Improving Teacher Quality: Professional Development Implications from Teacher Professional Growth and Effectiveness System Implementation in Rural Kentucky High Schools

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Focus on improving teacher quality and student achievement led many state departments of education to implement research-based teacher effectiveness systems. The Teacher Professional Growth and Effectiveness System (TPGES) was implemented as the Kentucky teacher effectiveness system. This study examined teachers' and principals' viewpoints concerning the impact of TPGES on increasing their knowledge and understanding of the evaluation process and needed additional professional development at the end of the implementation year. Study results indicated mixed viewpoints concerning their knowledge and understanding of TPGES and of their viewpoints concerning additional needed professional development. In addition, researchers identified four professional development implications based on participating educators' TPGES professional development efforts. Due to the rural setting, these implications are not generalizable to all schools; however they could provide guidance for other public school educators as they work to implement successful professional development initiatives in their schools.

Key terms: professional development, TPGES, student growth goals, peer teacher

Introduction

Public schools in the United States are charged with addressing ever-increasing demands as educators strive to create optimal learning environments where all students graduate from high school prepared academically for opportunities they choose to pursue. To create

optimal learning environments for all students, educators are tasked to implement multiple educational programs and strategies designed to challenge academically diverse students, reduce the achievement gap, meet federal, state, and local curriculum requirements, and remain abreast of an increasing amount of pedagogical and content area research. Educators, focused on continual improvement of teacher quality and student achievement, participate in a variety of professional development activities to enhance their abilities to provide high quality instruction for all students.

Public schools traditionally have depended on professional development initiatives to drive educational improvement. Professional development in public schools was identified by Hassel (1999) as a process of improving educator skills and competencies needed to produce outstanding educational results for students. Earlier, Joyce and Showers (1988) concluded that levels of teacher learning were greatly increased when coaching, study teams, and peer support were provided. According to Guskey (2000), "One constant finding in the research literature is that notable improvements in education almost never take place in the absence of professional development" (p. 4). In addition, Cochran-Smith (2004) noted every teacher was not well-prepared for the important teaching profession, and teacher professional development efforts have a critical role in improving teacher quality. Later, Lumpe, Vaughn, Henrikson, and Bishop (2014) identified focused professional development as a means to improve teacher quality and as a significant factor in improving student achievement.

Blank (2013) identified several common elements of effective professional development programs. Duration and appropriate amount of contact hours are crucial elements of professional learning. None of the effective programs were one-time or short-term events. Other common elements of the effective professional learning programs included implementation of multiple professional learning

activities with active learning methods, collective participation, and collaboration among teachers.

Although rural schools have benefits for educators, students, and communities, many rural schools face unique professional development challenges. Several successful education reform initiatives, such as multi-grade classrooms, heterogeneous grouping, site-based management, and cooperative learning, began in small, rural schools (National Education Association, 2017). In addition, rural educators, often located in sparsely populated areas miles from other schools, face difficulties such as lack of funding, poor technology infrastructure, and professional isolation, resulting in lack of access to professional development opportunities available in more populated areas.

Kentucky Initiative

To provide federal support for innovative approaches to teaching and learning, in July, 2009, President Barack Obama presented state departments of education an opportunity to compete in a "Race to the Top." Designed to spur systemic reform and embrace innovative approaches to teaching and learning in America's schools, a key component of "Race to the Top" was focused on increasing teacher quality (US Department of Education News, 2009).

Although the Kentucky Department of Education did not receive a "Race to the Top" award during the initial phase, officials, armed with findings concerning educator quality and student achievement, decided to move ahead with the educator effectiveness system component. One component of the new Kentucky evaluation system, the Teacher Performance Growth and Effectiveness System (TPGES), was adapted for Kentucky from the 2011 Charlotte Danielson Framework for Teaching. It was designed to measure classroom teacher effectiveness and to serve as a catalyst for professional growth and continuous improvement.

The TPGES implementation timeline was deliberate, allowing time for field tests, feedback, a statewide pilot, and revision. In 2010 through 2013, several Kentucky school districts participated in Phase One and Phase Two implementation by providing feedback and recommending revisions to the process and evaluation tool. Phase Three, the 2013-2014 school year, was the statewide pilot year with the Kentucky Department of Education providing professional development for administrators and finalizing the framework and processes. In 2014 and 2015, TPGES was implemented throughout the Commonwealth. All districts were mandated to implement TPGES or another valid and reliable system that was approved by the Kentucky Department of Education.

