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Erin McHenry-Sorber
Wilkes University

Kathleen Provinzano
Drexel University

Editor Emeritus

Robert F. Nicely, Jr.

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Wilkes University

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Robert F. Nicely, Jr.

Copy Editor and Layout Designer

Sarah G. F. Klyberg

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Principals' Perceptions of Change Management: A Mixed-Methods Study

Eman I. Ahmed
Menoufia University, Egypt

The purpose of this study was to examine how school principals frame their own experiences of managing change within their school systems. Using the four-frame model (structural, human resource, political, and symbolic) developed by Bolman and Deal, this study sought to identify common leadership frames employed by school principals in Central Pennsylvania to manage change and make decisions. An explanatory sequential mixed methods design was used to address the study's purpose. The study also identified the frames that principals use and to what extent there are contextual and gender differences in the frame patterns. An analysis of the data revealed that that all four frames are used by the principals, and most principals report using more than one frame.

Over the past 30 years, reports from state and national entities and leading educational thinkers have issued a call to reexamine the U.S. educational system. The landmark report, *A Nation at Risk* (National Commission on Excellence in Education, 1983) described a “rising tide of mediocrity” that characterized American public schools. The passage of the No Child Left Behind Act (NCLB) in 2002 significantly increased the pressure on school leaders to raise student achievement and improve the quality of public education (Cava, 2009). The description of the consequences of minimal educational standards, unfavorable campus policies, poor test scores, low student expectations, inadequate facilities, new mandates, and decreasing parental involvement in education signaled a threat to the quality of public education (Carman, 2008). Other respected commissions have also added their voices to the growing concern over the quality of public schools in the United States (Carnegie Forum on Education and the Economy, 1986; Holmes Group, 1986; National Governors' Association, 1991).

According to Daniels (2009), school leaders must respond to the widespread concern about education today and the need for change. The school leader's response to change determines its effectiveness in the future. The demands for school change have redefined the role of the school leaders nationwide. While change should be dealt with by principals, superintendents, and school boards alike, the role of principals has been identified as a critical factor for successful educational change. Principals have had increased expectations placed on them in their positions (Fullan, 2001). The principal occupies a place between the district office and the teaching staff. This position is critical to the change-management process. Understanding school principals' perceptions of the change process and which frames and approaches they use to achieve transformation is critical to the success of change efforts. Bolman and Deal (1991, 1997, 2003)

introduced four frames through which leaders can manage the change process within schools. The focus of this study was to add to the existing literature by examining how school principals frame their own experiences of managing change within their school system. The more that can be learned about the perceptions and the expectations that school principals have of the change management process, the more educators will be able to address the needs of school leaders (Duke, 2008).

Conceptual Framework

This study's theoretical framework draws upon the four-frame model developed by Bolman and Deal (1991). Bolman and Deal introduced their model in *Reframing Organizations: Artistry, Choice, and Leadership* and defined reframing as "the use of multiple lenses" (Bolman and Deal 1991, p. xv). The four frames are (1) the structural frame, (2) the human recourse frame, (3) the political frame, and (4) the symbolic frame. Each of these approaches offers a distinct perspective with specific identified behaviors and negative and positive aspects (Bolman & Deal, 2003). The Bolman and Deal framework was designed as a comprehensive tool to understand managerial action (Zhixian, 2010). It is also a powerful way to match change management approaches to a particular change situation.

Within Bolman and Deal's four-frame model (2008), each frame "is a coherent set of ideas forming a prism or lens that enables you to see and understand more clearly" (p. 41) the decisions that must be made. The four-frame model is based on the major schools of organizational change research and theory. These frames are classifications that describe the ways in which leaders/principals think and react to situation. Bolman and Deal suggest that organizations have multiple realities, and leaders need multiple perspectives or lenses with which to manage a particular situation. Each of the four frames, as detailed below, is focused on a different aspect of organizational behavior (Sypawka, 2008). Table 1 shows the relationship of the frames the major schools of organizational theory.

The Structural Approach

The structural frame has its roots in the scientific management and bureaucratic models of classical management theory. The structural frame was developed based on the following core assumptions.

- Organizations exist primarily to establish mission and goals.
- Rationality, rather than personal agendas, is the key to organizational improvement and effectiveness.
- For any organization, a structural form can be designed to fit its political goals, strategies, environment, and people.
- Coordination and control are essential to organizational effectiveness.
- Structural leaders value analysis and data, set clear directions, and hold people accountable for the outcomes.

- Structural leaders resolve change problems with new policies and rules or through restructuring.
- Behavior of individual should be rational and controlled by an organization's structure.

The Human Resource Approach

The human resource frame comes from human relations and behavioral management theories. The human resource leadership frame uses assumptions from psychology and organizational behavior (Sypawka, 2008) to focus on the relationship between human needs and the organization. Human resource frame leaders value relations and lead by empowering their workers. The human resource frame is based on the following core assumptions.

- Organizations exist primarily to serve human needs.
- The leader focuses on solving problems and the needs of workers.

Table 1
Relationship of Bolman and Deal's Leadership Frames to Major Schools of Organizational Theory

Organizational Theory	Frame	Definition of Frame
Classical Theory Behavioral Theory	Structural	Defines organizational goals Divides people into specific roles Develops policies, rules and chain of command
Human Relations Theory Behavioral Theory	Human Resource	Adjusts to solve problems and fit the needs of the workers. Organizations exist primarily to serve human needs
Political Theory	Political	Assumes competition for scarce resources Conflict is expected among different groups Bargaining, coercion and compromise are routine
Cultural Theory	Symbolic	Abandons assumptions of rationality View organizations as united by shared values Improvements are made through symbols and myths

Note: Adapted from Bolman and Deal (1984).

- Workers are dependent on the organization for satisfaction and meaning for their lives.
- People should be rewarded for their work.
- People’s satisfaction and organizational effectiveness are dependent on interpersonal relationship.

The central idea of the human resource approach is the interplay between organizations and people. Human resource leaders value relation feelings and interpersonal relations. Change may result in a feeling of incompetence (Zhixian, 2010). When change leaders experience this issue, they should provide employees with training, and psychological support (Bolman & Deal, 2003).

The Political Approach

The political frame describes organizations as places in which individuals use power and influence to affect the allocation of scarce resources. The political frame operates based on the following assumptions.

- Organizations, such as school systems, consists of varied individuals, interest groups, and demands originating outside and inside of them.
- Most of the important decisions in the organization involve the allocation of scarce resources.
- There are enduring differences among individuals in values, beliefs, and perceptions of reality.
- Scarce resources and enduring differences place conflict at the center of organizational dynamics.
- Limited resources inhibit change, and when resources are available, power is needed to “make things happen, to overcome resistance, and to influence the people to do things” (Bolman & Deal, 2008, p. 196).
- Power is one of the key mechanisms of organizational change. Sometimes, it could be the only mechanism to change a system.
- Organizational goals and decisions emerge from bargaining and negotiation among leaders.

This approach is limited by the fact that it focuses strongly on politics, underestimating the significance of rationality and collaboration in organizations and overstating the inevitability of conflict (Bolman & Deal, 2008).

The Symbolic Approach

Change can also be accomplished through references to and reforms of an organization’s culture, values, and symbols. Thus, Bolman and Deal’s fourth frame is the symbolic frame. The symbolic frame is based on the following core assumptions (Bolman & Deal, 2003).

- What is important is not what happens, but what it means.
- Activity and meaning are loosely coupled, meaning that events have multiple meanings because people interpret experiences differently.
- Culture is the glue that holds an organization together and unites people around shared values and beliefs.

Within the symbolic frame, the vision and the value of organizations provide purpose and resolve to the members of the organization. The values convey a sense of identity and —help people feel special about what they do (Guidry, 2007). Bolman and Deal (2003) maintain that, “symbols embody and express an organization’s culture: the interwoven pattern of beliefs, values, practices, and artifacts that defines for members who they are and how they do things” (p. 243). The symbolic leader uses symbols, meaning, belief, faith, culture, ceremonies, rituals, plays, and stories to provide a sense of shared commonality among people. Symbolic leaders are able to skillfully use symbols such as myths, heroes, stories, and ceremonies to instill a sense of enthusiasm and commitment within the organization and move the organization forward (Bolman & Deal, 2003).

Bringing the Frames Together

Combining the structural, human resource, political, and symbolic frames allows leaders to better understand the complexities of their organizations (Bolman & Deal, 2003). The use of a collection of frames to make sense out of complex organizational events is a powerful asset for leaders as they try to understand situations and solve problems (Roddy, 2010). Bolman and Deal (1997, 2003) describe the organization as having multiple realities which produce confusion and conflict as individuals interpret the same events through their own lenses or frames. An effective leader can use this knowledge to match a particular frame or combination of frames to a situation. When a person’s actions appear to make no sense, a leader should use these lenses to peer into contrasting realities (Sypawka, 2008). An individual’s frame can help explain his or her actions: “Their frame, not yours, determines how they act” (Bolman & Deal, 2003, p. 309).

Purpose and Research Questions

The purpose of this study was to examine principals’ perceptions of change management in their school systems using the four-frame perspective developed by Bolman and Deal (1991, 1997, 2003) and the challenges facing them in achieving transformation within their schools. To these ends, this study sought to answer the following questions.

1. What kind of problems do the school principals face in managing the change process?
2. Which frame(s) of Bolman and Deal’s (2003) four-frame leadership orientations do the school principals report as the most dominant frame(s)?
3. To what degree are there contextual differences in the frame patterns?
4. Are male and female principals different in how they manage the change process?

Significance of the Study

This study is significant for several reasons. First, the results of this study are helpful to understand school principals' approaches to managing change in their school settings. Second, the study reveals whether there is consistency in change-management styles among school principals. Third, the study provides policy makers, school boards, and superintendents with a realistic profile of the of principals' perceptions of the change process of their school systems. Finally, the results may help principals better understand different management approaches.

Limitations of the Study

The sample was compromised of districts in Central Pennsylvania whose demographic characteristics were representative of the state as a whole. The principals were selected from elementary schools. Middle and high school principals were not included in the sample, confining the results to elementary schools.

Design of the Study

To address the study's questions, the author decided to conduct it using a mixed-methods design. Mixed methods design focuses on collecting , and analyzing and mixing both quantitative and qualitative approaches in a single study (Creswell & Plano Clark, 2007). Its central premise is that the simultaneous use of quantitative and qualitative approaches provides a better understanding of the research problems than either approach or method does by itself (Creswell, 2008; Creswell & Plano Clark, 2011).

Using Creswell and Plano Clark (2011), the author discerned that the preferable mixed methods design for this study would be Explanatory Sequential Design. Explanatory Sequential Design is well suited to the study's purpose in that the researcher needs a qualitative approach to explain, examine, and refine the initial results of quantitative data (Creswell & Plano Clark, 2007). Explanatory Sequential Design employs two phases, starting with designing and implementing a quantitative strand that includes collecting and analyzing quantitative data. This first step is followed by a sequential collection and analysis of qualitative data. The qualitative results help to "explain and add insight into the quantitative results and what overall is learned in response to the study's purpose" (Creswell & Plano Clark, 2011, p. 85).

The quantitative component of the study consisted of a questionnaire administered to a sample of 149 of elementary school principals in Central Pennsylvania. The questionnaire consisted of 36 items developed by the author to address the respondents' perceptions of change processes in school settings. The qualitative component of the study consisted of a content analysis of write-ups of incidents that a sub-sample of surveyed principals encountered in their schools.

Quantitative Investigation

The quantitative investigation consisted of a questionnaire administered to a sample of school principals. The questionnaire was developed by the author to identify the frames used by the school principals to manage change in their school settings in Central Pennsylvania. The questionnaire consisted of three sections. The first section asked participants to respond to 24 Likert-style items that would enhance understanding of the frames that they used to achieve transformation in their school settings. The second section of the questionnaire consisted of 12 items with a five-point response scale to identify the problems and the challenges (cultural, environmental, and cognitive barriers) facing the participant in managing change processes. The third section of the questionnaire solicited information concerning the demographic and the professional characteristics of the participants.

The questionnaire was reviewed for content validity. Since there are five constructs assured, using Likert scores, it was important to examine the internal consistency of these scores. Cronbach's alpha provided a good indicator of the internal consistency of these scores (Black, 1999). The standardized item alphas revealed that all survey questions had values above .7, which is identified as acceptable.

Participants

Mixed purposeful sampling was employed in this study. It combined various sampling strategies (e.g., convenience sampling, maximum variety exemplification, and stratified purposeful sampling). Mixed purposeful sampling helps achieve triangulation and variety. The author believes that the gender of the principals, their experiences, and the settings of the schools in which they work have sufficient power to fulfill this variety.

A purposeful sample of 149 elementary school principals, 54 females and 95 males, compromised the participants for this study. The principals were chosen from different school settings in Central Pennsylvania. Among the principals surveyed, 54 had 1 to 5 years of leadership experience, 63 had 7 to 9 years of experience, 20 had 10 to 12 years of experience, and 12 had 12 or more years of leadership experience.

Quantitative Results

The data revealed that there were some significant contextual differences among the groups (rural vs. urban school settings), as is shown in Table 2. While principals in rural schools were significantly higher than their colleagues in urban schools on the human resource ($t = -10.311$, $p = .000$), the principals in the urban schools were significantly higher than their rural colleagues on the political frame ($t = -4.068$, $p = .000$). The data also revealed that there were no significant differences with the other two frames (structural frame, $t = 1.076$, $p = .283$; symbolic frame, $t = -.124$, $p = .902$).

Table 2
Contextual Differences in Frames and Barriers

Group	Rural <i>M</i>	Urban <i>M</i>	Rural <i>Sd</i>	Urban <i>Sd</i>	<i>t</i>	<i>p</i>
Structural	15.593	15.127	1.874	2.043	1.076	.283
Human resource	26.755	18.74	2.38	6.65	-10.311	.000
Political	15.441	14.412	2.106	1.56	4.068	.000
Symbolic	26.75	15.39	2.38	3.317	124	.902
Cultural Barriers	17.52	13.66	1.134	1.732	8.751	.000
Environmental Barriers	16.25	12.39	2.175	.6101	32.55	.000
Cognitive Barriers	14.767	15.968	1.99	2.87	.695	.000

Note: Significance levels: * = < .05 by two-tailed test.

Table 2 also indicates that there were some significant contextual differences between the groups in terms of the challenges that they face with managing change within their school settings. The rural principals were significantly higher than their urban colleagues in terms of cultural ($t = -8.751$, $p = .000$) and environmental ($t = -32.557$, $p = .000$) barriers. There was no significant contextual difference between the groups on cognitive barriers ($t = -.695$, $p = .488$).

The data revealed that there were significant differences between male and female school principals on most of the variables (frames), as is illustrated in Table 3. For example, female principals were significantly higher on the human resource frame ($t = -3.398$, $p = .001$) than were their male colleagues. Male principals were significantly higher than female colleagues on the political ($t = 4.102$, $p = .000$) and structural frames ($t = 5.751$, $p = .000$). The differences between the male and the female principals were not statistically significant for the symbolic frame ($t = .686$, $p = .494$). The data also revealed there were no significant differences between male and female principals on any of the barriers (cultural barriers, $t = .110$, $p = .912$; environmental barriers, $t = .640$, $p = .523$; cognitive barriers, $t = .686$, $p = .494$).

Table 3
Gender Differences in Frames and Barriers

Group	Women <i>M</i>	Men <i>M</i>	Women <i>Sd</i>	Men <i>Sd</i>	<i>t</i>	<i>P</i>
Structural	13.77	15.568	2.2290	1.555	5.751	.000
Human resource	25.55	22.126	4.890	6.4301	-3.398	.001
Political	14.3148	15.537	1.515	1.8669	4.102	.000
Symbolic	15.259	15.515	2.36	2.09	.686	.494
Cultural Barriers	15.055	15.09	2.059	2.093	.110	.912
Environmental Barriers	15.46	15.53	2.76	2.97	.640	.523
Cognitive barriers	15.259	15.515	2.36	2.09	.686	.494

Note: Significance levels: * = < .05 by two-tailed test.

Qualitative Investigation

The purpose of the qualitative investigation was to explain and refine the results of the quantitative portion of this study. The qualitative component consisted of a content analysis of write-ups of incidents that a sub-sample of principals encountered in their schools.

Written incident descriptions were used for several reasons. First, these descriptions provide rich and detailed data on how the principals frame their experiences of managing change. Second, writing about these incidents took only 5 to 10 minutes (Rao, 2000). The participants in this study were asked to write about “a challenging situation of managing change within the school setting.” The author analyzed these narratives to identify barriers that principals face in managing the change process and the frames that they use to facilitate change in their school settings. The author used a coding system based on criteria summarized in Tables 4 and 5.

