorization of facts and mastery of routine skills (Mayer, 1998; Metz, 1978; Oakes, 1985).

Between 1994 and 1995, the U.S. Department of Commerce conducted the Teacher Follow-up Survey for the U.S. Department of Education, titled "What Happens in Classrooms." The study's authors, Henke, Chen, and Goldman (1999), found that, in many cases, the practices advocated by the reform movements were not reported more frequently in classrooms with high-achieving or advanced students. Although Henke et al. (1999) suggested that there were limitations on the reliability and validity of the study of the Teacher Follow-up Survey and advocated that the study's findings be read with caution, Mayer's (1999) investigation using a second administration indicated that the instrument was highly reliable. Mayer did find a pattern of consistent over-reporting by the survey respondents; however, Henke et al. concluded that the instrument was valid with regard to the amount of time teachers reported to spend using the NCTM-type practices.

Between 2004 and 2005, the Mid-continent Research for Education and Learning organization conducted its fourth research synthesis in the area of standards-based educational practice (Lauer et al., 2005). The study, "The Influence of Standards on K-12 Teaching and Student Learning: A Research Synthesis," reviewed 697 studies published in the United States since January 1995. One aspect of the synthesis focused on "the recent research about the ways in which teacher instruction, primarily pedagogical practice, has changed relative to the recommendations of standards-based reforms and the effects of such reform-oriented instruction on student achievement" (Lauer et al., 2005, p. 58). Lauer et al. reviewed 20 studies that fit their criteria for inclusion in the synthesis, and their findings indicated small positive influences of standards-based instruction on students' mathematics achievement. Findings from some of the studies included in the synthesis addressed how specific mathematics instruction, such as peer collaboration and problem-solving, positively affected mathematics achievement for poor and historically underachieving students at the elementary level. Lauer et al. (2005) also included a study conducted by Adams (1999), showing how students using a district-developed curriculum based on NCTM's *Professional Standards* (1991) had significantly higher Iowa Test of Basic Skills scores than students who used the regular curriculum. Although the synthesis indicated small positive influences of standards-based instruction on student mathematics

achievement, this finding seemed to be contingent on the achievement measure being focused on higher-order learning and not on basic skills such as computation or solving equations (Lauer et al., 2005).

A meta-analysis conducted by Baker, Gersten, and Lee (2002) found that, on the one hand, explicit instruction, a strategy associated with the traditional teaching methods, had a positive, moderately strong effect on the mathematics achievement of at-risk students, with an average unweighted effect size of .65. On the other hand, the authors found that studies that investigated the contextualized instructional approach advocated by the NCTM (1989, 2000) had virtually no effect on the mathematics achievement of at-risk students, the average unweighted effect size being .04.

Critics of the NCTM Standards claim that strategies specifically addressing students experiencing difficulties with mathematics are absent. For example, the NCTM Standards offer no guidance on how the standards might be modified to address the needs of students at risk of failing or students who are learning disabled. Mathematics researchers have generally focused on general-education classrooms with nondisabled students and have rarely focused on the effects reform-based pedagogy and curricula have on low-achieving students. Some researchers claim that effective practices targeting nondisabled students are also effective for students with disabilities (Mastropieri & Scruggs, 2002; Resnick, Bill, Lesgold, & Leer, 1991), implying that the new mathematics pedagogy and materials are effective without special curricular or instructional modifications. However, special-education researchers are doubtful that the recommended methods associated with the reform movement in mathematics are effective for at-risk or learning-disabled students (Carnine, Dixon, & Silbert, 1998; Carnine, Jones, & Dixon, 1994; Hofmeister, 1993). Additionally, the use of mathematics instructional strategies from the reform movement with mainstreamed special education students may result in general-education teachers having a difficult time in addressing the needs of these students (Baker & Zigmond, 1990; Schumm et al., 1995; Scruggs & Mastropieri, 1996). Based on these reviews, there is no conclusive evidence supporting whether traditional instruction (e.g. explicit instruction) or standards-based instruction is more effective in improving student achievement, especially in the case of students with learning disabilities. Findings from previous research seem to suggest that a combination of the traditional and standards-based approaches might be more effective for at-risk students.

Participants

This study was conducted in a large, urban school district and included middle-school mathematics teachers (seventh through eighth grades) who represented approximately 1.7% of the district's 12,500 teachers. A criterion sample of 122 urban middle-school mathematics teachers from this population was selected. Criterion sampling was utilized because this methodology allows for the selection of cases that satisfy a particular criterion and is useful for studies of educational programs (Gall, Borg, & Gall, 2006). The inclusion criteria for selection of the participants from the 212 middle-school mathematics teachers in the single urban school district of interest included (a) 2 or more years as a middle-school mathematics teacher (N = 180); (b) ranking in the top or bottom third according to students' mathematics gain scores based on *value-added* methodology (N = 120); and (c) responding to the survey (N = 100). From this sample, 60 teachers were selected from the group with students with high mathematics scores and 40 were selected from those with students with low mathematics scores.

The teachers in the study were selected by utilizing data from the district's Education Value-Added Assessment System (EVAAS) to distinguish between teachers with high student gains and those with low student gains. With a value-added approach, highly effective teachers were selected through measures of the difference between how a student performed on a standardized test and how that student would have performed with an average teacher. One of the best known value-added systems, the Tennessee Value-Added Assessment System (TVAAS), is a longitudinally merged database that links students and student outcomes to the teachers, schools, and school systems to which the students are assigned as they matriculate from grade to grade (Sanders & Horn, 1998). Research conducted using data from TVAAS indicated that teacher effectiveness was a more determining factor in student achievement than race, socioeconomic level, class size, and classroom heterogeneity (Sanders & Horn, 1998).

The participants for the current study were selected from a pool of teachers who were ranked by the school district based on their students' gains in mathematics scores. All of the teachers who were ranked in the top 33% and the bottom 33% by the school district were selected to participate. The gain scores for the teachers in the top 33% ranged from 0.95 to 8.38. The gain scores for the teachers in the bottom 33% ranged from -0.33 to -6.21.

“ In this study we found that teachers with high student-score gains in mathematics used instructional practices grounded in research and national mathematics standards, such as developing a student's conceptual understanding, providing deeper coverage of fewer mathematical concepts, and making connections between mathematics and other disciplines. ”

Instrument

The Mathematics Teacher Questionnaire used in this study was developed based on the mathematics questionnaire used in the 2000 National Survey of Science and Mathematics Education (Weiss et al., 2001) and consisted of two sections. In the first section, teachers were asked a total of five questions relating to multiple teacher-quality variables, including teaching experience, degrees held, certification, hours and types of professional development activities, familiarity with and use of the NCTM standards, and preparation for using standards-based teaching practices and teaching students from diverse backgrounds. In the second section, teachers were asked to respond to questions using a Likert-type scale regarding their instructional practices with respect to the NCTM Standards. In this article we only focus on the variables related to instructional practices.

Data Analysis

Teachers' responses to the Mathematics Teacher Questionnaire were analyzed to determine whether there was a significant difference in teachers' instructional practice (traditional and standards-based). Instructional practice was measured using mean scores

obtained from 14 questions measured by a Likert-type scale (1 = *None*, 2 = *Minimal Emphasis*, 3 = *Moderate Emphasis*, 4 = *Somewhat Heavy Emphasis*, 5 = *Heavy Emphasis*). Examples of prompts related to instructional practice were *Develop students' computational skills* and *Learn to reason mathematically*. Standards-based practice was measured using mean scores obtained from three questions measured by a Likert-type scale (1 = *Not at all familiar*, 2 = *Somewhat familiar*, 3 = *Fairly familiar*, and 4 = *Very familiar*). An example of a question related to standards-based practice was *How familiar are you with the NCTM Standards?*

A one-way Multivariate Analysis of Variance (MANOVA) (Mertler & Vannatta, 2005) was used to determine the differences between the independent variable, two groups of teachers (high and low), and the dependent variable, instructional practices. One analysis was for traditional practices, and one was for standards-based practices.