Significance of the Study

The main purpose of this study was to examine changes of rural Kentucky high schools teachers' and principals' viewpoints during the TPGES implementation year concerning crucial professional development issues. The research team, former public school teachers and administrators and current assistant professors of education at public state universities, identified professional development implications that positively supported TPGES implementation. Researchers with extensive experience in the development of initiatives focused on professional learning to improve the quality of teaching.

Study findings are not generalizable to all schools. However, educators striving to implement professional development initiatives in public schools could benefit from consideration of current study implications. This study addressed two research questions. (1) How have teacher viewpoints and principal viewpoints concerning their knowledge and understanding of the TPGES process changed during the implementation year? (2) How have teacher viewpoints and principal viewpoints concerning needed TPGES professional development changed during the implementation year?

Methods

In this sequential mixed methods study, researchers devised data collection methods to provide multiple opportunities, survey and interview, to collect teachers' and principals' viewpoints on topics identified in the study questions. Creswell (1995) identified a sequential study as a work in which a qualitative component and a quantitative component are completed as two separate phases of the study. According to Tashakkori and Teddlie (1998), mixed methods studies combine qualitative and quantitative approaches within different phases of the research process. Results in mixed methods studies might, or might not, provide stronger evidence for study implications. Focus groups or interviews can be viewed as the qualitative counterpart to the quantitative survey to obtain a broad range of information about events.

All professionally certified staff in participating schools had the opportunity to complete two surveys, Survey One at the beginning of the TPGES implementation year and Survey Two at the end of the TPGES implementation year. From eligible schools, 15 schools participated in the study, representing a 19.5% response rate. In addition, researchers requested that principals of three participating schools, purposefully selected to represent eastern, central, and western Kentucky geographic areas, participate in individual face to face interview sessions to obtain clarification and follow up information from Survey One. Purposeful sampling is a technique widely used for the identification and selection of interviewees in information-rich cases (Patton. 2002). In addition, Bernard (2001) noted the importance of availability and willingness to participate of potential interviewees. The principal of each purposefully selected school agreed to participate in the interviews and allowed researchers to invite teacher volunteers for small group interviews focused on TPGES implementation. Twenty-eight teachers and three principals

participated in TPGES interviews, and 125 teachers and 15 principals submitted surveys.

Surveys were reviewed and approved by the university's Institutional Review Board. Teachers' and principals' viewpoints concerning their knowledge and understanding of the TPGES process were addressed in Surveys One and Two, item four. Teachers' and principals' viewpoints concerning additional needed professional development were addressed in item nine on both surveys. Descriptive research methods were used to analyze the survey data. Analysis of study data is neither correlational nor designed to find causation, but instead describes existing conditions and future professional development needs based on teacher and principal responses. Descriptive analysis was appropriate for this study because school conditions that naturally occur could be systematically examined and analyzed without manipulation of variables (Best & Kahn, 2003). Interview data were recorded, transcribed, and grouped into themes, and were used to gain an in-depth understanding of teachers' and principals' viewpoints concerning TPGES implementation and professional development. Data from multiple sources, Survey One, Survey Two, and interview data, were triangulated and led to informed discussion of the research questions and to development of study implications (Bogdan & Biklen, 1998).

Results

Study Terminology

- TPGES*:* Teacher Professional Growth and Effectiveness System
- Teacher Group: Classroom teachers who participated in the surveys, including peer observer teachers
- Principal Group: Building principals who participated in the surveys, all of whom completed TPGES evaluator training
- Survey One: Data collection at the beginning of the implementation year, fall 2014

- Survey Two: Data collection at the end of the implementation year, spring 2015
- Minimal Impact Response: A respondent survey rating of 1 or 2
- Noncommittal Impact Response: A respondent survey rating of 3
- High Impact Response: A respondent survey rating of 4 or 5

On Survey Two, 42% of Teacher Group respondents indicated High Impact Response (4 or 5 rating) concerning Teacher Knowledge and Understanding of the TPGES Process, as compared to 29.3% on Survey One, a 12.7% increase. Teacher interviewees noted learning had been difficult. One teacher stated, "Initially we just were working from the seat of our pants; there was vague information everywhere at first." Other teachers indicated there seemed to be no set training program for classroom teachers, and they saw it as a huge undertaking, "a lot to do." In addition, teachers said they were learning over time, and their principals had been very supportive by providing training "in-house." They noted that school-based professional development provided opportunities for principal and teacher collaborative interaction to openly discuss difficult issues and effective strategies.