Table 6 illustrates which barriers were seen by the school principals in the four samples (divided according to gender and setting). Differences in context seem to have a significant effect on the barriers to manage change within the school setting. For example, principals from the urban school setting wrote about environmental and cultural barriers in about 60% of their cases. The same barriers appeared in more than 80% of the incidents from the rural school districts. For the cognitive barriers, there were no major differences among the four samples.

Table 4
Criteria for Coding Barrier Responses

Barrier	Barrier-Related Concepts and Issues
Cultural	Employees are resistant to changing traditions, some things are taboo and difficult to change, employees are skeptical about changing existing processes, employees are not able to imagine the new approaches to the change process, incompatibility of a cultural trait with change, threatening to established beliefs and values, cultural ethnocentrism, personal reasons
Environmental	Some people do not support the change process, people look at the change as a threat to their power, personal status, and influence Lack of ability to accept criticism, lack of perception
Cognitive	Lack of correct and complete information and resources, use of wrong language and terms, strategies for managing change are not correctly applied

Table 5
Criteria for Coding the Frame Responses

Frame	Frame-Related Concepts and Issues
Structural	Creating structures and units to achieve established goals, clarity of mission and goals, planning, clarity of policies and procedures, rationality, budgeting, coordination, and evaluation
Politics	Group interests, demands inside and outside the school, limited resources, power as a key activity, people's expectations, power and authority influence the people
Human resource	Satisfy the people's needs, concerns, feelings and abilities; involvement (open meetings and workshops) in planning and implementation; listening, communication, a sense of community, work as a team
Symbolic	People's attachment to symbols around them, symbolic significance of existing culture and practices, influencing the school's existing values and culture

Table 6
Barriers that School Principals Face

Barriers	Female Principals (Rural)	Male Principals (Rural)	Female Principals (Urban)	Male Principals (Urban)
Cultural	80%	86%	66%	60%
Environmental	93%	86%	53%	60%
Cognitive	33%	40%	46%	33%

Table 7 reports the frames used by the principals in the four samples to manage change within the school setting. For the political and the symbolic perspectives, there were no differences among the four samples. Regardless of the school setting, all the school principals in the four samples rated high on the human resource and the structural perspectives. However, all the female principals employed the human resource perspective more than their male colleagues.

Table 7
Frames that School Principals Employ

Frame	Female Principals (Rural)	Male Principals (Rural)	Female Principals (Urban)	Male Principals (Urban)
Structural	53%	60%	66%	73%
Political	33%	46%	40%	53%
Human resource	93%	80%	86%	93%
Symbolic	26%	13%	20%	13%

Discussion and Conclusions

Leading school change is complex and challenging (Salinas, 2010). Principals play a crucial role in leading and managing change. Understanding which frames that principals use to achieve transformation is critical to the success of these efforts. Bolman and Deal (1991, 1997, 2003) introduced four frames to guide leaders through change processes within organizations, including schools: structural, human resource, political, and symbolic. The goal of this study was to add to the existing literature by examining how school principals frame their own experiences of managing change and improvement within their schools.

The explanatory sequential design was used to understand the research problems and answer the research questions. This design is a two-phase, mixed-methods approach. The first phase

starts with collection and analysis of quantitative data. It is followed by collection and analysis of qualitative data. The qualitative data allows the researcher to probe the quantitative data in more detail. While the findings from the quantitative data identified the problems that principals face in managing change, the frames that they use to achieve transformation within their schools, and the differences in how these frames were employed by male and female and rural and urban participants, the qualitative data painted a rich picture of how prominent each frame is in guiding the principals to managing change and achieve transformation within their schools.

Both the qualitative and the quantitative data were used to identify the barriers that face the principals as they manage change and the frames that guide them as they seek to transform their school settings. For barriers, the quantitative results revealed that there were no significant differences between the groups. The qualitative data showed that cultural and environmental barriers appeared in more than 80% of the incidents in the rural schools. Both the qualitative and the quantitative data showed that the participants employed most of the frames (structural, political, human resource, and symbolic) in managing school change. For example, the qualitative data revealed that the human resource frame appeared in about 88% of cases, and the structural frame appeared in about 65% of cases, while the symbolic frame appeared in about 16% of all cases. Regardless of the school context, the qualitative and the quantitative data revealed that the human resource and the structural frames were prominent in most of the cases.

When gender is considered in relation to frame orientations, both the qualitative and the quantitative investigations revealed that there were some differences between male and female principals regarding use of the human resource frame. Women employed the human resource frame more frequently than their male colleagues.

The study here suggests that all four frames developed by Bolman and Deal are important, although their use varies by gender and context. The results show that the school principals may use one or two of the frames to achieve transformation, but they need to understand and employ most of the frames if they want to manage change efforts successfully and effectively. Guidry (2007) asserts that each frame highlights significant possibilities for leadership, but each is incomplete for capturing the whole picture. Leaders who view their organizations through one of the four frames are likely to have an unbalanced view in their leadership, while leaders who call upon multiple frames have alternate ways to consider problems and a repertoire of behaviors from which to choose.

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About the Author

*Eman I. Ahmed received her Ph.D. from the Pennsylvania State University. She taught at Penn State from 2008 to 2012. She became assistant professor of educational leadership in 2012. Her fields of specialization in research are mixed research methodologies, school leadership, ethics, professional development, cognitive coaching, and comparative and international education. Her publications include the book *Women's Career Mobility in Comparative Perspective: A Mixed Methods Study* (2012). Dr. Ahmed's e-mail address is emmaahmed71@gmail.com.*

Targeted Professional Development for K-8 Teachers of Mathematics Participating in a Model Math Specialist Program

Jason Petula
Millersville University

Attention to mathematics curricula in elementary and middle schools has increased with the emergence of high-stakes testing. An elementary mathematics education is no longer restricted to arithmetic. Other categories of mathematics, such as geometry, algebra, and calculus, are introduced as early as kindergarten. The changes facing teachers of mathematics are not restricted to curricula; teachers must also change the pedagogies used during mathematics instruction. One challenge is that while curricula and instruction are changing, teaching methods are not. Another challenge is that the Pennsylvania Department of Education (PDE) does not currently offer a mathematics specialist certification, despite the adage that there is nothing elementary about elementary mathematics. In response to these challenges, a model K-8 mathematics specialist program was established to increase teachers' content knowledge of mathematics, model effective pedagogies, and elevate participants' understanding of how students learn mathematics. This article reports on a professional development program that was implemented to enhance teachers' mathematics content knowledge, pedagogy, and understanding of how children learn mathematics.

Attention to mathematics curricula in elementary and middle schools has increased with the emergence of high-stakes testing. An elementary mathematics education is no longer restricted to arithmetic. Other categories of mathematics, such as geometry, algebra, and calculus, are introduced as early as kindergarten. The changes facing teachers of mathematics are not restricted to curricula; teachers must also change the pedagogies used during mathematics instruction.

One challenge to changing curricula and instruction is that many individuals teach the way they were taught. Further, many elementary-certified teachers have limited coursework in mathematics as part of their certification program. Another challenge in the Commonwealth of Pennsylvania is that the Pennsylvania Department of Education (PDE) does not currently offer a mathematics specialist certification, despite the adage that there is nothing elementary about elementary mathematics (Wu, 2009). In response to these challenges, a model K-8 mathematics specialist program (MMSP) was established to increase teachers' content knowledge of mathematics, model effective pedagogies, and elevate participants' understanding of how students learn mathematics.

Sense of Urgency

In 1990, *Science for All Americans* identified what citizens should know to be scientifically literate. In the preface, Rutherford and Ahlgren (1990) noted

The most recent international mathematics study has reported, for instance, that U.S. students are well below the international level in problem solving, and the latest study of National Assessment of Educational Progress has found that despite some small recent gains, the average performance of 17-year-olds in 1986 remains substantially lower than it had been in 1969. (p. xv)

Perhaps a more contemporary perspective on the state of mathematics education in the United States may be more encouraging?

The 2009 National Assessment of Educational Progress (NEAP) revealed only 25% of our nation's 12th-grade public school students were proficient or better in mathematics. When they enter college the following year, almost 30% of 12th-grade students are placed into remedial courses (Innovation America, National Governors' Association, & Pew Center on the States, 2007). These alarming statistics resonate with the vast majority of Americans who believe that "the United States must increase the number of workers with a background in science and mathematics or America's ability to compete in the global economy will be diminished." (Committee on Prospering in the Global Economy of the 21st Century & Committee on Science, Engineering, and Public Policy, 2007). International comparisons, such as Trends in International Mathematics and Science Study (TIMSS), reinforce the conclusions of the National Mathematics Advisory Panel (2008): "This Panel, diverse in experience, expertise, and philosophy, agrees broadly that the delivery system in mathematics education—the system that translates mathematical knowledge into value and ability for the next generation—is broken and must be fixed" (pp. xiii).

It can be argued that there are many problems to fix in mathematics education. For example, why are mathematics and science divorced from each other as subjects in most schools? Regardless of the answer, which is probably a manifestation of 19th-century academics, the present reality is that mathematics, particularly algebra, is a gatekeeper (Usiskin, 2005). Algebra, for instance, is often cited as the gatekeeper to success in higher-level mathematics. Algebra II is equally cited as the gatekeeper to success in college. If these statements are true, then Margret Spellings was correct with her stances about reform: "It's an economic issue, a civic issue, a social issue and a national security issue. And it's everybody's issue." (U.S. Department of Education, 2006, p. 1).

Standards-Based Instructional Systems

The sense of urgency for educational reform has led to the development of different instructional systems, such as a standards-based instructional system. The elements of a standards-based instructional system are clear standards; fair assessments, curriculum,

instruction, resources and materials for instruction; and interventions (i.e., safety nets) (Hampton, 1999; National Center on Education and the Economy, 2007; Tucker & Coddling, 2002). Proponents of the standards-based instructional system model insist that all elements must be aligned for the goal of increased student achievement to be realized.

The theory behind the model is that improvements to students' academic achievement occur when all elements of the system are aligned and cohesive. Attention only to one element (e.g., curriculum) may not produce the desired results in achievement. For example, a mandate for all students to complete a traditional algebra course by the end of eighth grade is not likely to prepare more students for higher-level mathematics courses in high school (Loveless, 2008). Instead, the number of students who fail algebra is likely to increase because the other elements of the system were not addressed, such as assurances that the students possessed prerequisite knowledge and skills for success in algebra. All the elements of a standards-based instructional system were aligned during this study, but what follows reveals only the element of instruction and the professional development related to changing instructional pedagogies in elementary mathematics classrooms.

Model Math Specialist Program

The traditional pedagogies used by teachers of mathematics are often influenced by the type of instruction that the teachers experienced when they learned mathematics. Teachers tend to teach in the way they were taught. In the case of mathematics, this practice often equates to an emphasis on drills. One goal of the MMSP was to increase the pedagogical repertoire of participants so they might use more desired pedagogies in the classroom (Fuson, Kalchman, & Bransford, 2004). Hence, the curriculum used in the program was taught by facilitators who were both familiar with desired pedagogies and capable of modeling those pedagogies. At the program's inception, it was hoped that teachers would have experiences that would increase their content knowledge, pedagogies, and understanding of how students learn mathematics.

Most teachers do not have access to colleges and universities that offer graduate coursework in K-8 mathematics. Further, the economic difficulties facing many school districts have resulted in declines in professional development budgets. These economic and access concerns were avoided by using free professional development resources from Annenberg Media. Six courses from Annenberg Media were selected to represent the MMSP curriculum:

1. The Private Universe Project in Mathematics
2. Learning Math: Geometry
3. Learning Math: Number and Operations
4. Learning Math: Measurement
5. Learning Math: Data Analysis, Statistics, and Probability
6. Learning Math: Patterns, Functions, and Algebra

The Learning Math series comprised five 10-week courses that met face-to-face for three hours each week. The Private Universe Project in Mathematics course was six weeks with the same face-to-face requirements. All curricula were taught as written, without modifications, in the order listed above over a two-year period. Teachers did have the option to earn up to 17 graduate credits, for successful completion of the courses, through an arrangement between Annenberg Media and an accredited university. The project team concluded that any teacher who completed all the designated coursework would have the necessary content knowledge and capabilities to be an elementary mathematics specialist. Further, such specialists would be the most qualified candidates for any intervention efforts, such as elementary mathematic clinics (Petula, 2011), to remediate students identified as having math deficiencies.

Three-Dimensional Analysis of Teachers' Professional Development

At the conclusion of each workshop, participants completed a course evaluation that included an opportunity to report perceived professional development from the workshop along three continua. For example, participants indicated, with an X on a line, what portion of their professional growth was content knowledge (i.e., subject) compared to pedagogical knowledge (i.e., teaching). Figure 1 illustrates an example of a workshop evaluation, which reveals that the participant perceived a greater gain to their understanding of teaching compared to their subject matter of the workshop.

The Xs on the continua were quantified by measuring the location of the mark, a range from 0 to 10 centimeters. The value for each datum was entered into a triplot program - a program that placed each participant on a three-dimensional graph that revealed each participant's reported professional development growth. An effective analogy to this representation is a soil composition triangle.

Each participant's perceived learning from a course is revealed on a triplot as a cross. The left axis of the triplot represents the percentage of overall learning attributed to teaching, or pedagogy, whereas the bottom axis represents learning (i.e., cognition), and the right axis represents subject (e.g., Number and Operations). Figure 2 reveals that over 45% of the reported professional growth from the Number and Operations course may be attributed to how

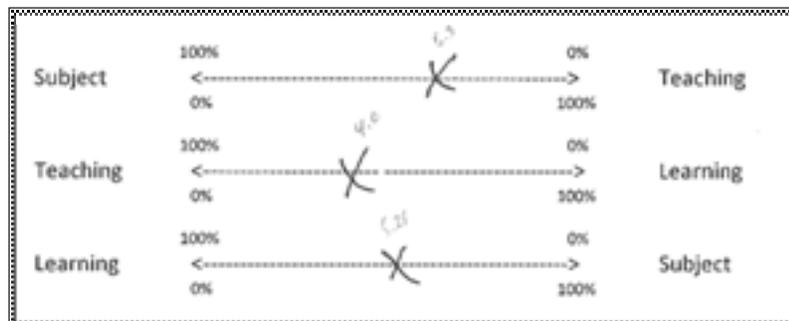


Figure 1. Example of a workshop evaluation.

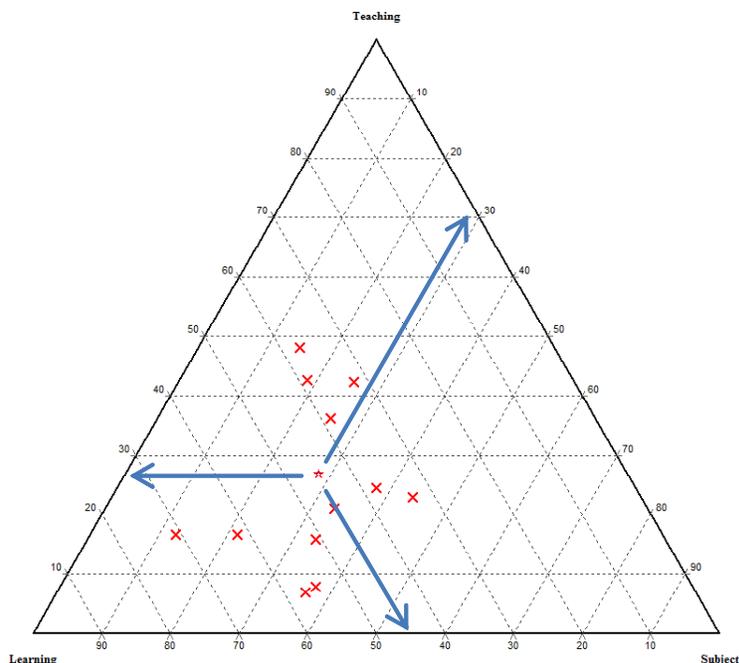


Figure 2. Triplot for the Learning Math: Number & Operations workshop.

students learn number and operations concepts. The use of triplots to represent professional growth visually allows the theme of a workshop or course to emerge and may be predictive of professional growth of future participants taking the same course.

Another advantage of representing teachers' professional development using triplots is the ability to compare courses. The triplot data reveal the average reported professional growth in three dimensions in each course (see Table 1). The course may be categorized by dominant themes that are determined by the dimension with the greatest percentage of professional growth.