Results

Teachers' traditional instructional practice. MANOVA results revealed significant differences in *traditional instructional practices* among the teacher-rank (high and low) categories on the dependent variables, Pillai's $V = .54$, $F(33, 66) = 2.37$, $p < .001$, multivariate $\eta^2 = .54$. Follow-up ANOVA analyses found two practices to be statistically significant with a small effect size: (a) reading from a mathematics textbook in class, $F(1, 98) = 8.42$, $p < .05$, partial $\eta^2 = .15$, indicated that high-gains teachers ($m = 2.43$, $sd = 1.24$) used this practice less often than low-gains teachers ($m = 3.48$, $sd = 1.22$), and (b) answering textbook or worksheet questions, $F(1, 98) = 18.44$, $p < .05$, partial $\eta^2 = .16$, which was found to be more frequently used by low-gains teachers ($m = 4.28$, $sd = .82$) than high-gains teachers ($m = 3.45$, $sd = 1.02$). Table 1 shows the difference by teacher rank for eight traditional instructional practices: (a) introduce content through formal presentation, (b) assign mathematics homework, (c) listen and take notes during presentation by teacher, (d) read from a mathematics textbook in class, (e) practice routine computations/algorithms, (f) review homework/worksheet assignments, (g) answer textbook or worksheet questions, and (h) review student homework.

Teachers' standards-based instructional practice. With regard to the dependent variables for 25 *standards-based instructional practices*, ANOVA results revealed significant differences in nine practices that teachers with high student gains endorsed more than teachers with low student gains. Specifically, these practices included (a) requiring students to explain their reasoning when giving an answer, $F(1, 98) = 13.75$, $p < .05$, partial $\eta^2 = .12$; (b) asking students to explain concepts to one another, $F(1, 98) = 3.95$, $p = .05$, partial $\eta^2 = .04$; (c) asking students to consider alternative methods for solutions, $F(1, 98) = 5.60$, $p < .05$, partial $\eta^2 = .05$; (d) reviewing student portfolios, $F(1, 98) = 4.90$, $p < .05$, partial $\eta^2 = .05$; (e) recording, representing, and/or analyzing data, $F(1, 98) = 4.70$, $p < .05$, partial $\eta^2 = .05$; (f) writing reflections (e.g., in a journal), $F(1, 98) = 4.05$, $p < .05$, partial $\eta^2 = .04$; (g) doing simulations, $F(1, 98) = 5.94$, $p < .05$, partial $\eta^2 = .06$; (h) retrieving or exchanging data, $F(1, 98) = 9.22$, $p < .05$, partial $\eta^2 = .09$; and (i) solving problems using simulations, $F(1, 98) = 12.63$, $p < .05$, partial $\eta^2 = .11$. Table 2 displays means and standard deviations for these nine standards-based instructional practices.

Table 1
Teacher Rank per Items about Traditional Instructional Practices

Traditional Instructional Practices	Teacher Rank	<i>N</i>	<i>M</i>	<i>SD</i>
Introduce content through formal presentation	High	60	4.13	.89
	Low	40	4.25	1.03
	Total	100	4.18	.95
Assign mathematics homework	High	60	4.47	.62
	Low	40	4.23	.86
	Total	100	4.37	.73
Listen and take notes during presentation by teacher	High	60	4.08	.96
	Low	40	4.13	.91
	Total	100	4.10	.94
Read from a mathematics textbook in class	High	60	2.43	1.24
	Low	40	3.48	1.22
	Total	100	2.85	1.33
Practice routine computations/ algorithms	High	60	4.53	3.82
	Low	40	4.13	.85
	Total	100	4.37	3.00
Review homework/worksheet assignments	High	60	4.07	.63
	Low	40	4.13	.79
	Total	100	4.09	.70
Answer textbook or worksheet questions	High	60	3.45	1.02
	Low	40	4.28	.82
	Total	100	3.78	1.02
Review student homework	High	60	4.32	.70
	Low	40	4.05	.85
	Total	100	4.21	.77

Differences in 16 of the 25 practices were not found to be significant. These included:

- posing open-ended questions, $F(1, 98) = .58, p = .45, \text{partial } \eta^2 = .01$;
- asking students to use multiple representations (e.g., numeric, graphic, geometric, etc.), $F(1, 98) = .91, p = .34, \text{partial } \eta^2 = .01$;
- allowing students to work at their own pace, $F(1, 98) = .06, p = .82, \text{partial } \eta^2 = .00$;
- reading and commenting on the reflections students have written, $F(1, 98) = 3.66, p = .06, \text{partial } \eta^2 = .04$;
- observing students and asking questions, between the two teacher groups, $F(1, 98) = .01, p = .94, \text{partial } \eta^2 = .00$;

- observing students and asking questions as they work in small groups, $F(1, 98) = .27, p = .60, \text{partial } \eta^2 = .00$;
- asking students questions during large group discussions, $F(1, 98) = 3.36, p = .07, \text{partial } \eta^2 = .03$;
- using assessments embedded in class activities to discern student understanding, $F(1, 98) = 3.48, p = .07, \text{partial } \eta^2 = .03$;
- having students do a long-term project, $F(1, 98) = 2.11, p = .15, \text{partial } \eta^2 = .02$;
- using calculators or computers for learning or practicing skills, $F(1, 98) = 1.22, p = .27, \text{partial } \eta^2 = .01$;
- using calculators or computers to develop conceptual understanding, $F(1, 98) = .61, p = .44, \text{partial } \eta^2 = .01$;
- using calculators or computers as a tool (e.g., spreadsheets, data analysis), $F(1, 98) = 2.25, p = .14, \text{partial } \eta^2 = .02$;
- doing drills and practicing, $F(1, 98) = 3.45, p = .07, \text{partial } \eta^2 = .03$;
- demonstrating mathematics principles, $F(1, 98) = .41, p = .53, \text{partial } \eta^2 = .00$;
- collecting data using sensors or probes, $F(1, 98) = .43, p = .52, \text{partial } \eta^2 = .00$;
- taking a test or quiz, $F(1, 98) = .36, p = .56, \text{partial } \eta^2 = .00$.

Summary

In this study we examined teacher differences in both traditional and standards-based instructional practices. The results of this study indicated that there were statistically significant differences among teachers for two traditional instructional practices: *reading from a mathematics textbook in class* and *answering textbook or worksheet questions* as a routine part of instruction. Teachers whose students showed low gains in scores reported using the above practices much more often than teachers whose students showed high score gains. There were no statistically significant differences between the two teacher groups with regards to other tenets of traditional instructional practices, such as *introducing content through formal presentation* and *assigning mathematics homework*. These findings are consistent with previous research that the practices advocated by the standards-based reform movements were not reported more frequently by classrooms teachers of high-achieving or advanced students (Henke et al., 1999). This would seem to support the findings of the National Mathematics Advisory Panel that mathematics instruction should not be either *student-centered* or *teacher-directed* (Gersten et al., 2008). In fact, a meta-analysis conducted by Baker et al. (2002) found that explicit instruction, a strategy associated with traditional teaching methods, had a moderately strong effect on the mathematics achievement of at-risk students. The findings of our study seem to indicate that many of the instructional practices referred to as traditional were utilized by highly effective teachers.

With regards to standards-based instructional practices, the findings from this study indicated that there were statistically significant differences among the teacher participants for nine variables, among which were *requiring students to explain their reasoning when giving an answer* and *asking students to explain concepts to one another*, for example. In contrast, there were no statistically significant differences among the teachers for standards-based practices in areas such as *asking students to use multiple representations* and *reading and commenting on the reflections students have written*. The statistically significant findings are generally consistent with the five main goals of the NCTM standards developed in an effort to address the low mathematics performance of American students. These goals call for students to (a) develop better problem-solving skills, (b) learn to reason mathematically,

Table 2
Teacher Rank per Items about Standards-Based Instructional Practices

Standards-Based Instructional Practices	Teacher Rank	N	M	SD
Require students to explain their reasoning when giving an answer	High	60	4.78	.42
	Low	40	4.43	.55
	Total	100	4.64	.50
Ask students to explain concepts to one another	High	60	4.53	.67
	Low	40	4.15	.74
	Total	100	4.32	.71
Ask students to consider alternative methods for solutions	High	60	4.60	.59
	Low	40	4.28	.78
	Total	100	4.47	.69
Review student portfolios	High	60	3.52	.95
	Low	40	3.05	1.15
	Total	100	3.33	1.05
Record, represent, and/or analyze data	High	60	4.05	.77
	Low	40	3.70	.82
	Total	100	3.91	.81
Write reflections (e.g., in a journal)	High	60	3.42	1.18
	Low	40	2.95	1.06
	Total	100	3.23	1.15
Do simulations	High	60	3.12	.99
	Low	40	2.60	1.10
	Total	100	2.91	1.06
Retrieve or exchange data	High	60	3.08	1.14
	Low	40	2.38	1.15
	Total	100	2.80	1.19
Solve problems using simulations	High	60	1.29	.17
	Low	40	1.06	.17
	Total	100	1.28	.13

(c) learn to value mathematics, (d) gain confidence in their mathematical abilities, and (e) learn to communicate mathematically (NCTM, 1989). The lack of statistically significant differences between the two teacher groups with regards to some of the standards-based instructional strategies could be explained by the fact that such strategies are routinely used or not used by one or both groups. For example, when the two groups of teachers did not report using a specific standards-based strategy, it could be because mathematics teachers generally do not have the time to allow a student to work at his or her own pace due to the constraint from the school district's curriculum pacing guides. Teachers also may not have the time to allow their students to work on long-term projects because of the varying rates at which students gain mastery of the concepts taught. The lack of a statistically significant difference in the case of *doing drills and practicing* is a somewhat surprising finding. A plausible explanation could be that mathematics teachers are not willing to take chances and skip drills when there is a climate of accountability that is dependent on how students perform on standardized tests. In summary, the current study indicated that teachers with high student gains in scores generally utilized a combination of instructional practices from both the standards-based and traditional approaches.