Table 1
Average Reported Professional Development in Each Course

Workshop	N	Teaching	Learning	Subject
The Private Universe Project in Mathematics	19	40.12%	34.92%	24.96%
Geometry	12	19.88%	43.61%	36.51%
Number and Operations	12	26.63%	45.12%	28.26%
Measurement	15	36.36%	30.84%	32.80%
Data Analysis, Statistics, and Probability	14	34.29%	27.17%	38.54%
Patterns, Functions, and Algebra	12	31.29%	29.05%	39.66%

Implications for Administrators and School Districts

School districts face challenging economic circumstances that reduce budgets devoted to professional development. The most costly form of professional development for a district is reimbursement for university coursework. In addition to budgetary considerations, courses offered by university faculty may not be relevant because they have a theoretical focus or reinforce traditional pedagogies (Smith, 1998). Instead, coursework should have intentional foci on mathematical content knowledge (M-CK) and mathematical pedagogical content knowledge (M-PCK) (Cardetti & Truxaw, 2014). Educational leaders need targeted and meaningful professional development that is cost-effective and promotes students' academic achievement.

The dominant themes from the MMSP courses can help instructional leaders steer faculty members toward the right type of professional development. For example, teachers who want to alter pedagogies so that they are more aligned with best practices should be steered toward the Private Universe Project in Mathematics and Learning Math: Measurement courses.

Another challenge facing many elementary teachers is their comfort level with the subject of mathematics. Reforms in mathematics education in the United States have forced elementary educators to teach more than just arithmetic. Algebra, statistics, and other strands of mathematics are often introduced in kindergarten. What does it mean to teach algebraic concepts to a first-grade student? Teachers with that type of question should be directed toward the Patterns, Functions, and Algebra course.

Although the MMSP was designed for K-8 mathematics educators, several secondary math teachers participated in some of the courses. Their rationale was related to the remedial courses that they taught and the suspicion that their students may have had elementary math problems. When secondary teachers' data was disaggregated from the other teachers' data, a surprising pattern emerged. The data points for secondary teachers fell in distinctly different areas of the triplot compared to other teachers. For instance, secondary teachers identified learning as the most dominant theme for subject courses, i.e., Data Analysis, Statistics, and Probability and Patterns, Functions, and Algebra. Perhaps their comfort with the content allowed them to devote more of their attention to how students learn the mathematics. Additional research is necessary to see if the dominant themes differ between elementary and secondary teachers.

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About the Author

Jason Petula is an assistant professor of education at Millersville University and a facilitator for the Pennsylvania Inspired Leadership (PIL) program. His e-mail address is jpetula@millersville.edu.

Computational Error Pattern Analysis and Prescriptive Instruction

Carol Buckley
Messiah College

This mixed methodology study examined the ability of kindergarten through grade 5 classroom teachers to diagnose computational error patterns and prescribe appropriate instruction and intervention based on computational errors in student work. Through the use of a survey instrument developed by the researcher and based on prior research, elementary classroom teachers responded to open-ended questions to identify the type of error made as well as to state recommendations for instruction and intervention. The teachers were most often able to diagnose the type of computational error, but the recommendations made by this sample of teachers did not align with current literature for appropriate instruction and intervention. This finding parallels the results of earlier work and speaks to the need for ongoing job-embedded professional development. The study also included a survey in which quantitative demographic information was obtained to look for trends.

A half-century ago, the United States received a wake-up call with the Soviet Union's launch of Sputnik (National Commission on Excellence in Education, 1983). At the time, the Soviet Union's perceived lead in the space race was viewed as an indication that the United States' mathematics and science instruction was severely deficient when compared to industrialized international counterparts (Garber, 2007; Herrera & Owens, 2001; Pascopella, 2007). This perception sparked a fear that the national security of the United States might be at risk, with mathematics education at the heart of this concern (Herrera & Owens, 2001). For the next several decades, the proverbial mathematics education reform pendulum would swing side-to-side, trying to pinpoint the necessary components for exceptional mathematics education.

Recommendations for educational reform in mathematics witnessed relatively rapid change in the last half-century, moving from an emphasis on rote memorization in the traditional classroom of the 1960s (National Research Council, 1990; Schmittau, 2004; Wakefield, 2001) to true constructivism in the 1990s (Gordon, 2009) to the current focus on computational fluency (Ashlock, 2006), conceptual understanding and development of numeracy (Dougherty, Flores, Louis, & Sophian, 2010), and the development of habits of mind that promote mathematical reasoning and problem solving. These components of mathematics education will combine to support the higher-order thinking that is necessary for the United States to remain competitive in the international marketplace. To make standard changes in teachers' methodologies, one needs first to understand why change is needed (Cawsey & Deszca, 2007). Determining current practice, including inconsistencies in practice from class to class and defining a desired future

state, is a critical step for making a lasting change in educational practice (Cawsey & Deszca, 2007).

This mixed-methods study examines teacher knowledge of best practices and the latest initiatives in mathematics education. Specifically, teachers' ability to diagnose and analyze computational error patterns and, perhaps more importantly, teachers' ability to consistently prescribe instruction and intervention based on student errors in computation were examined. A teacher's ability to diagnose computational error patterns and prescribe appropriate instruction and intervention suggests effective teaching and has the potential ultimately positively impact student achievement.

Mathematics Education Reform

Beginning in the 1970s and continuing for decades, a sense of urgency to reform mathematics education in the United States evolved. A series of documents outlining the mediocrity of the educational foundations of America emerged (Garber, 2007; Johanningmeier, 2010; Mathematical Sciences Education Board, Board on Mathematical Sciences, & Committee on the Mathematical Sciences in the Year 2000, 1989; National Commission on Excellence in Education, 1983; National Council of Teachers of Mathematics, 1980, 1989; Trohler, 2010). In several cases, legislative acts set the expectation for improved performance in mathematics for students in this country (Mathematical Sciences Education Board et al., 1989; National Commission on Excellence in Education, 1983; U.S. Department of Education, 2001). Independent of national initiatives, the National Council of Teachers of Mathematics (NCTM) has also researched best practices for the teaching of mathematics, and contributed to the advancement of mathematics education by developing standards for student performance and setting goals for proficiency (NCTM, 1989).

Traditional mathematics education in the United States focused on rote memorization of facts or procedure with little concern about conceptual understanding or problem solving. These traditional teaching methods remain deeply engrained in education in the United States (Miller, Drill, & Behrstock, 2010) yet these methods have been shown to be less effective than the development of conceptual understanding and a strong number sense (Riccomini, 2005; Schmittau, 2004). According to Burns (2011), the benefit of conceptual or procedural intervention is really dependent upon the student's need, and a broad generalization cannot be made as to the superiority of one over the other. Educational research by Piaget and Vygotsky provided insight into how students learn mathematics, and pockets of reform efforts in teacher preparation programs in the 1990s focused on instruction based on Vygotsky's constructivist learning theory (Fox & Riconscente, 2008; Gordon, 2009; Schmittau, 2004; Wakefield, 2001).

Experts from a variety of disciplines have pointed to deficiency in mathematics and science education as a possible reason for the decline in the United States' competitive edge. Further decline and a threat to national security seem imminent unless effective reform of mathematics instructional practice takes place (Byko, 2007). Late in the 20th century, the

international marketplace and relationships were rapidly changing, and mathematics instruction that supported innovative thinking and mathematical problem solving was felt to be critically important (Goldman & Preiss, 1991a, 1991b). However, the higher-order thinking skills required for innovative mathematical problem solving were dependent upon the development of early mathematics skills; development of number sense, or numeracy; and elementary teachers' helping young learners to make connections between early mathematics experiences and the real world (Dougherty et al., 2010). If students did not develop a strong foundation in early mathematics skills, their ability to perform more advanced mathematical tasks was greatly compromised (Dougherty et al., 2010). A combination of confident, flexible thinking about numbers and algorithmic efficiency or computational fluency is critically important. When students are fluent in mathematical computation, less effort is consumed by computation, and more in-depth problem solving can occur (Calhoon, Wall, Flores, & Houchins, 2007). At the same time, if students possess a strong number sense, they could quickly determine the reasonableness of their computation and avoid simple errors (Ashlock, 2006).

The last decade of education, in general, has brought to light the concept of Response to Instruction and Intervention (RtII) focusing on strong pedagogy, along with the Common Core State Standards (CCSS), focusing on rigor in the mathematics classroom. The Standards of Mathematical Practice, along with CCSS, bring in the strong habits of mind for problem solving and perseverance that students should develop. As instructional practice in the mathematics classroom evolves, professional development for teachers has the potential to lag behind research. What is understood about mathematics instruction has changed greatly over the last half-century. It is imperative that instructional practice keep pace with research for the United States to maintain its leadership position relative to international competitors.

Need for the Study

Experts from a variety of disciplines have pointed to a possible connection between deficiencies in mathematics and science education in the United States and a decline in the country's international status (Byko, 2007). Educational reform in the area of mathematics instruction has been recommended to stop the decline and to ensure national security (Byko, 2007; National Commission on Mathematics and Science Teaching, 2000). In the 21st century, it is difficult to obtain a job with a good salary without strong skills in mathematics, and fluent computation skills are necessary in many day-to-day tasks (Roman, 2004).

Attempts to reform mathematics instruction over the last several decades have failed to produce consistent, widespread changes in instructional delivery. Despite decades of attempts at reformation of mathematics education, research, theory, and practice have never completely met, and research has failed to have the anticipated impact on instructional practice. Many teachers have continued to teach as they were taught, with only minimal transition from traditional teaching methods to more modern student-centered instruction (Miller et al., 2010). Effective mathematics instruction will depend on a teacher's ability to diagnose computational error

patterns and be prescriptive about instruction and intervention based on students' computational errors (Ashlock, 2006) and errors in conceptual understanding (Dougherty et al., 2010).

Design of the Study

Teachers must have the ability to identify student errors and make instructional decisions based upon that information (Ashlock, 2006). Providing corrective feedback to students is an important first step (Riccomini, 2005). Ashlock (2006) and Riccomini (2005) have defined the most common types of computation errors students make and have determined appropriate beginning points for intervention of each type of error pattern. The work of Ashlock (2006) and Riccomini (2005) was used as the benchmark reference for evaluating the survey responses in this study.

This study used a gap analysis and non-experimental mixed methodology approach. The purpose of the gap analysis was to determine if there was a discrepancy between current practice and the ideal goal (Cawsey & Dezscia, 2007). Variables were not manipulated. The research assistants gathered data, after which the researcher looked for patterns to emerge from the data.

This mixed-methods study gathered information about teachers' ability to analyze computational error patterns and prescribe appropriate intervention as a result of student errors. It compared those instructional recommendations with the recommendations of Ashlock (2006) and Riccomini (2005). To these ends, the study explored these research questions:

1. When considering addition and subtraction computational error patterns, in what ways do the analyses made by K-5 teachers align with current research?
2. Regarding addition and subtraction computational error patterns, in what ways do the instruction and intervention recommendations made by K-5 teachers align with the recommendations found in current literature?

Methodology

This study attempted to determine elementary teachers' ability to diagnose computational error patterns in student work and to determine how closely their instructional recommendations based on those error patterns align with best practices of research-based instruction. It sought to uncover strengths and deficits in instructional practice by mathematics teachers in elementary classrooms. This study outlines the level of consistency of instructional recommendations by teachers for specific error types across the study.

Participation in this study was voluntary, no remuneration was made to participants, and participation was on the condition of anonymity. The teachers of kindergarten through grade 5 in three elementary schools in south-central Pennsylvania were eligible to participate. The student body demographics from these schools are represented in Table 1.

Table 1
Study Body Demographics

Total Student Population	1185
Average Class Size	24 Students
% White	48.8%
% Hispanic	14%
% African American	5%
% Asian	1%
% Other	1%

Gap analysis was used to compare current practice to ideal research based instructional and intervention recommendations. This approach aided in identifying strategies and beliefs that currently exist on this topic and helped to plot the course for change to a more efficient and consistent instructional delivery. Current practice for computational error pattern analysis as described by classroom teachers was compared with expected performance based on current research for addressing these specific areas of mathematical competence. The benchmark for intervention and instructional strategies for responding to specific computational error types was based on the previous work of Ashlock (2006) and Riccomini (2005) as well as a compilation of ideas gathered through a literature review based on the understanding that both procedural and conceptual understanding are necessary and valued.

Study Design

Survey instruments for computational error pattern analysis that were previously developed by Ashlock (2006) and Riccomini (2005) were used as a model for the instrument developed by the researcher to meet the needs of this study. The survey developed for this study included two parts. The first part addressed demographic information for the participants relating to number of years teaching, grade level taught, the number of years teaching the current grade level, and number of mathematics courses at the postsecondary level that participants have passed. The second part of the survey included seven two- or three-digit computational problems that included a common error. Participants were asked to identify the error and to recommend an intervention or instruction for a student making this type of error. The responses were compared to the recommendations by Ashlock (2006) and Riccomini (2001, 2005) to determine the appropriateness of teacher recommendations.

The nature of the research was not for evaluation purposes based on individual teacher performance, but rather to determine general trends in teacher performance in the area of the research. The study specifically addressed teacher ability to analyze computational error patterns and prescribe appropriate instruction and intervention based on student responses.

Validity

In an effort to establish construct and content validity of the researcher-designed instrument, a panel of experts reviewed the survey to ensure that the instrument was consistent with current educational literature and to establish that the survey questions asked what was intended. In addition, 10 teachers from outside the pool of eligible subjects for this study completed the survey as a field test. The field testers found the survey questions to be readable, understandable, aligned to the research questions, and without ambiguous language.

Electronic communication with both Riccomini and Ashlock resulted in each of the authors' granting permission to use their work as a basis for this study, along with a statement that further work was needed on this topic. The teachers in this study were from kindergarten through grade 5, so the computational error patterns used in this study were limited to addition and subtraction error patterns. It is important for teachers to understand the content that will be taught a few grade levels before and after the content they teach (Smith, 2013). By limiting the error patterns to addition and subtraction, the content was kept within a few grades of the content taught by each of the eligible participants.

Results

Of the 55 kindergarten through fifth-grade classroom teachers who were eligible to participate, 33 participated in the study. Participants were asked about the number of postsecondary-level math classes they have completed, with participant responses shown in Table 2. The grade level taught by participants is shown in Table 3.

Table 2
Postsecondary Math Classes Completed by Participants

Number of Postsecondary Math Classes	0-1	2-3	4-5	6-7	Unknown
Percent of Participants	6%	45%	33%	6%	10%

Note: n = 33.

Table 3
Participant Grade Level

Participant Grade Level	K	1	2	3	4	5	Total
Number of Participants	8	6	4	7	5	3	33

Note: n = 33.

Demographic information is shown in Table 4. Three participants (9%) did not indicate how many years they have taught at the grade level at which they are currently assigned.

The analysis of data is presented by grade level responses on interpretation of accuracy of error identification, then instructional recommendation. Table 5 represents the level of accuracy by grade level for the identification of the computational error. Most participants offered more than one instructional option. Participants in this study were usually able to identify computational error patterns for two- and three-digit addition and subtraction problems. This finding parallels earlier work by Ashlock (2006). In one of the seven questions, more participants incorrectly identified the error pattern than identified it correctly. In this question, the student reversed the standard algorithm and added left to right, recording the left digit of the sum of the first two digits, and regrouping the right digit from the sum to the next column to the right. Participants correctly identified the computational error 162 times versus 61 incorrect identifications. There was not any computational error that was correctly identified by all participants of the study.

Table 4
Teaching Experience

Criteria	Percentage of Participants
Certified to teach 0-5 years	24%
Certified to teach 6-10 years	22%
Certified to teach 11-15 years	9%
Certified to teach 16-20 years	12%
Certified to teach 21 or more years	33%
Teaching at current grade level 0-5 years	36%
Teaching at current grade level 6-10 years	27%
Teaching at current grade level 11-15 years	12%
Teaching at current grade level 16-20 years	9%
Teaching at current grade level 21+ years	6%

Note: n = 33.

Table 5

Teacher Identification of Computational Error	Percent Correct	Percent Incorrect
Kindergarten	69%	31%
Grade 1	62%	38%
Grade 2	58%	42%
Grade 3	77%	23%
Grade 4	79%	21%
Grade 5	83%	17%

Note: n = 33.

The data collected on the survey to address the appropriateness of the intervention and instructional recommendations based on the student error revealed a very different trend. The data revealed that the overall instructional recommendations by the participant pool generally did not align with current research-based literature. In this study, a collective total of 103 participant responses could be interpreted as aligning with recommendations in the current literature based on the specific error type, while a collective total of 264 participant instructional recommendations did not align with recommendations found in the current literature based on specific error type.