In conclusion, in this study we found that teachers with high student-score gains in mathematics used instructional practices grounded in research and national mathematics standards, such as developing a student's conceptual understanding, providing deeper coverage of fewer mathematical concepts, and making connections between mathematics and other disciplines. Knowing which standards and practices are associated with high student achievement may provide meaningful information to leaders when making decisions regarding the selection of resources and professional development activities as well as identifying targeted improvement areas for teachers with low student achievement. This study is in no way an expansive review of all of the variables or characteristics of effective urban, middle-school mathematics teachers. A large-scale study on teachers' ability to motivate middle-school students in urban settings, as well as specific strategies and characteristics of effective mathematics teachers, is needed.

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MAADE for Kids: Creating Authentic Clinical Experiences

By Diane D. Orlofsky

In this program description, the author outlines how one collegiate teacher-education program implements authentic clinical experiences within a methods class focused on the exceptional learner. The author discusses the conception, development, implementation, and future plans for the student-developed Web site, MAADE for Kids (Music Adaptive Activities Developed for Everyone). This uniquely practical, collaborative, and community-based clinical project also includes the innovative I-PAC (Innovative Percussion Activity Circle) that is a research-based and parent-friendly approach to home-based music making and skill development.

As a college junior, I knew that I wanted to be a teacher educator. I also made a personal vow that once I achieved that goal, preservice teaching experiences under my watch would be as practical and as authentic as possible. Aiming for authenticity in clinical assignments is never easy, but the rewards go far beyond graduation (The AEA Professional, 2010; Davis, 2010).

I teach a class for music-education majors that is part of their clinical or methods core. *Music for the Exceptional Learner (MUS 4460)* is designed to meet the unique teacher-training needs of music educators as they work to become more effective instructors of students with special needs. Through the years, the students and I forged clinical partnerships with institutions that assisted individuals of all ages requiring special-education services. For example, for more than a decade, students in MUS 4460 spent a day shadowing a team of music therapists at a school for special needs children in Florida. Currently, students in MUS 4460 are paired with local children, using music activities to assist their school-based cognitive and behavioral goals.

My students and I have also answered the call of some community parents and have extended our work into individual homes. For example, one mother was concerned that her son needed more intervention than he was getting in school and through therapy. *Tommy's* diagnosis includes both PDD-NOS (pervasive developmental disorder) and autism. He also has a rare syndrome, 3q29 microdeletion syndrome, among other challenges that make his treatment plan more complicated. His communication disorders include mixed receptive-expressive language disorder. I assigned two students to travel to his preschool and reinforce specific goals outlined by his Applied Behavioral Analysis (ABA) therapist using music activities. Two more students revisited these activities in the home on a separate evening. This unique collaborative experience allowed our students to work side-by-side with parent, teachers, and therapist, and they forged a strong bond with each other in the process—a win-win situation that we intend to utilize again.

In 2009, members of a local pediatric group (The Charles Henderson Child Health

Care Center, Troy, Alabama) asked me to partner with them on a very special project. Mirroring national trends, the clinic personnel had also seen an uptick in the number of autism diagnoses. The director (a musician herself) wanted to see if we could assist her by developing at-home musical activities that parents of her autistic children clients could use to reinforce concepts and strengthen necessary life skills. The activities had to be simple, user-friendly, and accessible for even the most nonmusical parent or guardian to use.

A great deal of content in our course was already focused on the study of autism and music-education applications for this population, so this request was an exciting and practical application for our theoretical studies. Working as a cohesive, collaborative group, the class produced a written parent packet of 45 songs and activities.

The clinic personnel then inquired about the feasibility of providing some kind of audiovisual component to accompany the packet. So, the new challenge and the packet from the class of 2009 were handed to the class of 2010. After deliberation, the college students decided to exceed the request by creating a Web site, and *Made for Autism* was born. The students divided into areas of strengths and talents. We had a pedagogical team, a musical team, a visual-design team, and a videography team. Although we dedicated some class time to ease communication between and among the teams, most of their work was done on weekends and in the evenings.

When the fledgling Web site was unveiled, the local school-system administrators in attendance suggested that we could broaden the scope of the site to include school-readiness activities for their early-intervention programs. Once again, the challenge was accepted—this time by the class of 2011.

The college students went back to the drawing board and decided to create all original activities, including original songs. They renamed the site *MAADE for Kids*, which stands for *Music Adaptive Activities Developed for Everyone*. This Web site (<http://spectrum.troy.edu/maadeforkids/maadeforkids/home.html>) incorporated activities that focused on life and social skills (such as listening, tying shoes, meeting new people) and various motor-skill-development strategies. The activities were designed to provide a visual resource for parents at home.

The students also added another exciting feature to the site. The I-PAC (Innovative Percussive Activity Circle) was designed with the household parent or guardian and child in mind. Activities in the I-PAC are performed using everyday household items such as pots and pans. I-PACs are designed to be as free as possible while still promoting order and structure. Music and dancing are a natural part of a child's mental and physical development, and I-PACs are fun and exciting ways for children to *let go* and be free to express themselves and to discover things for and about themselves along the way. The



The Web site for MAADE offers a friendly interface as a resource for parents.

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I-PAC also brings people together, regardless of their musical experience, physical ability, age, or gender. For example, members of a household can grab pots and pans, tubs, boxes, or other common items and sit in a circle. One person begins his or her own rhythm, and others join as they wish. The special-needs child can participate at his or her own level and pace. The end result is not the important component of the I-PAC. It is the interaction with the child that matters most. The I-PAC was inspired by the *Exploratory World Music Playground* (E-WoMP), developed by Dr. Michael

Bakan (Bakan, 2009; Bakan, Koen, Bakan, Kobylarz, Morgan, Goff, & Kahn, 2008; Bakan, Koen, Kobylarz, Morgan, Goff, Kahn, & Bakan, 2008), and the students had a great time filming their adaptations of Dr. Bakan's fine, research-based work.

The Troy University School of Music has made a commitment to our community to maintain this Web site, and I have plans to imbed this project deeply in all my methods classes in order to expand it twice yearly, with adaptive activities in the fall and early-childhood activities in the spring. I hope it continues to make connections between music and learning with young children of all exceptionalities and abilities while providing authentic and meaningful application of content. The benefits that I have seen from this site demonstrate the need for many more theory-to-practice applications that encourage collaborative connections among professors, college students, children, parents, and community leaders. A

few of the comments that I have received from graduates about the program illustrate its significance:

- The project MAADE was an amazing experience . . . it actually became more than a project. It changed our lives and opened my eyes to the impact of music . . . (personal communication, Amanda McKinney Merring, Music Education, Class of 2011).
- It is rare to be given the opportunity to impact your profession before you have a degree. MAADE not only gave me that opportunity, but it also opened my eyes to the possibility of furthering the education and awareness of other music-education majors through similar experiences (personal communication, Tyler Arcari, Music Education, Class of 2012).
- . . . this project allowed me to gain the skills necessary to work closely with a team to accomplish a goal . . . (personal communication, Bobby Williams, Music Education, Class of 2012).
- Students working on their undergraduate degree rarely get an opportunity to truly make a difference in their field of study. This Web site started as a class project and ended up changing my life and career focus . . . I hope MAADE continues to grow well past what any of the original creators could ever have dreamed (personal communication, Melanie Perry, Music Education, Class of 2012).

“ The benefits that I have seen from this site demonstrate the need for many more theory-to-practice applications that encourage collaborative connections among professors, college students, children, parents, and community leaders. ”

When I made the promise to myself all those years ago as an undergraduate and then as a teacher educator (Orlofsky, 2002), I had no idea that authentic clinical experiences could look like MAADE. Here's to the next exciting reinvention and to providing meaningful theory-to-practice connections for our future teachers!

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Universal Design for Learning and Emergent-literacy Development: Instructional Practices for Young Learners

By Shannon Haley-Mize and Stacy Reeves

Research has consistently linked early-literacy instruction and scores on measures of emergent-literacy skills with later reading achievement. To address the needs of increasingly diverse student populations and to comply with legislation that mandates access to the general-education curriculum for all students, educators may consider Universal Design for Learning (UDL) as a key to early-literacy instruction. The authors explain UDL in the context of early-literacy curriculum and instruction and apply UDL constructs to one example of an early-literacy teaching strategy—storybook reading and, in particular, the use of electronic, Web-based storybooks—as an introductory discussion of practical application.

Universal Design for Learning

Legislators and those who run school districts continue to embrace a more inclusive approach to education, and educators are challenged to plan lessons that are suitable for a variety of learning abilities and styles in response to the high numbers of children with disabilities in regular classrooms, children who are reading below grade level, and children who are learning English as a second language. The importance of access and equity for all children regardless of their abilities continues to be a focus both in literature and practice. Professionals have extensive guidance on classroom participation of a child with a specific disability, such as Attention Deficit Hyperactivity Disorder; however, educators are not as learned in creating activities that are proactively varied for a multitude of learning needs and abilities while attending to traditional, emergent learners.

Universal Design for Learning (UDL) came from the concepts of architecture, not education (Friend & Bursuck, 2009). Applying architectural-design theory to classroom and curriculum development, UDL translates into planning and constructing curricula to remove potential barriers to learning for *all* individuals—regardless of their abilities (McGuire, Scott, & Shaw, 2006). The intent is to design classrooms and curricula that facilitate participation of individuals with a variety of abilities and strengths rather than to make modifications and adaptations to existing curricula and classrooms. Unlike providing accommodations and modifications to general-education classes and curriculum, as educators often do for children with special needs, UDL is not an approach that is in

reaction to a specific child; rather, UDL involves an approach to planning and classroom design that is proactive in addressing the varied needs and abilities of all children in a class. Making modifications and providing adaptations can be time consuming for the team and only benefit individual children, whereas universal design has the potential to promote participation and independence of many students (Lieber, Horn, Palmer, & Fleming, 2008).

UDL is not new to education: The concept has been used in special education environments for a number of years. In contrast, some general-education teachers continue to respond to instructional needs rather than planning for success at the beginning through diversifying instruction in the planning stages. However, general-education teachers now realize that UDL provides for diversity in instruction and opportunities to plan for success for all participants (Chambers, 2008). In UDL classrooms, teachers plan for learner success instead of waiting for learner failure (Stanford & Reeves, 2009).

Qualities of UDL

UDL ensures that a variety of pathways are provided for understanding content and that output expectations include flexible and individualized products that enable students to express learning in a variety of ways. Orkwis and McLane (1998) highlighted three qualities that can be useful in designing learning experiences for inclusive education: representation, expression, and engagement. These three dimensions of UDL provide a map for educators as they strive to rethink and transform traditional curricula into meaningful learning experiences for all learners.

Representation entails providing, or representing, content in the curriculum in a variety of multisensory formats and through a variety of means. Examples of variety in representation would include using video, Web sites, and performances to introduce complex concepts. The means by which the material is presented might include cooperative learning groups, coteaching settings, or project-based assignments.

The element of *expression* entails students demonstrating their knowledge acquisition in a number of different formats and using several different means. These levels of expression include physical ways such as movement in drama, readers' theater, or plays. Students may use technology to plan their expressive events or demonstrate their attainment of dramatic and expressive knowledge.

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Engagement, the third quality of UDL, is supported when individual differences, abilities, and preferences are considered during planning rather than after the learning event. Learning activities that exemplify engagement offer options for gaining and maintaining student interest, sustaining effort and persistence during a task, and providing opportunities to self-regulate. Affective hooks—activities or introductions to a unit that activate prior knowledge and *pull* the student into the topic—are frequently used in lesson planning. UDL expands on affective hooks by incorporating options for a variety of ways to enhance significance, value, and authenticity. Choices include varying levels of support and challenge for learning activities within the lesson. Options within the facet of engagement make allowances for students to participate in goal setting, monitor participation, and be actively involved in self-assessment and reflection.

These qualities of UDL can be used by educators to plan, monitor, and evaluate their lesson plans according to UDL's standards. Each of the three qualities helps guide a thoughtful approach to planning and reflection, and the key word that is used throughout each of the three guidelines is *options*. These options will be discussed further in relation to literacy instruction in the following sections.

As applied specifically to early-childhood education, UDL does not provide a single solution to literacy instruction; rather, its implicit aim is to allow for flexibility in content, activities, and assessment (Rose & Meyer, 2002). UDL decreases barriers that may prevent students from accessing the materials and helps include them in learning within the classroom. Such a comprehensive approach to education is imperative based on the increasing numbers of children with special learning needs who are being served in inclusive settings and the mandate of IDEA 2004 to provide access to the general curriculum rather than simply to include children with special needs physically in a classroom (U.S. Department of Education, 2004; NJCLD, 2005). Another powerful reason for employing UDL at an early-childhood level is that young children who are already manifesting differences in their learning abilities can benefit from an engaging and rich approach to curriculum development and design that better arms them with the tools they require to be successful in school.

Emergent-literacy Development

The National Association for the Education of Young Children (NAEYC) recognizes the early-childhood years—from birth through age eight—as the most critical period for literacy development (NAEYC, 1998). Researchers have demonstrated that children begin their literacy development quite early, and the term *emergent literacy* has evolved to encompass those early-literacy skills that are highly correlated with later reading ability (Hamre & Pianta, 2001). Whitehurst and Lonigan (1998) defined emergent literacy as “the skills, knowledge, and attitudes that are the developmental precursors to reading and writing” (p. 848). The term *emergent literacy* thus lends itself to the conceptualization of literacy acquisition as a developmental continuum that begins long before a child reaches school age.

The components of emergent literacy that should be nurtured in the preschool classroom to establish a foundation for later reading ability include oral language, phonological awareness, and print awareness (Pullen & Justice, 2003). Numerous instructional practices exist that researchers have demonstrated as effective in fostering emergent-literacy skills in the preschool classroom and beyond. These include reading aloud to children, exposure to and concepts about print, building phonemic awareness

through patterned and predictable texts, linguistic awareness games, rhythmic activities, and activities to promote the alphabetic principle (Blank, 2012). Instructional needs change as children progress through kindergarten and the primary grades, but a focus on further development of the skills that were acquired during the preschool stage continues. Children who begin their school careers without these skills and who struggle during the early grades are likely to continue to be poor readers throughout school (McCormick, Paratore, & Dahlene, 2003). As Pullen and Justice (2003) poignantly stated, if educators and professionals are going to have a positive impact on the lives of children, then teachers must ensure that they receive appropriate supports and rich experiences during the early years to thwart reading difficulties. UDL offers a lens through which educators can view traditional early-childhood curricula and research-supported instructional practices to sustain emergent-literacy skills and encourage reading achievement for all students, but especially for those students who are more likely to experience reading difficulties.

Three primary reasons for rethinking the manner in which educators develop curriculum to support emergent literacy include the numbers of children with special needs who are being educated in the regular classroom setting, the staggering numbers of children who are not reading on grade level, and the growing numbers of English language learners who are being educated in the United States. According to the National Center for Education Statistics (NCES), 6.7 million children and youth received services under the Individuals with Disabilities Education Act (IDEA) during the 2006–2007 school year (U.S. Department of Education, 2008). Of those children who were classified as having special needs and qualifying for services under IDEA, 54% spent at least 80% of their time in the regular-education classroom. According to 2007 data, 33 % of fourth graders in the United States scored *below basic* on tests of reading achievement. The NCES indicated that in 2004, 3.8 million students, or 11% of all students in the United States, received services for English-language learners, and this number was expected to increase over time (U.S. Department of Education, 2007).

Applying UDL to Emergent-literacy Development

Storybook reading is a strategy used to facilitate a variety of emergent-literacy skills, including print awareness, oral language, and phonological awareness. Storybook reading (NAEYC, 1998; Aram & Aviram, 2009) can exemplify developmentally appropriate practice because it has the potential to provide either individual or small-group experiences

“UDL offers a lens through which educators can view traditional early-childhood curricula and research-supported instructional practices to sustain emergent-literacy skills and encourage reading achievement for all students, but especially for those students who are more likely to experience reading difficulties.”

and to facilitate rich conversations between adults and children. Storybook reading is most powerful when it is a component of a comprehensive literacy environment and instruction that includes ample access to a variety of print materials and opportunities for students to answer questions related to the story. The selection of the text is also important and should be appropriate for the age and developmental levels of the students (Aram & Aviram, 2009). The added component of a Web-based storybook means that students can work in homogeneous and heterogeneous ability-leveled groups independently and outside the classroom with the materials.