Teachers of fifth grade were more likely to make recommendations that aligned with current research than participants from other grade levels. Instructional recommendations to address error patterns were widely varied with as many as 23 different approaches stated by participants for one error type. Trends in types of responses for either diagnosis of error patterns or instructional recommendations could not be established based on years of teaching experience or number of postsecondary mathematics classes taken by teachers. With the exception of base ten blocks, teachers of kindergarten and first and second grades were more likely to recommend the use of manipulatives in instruction than were teachers of grades third, fourth, and fifth, whereas teachers in third, fourth, and fifth grade were more likely to recommend instruction focusing on procedures than were teachers in kindergarten and first and second grades. Third grade teachers recommended the use of base ten blocks for instructional support more often than any other grade level teachers. Teachers in kindergarten and first grade left the instructional recommendations questions blank more often than teachers at other grade levels. Teachers of third, fourth, and fifth grades were more likely to recommend a physical alignment such as a “fence” or grid paper than teachers of lower grades. Generally, teachers’ instructional recommendations aligned closely with the curriculum and course content at the grade level they were assigned to teach, which raises questions about their preparedness to teach other grade

levels and awareness of vertical alignment of curricular content. In general, participants did not make connections between how numeracy potentially impacts computational errors.

Discussion

Through the use of a gap analysis, this study has uncovered an apparent discrepancy in the degree of awareness teachers have regarding appropriate instruction and intervention for specific computational error patterns. This finding certainly aligns with the previous work of Ashlock (2006) and Riccomini (2005). Further data collection from a wider audience is recommended. Participants in this study were typically able to define the type of computational error, but the instructional recommendations were often inappropriate to address the particular type of error. In one instance, the instructional recommendation to address the computational error was felt to be detrimental to the students' educational progress. For two participants, a similar intervention was recommended for all types of errors.

As research continues to uncover important aspects about how we learn, it is important to tie professional development to current research. Without this critical piece, teachers will continue to teach and intervene in the ways in which they were taught, slowing reform efforts. If the instruction that teachers received focused on procedural aspects without a push for conceptual understanding, their instruction to elementary aged students is likely to focus on procedure than conceptual understanding. In this way, they will likely fail to address adequately student misunderstandings about concepts. Vertical mapping may be helpful to highlight the continuum of skills so that teachers of younger students in kindergarten and first and second grades include foundational skills on which to build conceptual understanding.

The apparent inability to recommend appropriate instruction and intervention based on student computation error is not limited to this study. These results mirror the findings of Riccomini (2005) and Ashlock (2006) and speak to the need for increased amounts of ongoing job-embedded professional development for elementary teachers of mathematics. This strategy will set the stage for the higher levels of student thinking in the mathematics classroom that align with CCSS and the Standards of Mathematical Practice. Without professional development and further research about Response to Instruction and Intervention in Mathematics, we can expect little change in the instructional delivery or in student outcomes.

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About the Author

Carol Buckley is an Assistant Professor of Math: Climate, Curriculum, and Instruction at Messiah College. She teaches PreK -8 pre-service teachers and supervises field experiences. In addition to studying computation error patterns, Dr. Buckley is interested in RtII Math and the development of numeracy in young students. Her e-mail address is cbuckley@messiah.edu.

Teaching Students with Disabilities in General Physical Education: Eliciting Salient Beliefs of General Physical Education Teachers

Mihye Jeong

East Stroudsburg University of Pennsylvania

The main purpose of this study was to elicit salient beliefs to construct a Theory of Planned Behavior questionnaire. Participants in this study were 26 general physical education (GPE) teachers in Pennsylvania. Results of data collection generated the following findings: 61 behavioral beliefs such as taking instruction time away and learning to accept; 53 normative beliefs such as parents of students with disabilities, administrators, and teachers; and 107 control beliefs such as professional knowledge, class size, and teaching assistants. In addition, GPE teachers believed that they need to learn more about individualized education program processes, assessment tools, and modifications to teach students with disabilities. The salient beliefs from this study will be used the next phase of a study to measure GPE teachers' behaviors when teaching students with disabilities.

Since the enactment of Education for All Handicapped Children Act in 1975, the idea of placing students with disabilities in general education settings (including physical education) has been promoted. The Education for All Handicapped Children Act (1975), which was later incorporated into the Individuals with Disabilities Education Improvement Act (IDEIA) in 2004, ensured that students with disabilities would receive a free appropriate public education in the least restrictive environment (LRE). In recent decades, many students with disabilities have been successfully placed in general physical education (also known as mainstreaming, integration, and most recently inclusion; Block, 2007). The U.S. Department of Education (2008) reported 95% of students with disabilities received education in public schools (i.e., with no distinction concerning placements such as full inclusion, resource room, or partial inclusion). Influenced by the Department of Education's report, the role of general physical education (GPE) teachers has shifted from exclusion of students with disabilities to inclusion so that they are teaching students with and without disabilities in the same classes, and inclusion is no longer considered a fad (Block, 2007).

The Commonwealth of Pennsylvania is committed to ensuring that all students, including students with disabilities, receive physical education. In particular, the Bureau of Special Education is committed to assisting local education agencies (LEAs) in fulfilling its responsibilities regarding physical education for students with disabilities. However, Pennsylvania has not defined who can and/or should provide physical education to students with

disabilities. Thus, all GPE teachers in Pennsylvania take responsibility for teaching students with disabilities not only in GPE classes but also in separate GPE classes (e.g., adapted physical education).

Some research supports the positive aspects of inclusive physical education settings for students with disabilities, such as improved skill development (Lieberman, Houston-Wilson, & Kozub, 2002), increased self-esteem (Martin & Smith, 2002), increased interactions with peers without disabilities (Goodwin & Watkinson, 2000), and more positive attitudes of peers without disabilities toward peers with disabilities (Slininger, Sherrill, & Jankowski, 2000). However, Block and Obrusnikova (2007) report that GPE teachers do not have a positive experience from teaching students with disabilities in regular GPE classes. Rather, they experience negative feelings derived from a perception of inadequate training and lack of experience and knowledge on how to successfully include students with disabilities. In addition, a lack of support, an inability to accommodate, and an absence of general knowledge of disability have been reported as factors that contribute to teachers' inability to include students with disabilities in GPE settings (Oh, Rizzo, So, Chung, Park, & Lei, 2010).

This sense of inadequacy among GPE teachers is important because one of the most significant factors for successful inclusive physical education is the teacher's attitude (Sherrill, 2004). Other researchers (Kudláèek, Válkovaá, Sherrill, Myers, & French, 2002; Tipp & Rizzo, 2006) have measured physical educators' attitudes, beliefs, and intentions concerning teaching students with disabilities, finding that the physical educators' attitude was a strong factor that predicted intentions. However, many previous studies failed to measure physical education teachers' teaching behavior, and they assumed that physical education teachers' intention was a good predictor of teachers' behavior (Kudláèek et al., 2002; Theodorakis, Bagiatis, & Goudas, 1995; Tripp & Rizzo, 2006). Also, they strongly recommended that future studies measure teaching behavior to determine if teachers' intention predicts teachers' teaching behavior toward teaching students with disabilities in physical education. However, there has been little research done to examine systematically GPE teachers' behavior in teaching students with disabilities, which has made it difficult to establish a direct link between factors affecting teachers' behavior and teachers' actual behavior. Thus far, one study (Jeong & Block, 2011) systematically examined GPE teachers' behavior in teaching students with disabilities using the Theory of Planned Behavior (Ajzen, 1991). However, the study was limited to Korean physical education teachers' behavior in teaching students with disabilities in GPE classes.

The theory of planned behavior (TPB) is an extension of the theory of reasoned action (Ajzen & Fishbein, 1980) made necessary by the original model's limitations in dealing with behaviors over which people have incomplete volitional control (Ajzen, 1991). The TPB has been one of the most influential and widely cited models to predict behavior in many various fields such as exercise and sports (Rhodes, Fiala, & Nasuti, 2012), leisure activities (Amireault, Godin, Vohl, & Pérusse, 2008), medical and public health (Edwards et al., 2007), smoking intention (Høie, Moan, Rise, & Larsen, 2012), and education (Underwood, 2012), to name a few. The TPB is guided by three kinds of considerations: beliefs about the likely consequences of the behavior

(behavioral beliefs), beliefs about the normative expectations of others (normative beliefs), and beliefs about presence of factors that may facilitate or impede the performance of the behavior (control beliefs). In their respective aggregates, behavioral beliefs result in attitudes; normative beliefs result in subjective norms; and control beliefs give rise to perceived behavioral control (Ajzen, 2004). As a general rule, the more favorable the attitude and subjective norm, and the greater the perceived control, the stronger the person’s intention should be to perform the behavior (see Figure 1). By using the TPB framework, one can gain an understanding of behavior by tracing its determinants to underlying beliefs and possibly further influence behavior by changing a sufficient number of beliefs. Ajzen (1991) recommended, when employing the TPB, conducting a belief elicitation study with each new target behavior and new population of interest. However, many previous studies neglected the elicitation phase of the TPB (Downs & Hausenblas, 2005). The elicitation procedure is essential to determine salient consequences underlying behavioral beliefs (advantages and disadvantages of the outcomes of a specific behavior), normative beliefs (referents who approve or disapprove of a behavior), and control beliefs (facilitators and/or barriers to perform a behavior). The TPB stipulates that the salient beliefs of an individual are the ultimate psychological determinants of behavior operating through the TPB constructs. Therefore, if beliefs can be successfully manipulated, attitude change and consequent behavioral change can occur.

For these reasons, this study is an initial step to expand systemically examined GPE teachers’ behavior in teaching students with disabilities using the TPB. It determines salient beliefs of GPE teachers in Pennsylvania regarding teaching students with disabilities and examines modifications in GPE teachers’ instruction and curricula in GPE classes. The two research questions are:

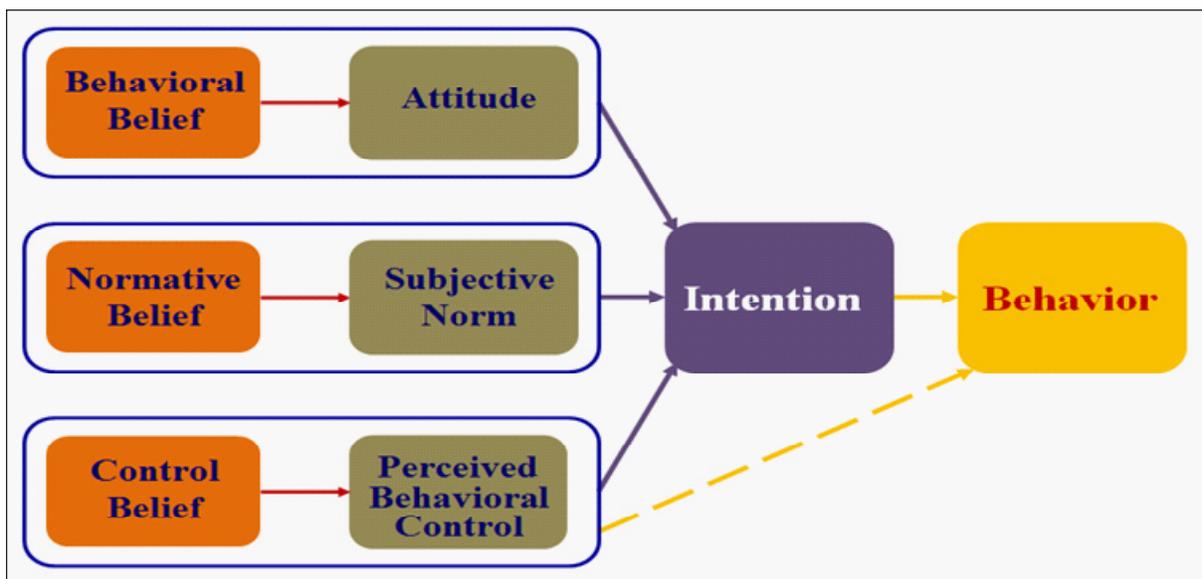


Figure 1. The theory of planned behavior (Ajzen, 1991).

1. What are the salient behavioral, normative, and control beliefs of GPE teachers toward teaching students with disabilities?
2. How often do GPE teachers make instructional and curricular modifications to teach students with disabilities?

Method

Participants and Data Collection

Participants in this study were 26 GPE teachers in Pennsylvania selected via convenience sampling. They all teach GPE classes full-time in K-12 schools in Pennsylvania. The investigator aimed to recruit about 25 participants for this study, based on the Theory of Planned Behavior guidelines (Ajzen, 2004). The sampling method and the size were appropriate for the study because the goal was not to generalize the findings, but to explore the opinions of GPE teachers who taught students with disabilities in GPE classes, thereby generating items for an instrument for use in the next phase of this study.

An open-ended questionnaire was developed to elicit from GPE teachers their behavioral, normative, and control beliefs. The investigator visited in-service programs for GPE teachers and asked the participants if they would participate in this study. The investigator introduced the study and handed out the questionnaire to the GPE teachers. Upon consent, the GPE teachers completed the survey. The participants submitted their questionnaires to the investigator at the end of the meeting.

Instrument

Ajzen (2004) provides specific instructions for eliciting the salient beliefs needed to measure components of the TPB. The researcher followed these instructions in conducting this study. The questionnaire contained six open-ended questions about beliefs and was a modification of Ajzen's (2004) guideline to target the teachers' behavior when teaching students with disabilities in GPE classes. Questions for eliciting behavioral beliefs were:

1. What do you believe are the advantages of teaching students with disabilities in your GPE class?
2. What do you believe are the disadvantages of teaching students with disabilities in your GPE class?

Questions for eliciting normative beliefs were:

3. Are there any individuals or groups who would approve of teaching students with disabilities in your GPE class? If so, who?

- Are there any individuals or groups who would disapprove of teaching students with disabilities in your GPE class? If so, who?

Questions for eliciting control beliefs were:

- What factors or circumstances would enable you to teach students with disabilities in your GPE class?
- What factors or circumstances would make it difficult or impossible for you to teach students with disabilities in your GPE class?

In addition, a measure of teaching behavior was generated by asking questions related to the GPE teachers' self-reported teaching practices with students with disabilities in their GPE classes. The GPE teachers were asked the following questions to measure their teaching behavior:

With the students with disabilities you taught, how often did you make the following instructional and curricular modifications for students with disabilities in your class?

Repeating directions	Not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : Always
Assigning a peer tutor	Not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : Always
Extra instruction on the skill	Not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : Always
Giving special reinforcement	Not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : Always
Adapting for safety	Not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : Always
Changing rules of the game	Not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : Always
Giving adapted equipment	Not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : Always
Modifying assessments	Not at all : 1 : 2 : 3 : 4 : 5 : 6 : 7 : Always

The questionnaire also contained demographic questions concerning gender, years of teaching experience, experience teaching students with disabilities, adapted physical education (APE) courses taken, and in-service programs attended. In addition, the participants were asked their opinion of physical education placement for students with disabilities. They also were asked about what issues they would like to learn concerning teaching students with disabilities.

Data Synthesis

Content analysis of the responses to open-ended questions were sorted into three categories—(1) behavioral beliefs, (2) normative beliefs, and (3) control beliefs—and items on each belief were listed in rank order (see Table 1). Ajzen (2004) suggested in the guidelines for the TPB questionnaire that the top 75% of the responses from the first phase of the study should be included in the questionnaire for the second phase of the study. The responses were categorized based on similar words, concepts, or themes. The responses were then translated into

Table 1
General Physical Education Teachers' Salient Beliefs toward Teaching Students with Disabilities

	Categories	Frequency	%	Cumulative (Frequency)	Cumulative (%)
Behavioral Beliefs					
1	Taking instruction time away	11	18%	11	18%
2	Learning to accept others	9	15%	20	33%
3	Increasing disability awareness	7	11%	27	44%
4	Promoting interaction with peers	6	10%	33	54%
5	Feeling included	5	8%	38	62%
7	Enhancing socialization	4	7%	42	69%
8	Providing an equal opportunity	4	7%	46	76%
Normative Beliefs					
1	Parents of students with disabilities	10	19%	10	20%
2	Administrators	7	13%	17	33%
3	Special education teachers	6	11%	23	44%
4	School staff members	6	11%	29	55%
5	Other physical education teachers	5	9%	34	64%
6	Classroom teachers	4	8%	38	72%
Control Beliefs					
1	Professional knowledge	16	15%	16	15%
2	Class size	15	14%	31	29%
3	Having a teaching assistant	15	14%	46	43%
4	Appropriate equipment	12	11%	58	54%
5	Accommodations	7	7%	65	61%
6	In-service program/workshops	6	6%	71	67%
7	Administrative support	5	5%	76	72%
8	Harmony between students with and without disabilities	3	3%	79	75%

salient behavioral, normative, and control beliefs. The frequency of responses was calculated to determine popular responses on the top 75% for each belief.

Results

The purposes of this study were (1) to determine the salient beliefs underlying the components of GPE teachers' behavioral, normative, and control beliefs toward teaching students with disabilities in GPE classes and (2) to examine the teachers' teaching behavior (instructional and curricular modifications). Findings of the study are reported in the following sections: demographic statistics, the salient beliefs of each component, and self-reported teaching behavior (instructional and curricular modifications) and topics about which the teachers would like to learn for teaching students with disabilities in their GPE classes.

Demographic Statistics

In total, 26 GPE teachers completed the survey. Out of those 26 GPE teachers, 54% were female and 46% were male. The teaching experience of the teachers ranged from 1 to 23 years ($M = 9.91$ years, $SD = 8.37$ years). All the teachers answered that they were teaching students with disabilities in their GPE classes. Among the participants, 54% reported that they had taken one Adapted Physical Education (APE) course, 27% reported they had taken two APE courses or APE-related courses, 15% reported they had taken more than three courses, and 4% reported they had not taken any APE or related courses during their undergraduate education. Also, when they were asked in how many workshops, conferences, and in-service programs related to APE they had participated, 31% reported once, 19% reported twice, 27% reported more than three times, and 14% reported never. When asked about where they believe that students with disabilities should receive physical education classes, 35% of the teachers responded in GPE settings; 12% responded in physical education in separate classes from GPE classes; and 50% responded in some combination of classes, depending on the situation.

Salient Beliefs: Behavioral, Normative, and Control Beliefs

The content analysis generated 61 behavioral belief responses (outcomes of teaching students with disabilities in their GPE classes), 53 normative belief responses (social referents who approve or disapprove of teaching students with disabilities in their GPE classes), and 107 control belief responses (facilitators or barriers to teaching students with disabilities in their GPE classes) from the GPE teachers. These responses appear in Table 1. According to Ajzen (1991), responses elicited from this study are used as personal accessible beliefs. The most frequently cited behavioral belief was "taking away instruction time" (18%), followed by "learning to accept others" (15%), and "increasing disability awareness" (11%). The most frequently cited normative belief was "parents of students with disabilities" (19%), followed by "administrators" (13%) and "special education teachers" (11%). The most frequently cited control belief was "professional knowledge" (15%), followed by "class size" (14%) and "having a teaching assistant" (14%).

Article Text

Teaching Behavior

GPE teachers were asked questions related to their self-reported teaching practices with students with disabilities. Questions included curricular and instructional modifications (repeat direction, assign a peer tutor, change rules, provide extra instruction, etc.) to measure their teaching behavior: With the students with disabilities you taught, how often did you make the following modifications for the individuals of these students?

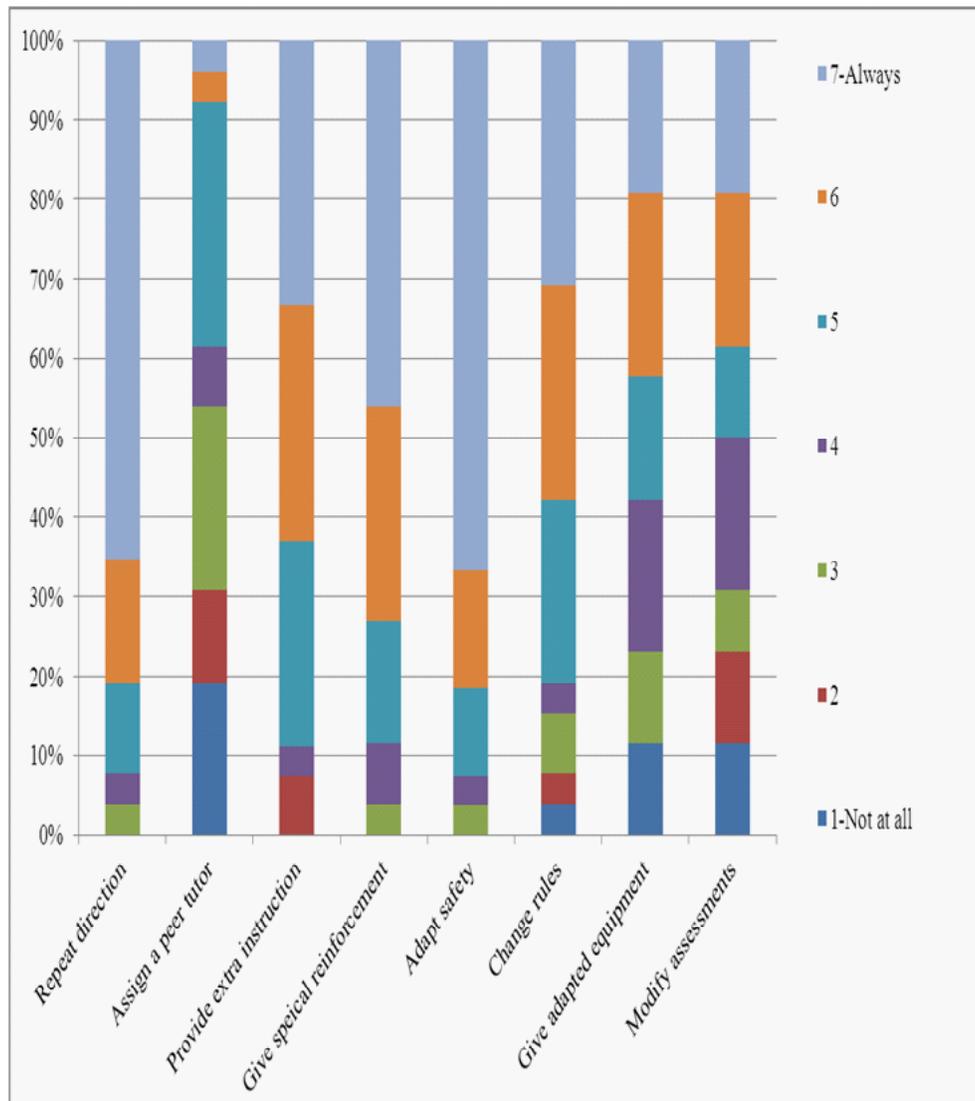


Figure 2. Instructional and curricular modifications made for students with disabilities in general physical education class. A 7-point Likert-type rating scale was used with each modification question. 1-not at all to 7-always.

Out of the teachers, 65% reported that they always repeated directions, 4% reported they always assigned a peer tutor for a student with a disability, 35% reported they always gave a student with a disability extra instruction on skill, 46% reported they always provided a student with a disability with special reinforcement, 65% reported they always adapted safety for a student with a disability, 30% reported they always changed rules of the game, and 19% reported they always modified assessments (see Figure 2).

When asked about what topics they would like to learn regarding teaching students with disabilities in GPE classes, they reported modifications (activities, games, and assessments), Individualized Education Program (IEP) procedures, and placement decisions.

Discussion

The present study explores GPE teachers' salient beliefs about teaching students with disabilities in GPE classes. This phase is a necessary step for understanding the basis of GPE teachers' beliefs about teaching students with disabilities. The results of this study are being used to develop and validate an instrument that can be used to examine the theoretical construct of the TPB for measuring factors contributing GPE teachers' behavior when teaching students with disabilities in the second phase of the study.

The major outcome of this elicitation procedure was that the most salient elements of behavioral, normative, and control beliefs toward teaching students with disabilities were determined (see Table 1). For behavioral beliefs, among the eight salient elements in the top 75%, seven of them were positive aspects that the GPE teachers viewed as advantages of teaching students with disabilities in their GPE classes, including learning to accept others, increasing disability awareness, promoting interaction with peers, feeling included, enhancing socialization, and providing equal opportunities. However, the most common negative element ranked at the top was "taking away instruction time." Similarly, a previous study reported that GPE teachers need to make more effort to teach students with disabilities in GPE class and it results in less instruction time for students without disabilities (Houston-Wilson, Dunn, van der Mars, & McCubbin, 1997). This finding may indicate that having supports (e.g., teaching assistants, peer tutors, appropriate equipment) would help GPE teachers to have more positive attitudes toward teaching students with disabilities in GPE classes, so that eventually GPE teachers can effectively and efficiently teach students with and without disabilities in GPE classes.

For normative beliefs, the most salient items reported by GPE teachers were "parents of students with disabilities" followed by "administrators." That these groups were reported to be strong normative influences on GPE teachers' behavior in teaching students with disabilities may indicate that the involvement of the parents of students with disabilities would bring more positive effect on physical education of their children with disabilities in teaching students with disabilities. Also, we may infer that active support from school administrators would bring more quality physical education services for students with disabilities. In addition, it is important for

school leaders to know that that their support would positively affect GPE teachers' teaching behavior.

Finally, the most salient elements for the control beliefs (perceived advantage/disadvantage) in teaching students with disabilities in GPE class was "having professional knowledge" followed by "class size," "teaching assistant," and "appropriate equipment." Previous research showed that there are some perceived barriers associated with teaching students with disabilities in GPE classes. Related to GPE teachers' perceived barriers, GPE teachers have consistently reported limited training (Hodge, Ammah, Casebolt, Lamaster & O'Sullivan, 2004; Smith & Green, 2004) and large class sizes (Hodge et al., 2004) as impediments. The findings from the present study reveal similar concerns as previous studies. Therefore, the elicitation procedure is very important for understanding how to support GPE teachers effectively to teach students with and without disabilities in GPE classes.

Most of the GPE teachers made instructional and curricular modifications for students with disabilities in their GPE classes. However, only 4% of them reported that they always assigned a peer tutor. Assigning a peer tutor to a student with a disability in a GPE class is a very useful instructional modification, allowing GPE teachers to spend instruction time more efficiently. Previous studies showed that GPE teachers reported their limited training in teaching students with disabilities (Lieberman et al., 2002; Hodge et al., 2004). When GPE teachers have more training (i.e., in-service training), they obtain more knowledge and competence so that they can make efficient modifications for students with disabilities.

Implications and Directions for Future Research

This study is the first step in scale development with an additional content validation as recommended by Ajzen (2004). The present study has both theoretical and practical importance. In addition, the findings of this study provide practical information to GPE teachers for teaching students with disabilities. Previous studies (Lieberman et al., 2002; Smith & Green, 2004) reported that GPE teachers felt that they were not confident to teach students with disabilities. Not surprisingly, such effort led to poorly planned and poorly implemented GPE programs (Block, 2007). Thus, it is important that workshops/training programs related to inclusive/adapted physical education are made available for current GPE teachers so they may become more comfortable and competent in teaching students with disabilities. Also, physical education teacher education (PETE) programs should incorporate experiences/practica in teaching students with disabilities throughout their curriculum so that future physical educators will have more knowledge, experiences, and confidence in teaching students with disabilities (Jeong, 2013). In addition, school leaders should continue to provide more effective professional development activities for current GPE teachers so they may effectively teach students with disabilities in GPE classes.

Salient beliefs (see Table 1) elicited in this study provide the basis for constructing a scale of the TPB. The basis of behavioral, normative, and control beliefs will be used for the next step of the study, examining factors affecting GPE teachers' intentions and beliefs toward teaching students with disabilities. Based on this study, future research should focus on whether the instrument is a valid tool for measuring GPE teachers' intentions and beliefs about teaching students with disabilities and what specific factors affect GPE teachers' teaching behavior. Also, future research should expand the study to larger samples and examine if the three components of the TPB that were constructed from this study predict GPE teachers' behavior in teaching students with disabilities (Jeong, 2013). Finally, future research should provide professionals, teachers, teacher leaders, and administrators with future directions for how they can provide quality education for students with disabilities.

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About the Author

Dr. Mihye Jeong is an assistant professor in the Physical Education Teacher Education Department at East Stroudsburg University. Dr. Jeong's e-mail address is mjeong@esu.edu.

A Critical Review of the School District of Philadelphia's ELL Education Program

Edo Forsythe

Hirosaki Gakuin University and Northcentral University

Due to the United States' ever-diversifying population, many American school districts have had to revise their plans and procedures to contend with the influx of English Language Learner (ELL) students. The School District of Philadelphia (SDP) is one such district. This article critically reviews these aspects of the SDP program for instructing Limited English Proficiency and ELL students: program logistics and composition, student demographics, assessment tools and methods, program implementation, and teacher certification in English as a Second Language (ESL). Some suggestions for program improvement are discussed based on existing research. While the SDP ELL program is strong, its leaders must be cognizant of demographic changes within the immigrant community so as to continue to provide a quality education for all.

States and school districts across the United States adopt their own plans and procedures for dealing with students with Limited English Proficiency (LEP) and with English Language Learners (ELL). These policies and practices must be modified periodically to address changes in immigration patterns, such as changes in the pace of immigration within communities and in immigrants' countries of origin. Specifically, in the past decade the School District of Philadelphia (SDP) has witnessed significant growth in the number of immigrants from Asian countries, which for the first time has outpaced immigration to Philadelphia from European and Spanish-speaking countries (Singer, Vitiello, Katz, & Park, 2008). The overall number of ELL students in the SDP has grown from 10,000 in 2010 to approximately 13,000 in 2014 (Metis Associates, 2011; SDP, n.d.-d). This article reviews the SDP's policies and programs that deal with this influx of non-English-speaking immigrants, as they are defined in the SDP's (2012) *Office of Multilingual Curriculum and Programs Handbook* ("The Handbook"). The Handbook outlines policies for identifying, instructing, supporting, and assessing students whose primary language is not English and whose English fluency is too low for success in mainstream classrooms without assistance. This article discusses these aspects of the SDP program for instructing LEP and ELL students: program logistics and composition, student assessment tools and methods, program implementation, and teacher certification in English as a Second Language (ESL). Finally, some suggestions for program improvement are offered, based on existing research and methods.

The Program

Official Support for the Program

The Philadelphia Board of Education (1990) adopted Resolution 128: Limited English Proficient Students, stating that it “recognizes the growing number of immigrant/refugee students and reaffirms its commitment to provide equal educational opportunity to Limited English Proficient students.” This resolution is consistent with the Pennsylvania State Department of Education’s support of such programs based on state regulation 22 PA Code § 4.26, which declares:

Every school district shall provide a program for each student whose dominant language is not English for the purpose of facilitating the student’s achievement of English proficiency and the academic standards under § 4.12 (relating to academic standards). Programs under this section shall include appropriate bilingual-bicultural or English as a second language (ESL) instruction.

As used here, the term “program” refers to: (1) planned instruction by a qualified ESL / Bilingual teacher, (2) adaptations/modifications in the delivery of content instruction by all teachers based on the student’s language proficiency level and the Pennsylvania Language Proficiency Standards (PA ELPS) for ELLs as well as the Pennsylvania academic standards.

Support exists for special programs to assist LEP/ELL students at the federal, state, and local levels, but program implementation and execution are left to individual school districts so that they can administer plans that best meet the needs of their LEP/ELL student populations. According to the findings of Crawford (2004) and Metis Associates (2011)—an educational research and consulting firm—regarding what makes ELL programs successful, this structure of support from above for localized, individualized programs seems to be the most effective strategy for addressing LEP/ELL students’ educational needs. Crawford highlights that education is not a one-size-fits-all process and that ELLs require a wide range of educational options to meet their individual needs. Further, the SDP program complies with legal mandates that require schools to provide well-founded educational programs tailored to the needs of LEP/ELL students and to ensure that these students receive adequate support to succeed in an English-based educational system (Crawford, 2004).

The SDP Program’s Components

The SDP *Office of Multilingual Curriculum and Programs Handbook* (2012) states that “approximately 12,000 students in Pre-K through Grade 12 are English Language Learners in the School District of Philadelphia” (p. 3). This group constitutes 9% of the overall 2013 SDP student population of 131,362 students (SDP, n.d.-e). The ELL Educational Program consists of four components: the Newcomer Learning Academy, the Transitional Bilingual Education program, the Dual Language program, and the English for Speakers of Other Languages (ESOL) program (SDP, 2012). In the Transitional Bilingual Education and Dual Language programs, the

instruction is provided only in English and Spanish; these bilingual programs are not conducted in other languages at present. The stated goal of the SDP ELL Education Program is “to ensure that students acquire academic English language proficiency and are able to participate in age-appropriate academic content that is driven by state standards” (SDP, 2012, p. 3). This goal is in line with the objectives for LEP/ELL students’ education in the No Child Left Behind Act’s (NCLB, 2001) Title III English Language Acquisition, Language Enhancement, and Academic Achievement Act.