When considering a general strategy such as storybook reading, a teacher can utilize UDL for planning. The Center for Applied Special Technology (CAST) provides a UDL lesson builder (2005-2011; <http://lessonbuilder.cast.org/>) that gives teachers tools to develop instruction according to UDL principles, thereby providing access for diverse learners. It encompasses links to model UDL lesson plans, including links to audio reflections on the options provided in the lesson and how they reflect UDL principles.

The first component of UDL is representation. An educator who is planning a lesson involving storybook reading should first consider how the material will be presented. CAST suggested three further delineations of representing: providing options for perception, options for language and symbols, and options for comprehension (1999-2011). Suggestions for both print-based and Web-based storybook reading related to these UDL principles of representing could apply to preschool or primary grade students, and many could be used far beyond these grades by simply adjusting the difficulty of the texts and materials (see Table 1).

The second component of UDL is expression, which provides a blueprint for incorporating multiple options for the students to express their understanding of concepts and content. This area of UDL requires that the educator, when planning for students, consider options for physical action, options for expressive skills and fluency, and options for executive functions (see Table 2).

The third and final UDL guideline is engagement, which encourages educators to consider multiple ways to engage learners. Options for recruiting interest, for sustaining effort, and for self-regulation all fall within the realm of engagement (see Table 3). Considerations in this realm, as with the other aspects of UDL, require creativity and flexibility of thinking when planning learning activities.

Conclusion

The definition and concepts of UDL encourage educators to be creative and flexible in lesson planning in order to address accessibility for diverse student populations. UDL challenges educators to think about equity of access for varied learners during the planning phase rather than respond to individual student needs in a reactive fashion. The advantage of UDL in this sense is that the content and learning are enhanced for all emerging-literacy learners—students with and without disabilities and needs—by tapping into a variety of materials and learning formats and by using technology-based literacy components that provide many forms of representing, expression, and engagement. UDL has the potential to be a potent tool in addressing the unique literacy challenges of children with needs, as well as in providing a solid foundation in literacy skills during preschool and the primary school years.

Table 1
Applying UDL for Representing to Storybook Reading

Purpose	Strategy
Provide options for perception	<ul style="list-style-type: none"> ✦ Use a variety of instructional texts including big books, individual student copies, and adapted copies with Braille and/or added sensory stimuli. ✦ Incorporate sing-song reading and a variety of vocal intonations. ✦ Provide access to a variety of auditory formats including books on DVD and taped formats that are commercially available or recordings of oral readings by parents, grandparents, and so forth. ✦ Create a song using the text or provide other musical supports during reading, such as tapping out the rhythm of the language with rhythm sticks, a “kitchen band” of spoons from a charity shop or yard sale, or pencils. ✦ Use newsprint to write down main ideas, characters, or other points of discussion pertaining to the story. ✦ Use felt pieces or magnetic letters and words to supplement reading and highlight specific skills such as sight words and vocabulary. ✦ Provide access to the story on the computer using resources such as CAST’s UDL online book builder at http://bookbuilder.cast.org/ or <i>Teacher Tap</i> at http://eduscapes.com/tap/topic93.htm. Also, <i>Project Gutenberg</i> provides free access to more than 38,000 books of its own and links to many thousands more at http://www.gutenberg.org/wiki/Main_Page.
Provide options for language and symbols	<ul style="list-style-type: none"> ✦ Use felt picture pieces or other pictures to illustrate key concepts nonlinguistically. ✦ Provide links to vocabulary and/or concept definitions through online books or additional resources. ✦ Encourage students to create their own pictures to illustrate or retell a story. ✦ Students can build their own storybooks from sites such as <i>ImageLoop</i> (www.imageloop.com) and <i>SlideFlickr</i> (http://www.slideflickr.com/).
Provide options for comprehension	<ul style="list-style-type: none"> ✦ Activate background knowledge by previewing the text and facilitating discussion of how the topic relates to experiences. ✦ Use graphic organizers prior to, during, and after reading. ✦ Incorporate creative expression in retelling, such as dramatic skits, drawing and painting, building online slideshows and online storybooks, or puppet shows. ✦ Incorporate flexible, heterogeneous groups to facilitate

discussion of text between and among students of various abilities.

- ✦ Revisit texts and use repeated readings to aid in comprehension and retention of information.
- ✦ Encourage students to use home computer systems or public libraries with online capabilities to read online stories with their caregivers.

Table 2

Applying UDL for Expression in Storybook Reading

Purpose	Strategy
Provide options for physical action	<ul style="list-style-type: none"> ✦ Incorporate movement into book reading. ✦ Integrate readers' theater, dramatic responses, movement, dance, plays, and so forth as choices for readers' responses to the stories. ✦ Incorporate options for movement into the routines of the classroom by providing rocking chairs, yoga balls for sitting, carpet squares, bean bag chairs, and so forth. ✦ Ask students to respond to comprehension questions with movement and actions. ✦ Provide assistive technology devices for students to participate actively by using augmentative communication devices for answering questions or making choices. ✦ Provide alternative keyboards to access digitized stories.
Provide options for expressive skills and fluency	<ul style="list-style-type: none"> ✦ Provide access to the same text in various formats with various levels of support. ✦ Provide opportunities for students to practice vocabulary related to the story or concepts with support.
Provide options for executive functions	<ul style="list-style-type: none"> ✦ Have students outline goals related to participation in storybook reading. ✦ Have students plan the activity and materials. ✦ Encourage students to track progress related to their goals. ✦ For example, students could keep a list of texts read during storybook reading or how many facts they recalled from the text. ✦ Encourage students to build their own online stories and shows. ✦ <i>SAM Animation</i> is a free software download that is designed to give students the power of making stop-action movies to share their ideas and understanding. This is a powerful tool for providing options for assessment of student understanding of concepts (http://www.sanimation.com/).

Table 3
Applying UDL for Engagement in Storybook Reading

Purpose	Strategy
Provide options for recruiting student interest	<ul style="list-style-type: none"> ✦ Incorporate props into the introduction of the story. ✦ Allow students to choose the topic or title of the storybook. ✦ Provide options of texts that relate to the students' experiences and lives. ✦ Consider the time of day that storybook reading occurs and ensure that distractions are minimized. ✦ Use flexible grouping to allow for more instructional and informal conversations to engage students. ✦ Show the first parts of an online story on a LCD projector and ask students to predict what will happen in various sections of the story. The predictions will be affirmed or revised based on their guesses.
Provide options for sustaining effort and persistence	<ul style="list-style-type: none"> ✦ Use scaffolding for learning tasks associated with the text, such as vocabulary or concept development. ✦ Employ small groups and one-on-one reading and discussion to foster collaboration and communication. ✦ Allow students to complete written and computer-based activities related to the storybook either individually or in groups.
Provide options for self-regulation	<ul style="list-style-type: none"> ✦ Incorporate self-regulation tools into the classroom routines and activities. ✦ Work with students to set individual goals for storybook activities and teach them to self-monitor. ✦ Encourage reflection on performance during reading and participation in activities.

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Resuscitating School Health-Education Teacher Preparation

By Lori Dewald, Joseph Halowich, and Beth Chatfield

The need for effective school-health educators is increasing, even as school-health education preparation programs are on the decline. Teacher-preparation personnel face the challenges of university isolation, shortage of professors, and the need to shift from content to skill development. The authors describe a new university curriculum model in health-education teacher preparation that is focused on the six dimensions of health and that can be cost efficient for universities to implement, can improve teacher candidates' learning strategies, and can correlate to effective health-education instruction in the public school setting.

Introduction

Effective school-health educators are needed to prevent adolescent risk behaviors that contribute to diseases and death. Meanwhile, health-education teacher-preparation programs have been on the decline, with universities downsizing or eliminating these academic programs (O'Rourke, 2005). Therefore, health educators face challenges in teacher preparation and delivery of quality education.

Some challenges include isolation of universities from the issues within the K-12 schools and a shortage of professors entering the field of health-education teacher education (HETE) or school-health education (SHE). HETE and SHE are one and the same, although title preferences are found in different geographical areas. These challenges point to the need for a positive alternative in health-teacher preparation that shifts from covering just content to skill development, moves from test measures to performance assessments, and prepares health educators at the elementary level (Smith, Potts-Datema, & Nolte, 2005). Birch, Duplaga, Seabert, and Wilbur (2001) noted that teacher preparation will not improve without the interaction of university faculty and K-12 teachers.

Numerous reasons explain the decline in undergraduate and graduate preparation programs in SHE in the last 10 years:

1. Faculty who specialized in school-health preparation have retired.
2. Few school-health-prepared doctoral students are available to fill faculty attrition through retirements or openings created when school-health faculty move to a different institution. Even rarer is the newly created faculty position that focuses on SHE. Educators in the field hear stories of departments losing faculty positions completely when no one was hired to fill the opening or no applications were received for their school-health faculty openings.
3. Public-health preparation programs at both the undergraduate and graduate levels have, in many instances, taken over the departments where SHE programs were previously housed.

4. SHE preparation has been weakened by over-reliance on public- and community-health education faculty for the delivery of course work—even though these faculty have never been in a high-school health education classroom to gain an understanding of what SHE encompasses.

5. Universities rely on community- and public-health course work to fulfill accreditation standards for their teacher-preparation programs, and the course work is not connected to the National Council for Accreditation of Teacher Education (NCATE) standards.

6. Unqualified high-school health-education classroom teachers may have tried to do too much with guest speakers because they were not prepared to teach the material themselves. Some teachers bring a revolving door of guest speakers into their classrooms in order to meet their state's curriculum standards.

7. Public health is viewed as more glamorous and, with the increased availability of research monies for public health, more public-health schools, departments, and curricula have been and are being developed by universities.

Looking at a New Model

Many of today's traditional college-preparation courses in HETE continue as individual-content or silo courses on a single topic with content spread out over 15 weeks and with much of the content not being as useful or applicable to future school-health teachers once they begin their classroom teaching careers. Such an antiquated knowledge-delivery system does not work in preparing today's SHE teachers. Ultimately, national health-education teaching standards, state health-education teaching licensure, local school-district curricula, and the Praxis II exam dictate curricula overall. Teacher preparation in school health needs to focus on age-appropriate content and age-appropriate learning



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strategies that can reinforce the state and national standards. School-health majors need to have the proper background knowledge to determine such age-appropriate content and learning strategies.

The restructured model of HETE described in this article addresses and solves the issues raised by various authors in the literature in the past 10 years (Birch, Duplaga, Seabert, & Wilbur, 2001; O'Rourke, 2005; Rabak-Wagener, 2003; Smith, Potts-Datema, & Nolte, 2005). It creates a teacher-preparation program based upon the six dimensions of health (physical, social, emotional, intellectual, spiritual, and environmental) as they relate to the six health-risk issues in the lives of today's students (CDC, 2012). These issues have been tracked for decades in the Youth Risk Behavior Surveillance System (YRBSS) and include (a) unintentional and intentional injuries, (b) tobacco use, (c) alcohol and other drugs, (d) poor nutrition, (e) physical inactivity, and (f) risky sexual behaviors.

The purpose of this article is to discuss an idea to create opportunities for universities to develop new preparation programs in HETE. We share the overarching curriculum that we developed, including (a) the matrix for the Maryland Voluntary State Curriculum (VSC) performance indicators, (b) the learning foundations of each dimension-based course, (c) the university curriculum-development process, (d) the university syllabus for each course, and (e) the impact of the new HETE on school districts in our region. Every HETE department in the nation can utilize and infuse this restructured model into its program with minimal investment in new faculty positions as the model can be accomplished with only one health-education-prepared faculty member. Likewise, teacher-education departments that have previously not been developing health-education teachers can become involved in doing so with minimal investment.

Dimensions Defined

The first step in the development of this restructured model in HETE was to develop working definitions of the six dimensions of health. We reviewed many different published definitions and reached consensus regarding consistent definitions (Edlin, Golanty, McCormick-Brown, 1998). The Table provides the final definitions agreed upon for this curriculum.

State and National Curriculum Considerations

We began by incorporating the Maryland VSC for Health, which is aligned with the National Health Education Teaching Standards, into the restructured model. The VSC objectives were then categorized into the six dimensions of health (see Appendix A). Another consideration in the decision to highlight the state and national standards was attention to CDC's Health Risk Issues of Adolescents (2012), detailed earlier.

One of the advantages of this categorization formula is the fluidity within the state's education objectives and where they are placed within the dimension course series. Every state's K-12 curriculum will fit within the six dimensions, but curricula will not necessarily look identical from one state to another. If a state curriculum is aligned with the national standards, there can be more synergy in HETE from one state to another and even regionally within nearby states. The state standards cannot be housed in isolation; they are interdependent because they can move between the dimensions. The categorization of the VSC objectives can also be influenced by the local school district's curriculum. With the VSC already aligned with the National Health Education Standards, a restructured model can prepare new teachers to be successful in applying active learning strategies in

Table
Definitions for the Six Dimensions of Health

Dimension	Definition
Physical Health	Refers to a healthy body maintained by eating right, exercising regularly, avoiding harmful habits, making informed and responsible decisions about health, seeking medical care when needed, and participating in activities that help prevent illness.
Social Health	Refers to the ability to perform social roles effectively, comfortably, and without harming others.
Emotional Health	Requires understanding emotions and coping with problems that arise in everyday life.
Intellectual Health	Involves having a mind open to new ideas and concepts. One who is intellectually healthy seeks new experiences and challenges.
Spiritual Health	Refers to the state of harmony with yourself and others. It is the ability to balance inner needs with the demands of the rest of the world.
Environmental Health	Refers to interactions with one's environment that include conserving and improving the environments one experiences and inhabits.

public education settings through a standards-based curriculum. Of course, as universities replicate this course design, the objectives can be aligned differently based on different perspectives of the six dimensions of health.

University Curriculum

The next challenge became determining how these new dimension courses would fit into a university-graduation requirement of 120 credit hours (and a 126-credit upper limit) for an undergraduate degree. If a university has a typical liberal-arts-based curriculum of 53 credits, 67 credits would be available to create a HETE curriculum. The college of education in which the health education department is housed requires 31 credit hours of all secondary-education students, leaving 36 credits available to develop the actual HETE. Six dimension-based courses were each assigned 3 credit hours each (18 credits total), and the other 18 credits were distributed to the foundational courses in school health and then the specialized school-health methods courses. Figure 1 shows the 4-year HETE curriculum, and Figure 2 outlines the 4-year degree plan.

<i>Four-year school-health-education curriculum</i>	
UNIVERSITY CORE CURRICULUM	
•	General education: (45 credits) 45 credits in the university general education core (including a minimum of 12 credits of sciences and 3 credits of math)
•	Free Electives: (8 credits) 8 credits of the student's choice
SECONDARY EDUCATION REQUIREMENTS (19 credits)	
3 credits	Education 210: School in a Diverse Society
3 credits	Education 300: Development and Learning
3 credits	Education 318: Computers in Education
3 credits	Secondary Education 367: Inclusive Instruction for Secondary Teaching
3 credits	Education 416: Classroom Management
3 credits	Education 422: Teaching Reading in the Content Area
1 credit	Secondary Education 439: K-12 School Visits
SCHOOL HEALTH CORE CURRICULUM	
•	Required major core curriculum: (9 credits)
3 credits	Health 108: Basic Health Education
3 credits	Health 200: Advanced Health Education
3 credits	Health 340: Introduction to School Health Education
•	Dimension Series: (18 credits)
3 credits	Health 301: Physical Health
3 credits	Health 302: Social Health
3 credits	Health 303: Emotional Health
3 credits	Health 304: Environmental Health
3 credits	Health 305: Spiritual Health
3 credits	Health 306: Intellectual Health
•	Professional Program: (6 credits)
3 credits	Health 460: Reading Content in Health Education
3 credits	Health 461: School Health Methods
•	Professional Semester: (15 credits)
12 credits	Education 462: Directed Teaching in Health Education
3 credits	Education 463: Seminar in Health Education
<hr/>	
120 Total credits	

Figure 1: Four-year school-health education curriculum

<u>1st Semester Freshman Year</u>	<u>2nd Semester Freshman Year</u>
15 credits of the universities general education and education courses and free electives	12 credits of general free electives (3 credits) Health 100
<u>1st Semester Sophomore Year</u>	<u>2nd Semester Sophomore Year</u>
(3 credits) Education 210 (3 credits) Health 200 9 credits of general education courses and free electives	(3 credits) Education 300 (3 credits) Health 340 9 credits of general education courses
<u>1st Semester Junior Year</u>	<u>2nd Semester Junior Year</u>
(3 credits) Health 301 (Physical) (Environmental) (3 credits) Health 302 (Social) (3 credits) Health 303 (Emotional) (3 credits) Education 422 (3 credits) Education 318	(3 credits) Health 304 (3 credits) Health 305 (Spiritual) (3 credits) Health 306 (Intellectual) (3 credits) Health 460 (3 credits) Education 367
<u>1st Semester Senior Year</u>	<u>2nd Semester Senior Year</u>
(3 credits) Education 416 (3 credits) Health 461 (3 credits) Education 339 6 credits of general education and free electives	(12 credits) Education 462 (3 credits) Education 463

Figure 2: Four-year degree plan in school health education.