Newcomer Learning Academy. The four program components of the SDP ELL Educational Program are dispersed throughout the district. The Newcomer Learning Academy (NLA) provides “high school age students new to the United States and to the English language an accelerated course of study that builds academic and social English in a nurturing school environment” (SDP, 2012, p. 17). It is geared toward older students who have been in the United States for less than one year and who had limited schooling in their home country. The NLA will prepare students for transition into the ESOL program in their local high school. Because the NLA program includes a focus on maintaining and taking advantage of students’ native language abilities in the intensive instruction of English, it meets one of Crawford’s (2004) important criteria for a successful program: the use of the students’ native language in the ELL classroom. Also, as Metis Associates (2011) found, the NLA meets a vital need to facilitate a smooth transition into the social and academic environment during a tumultuous time in the newly immigrated student’s life—both students and parents were excited about the program and viewed it as especially beneficial to “improving students’ academic and social English, their communication and social skills and cultural acclimatization” (p. xi). Beyond the students’ personal impressions of their success, NLA program participants’ school attendance is above that of non-ELL students, and they have demonstrated improved scores on the Assessing Comprehension and Communication in English State to State (ACCESS) test, scoring as high as Level 3: Developing (Knows and uses social English and some specific academic language with visual support) (Metis Associates, 2011; SDP, n.d.-d).

Transitional bilingual education. Four Transitional Bilingual Education (TBE) programs exist within the SDP’s 214 schools (SDP, n.d.-e), in which students are taught in both Spanish (the students’ native language) and English so that students gradually become literate in English (SDP, 2012). According to the SDP (n.d.-a),

Students in grades K-2 receive Literacy and Math in native language and Science and Social Studies in English. In grades 3-5, students receive Literacy and Math in English and Science and Social Studies in native language. Apart from content area instruction, all students in Transitional Bilingual Program attend ESOL classes.

The use of Spanish in classroom instruction is decreased annually to allow the students to transition into English-only classrooms before they enter junior high school. The allocation of languages progresses from 80% Spanish and 20% English in kindergarten to 20% Spanish and 80% English in grade 5 (SDP, 2012). One of the important differences between TBE and ESOL

in the SDP program is that the attitude about the use of Spanish in the TBE setting is meant to “nurture self-pride and self-identity in each student’s linguistic and cultural heritage, while promoting English language competence” (SDP, n.d.-a), and the ESOL Program does nothing to maintain the students’ native language abilities.

Dual language program. The Dual Language Program (DLP) is similar to the TBE program in that it uses both English and Spanish languages in content instruction. However, the goal of the DLP is to “foster bi-literacy and bilingualism in English and Spanish, provide a rigorous academic program, [and to] promote an appreciation for multiculturalism” (SDP, 2012, p. 20). In the DLP, English-speaking students whose parents are interested in dual-language education are combined with Spanish-speaking ELL students whose parents consent to the dual-language instruction in pre-K, kindergarten, and possibly grade 1 classes. Only one school dedicated to DLP classes exists in the entire school district (SDP, n.d.-d). Despite its presentation as an option for producing bilingual students, the instruction model is not a true dual-language program in that it does not teach the same subjects in both languages to develop the linguistic ability in all areas in both languages. Instruction is differentiated for subjects in each language—mathematics is taught in English only, and science is taught only in Spanish. The program balances the number of minutes of instructional time per day at 180 minutes each for English and Spanish instruction, which may be the basis for calling the program a dual-language program. Recommendations for improvements in the SDP Dual Language Program are presented below.

To clarify, the TBE program gradually shifts its focus from dual-language to English-only, as seen in the decreasing amount of Spanish instruction by grade 5, as was explained above. DLP programs maintain a balanced percentage of both Spanish and English throughout the program, but it only extends through grade 1. One sad aspect of both the TBE and DLP programs in the SDP confirms DeJesús’s (2008) and Crawford’s (2004) lament about one of the students’ valuable assets—fluency in Spanish—being wasted. Specifically, in the SDP’s TBE and DLP programs, as in many others, Spanish-speaking children are seldom given an opportunity to continue native-language study after making the transition to English, usually by grade 2 or 3 in the case of DLP or in grade 5 in TBE.

ESOL program. The ESOL Program is the most widespread type of ELL program in the SDP; it exists in multiple schools across the district (SDP, n.d.-d). The goal of the ESOL Program is “to teach ELL [students] social and academic language skills, as well as the cultural aspects of the English language necessary to succeed in an academic environment and contribute to society” (SDP, 2012, p. 17). The ESOL Program “involves teaching listening, speaking, reading, and writing at appropriate developmental and proficiency levels *with little or no use of the native language* [emphasis added]” (SDP, 2012, p. 17). While it is understood that staffing limitations make it difficult to teach all LEP/ELL students in their native language, the teaching style of the SDP ESOL Program goes against research cited in Crawford (2004), which found that “generally speaking, the more exposure children had to their native language, the better they were doing [in academic settings]” (p. 144).

The ESOL Program uses Sheltered Instruction and ESOL Friendly classroom models to educate beginning, emerging, and developing LEP/ELL students (SDP, 2012). Sheltered Instruction classes are comprised solely of LEP/ELL students, and the ESOL Friendly classes contain a mix of both ELL and non-ELL students. Content instruction in these classes is conducted using push-in (i.e., ESL-certified teachers assist learners in the classroom during instruction) or pull-out models (i.e., ELLs are removed from their classroom for separate instruction on the content by an ESL certified teacher) (SDP, 2012). In these instructional models, extensive collaboration is required between the ESL teacher and the classroom’s primary teacher to ensure that students are given the support they need to learn the content presented. The determination on whether to use pull-out or push-in instruction is based upon the students’ proficiency levels in English. In the SDP program, students at Levels 1 and 2 are provided pull-out instruction for structured assistance, Level 3 students may be provided limited pull-out instruction on a case-by-case basis, and students at Levels 4 and 5 are given primarily push-in assistance based on their individual needs (SDP, 2012). More information on students’ levels and their assessment is provided below.

Given the staffing and scheduling challenges inherent in a large and dispersed ESOL Program such as the SDP program, administrators make efforts to group LEP/ELL students in a minimum number of classes, without allowing any individual class population to be more than half ELL students. Further, schools that enroll more than 75 LEP/ELL students are granted an ESOL coordinator to assist in the tracking, scheduling, and support of ESL teachers and ELL students (SDP, 2012).

The Students

Assessment and Designation as an ELL

The students in the SDP are determined to be LEP/ELL students based upon their parents’ responses to the Home Language Survey (HLS; Pennsylvania Department of Education, 2012) which is completed as part of the enrollment process (SDP, 2012). The HLS asks what language(s) the student speaks, what languages are spoken at home, and whether the student has attended school in the United States in the previous three years (Pennsylvania Department of Education, 2012). If the parent fails to answer “English” for any of the language-related questions, the student is referred to the SDP Multilingual Assessment Center (MAC) for assessment and potential placement into the ELL Education Program (SDP, 2012).

Within 10 days of referral to the MAC, a trained staff member “administers the WIDA-ACCESS Placement Test (W-APT) English language proficiency placement test to determine the student’s language proficiency” (SDP, 2012, p. 11). The W-APT assesses the student’s English proficiency in five standard areas in each of the four language domains (World-Class Instructional Design and Assessment [WIDA], 2011b). Students whose parents indicated they are Spanish-speaking are also given the Bateria III Woodcock-Muñoz Spanish proficiency

assessment (SDP, 2012). The Bateria III Woodcock-Muñoz assessment “is a comprehensive set of tests that assesses both cognitive abilities and achievement levels of Spanish speaking individuals between the ages of 2 years and 90+ years” according to its publisher, Riverside Publishing Company (2010). Upon completion of the assessments, the MAC staff assigns students—based upon their performance on the assessments—to an appropriate program: NLA, TBE, DLP, or ESOL. Students’ performance categorizes them into one of five proficiency levels used by the SDP ELL Education Program: 1-Entering, 2-Emerging, 3-Developing, 4-Expanding, and 5-Bridging (SDP, 2012). These levels are used as a baseline to measure students’ improvement after future assessments are administered. Once the final determination has been made, the student’s parents are informed of the MAC’s decision and action via a letter in their native language, whenever possible (SDP, 2012).

Progressing Through the Program

Once students enter the SDP ELL Education Program, their progress is tracked in their ELL Data Folder and monitored regularly through annual assessments, teacher reports, and regular course grades. Students must demonstrate adequate yearly progress as dictated by the NCLB (2001), and this progress is determined by students’ scores on the annual Pennsylvania State Standardized Assessment (PSSA) and ACCESS for ELLs tests (SDP, 2012). Additionally, all ELL students who have been in the United States for more than one year are required to participate in state standardized tests—Keystone exams—which are modified to accommodate ELL students (SDP, 2012; see SDP, n.d.-c, for examples of modified assessments). Provided that students continue to improve as they progress through their assigned development program, their English proficiency will be assessed periodically until they demonstrate an established level of proficiency which allows for them to exit the program.

Exiting the Program

Students are assessed annually via the WIDA ACCESS for ELLs examination, and the MAC staff analyzes students’ performance to determine whether they have demonstrated the requisite English language proficiency for removal from the ELL Education Program (SDP, 2012). The ACCESS for ELLs is “a secure, large-scale English language proficiency assessment given to Kindergarten through 12th graders who have been identified as ELLs. It is given annually in WIDA Consortium member states to monitor students’ progress in acquiring academic English” (WIDA, 2011a). The criteria for exiting the SDP ELL Education Program are based on the Pennsylvania state-mandated scores as determined by the student’s grade level, school performance, and ACCESS for ELLs score (SDP, 2012).

If students perform well enough to exit the program, their parents are notified of their removal from the program, and they continue their education in mainstream classes. According to the Handbook (2012), “all exited students must be monitored for two years [after exiting the program]” (p. 26). Specifically, their progress is tracked by the student’s teachers and ESOL Coordinator. Should students require additional assistance due to poor performance after exiting,

they will be provided whatever support is deemed necessary by their teachers and MAC staff (SDP, 2012). The provision of supplemental support in lieu of returning the student to the ELL Education program is an encouraging step towards maintaining the student's positive attitude and outlook on their educational process. Simply returning students to the program that they had worked hard to complete might cause further regression in performance due to the student's feelings of failure and depression. This policy is an excellent example of how the SDP program consistently takes steps to keep the students' outlook as positive as possible.

Teachers and Staff

To maintain successful programs, the SDP strives to provide highly qualified teachers for all their classes and specially trained teachers for ESL courses. The ELL Education Program employs Highly Qualified ESOL Teachers in its programs wherever possible. The training requirements for teachers to become a Highly Qualified ESOL Teacher in Pennsylvania mandate that the teacher be certified to teach in Pennsylvania as well as complete an approved course of study in ESL methodology and instruction (Pennsylvania Department of Education, 2010). To encourage teachers to become certified in ESOL instruction, the SDP has offered a tuition reimbursement program through universities with campuses in the SDP area in the past but this program has been suspended as of this article's publication (SDP, n.d.-b).

In addition to ESOL teachers, the SDP employs ESOL tutors to assist the students in succeeding in English. The ESOL tutors' primary duty is to "provide content and language supports for the [ELL's] general education program" (SDP, 2012, p. 59). ESOL tutors do not provide administrative support to the ELL Education Program, but they are an integral part of the overall program, and are necessary for LEP/ELL students' success in learning English.

Evaluation and Recommendations

The SDP ELL Education Program has made great strides in presenting a sound, research-based educational program that meets local, state, and federal requirements. The program's four initiatives—NLA, TBE, DLP, and ESOL—seek to enable ELL students to achieve academic and social proficiency in English through a well-monitored and structured development process. An outside review of the SDP ELL Education Program conducted by Metis Associates (2011) showed that the "professional development (PD) and teacher support were center pieces of the TBE program" (p. iii). Also, the review found that "the program was being implemented with high fidelity in the four schools" which offered a TBE program (p. iii). The Metis Associates' survey also showed the following data regarding student success rates.

- Students in TBE programs outperformed their ELL peers on the ACCESS for ELLs exams in a longitudinal study (p. vii).
- "TBE ELL students had a better daily attendance rate than other non-TBE ELLs and mainstream students" (p. vii).

- Students in Sheltered Instruction programs performed as well as ESOL ELL students on the ACCESS for ELLs exam (p. vii).

These results are consistent with Crawford’s (2004) and DeJesús’s (2008) assertions that use of the student’s native language—as in the TBE and DLP programs—has a stronger positive impact over immersion-style ESOL programs and results in increased academic gains over the educational career of both non-native speakers and native speakers who participate in such programs (see DeJesús, 2008, and Thomas & Collier, 2002, for an explanation of long-term effects of dual language education).

Recommendations

The Metis Associates’ (2011) report provides some recommendations for program improvement such as greater collaboration among SDP program schools, continued provision of professional development programs for teacher-to-teacher collaboration, and the sharing of best practices among program participants, among others (p. xi-xii). In addition to these suggestions, Metis Associates recommended that the SDP expand its TBE and DLP programs to include language groups other than Spanish. According to the Sheltered Instruction students’ home languages reported by Metis Associates, the number of Chinese-speaking students was equal to that of Spanish-speaking students, with 122 students speaking Mandarin Chinese and 57 speaking Cantonese (p. 26). The rising Asian population in the SDP area, as reported by Singer et al. (2008) indicates that the SDP should already be preparing to provide TBE to the ever-increasing number of Chinese-speaking ELLs in the district. TBE and DLP programs have shown to provide more successful education in both English and students’ native languages, thereby increasing students’ overall chances of academic success (DeJesús, 2008; Metis Associates, 2011; Thomas & Collier, 2002).

The SDP Dual Language Program does not meet the educational goals of similarly structured two-way bilingual programs, or 50/50 models which strive to facilitate fluency in both languages by “teaching all subjects in both languages, using more or less equal amounts of English and the minority tongue throughout the program” (Crawford, 2004, p. 47). The SDP program includes instruction in both languages but does not cover all subjects in both languages. Rather, it teaches certain subjects in English and others in Spanish, with no crossover. Further, the DLP program only exists in pre-K and kindergarten classes, so only limited educational content is provided in both languages (SDP, n.d.-a). Altering the DLP structure to include bilingual instruction in all subjects will provide stronger overall academic proficiency for ELL students and allow them to exit the program with the skills that they need to be successful in both languages, as demonstrated by the research findings of DeJesús (2008) and Thomas and Collier (2002). These authors also suggest guidelines to follow for successful programs to which educators must adhere to avoid the pitfalls experienced by other school districts’ DLPs, which were not as successful as they could have been.

Finally, in order to continue to recruit well-trained ELL educators to support the SDP's programs, the tuition reimbursement program previously offered to SDP teachers (SDP, n.d.-b) should be reinstated as soon as possible and even expanded. Only by incentivizing the existing faculty to seek professional development opportunities which support their participation in the ELL programs will the SDP be able to adequately serve the increasing number of immigrant ELL students enrolling in SDP schools in the future.

Conclusion

The ELL Education Program of the School District of Philadelphia is a vibrant and growing program with a variety of opportunities designed to meet the needs of the LEP/ELL students in their schools. The SDP has made great strides in improving its program since the unsuccessful ESOL Plus program of the mid-1980s (see Crawford, 2004, and Metis Associates, 2011, for detailed data regarding program process improvements and statistical improvements of student performance). Specifically, students in the SDP TBE and DLP programs outperformed their peers over time on the ACCESS test, and student attendance in all the SDP's ELL programs was higher than non-ELL students' attendance at school (Metis Associates, 2011). These findings suggest that ELL students' skills improved through their participation in the SDP programs, and their academic enjoyment was sufficiently high to keep them coming to school more than the average student—not an insignificant fact considering that ELL students who do not participate in ELL programs have a higher drop-out rate than their native-speaking peers (Thomas & Collier, 2002).

The SDP *Office of Multilingual Curriculum and Programs Handbook* (SDP, 2012) provides a thorough overview of the ELL Education Program, including the legal statutes that support the program, its various components, instructions for assessing and placing students into the appropriate programs, criteria for exiting the ELL program, guidelines for teachers, and information about becoming an ESOL teacher. While the data show that the SDP ELL Education Program is quite successful, there are some areas which could be improved to meet changing immigrant demographics in the Philadelphia area. Given the focus on student success and program improvement exerted by the SDP teachers, staff, and administrators, there is little doubt that the ELL Education Program will continue to evolve to meet the changing needs of its LEP/ELL students so that they are successful throughout their educational careers.

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About the Author

Edo Forsythe is a lecturer in English conversation at Hirosaki Gakuin University and a doctoral candidate at Northcentral University. His focus is on technology in language learning, and he has published articles related to educational technology. His e-mail address is edosan@gol.com.

The Intersection of Bullying and Poverty

Kathleen Conn
Neumann University

This commentary describes the often overlooked effects of the combination of students' socioeconomic status and school bullying. Bullying of a student, by itself, contributes to negative psychological and academic outcomes for the victimized student. However, when combined with the stereotype threat of poverty status, the outcome can be tragic. Recommendations for recognizing and dealing with school bullying are provided.

Recent tragic school violence has focused educators' and law enforcement officers' attention on school bullying. In addition, social scientists and federal government officials have devoted increased attention to defined groups of children and youth who are disproportionately bullied: gay, lesbian, bisexual, and transgendered (GLBT) youngsters (Kosciw, Greytak, Bartkiewicz, Boesen, & Palmer, 2012) and students with disabilities (Conn, 2013). However, bullying among a more diffuse category of children, the category of children living in poverty, has received comparably little research attention (Hong & Espelage, 2012).

A poignant glimpse of the intersection of poverty and bullying appears in an unlikely place: court records. For example, one litigation transcript details the brief life story of a middle school student named J. Daniel "J.D." Scruggs, his impoverished family, and his constant victimization at the hands of bullies. J.D. had been identified as emotionally troubled and was in special education classes. He endured unremitting verbal abuse, punching, violent hair-pulling, desks slammed into him, and other bullying behaviors directed at him in school for years, and no one intervened. One day in 2002, J.D. went home and committed suicide, hanging himself in his closet.

The purpose of this commentary is to focus attention on the intersection of bullying and poverty and its relationship to students' educational attainment and student health and to provide recommendations for school personnel and parents who must work together to stem, and ultimately to prevent, bullying in schools.

The Problem of Bullying

Bullying, once viewed as a "rite of passage" (Barnette, 2011; Brown, 2006), is now recognized as a pervasive school problem that can seriously impair the physical and

psychological health of its victims and negatively impact students' academic achievement (Ali, 2010). Children living in poverty are special targets for bullies, whether they attend high-income or low-income schools, crime-ridden inner-city schools, or public or private schools (Honey, 2011; Roddy, 2012). Moreover, researchers have noted the insidious links between family income, education, health, and race, with the poorest and least educated experiencing the worst health, and with persons of color having worse outcomes than Whites (Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010). Bullying of children who are poor creates the perfect storm that meshes all these factors and engulfs its victims.

Bullying is generally defined as intentional aggressive acts that are repeated over time involve a power imbalance in which the bully is somehow in a more favorable position, physically or psychologically, than his or her target. Daniel Olweus (1978), a Swedish researcher, is generally credited as the first to systematically study bullying and its association with later criminality in his native Scandinavia. Bullying includes many different types of behaviors, including verbal abuse; damaging personal property; starting rumors; physical attacks; social isolation; or more recently, technology-facilitated bullying, or cyberbullying (Bullying Statistics, 2013a). Depending on the definition of bullying, anywhere from 8% to 80% of students report being involved in bullying in some way—as bully, bystander, or target (American Academy of Child and Adolescent Psychiatry, 2011). Bullying starts as early as preschool and continues throughout primary and secondary school (Glew, Fan, Katon, Rivara, & Kernic, 2005; Vlachou, Andreou, Botsoglou, & Didaskalou, 2011), and recent research indicates a clear overlap between involvement in bullying and in cyberbullying (Kowalski & Limber, 2013).

Students are bullied because they are different. They may be overweight, unathletic, small in stature, or have interests that do not fit the stereotype for their gender. Students with disabilities, or students who are gay or perceived as gay, are disproportionately bullied (Conn, 2006). Yet while much attention is focused on the problem of bullying of these groups of students, another group of children, largely unnoticed by commentators, is also disproportionately bullied: students who live in poverty (Duo et al., 2009; Gonzalez, 2011).

The Problem of Poverty

Poverty is an individual and family issue. Being poor means not only material deprivation; it can mean poor health, depression, and social isolation. It means limited choice in where to live, what to do in leisure time, and how to change the situation (Gonzalez, 2011). Poverty is not only an urban problem. The *New York Times* reported in July 2012 (“Editorial: Struggling in the Suburbs,” 2012) that the number of people living in the suburbs below the poverty line grew by 66% in the last decade, compared with 47% in urban areas. Poverty is also not defined by race; individuals from all racial groups are part of the poverty population (Macartney, 2011). However, poverty among children of color occurs at twice the rate of poverty among White children (Lin & Harris, 2009). Even in so-called “poor neighborhoods” where poverty is endemic, some children are still poorer than others. In this situation, the least prosperous may be the most bullied.

Overall, more than one in five children in the United States lived in poverty in 2010, according to U.S. Census figures (Gabe, 2013). The U.S. rate is higher than corresponding numbers in virtually all other rich nations (Stanford Education Group, n.d.). The number and percentage of children living in poverty increased in 27 states from 2009 to 2010 (Macartney, 2011), and there is no reason to believe that the trend has reversed in this recent economic downturn. Poverty in the United States today is at its highest level in the last 18 years (Gabe, 2013).

Bullying among children living in urban poverty may reflect the subculture of violence that often underlies their impoverished neighborhoods. However, bullying also occurs in poor rural areas, where children have fewer support systems and may experience punitive discipline in their homes where parents, too, have few support systems (Luthar, 1999). Research shows that impoverished youth have significantly more exposure to peer violence in schools, but little definitive research exists on the association between poverty and bullying (Hong & Espelage, 2012).

Being Bullied and Living in Poverty

The intersection between being poor and being bullied is social ostracism. Being bullied, on its own, is a predictor of sadness, depression, lack of self-confidence, and, at the other end of the continuum, antisocial behavior and weapon carrying (Seeley, Tombari, Bennett, & Dunkle, 2011). However, when an individual also perceives himself or herself as a member of a minority group, stereotype threat, a conscious, debilitating internalization that one is different, takes over (Hutchison, 2009). Anxiety with trying not to stand out consumes so much emotional energy that the individual becomes distracted. A student distracted in this manner may adopt a low profile in the classroom, even slouching down at his or her desk so as to virtually disappear. The extra cognitive burden due to one's poverty situation may even cause intellectual shutdown. When stereotype threat is combined with being bullied, the effects of both at once can be synergistic.

If students are bullied because they are different, the child living in poverty is marked as different by his or her clothes, personal hygiene, and perhaps even speech. Living in poverty may mean substandard housing, or even homelessness. Inadequate child care, including perhaps lack of food, lack of healthcare, and poor or absent supervision, can lead to poor hygiene and poor health. Students living in poverty may have shabby or ill-fitting clothes, receive free lunches, go to school dirty, or even miss school frequently. Chronic stress is present, which impairs concentration and ability to focus in school. The academic achievement gap is particularly pronounced for poor children, especially for poor Black and Hispanic children.

Bullying or poverty individually may lead to emotional and behavioral problems in students, including impulsiveness, difficulty getting along with peers, aggression, or attention-deficit/hyperactivity disorder (McLeod & Nonnemaker, 2000). These behavioral issues may make poor children even more susceptible to bullying. In addition, under-resourced schools in poor neighborhoods may mean shortages of supervisory personnel, so that bullying receives little

attention (American Psychological Association, 2014). The National Center for Education Statistics (2011) reported that in 2010 the dropout rate of students from families in the lowest income quartile was about five and one-half times greater than the dropout rate of students from families with incomes in the highest quartile (13.8% vs. 2.5%).

The J.D. Scruggs Story

One illustration of the perfect storm of poverty and bullying, and the difficulty of bringing attention to the problem, is J.D.'s story. His story is atypical in that, first, the facts leading to his suicide were actually brought to light in a legal proceeding, and second, J.D.'s court transcript actually discussed his impoverished home life. Socioeconomic status of a plaintiff or defendant is not typically a factual issue which courts will note, except in a bankruptcy or financial fraud proceeding. Ever since the U.S. Supreme Court in *San Antonio Independent School District v. Rodriguez* (1973) ruled that being poor was not a "suspect class" that deserved Constitutional protection, courts typically neither mention nor take into account the financial circumstances of litigants. The *J.D.* litigation was different.

J.D.'s case was especially poignant because his mother, a single parent with two children and two jobs, kept a filthy house and paid scant attention to J.D.'s personal cleanliness. The boy repeatedly went to school with fouled and dirty clothes. After J.D.'s suicide, she was convicted in 2003 of a felony count for putting her child at risk by creating an unhealthy and unsafe home environment (Santora, 2003). However, her conviction was overturned by the Connecticut Supreme Court in 2006 (Salzman, 2006).

J.D.'s mother complained numerous times to the vice principal of the school and to the guidance counselor about the bullying of her son. The school refused to effect simple changes such as changing his seat or class assignment. J.D.'s mother finally sued the school district alleging violations of J.D.'s civil rights and other causes of action (*Scruggs v. Meriden Board of Education*, 2005). A Connecticut District Court in 2007 seemed poised to recognize his mother's complaint that the school district failed to meet its obligations to J.D., but the court ultimately refused to rule that the school district affirmatively placed J.D. in danger, or that the district's failure to train or supervise employees amounted to deliberate indifference of J.D.'s condition (*Scruggs v. Meriden Board of Education*, 2007).

First school personnel, and then the court, failed J.D. While this court ruling may seem callous, courts in general are not sympathetic to the allegations of schools' failures to curb bullying. Numerous students beside J.D. have been driven to commit suicide because they were trying to escape unchecked bullying or cyberbullying; the catalog of names includes children from nine years old to college students (Bullying Statistics, 2013b).

In lawsuits involving bullying, court documents may identify the cause of school-based bullying as discrimination based on race, religion, ethnicity, or sex, but courts do not generally

mention the bullied student's poverty status. As noted above, mere poverty does not create a class of people who are protected from discrimination by the U.S. Constitution.

Health Implications of Poverty

Children living in poverty and being bullied are not only in danger of developing academic, emotional, and behavioral problems, but they are also at risk physically. Researchers have documented the juncture between income, education, and access to opportunities and resources that shape health. The poor and the least educated experience the worst health (Braveman et al., 2010). Children with special health needs have less motivation to do well in school; they may have learning challenges and require supports that teachers do not understand and that the school cannot adequately provide (Forrest, Bevans, Riley, Crespo, & Louis, 2011). A vicious cycle develops in which poor children are bullied, they cannot learn, and they then become the least educated as adults. Add in the overt and unseen oppression experienced by individuals of color, and the stage is set for the perpetuation of an American underclass.

Recommendations

The National Education Association (NEA) in 2011 reported that although 93% of its over three million members perceived bullying to be a moderate to major problem in their schools, only 54% of NEA members responded that they had been trained in how to implement their school's anti-bullying policies (Bradshaw, Waasdorff, O'Brennan, & Gulemetova, 2011). Teachers have also proven inaccurate in estimating the level of bullying in their schools, and many lack knowledge about responding to the problem when they do recognize its existence (Swearer, Peugh, Espelage, Siebecker, Kingsbury, & Bevins, 2006). School officials also reported that they also were unsure of how to deal with the problem of bullying, and especially cyberbullying (Maxwell, 2008). Compounding this lack of training and ignorance about strategies for dealing with bullying, most bullying prevention efforts focus solely on protecting discrete groups of children, who because they belong to discrete groups, can generate the most vocal advocates (e.g., students of a discrete racial minority, students with disabilities, or GLBT students). The reality of hostile school environments for poor students, simply because they are poor, is not acknowledged. Students living in poverty are a diverse, diffuse group; they do not necessarily want to be recognized. They may be the children of undocumented aliens; homeless; living in shelters or with relatives; or living in dirty, sub-standard housing. They may even be victims of abuse at home. As victims of the poverty-stricken structural and cultural contexts in which they live, they are largely forgotten in the bullying prevention discourse.

No school is immune to bullying. All officials and personnel in every school must take a more proactive role in recognizing and responding to bullying. School personnel must work to remove the disconnect between the nurturing culture of elementary schools and the more detached atmosphere of middle and high schools. They must work to engage *all* students in the life of the school, at all levels. Mentoring programs need to be established for both bullies and the bullied. For bullies, teaching empathy and caring for others is key. Mentoring and strategies

aimed at developing empathy among students have proven effective in curtailing bullying (Seeley, Tombari, Bennett, & Dunkle, 2009).

Principals and teachers must be visible, not only in the front office and in classrooms, but in the hallways and the cafeteria, the playground and the bus lines. Principals must encourage genuine teacher talk about diversity. They must be proactive in student placements; avoiding stereotype threat by making sure placements include a critical mass of poor and minority students in classrooms. And, finally, school administrators and teachers alike must get to know students as persons. Poor children need warm coats in winter, but, more importantly, they need warmth toward them as valuable and valued individuals.

Researchers agree that in many cases parents and parenting styles encourage the development of bullies (Holmes & Holmes-Lonergan, 2004). Parents whose children are bullies in school exhibit extremes of parenting styles, permissive at some times, authoritarian and harsh at others; they also mete out harsh and/or unpredictable discipline. Mothers of bullies tend to be unhappy, angry, and socially uninvolved. The family climate that creates bullies is hostile and generally negative. Conversely, there is suggestion that parents who are overly protective may be setting the stage for their children to become victims of school bullying (Krans, 2013).

Since many parents are strongly suspected to be part of the problem, all parents must be part of the solution. However, schools must step in to help, perhaps by encouraging participation of parents in school activities and events, even encouraging parents to volunteer at the school. School involvement will likely not turn a dysfunctional home into a “Brady bunch” home, but by getting to know families as a unit, school counselors and social workers may be able to steer dysfunctional families to counseling and help.

The take-home message is that bullying of children living in poverty, especially poor children of color, results in victimized students’ poor academic achievement and adverse health consequences. It truly creates a perfect storm that breaks children’s minds and spirits. “The consensus among physicians and social scientists, educators and youth development organizations, civil rights advocates and law enforcement is that bullying is neither inevitable nor normal” (Sacks & Salem, 2009, p. 147-148). Both bullies and their targets need to hear that message. Neither schools nor society can eliminate poverty, but schools, all schools, can and must work to eliminate bullying, especially bullying of students living in poverty.

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About the Author

Dr. Kathleen Conn is an associate professor at Neumann University, currently teaching in the doctoral program in Educational Leadership. Conn is also an adjunct professor at Widener University School of Law. Her e-mail address is connk@neumann.edu.

Practitioner's Page: Introverts

Helen K. McCracken
Canon-McMillan School District (ret.)

“To be yourself in a world that is consistently trying to make you something else is the greatest accomplishment.”

Ralph Waldo Emerson

“One of the greatest necessities in America is to discover creative solitude.”

Carl Sandburg

Whether we refer to them as timid, quiet, reserved, or any other name, we have all experienced those students in our classes who tend to keep to themselves. They are often well behaved and cause few problems. We may have found one of their writing projects particularly poignant, or a statement they made—usually unexpected—may have caught us off guard by its high level of insight. From their own point of view, they shudder at the thought of being called upon, of being shaken from their quiet world of analysis. They are hesitant to speak. Ponder your students who fall into this category. In reality, they are many. As educators it is both our duty and our obligation to come to terms with the characteristics of our introverted students because new data now indicate that the majority of the population is introverted: 57% introverted to 43% extroverted (Helgoe, 2008). Often misperceived and commonly mislabeled with words that are far from the truth (e.g., “anti-social”), they much prefer to sit, watch, and analyze rather than actively engage. Clearly misunderstood and yet so full of potential, this is the World of the Introvert!

In an interview about her book, *Quiet: The Power of Introverts in a World that Can't Stop Talking*, Susan Cain points out, “Introverts prefer quiet, minimally stimulating environments, while extroverts need higher levels of stimulation to feel their best. Stimulation comes in all forms—social stimulation, but also lights, noise, and so on” (Cook, 2012). Significantly, she also indicates that there is a difference between being introverted and being shy. “It’s also important to understand that introversion is different from shyness. Shyness is the fear of negative judgment, while introversion is simply the preference for less stimulation. Shyness is inherently uncomfortable; introversion is not” (Cook, 2012, p. 1). Marti Laney (2002) also elaborates on the frequent confusion between shyness and introversion that may cloud our vision in the classroom:

Shyness is social anxiety, an extreme self-consciousness when one is around people.... Shy people many feel uncomfortable with one-on-one conversations or in group situations.... [I]t

is a lack of confidence in social situations. It is a fear of what others think of you. It produces sweating, shaking, red face or neck, racing heart, self-criticism and a belief that people are laughing at you. It is a feeling that you are the only person standing in a giant beam of klieg light and you wish the floor would open up and swallow you. Shyness is not who you are (like introversion), it is what you think other people think you are, and therefore it is responsive to behavior change. (p. 43)

Wang and associates (2013) captured the essence of the introvert when they observe, “Although much is known about shyness, little is known about preference-for-solitude” (p. 1). This “preference for solitude” is the characteristic that we as educators must fully realize: Some students truly prefer, and therefore flourish in, solitary situations. Furthermore, it is necessary to ponder the important distinction of students to whom we apply the word “shy.” We stereotypically would not have associated that label with having a fear of negative judgment. This distinction between shyness and introversion as lacking the fear of negative judgment, then, is pointed and important. Moreover, we would assume their fear is based on the interaction with strangers or with strange or unfamiliar situations, which we now know to be false. More specifically, as Lurie Helgoe (2008) teaches us in her book, *Introvert Power*, “Introverts generally prefer a rich inner life to an expansive social life; we would rather talk intimately with a close friend than share stories with a group; and we prefer to develop our ideas internally rather than interactively” (p. 4). This definition augments our twofold lesson: shyness is the aversion to negative judgment and introversion is the preference for time out of the “spotlight.”