University Course Syllabi

With the alignment of the Maryland VSC to the six dimensions of health and the restructured model developed, we needed to develop university syllabi for the new HETE program. Syllabi were developed for the six university courses based upon the VSC matrix so that all K-12 content areas would be covered during teacher-preparation courses. These and the other health-education core syllabi are available from the authors upon request.

The new curriculum is not a vehicle for supplanting strong teacher-preparation programs that do exist. This restructured model is an alternative route to HETE preparation that can help alleviate the desperate needs of today's school districts for school-health educators. We applaud the universities that have long been producing SHE teachers. The reality is that more small programs exist than big producers of SHE. This curriculum idea allows for more small producers of school-health educators even as it allows the large producers to adjust to the retirements of their health-education faculty without new faculty hires and to maintain their presence as quality producers of school-health educators. Colleges and universities with liberal arts emphasis can also offer a HETE major using this new curriculum model, because it is designed to be completed in 4 semesters and requires only one faculty member who is academically prepared in HETE to teach the entire curriculum.

A great forthcoming benefit to HETE preparation is transfer of the school-health accreditation standards from the American Association for Health Education (AAHE)

to NCATE. Although AAHE's enveloping of school, community, and public health into one accreditation process made for an easier and simpler one-size-fits-all accreditation process for larger universities that offered all three curricula, in some cases it resulted in an over-reliance on community- and public-health practitioners to teach the school-health coursework. Smaller institutions that only have a SHE focus have struggled to fulfill the accreditation standards that encompass all three academic disciplines in health education. Having school health accredited exclusively by NCATE brings HETE in alignment with other teacher-education programs. Universities with teacher-education programs are also very familiar with NCATE's accreditation process, which will enhance accreditation of HETE programs.

A common concern arising in school districts is the use of physical educators as health-education teachers, even when the physical educator is not prepared in health education. This new HETE curriculum can remedy this issue. For a physical educator who is expected to teach health education, 21 credits constitute a minor in health education on most college campuses. An individual who majors in physical education and completes the 21-credit-hour-minor course work with a focus exclusively on HETE would make a better-prepared combination physical-education and health-education teacher.

Advantages of the New Model

The restructured model has numerous advantages. The most unique aspect of this new SHE preparation program is that the national curricula, state curricula, and teacher licensure all work together with a university curriculum. This has been accomplished by linking the HETE preparation, the state standards, the Praxis II exam, and local curricula to the national standards that brought the Praxis II exam into the professional-preparation curriculum. We also took into consideration the National Board Certification in Health Education as this new model was developed. By bringing all of these considerations together, we addressed all of the national accreditation standards in HETE, which are automatically built into this restructured model. Accordingly, such synthesis makes it easier to manage the NCATE accreditation process in HETE without any reliance on other types of health-education preparation (i.e., community or public) for the delivery of content. Second, there are minimal needs for new faculty in order to implement a HETE program. In this restructured model, only one faculty member prepared in HETE is needed to teach the program.

This new curriculum is *not* dependent upon being a part of a department of health and physical education, nor is such a department actually needed for this model. A general teacher-education department can house a HETE-preparation program, which provides advantages over being in a department of health, physical education, and exercise science. Health education is not dependent upon the availability of a gymnasium. It is a classroom-delivered content area and should be closely aligned with the other such areas for more effective undergraduate and graduate teacher preparation.

If educators in HETE programs expect their graduates to be hired and to be successful without a tremendous amount of remediation on the part of the school district leaders who hire them, then more cooperation and collaboration must take place between the university teacher-preparation programs and the stakeholders—the school districts. University personnel should consult with local K-12 school-district personnel and conduct a needs assessment that identifies current and future employment opportunities in these districts. This new paradigm in HETE represents just that—a collaborative effort between leaders

of the local university and the local school district.

Conclusions

A new model for HETE preparation is needed. This proposal outlines a restructured HETE curriculum format and also advocates a cost-effective alternative for teacher preparation in health education. Universities must immediately address teacher preparation at both the undergraduate preparation level and also at the entry-level master's preparation level. Providers of doctoral programs must be encouraged to enter or re-enter the preparation of future HETE faculty members. Finally, university and K-12 school-district personnel need to work together in the development of teacher-education academic programs at universities and overall teacher preparation.

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Appendix A

Alignment of Health Dimension Curriculum and the Maryland Voluntary State Curriculum for Health

Dimensions	VSC Objectives
Physical	2.1.f. Analyze genetics as a predisposing risk factor of tobacco, alcohol and other drugs. 2.2.a. Analyze physical effects of combining OTC medicines with alcohol and other drugs. 2.2.c. Compare use, misuse, and abuse of prescription and OTC medications. 2.3.d. Forecast the physical consequences of short and long-term alcohol, tobacco, and other drug use. 4.1.a. Describe fertilization, fetal development, and the birth process. 4.1.b. Identify the most prevalent congenital and hereditary conditions that affect the fetus. 4.3.c. Analyze risks and consequences of sexual activity. 4.4.h. Compare the effectiveness of various contraceptive methods in preventing pregnancy and STIs. 5.4.c. Apply appropriate steps [to emergency situations]. 6.2.a. Define and discuss what constitutes a healthful weight based on the Body Mass Index (BMI).

- 6.2.b. Describe the benefits of physical activity in relationship to weight management.
 - 6.2.c. Describe the concept of energy balance.
 - 6.3.c. Determine strategies to maximize positive influences and minimize negative influences [on nutrition and physical activity].
 - 6.4.a. Identify areas of personal eating behaviors that need improvement.
 - 6.4.b. Assess personal fitness and identify areas of personal physical activity behaviors that need improvement.
 - 6.4.c. Determine a plan of action to address areas targeted for improvement [in nutrition and physical activity].
 - 7.1.b. Analyze past and present health-practices.
 - 7.1.c. Identify behaviors that may decrease the probability of developing disease.
 - 7.2.a. Explain how sexual behaviors and practices influence contraction of HIV/AIDS and STIs.
 - Abstinence
 - Use of condoms
 - Sexual activity
 - Multiple partners
 - 7.2.b. Explain how other behaviors and practices influence contraction of HIV/AIDS, STIs, and Hepatitis.
 - Drug use
 - Sharing needles (piercing, drugs, tattoos)
 - Mother to child
 - Occupational exposure
 - 7.3.a. List specific symptoms of HIV/AIDS.
 - 7.3.b. Explain the progression from HIV to AIDS.
 - 7.3.c. Describe the effects on the body, including the immune system.
 - 7.3.d. State ways to prevent HIV/AIDS.
 - 7.3.e. Examine various modes of treatment.
- Social
- 1.1.a. Demonstrate and analyze skills for communicating effectively with family, peers, and others.
 - 1.1.d. Demonstrate ways to communicate care, consideration, and respect for self and others in making positive health choices.
 - 1.2.b. Analyze health concerns that require collaborative decision-making.
 - 1.3.c. Explore conflict resolution strategies that promote and sustain interpersonal relationships.
 - 1.4.c. Apply strategies and skills to intervene when signs of depression occur.
 - 2.1.c. Describe the impact of peer pressure on the attitude and behaviors of youth in regard to the use of tobacco, alcohol, and other drugs.
 - 2.1.e. Examine the influence the family has on tobacco, alcohol and other drugs.
 - 2.4.b. Apply strategies and skills needed to intervene with dependent and addictive behaviors.
 - 4.2.a. Investigate factors that may contribute to a healthy relationship.
 - 4.2.b. Examine potential causes of relationship failures.
 - 4.2.c. Explore the effects of personal and family stress on relationships.
 - 4.3.b. Examine how culture, value systems, and the family influence attitudes toward sexual behavior.
 - 4.4.e. Demonstrate ways to communicate about sexual behavior.
 - 4.4.f. Demonstrate refusal strategies for sexual pressure.
 - 5.1.c. Demonstrate assertive communication to request that harassment stop.
 - Bullying
 - Sexual Harassment
 - 5.2.b. Demonstrate ways to prevent sexual aggression.
 - 5.3.d. Examine the influence of peer groups as they relate to harassing and intimidating behaviors.