School, however, is time spent very much in the spotlight, which includes the preparation of students for the world of work. For many educators the pressure of student achievement presents a dichotomy. We are told that for students to be successful in the world of work and in life they must learn to work cooperatively, yet we now know definitively that most of the population has a predilection for introversion. Susan Cain (2013) summarizes part of this concept when she states,

Just the very notion of schools is an extroverted concept. You’re taking a group of people and throwing them into a classroom to be together all day long. Layer on top of that the current mania for constant group work and you have a situation that I believe is bad for introverts and extroverts alike. It’s bad for introverts because they feel overstimulated by too much group work. But excessive groupwork is also a problem for extroverted children, who need to learn how to work by themselves. (p. 2)

Therein lies the challenge for educators: to meet the needs of extroverted students and introverted ones alike, admittedly no easy task. Statistically Cain (2013) reminds us of the national predilection for group work, which has been a mainstay of learning for many years. This trend, which sees no end in sight, has found a niche in U.S. classrooms as an educational staple because of the belief that it mirrors the needs of corporate America:

According to a 2002 nationwide survey of more than 1,200 fourth grade teachers, 55 percent of fourth-grade teachers prefer cooperative learning, compared to only 26 percent who

favor teacher-directed formats. Only 35 percent of fourth-grade and 29 percent of eighth grade teachers spend more than half their classroom time on traditional instruction, while 42 percent of fourth-grade and 41 percent of eighth grade teacher spend at least a quarter of class time on group work. Among younger teachers, small-group learning is even more popular, suggesting that the trend will continue for some time to come.

The cooperative approach has politically progressive roots—the theory is that students take ownership of their education when they learn from one another... This style of teaching reflects the business community. (p. 77)

There is definitive truth that the business community expects and respects a cooperative culture among its own. However, our schools, in preparing our students for this world of work, must come to realize that before we can prepare our future citizens for this world, we must prepare them to be good learners in and of themselves. This priority includes helping them to respect their own learning styles and personality temperaments.

Nevertheless, a firestorm of unrest would be heard by the education community if students would be somehow banned from learning cooperatively, and the elimination of group work certainly is not the point of this piece. Rather, the goal is to acknowledge and honor the points of view of all our students within the context of their personality temperaments so as to help them learn to their fullest and richest individual learning potentials.

Another often used learning strategy is that of class participation, surely the bane of an introverted student's existence! Nevertheless teachers persevere in using and often times grading classroom participation, causing angst among their introverts. How do educators handle this challenge? Jessica Lahey (2013), a self-proclaimed extroverted teacher, has written about this issue in *The Atlantic* and explains, "I have experimented with many different grading strategies over the years, but class participation remains a constant in my grade book" (p. 1). Admitting that the parents of introverted students question the best way to educate their students, she remains constant in her position:

I ask them to turn on their brains, open their mouths and share their ideas with the rest of the class. This is no problem for the extroverts, who live for the opportunity so talk about their ideas. However, I also teach introverts, who live in fear of being asked these sorts of questions. (p. 2)

After pondering the situation and even researching the traits of introverts (further, she is married to one and parents another), Lahey decided to continue to assess her students on participation. More specifically, she articulates,

In the end, I have decided to retain my class participation requirement. As a teacher, it is my job to teach grammar, vocabulary, and literature, but I must also teach my students how to succeed in the world we live in—a world where most people won't stop talking. If anything,

I feel even more strongly that my introverted students must learn how to self-advocate by communicating with parents, educators, and the world at large.

Dr. Kendall Hoyt—introvert, assistant professor of medicine at Dartmouth Medical School—agrees. “You don’t get a pass for your personality type. I understand that social anxiety is a real thing—I am an introvert, and my mother used to actually faint if she had to do public speaking—but part of my job as a teacher is to teach people how to articulate and be heard.” (p. 2)

We are reminded that there are many lessons to be learned from the introverted temperament. It is not that we are to coddle our students and help them to avoid uncomfortable situations: Life is full of discomfort. Rather, we must acknowledge their differences and provide them with a variety of opportunities to enhance the ways in which they learn. Should introverts be made to speak up in class? Most certainly. Life will teach you if school does not teach you. However, school should also allow both introverts and extroverts to come to know their best learning potentials.

Fundamentally, solitude has its place, and “Know thyself!” is and has been good and useful advice for many centuries. However, there many come a time (and as educators, we need to instill this lesson in our students) when we need to step out of our comfort zone to address an issue, a person, or a situation that requires borrowing traits from the extroverted temperament. Cain (2013) begins her book with the example of Rosa Parks and the historic “no” that she gave the bus driver who asked her to move to the back of the bus:

Montgomery, Alabama: December 1, 1954. Early evening. A public bus pulls to a stop and sensibly dressed woman in her forties gets on. She carries herself erectly, despite having spent the day bent over an ironing board in a dingy basement tailor shop at the Montgomery Fair department store. Her feet are swollen, her shoulders ache. She sits in the first row of the Colored section and watches quietly as the bus fills with riders. Until the driver orders he to give her seat to a white passenger.

The woman utters a single word the ignites one of the most important civil rights protests of the twentieth century; one word that helps America find its better self.

The word is, “No.”

The driver threatens to have her arrested.

“You may do that,” says Rosa Parks. A police officer arrives. He asks Parks why she won’t move.

“Why do you push us around?” She answered simply.

“I don’t know,” he says.

“But the law is the law and you’re under arrest.” (p. x)

Further, Cain reports that when she died at the age of 92, Rosa Parks (a tiny little lady) was an introvert: an introvert who changed the world. An introvert spoke up and claimed her rightful place in history. Such are the real lessons we much teach our children as we honor and respect their introverted personality temperaments.

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About the Author

Dr. Helen K. McCracken was superintendent of the Canon-McMillan School District, one of the fastest growing school districts in southwestern Pennsylvania. Dr. McCracken recently retired after a 35-year career in the district. Dr. McCracken's e-mail address is drhelenmccracken@windstream.net.

Practitioner's Page: Practices to Build School Morale for Every Educator

Susan M. Sibert
Indiana University of Pennsylvania

Building school morale starts with the actions, perceptions, and beliefs of individuals, not necessarily with the groups we identify as the school system, the labor union, or the administration.

Being an educator, particularly at this time in history under the mandates of high-stakes testing, is a challenge to morale. In one study of teacher morale (Murphy, 2008), researchers found that the majority of the teachers felt low morale, high levels of stress, and building pressure related to high-stakes testing.

There was a time in your career when morale was not a personal issue. Remember the thrill of learning you were hired and the joy of entering your first classroom? Now, some or all of the thrill and joy has turned to drudgery and dread, perhaps even to sadness and disappointment. Reclaiming your joy and contributing to building a culture where educators feel energized and positive about learning may require a long gaze in a mirror. Building school morale starts with you.

In order for this to happen, daily work as an educator must focus on the many rewards and positive aspects of teaching. In readjusting your perspective, you will contribute to the positive energy of the learning environment. How you see things will flow into your interactions with your students and colleagues, as well as parents and the greater school community.

Colleagues Matter

First, choose your colleagues wisely. Align carefully. The quality of collegial support varies widely, and the impact on overall morale can be uplifting and inspiring or deflating and degrading. Support is essential to sustain a long-term, positive outlook. School “cultures with characteristics expressed in terms of collegiality and collaboration generally are those types that promote satisfaction and feelings of professional involvement of teachers” (Leithwood, Leonard, & Sharratt, 1998). Do you extend that same level of collegial support to your fellow educators in an effort to improve or sustain morale? During the course of any given school term, energy and mood ebb and flow for you and your colleagues. Expect that there will be good days and

bad days for everyone. Keeping the bad days in perspective will allow for faster recovery and provide the collegial support you and your colleagues need to effectively serve students.

Celebrate Success

Second, celebrate successes with your colleagues. When was the last time you recall having cake or a greeting card for a professional accomplishment? Educators tend to focus celebrations on personal events, like the birth of a child. I once worked in a school where a group of young teachers completed graduate degrees and additional teaching certifications. The morale was so poor that these colleagues found themselves keeping their professional successes to themselves. The accomplishments became something to hide rather than share and celebrate. In contrast, a colleague of mine recently started a bulletin board in a busy hallway where educators and university students alike could post a message thanking or celebrating a person or event at the school. It was an instant morale booster. Passers-by wanted to stop and read about others' positive actions. Even in a supportive environment, morale can always be improved.

Start Small

Third, think small. The attainment of a master's degree is not required to celebrate with a colleague or group of colleagues. With administrative permission, start a blog where colleagues at your school can share daily teaching successes. Although teaching can be experienced as a highly autonomous profession, it is not one that needs to be practiced in isolation. Teachers are ultimately part of a department, a school, and a school system. How you see yourself and your teaching success is influenced by how you view others in your profession—a sort of collective confidence rating (Goddard & Goddard, 2001). Retreating to your own classroom may ultimately negatively affect your own practice. That thought alone is enough to motivate action to attempt to change morale. A blog forum as simple as sharing daily classroom successes, curriculum ideas, or tips for student motivation or classroom management improvements can go a long way toward improving overall faculty morale. Educators coming together to share positive classroom practices and successes is something to celebrate in and of itself.

Years ago when I practiced school counseling, I photocopied a picture of a flower on colored paper and left a stack of the paper flowers in the faculty room with a note that read, "Who doesn't like to get flowers? Celebrate a success or thank a colleague with a flower." It was one of the most uplifting morale boosters of the school year. The joy educators received from paper flowers made them feel recognized and appreciated. This example shows that it does not take money or a lot of time to make a positive change. Each person in an educational organization can make small contributions to support a positive climate.

Teacher Morale Matters to Students

An important part of teaching is motivating students to learn. Teacher self-efficacy has a positive influence on student motivation and achievement (Mojavezi & Tamiz, 2012). Encouraging student motivation requires positive teacher morale. Good teaching is often assessed in terms of feelings of comfort, security, feedback, and being valued. Successful teachers are focused on the longer-term benefits of learning (Sumara & Davis, 2010). Regaining your own morale is necessary to build a classroom and school characterized by energy and positive learning experiences in which students are motivated to learn.

Reclaim the Joy of Teaching

When you first interviewed for a teaching job, you were excited at the simple prospect of teaching. Remember telling the interviewers that you would accept any building, classroom, classes, or schedule just to be part of the school and land the job? Now, however, you may be feeling let down or disappointed about numerous issues, from your class assignment and schedule to the air temperature of your room or reduction of available teaching supplies. You look around in the faculty room and realize your colleagues are also feeling disrespected, overwhelmed, and stressed, and sometimes even under fire. Are you still excited to have your job, your classroom, your schedule, and your students? Is it really your responsibility to improve morale?

Reclaiming the joy of teaching is central to improving the experiences of your students and your own well-being. Morale is not the responsibility of your school, your principal, or your district. Morale is a shared responsibility, and it must start with your own beliefs and perspective. Consider Harry Wong's dedication in *The First Days of School: How to Be an Effective Teacher*: "Dedicated to my father and mother, who wanted me to be a brain surgeon. I exceeded their expectations. I became a scholar and a teacher" (Wong & Wong, 2004, p. iii).

Do you (still) consider yourself a scholar and a professional who has exceeded professional expectations? What could be accomplished if the school where you work were a destination that you and your colleagues couldn't wait to teach in each day? The possibilities are limitless for professional development and student achievement. There is no need to wait for your administration, your union, or your department chairperson to change the morale in your school. Although teaching under governmental mandates and budget reductions presents unique challenges, positive improvements in morale can be realized if each educator conducts a self-assessment of their contribution to the effort and then takes some action. You can take the first step to improve morale for your school.

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About the Author

Dr. Susan M. Sibert is a member of the faculty in the Professional Studies in Education Department at Indiana University of Pennsylvania. Her e-mail address is Susan.Sibert@iup.edu.

Book Review

How Children Succeed: Grit, Curiosity, and the Hidden Power of Character

Vito A. Forlenza

Credible research on the influences of non-cognitive factors on students' learning, growth, and development is finally challenging the high-stakes testing preoccupation that continues to dominate education reform agendas. Not since the Association for Supervision and Curriculum Development (ASCD) *Habits of Mind: A Developmental Series* has there been a concerted effort to call attention to the pivotal impact that students' habits of mind and thoughts have on success in and beyond the classroom, and it's refreshing. In *How Children Succeed: Grit, Curiosity, and the Hidden Power of Character* (2013), author Paul Tough argues that the qualities related to character matter most when preparing students for success.

Calling attention to the misguided notion of the belief that success today depends primarily on cognitive skills that describe the world as neat and linear, where inputs lead to outputs, Tough's five-chapter treatise assimilates research of economists, educators, psychologists, and neuroscientists that call the cognitive hypothesis into question. That is, what matters most are attributes that cannot be measured in traditional ways such as persistence, self-control, curiosity, and conscientiousness. And yes, these character traits can be developed and cultivated daily in schools, they are not inborn.

Tough begins by examining the effects adverse childhood experiences (ACE) have on early learning. Early stress in a child's life leads to learning and behavior problems that are rooted in the inability to self-regulate emotional and cognitive activities. In straightforward prose, he explains the brain's working memory (executive function) center (prefrontal cortex) critical to learning, and the misconception that poor executive function is related to poverty. It's not poverty, cautions Tough, it's just that children living in poverty have the stress that goes along with it. But, unlike cognitive skills, the good news is that the executive function of non-cognitive factors is malleable right through early adulthood and beyond.

Masterfully braiding and summarizing research challenges and suggestions with real-life case studies and personal testimonials from multiple perspectives, Tough revisits familiar non-cognitive words and concepts with new meanings that stray from traditional beliefs. By now the reader is introduced to a host of new words and concepts, such as *grit*. A form of self-control that is accompanied by tenacity and perseverance, grit has little or no relation to IQ. To that end, the synthesis of research suggests the emergence of a set of character strengths that includes such attributes as grit, conscientiousness, social intelligence, optimism, curiosity, and perseverance that are likely to predict productivity, life satisfaction, and high achievement. Going forward, the

compelling evidence is that these non-cognitive qualities take root in the postmodern view of intelligence and are far greater predictors of students' capacity to learn and succeed in school and life than traditional ability-centered theories.

The essence of Tough's message is that non-cognitive strengths allow for cognitive flexibility as one thinks about, negotiates, and functions in the messiness of the real world. In everyday situations, individuals with such attributes *realize* that mistakes are a natural part of continuous learning, *persevere* when faced with difficulty, *remain* calm yet productive during times of uncertainty and ambiguity, *listen* with empathy, *seek* constructive feedback, *think* about their thinking (metacognition), and *manage* impulsivity.

How Children Succeed makes it clear. There is little or no evidence that what policymakers are mandating, in and of themselves, such as requiring a certain percentage of students to score proficient on a standardized test, adopting state and/or national standard frameworks, and requiring more rigorous coursework, do not prepare students for continuing education or success in the workplace. These mandates merely raise the floor for students to be eligible, not ready, for postsecondary education and the formalities of life beyond high school. Given that backdrop, the author calls for education practitioners to concentrate efforts on raising the ceiling by fostering students' development of non-cognitive dispositions and habits of mind that promote learning as unfinished business. Tough concludes:

But in fact, this science suggests a very different reality. It says that the character strengths that matter so much to young people's success are not innate; they don't appear in us magically, as a result of good luck or good genes. And they are not simply a choice. They are rooted in brain chemistry, and they are molded, in measureable and predictable ways by the environment in which children grow up. That means to the rest of us—society as whole—can do an enormous amount to influence their development in children. (p. 196)

Tough provides a compelling presentation of philosophies and notions backed by credible, vetted research that are worthy of education practitioners' thorough study and discourse on all levels. Furthermore, he challenges policymakers to consider a more capacious understanding of non-cognitive factors' influence on student learning. That is, these attributes and dispositions interact essentially in situated contexts to create and advance student learning that is unlikely to occur in their absence.

As the evidence mounts and the concepts and ideas from this research base are disseminated, any policymakers' and education practitioners' who dismiss these attributes as integral to learning will be seriously questioned.

About the Author

*Dr. Vito A. Forlenza is an organizational/educational consultant.
He can be reached at yforlenza@verizon.net.*

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