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| Emotional | <p>1.1.b. Utilize strategies to overcome barriers when communicating information, ideas, emotions, and opinions about health issues.</p> <p>1.1.c. Analyze how interpersonal communication affects relationships.</p> <p>1.2.a. Demonstrate the ability to utilize strategies when making decisions related to health needs and risks of young adults.</p> <p>1.2.d. Apply strategies and skills needed to attain personal health goals.</p> <p>1.3.a. Identify situations that are perceived as personal stressors.</p> <p>1.3.b. Formulate positive ways to manage stressful situations.</p> <p>1.4.a. Identify and recognize warning signs of depression.</p> <p>1.4.b. Recognize and explain warning signs of suicide.</p> <p>2.1.a. Analyze the intended impact of advertising on the sale and purchase tobacco, alcohol, and other drugs.</p> <p>2.1.d. Demonstrate strategies for refusing alcohol, tobacco, and other drugs.</p> <p>4.4.b. Demonstrate how to use decision-making steps for setting sexual limits.</p> <p>5.1.d. Examine appropriate behavior to resist and prevent gang activity and violence.</p> <p>6.1.a. Implement strategies to counteract negative influences on body image.</p> <p>6.1.c. Analyze the impact of the media on body image.</p> <p>6.3.a. Recognize what influences personal eating and activity behaviors.</p> |
| Intellectual | <p>1.2.e. Formulate an effective plan for lifelong health.</p> <p>2.1.b. Examine media messages and campaigns for alcohol and other drugs and discuss the targeted audience and outcomes.</p> <p>2.2.b. Create a lifelong plan for appropriate use of prescription and OTC medications.</p> <p>2.3.b. Identify the legal issues and discuss the consequences of underage alcohol and tobacco use and/or possession.</p> <p>3.3.a. Identify the role played by each of the following in causing illness.</p> <ul style="list-style-type: none"> • Family history • Lifestyle choices • Environment • Genetics <p>3.3.b. Analyze influences that affect the cause and course of illness.</p> <p>3.3.c. Determine a plan a plan of action to reduce personal health risks and/or improve personal health.</p> <ul style="list-style-type: none"> • Regular medical check-ups (dental) • Immunizations and screening (vision, hearing) • Diet and weight management • Exercise and rest • Environmental exposure (loud music) <p>4.3.d. Analyze how perceptions of the risk and consequences of sexual activity impact decisions.</p> <p>4.3.e. Explain how laws relate to relationships and sexual behavior.</p> <p>4.4.c. Explain influences on sexual limits.</p> <p>5.1.b. Describe ways to combat harassment.</p> <ul style="list-style-type: none"> • Bullying • Sexual Harassment <p>5.3.b. Analyze the impact of media influences on harassing and intimidating behaviors.</p> <p>5.4.a. Distinguish between emergency and non-emergency situations.</p> <p>5.4.d. Interpret laws and codes/regulations pertaining to emergency situations.</p> <p>6.1.b. Describe a variety of eating disorders and the relationship between eating and the body.</p> <p>6.2.d. Identify and describe common factors that contribute to excess weight gain.</p> <p>6.3.b. Describe how influences impact choice [of eating and physical activity].</p> |

Spiritual	<p>2.3.e. Advocate healthy choices regarding alcohol tobacco, and other drugs.</p> <p>4.3.a. Investigate factors that contribute to sexual identity, including alternative lifestyles.</p> <p>4.4.a. Describe sexual limits.</p> <p>4.4.d. Demonstrate advocacy for respecting sexual limits.</p> <p>4.4.g. Advocate abstinence from sexual intercourse as the most effective and healthy means for preventing pregnancy and sexually transmitted infections.</p> <p>5.1.a. Distinguish between appropriate and inappropriate verbal and/or non-verbal interactions.</p> <p>5.2.a. Describe sexual aggression.</p> <p>5.3.a. Describe examples of harassment and intimidating behaviors in media.</p> <p>5.3.c. Give examples of the inappropriate use of technology as it relates to harassment and intimidating behaviors.</p> <ul style="list-style-type: none"> • Internet • Email • Websites • Instant Messaging • Telephone/Cell phone
Environmental	<p>1.2.c. Predict immediate and long-term impact of health decisions on the individual, family, and community.</p> <p>1.4.d. Demonstrate ability to access information and services to help prevent suicide.</p> <p>2.3.a. Describe how citizens can influence those in positions who determine rules, policies, and laws concerning the use of tobacco, alcohol, and/or other drugs.</p> <p>2.3.c. Demonstrate ways to minimize the impact of tobacco use by others on your health and well-being.</p> <p>2.4.a. Research resources to be used when a friend or family member has a drug problem.</p> <p>3.1.a. Evaluate how factors, such as culture, media, and peers, influence health information, perceptions, behaviors, and product and service selection.</p> <p>3.1.b. Demonstrate the ability to access school and community health services for self and others.</p> <p>3.1.c. Analyze situations requiring professional health services.</p> <p>3.1.d. Evaluate the impact of technology, research and medical advances on personal, family, and community health.</p> <p>3.2.a. Evaluate the validity, cost, and accessibility of health information, products, and services.</p> <p>3.2.b. Demonstrate the ability to locate and utilize resources from home, school, community and technological sources that provide valid information concerning health issues, services, and careers.</p> <p>4.3.f. Examine resources to maintain or promote reproductive health.</p> <p>5.2.c. Identify resources for victims of sexual aggression.</p> <p>5.4.b. Access resources and services to respond effectively to emergency and non-emergency situations.</p> <p>7.1.a. Evaluate the impact of communicable and non communicable disease on the individual, family, and society.</p> <p>7.1.d. Describe the roles and responsibilities for disease prevention and control of health-related agencies at local, state, and federal levels.</p> <p>7.1.e. Examine the impact of medical technology on the incidence and prevalence of disease.</p> <p>7.1.f. Identify resources for reliable information, assessment, and treatment of communicable and non-communicable disease or disability.</p>

***Bulletin* Submission Notes**

At its biennial meeting, the newly constituted Editorial Board instituted various changes in the submission process and in the submission parameters for the *Bulletin*. Potential authors should take note of the following:

- A new category of submission, called *Review of Literature*, has been added. This category allows authors to share information about an important educational topic by collating and synthesizing what leading educators are thinking and writing. Such a review should incorporate information on all perspectives on a topic and should be more than a listing of researchers and their conclusions. The goal of a review of the literature would be to provide readers with an overview of the best thinking about an educational topic.
- The category of *Annotated Bibliography* has been removed. Submissions in this category have been infrequent, and the Board's perception is that *Review of Literature* is a more meaningful approach to sharing best thinking about educational topics.
- The category formerly called *Action Research* has been modified to *Action/Classroom Research*. The renaming clarifies that submissions in this category can include the kind of research that teachers do within their own classrooms.
- The category formerly called *Book Review* has been expanded to *Book/Technology Review*. The Editorial Board members believe that reviews of Web sites and apps are important to members and also will reflect the Society's emphasis on supporting early-career educators.
- All submissions are to be made electronically—in Microsoft Word format (text pieces) and in JPG or TIFF format (photos and graphics).

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, manuscripts on all topics are welcome.
- 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.
- All submissions will be acknowledged and assigned a review number within 2 weeks. Contact the editor at bulletin@dkg.org if you do not receive timely acknowledgement of your submission.

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- Published authors will receive five complimentary copies of the *Bulletin* in which their article appears.
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Bulletin Submission Grid

Submission Type and Description	Word Length	Abstract or Introduction	Documentation
Action/Classroom Research: Organized, systematic, and reflective observation of classroom practice that also addresses areas of concern.	1,500-4,000	Abstract	Required
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	Required
Position Paper/Viewpoint: Defines an issue; asserts clear and unequivocal position on that issue, and argues directly in its favor.	1,000-1,500	Abstract	Required
Review of Literature: Presents supporting and nonsupporting evidence on a topic of interest and value to educators; synthesizes and critiques the literature; draws conclusions; describes procedures for selecting and reviewing literature; may include narrative review, best-evidence, synthesis, or meta-analysis.	1,500-3,000	Abstract	Required
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.	1,000-1,500	Abstract	Encouraged
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	Required
Letter to the Editor: Responds to materials previously published in the <i>Bulletin</i> ; must include author's name and chapter/state of membership.	200-300	NA	Not required
Poetry/Graphic Arts: Original expressions in any brief poetic format or through drawings, sketches, etchings, woodcuts, photographs, cartoons.	NA	NA	Not required

NOTE: More detailed explanations of each category may be found on the *Bulletin* page in the Library at www.dkg.org.



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