On Survey Two, 90.9% of Principal Group respondents indicated High Impact Response concerning Knowledge and Understanding of the TPGES Process as compared to 66.6% on Survey One, a 24.3% increase. All Principal interviewees had completed intensive TPGES training the previous summer, and their conversation focused primarily on TPGES training for teachers. One principal stated his superintendent supported the idea of this year being a learning year, and teacher training was provided primarily "in-school" by school staff. Another principal noted, "Principals in all the district schools provided TPGES professional development this

year "in house," and teachers and we shared ideas and perspectives." Principals agreed there should be more training for teachers at the beginning of the year.

Teacher Group Knowledge and Understanding of TPGES Process

Survey	Survey One		Survey Two		
Rating	n	%	n	%	Gain-Loss %
1	2	1.9	2	2	+.1
2	24	22.6	12	12	-10.6
3	49	46.2	44	44	-2.2
4	25	23.6	39	39	+15.4
5	6	5.7	3	3	-2.7
n	106		100		

Principal Group Knowledge and Understanding of TPGES Process

Survey	Survey One		Survey Two		
Rating	n	%	n	%	Gain-Loss %
1	0	0	0	0	0
2	1	6.7	0	0	-6.7
3	4	26.7	1	9	-17.7
4	5	33.3	2	18.2	-15.1
5	5	33.3	8	72.7	+39.4
n	15		11		

On Survey Two, 66.6% of Teacher Group respondents, 2.5% fewer than on Survey One, identified development of Student Growth Goals as needed professional development. Student Growth Goals were set by educators in every grade level and content area to determine the degree of student growth based on results from multiple assessments. Teacher interviewees believed student growth goals were more specific than student achievement goals of the past, and several teachers voiced the opinion that teachers needed more training

specifically focused on development and implementation of the goals. They noted initial self-imposed stress by focusing on the growth goals, but they understood they were worthwhile…"students grew and so did they." In addition, they noted the role of the principal in facilitating professional development and leading collaborative efforts to develop student growth goals.

Teacher Group: Needed Professional Development

	Survey One		Survey Two		Gain-Loss
	n	%	n	%	%
Student Growth Goals	67	69.1	60	66.1	-1.5
Peer Observation	54	55.7	28	31.1	-24.6
Planning and preparation, Domain One	58	59.8	22	24.4	-35.4
Classroom Environment, Domain Two	48	49.5	13	14.4	-35.1
Instruction, Domain Three	60	61.9	28	31.1	-30.8
Professional Responsibilities, Domain Four	50	51.5	14	15.5	-36.0
n	97		90		

On Survey Two, 31.1% of Teacher Group respondents, 24.6% less than on Survey One, identified Peer Observation training as needed professional development. Peers were teachers with "equal standing" who received TPGES training in order to facilitate collegial discussions to help other teachers continue their growth and hone accomplished teaching practices. The Peer Observation concept elicited lively teacher discussion. For example, one teacher noted that peer teachers provided a fresh set of eyes and ideas by someone doing the job. Another teacher said after a peer teacher conference the pressure was off. She stated, "The peer teacher told me what to expect, and I was assured there was no judgment, that the focus was on what actually happened in the lesson." Other teachers related frequent

"uneasiness" with TPGES and noted peer teachers provided needed support from someone with a similar viewpoint. Peer teachers created positive discussion concerning teaching and learning.

Lower percentages of Teacher Group respondents identified each of the TPGES Domains as needing additional professional development on Survey Two than on Survey One. Overall, Teacher Group interviewees indicated their school-based professional development focused on the Domains was preparing them to improve the quality of their teaching.

On Survey Two, 81.8% of Principal Group respondents, 1.8% more than on Survey One, identified development of student growth goals as needed professional development. Principal interviewees provided insight into the process of "teacher ownership" of student growth goals, noting they quickly involved teachers in their development. Teachers began to lead the way, and principals stated teachers knew and understood the students and the standards. They identified teachers as the instructional experts. One principal stated, "When teachers developed the student growth goals, they owned them."

Principal Group: Needed Professional Development

	Survey One		Survey Two		Gain-Loss
	n	%	n	%	%
Student Growth Goals	12	80	9	81.8	+1.8
Peer Observation	8	53	5	45.5	-7.5
Planning and preparation, Domain One	7	46.7	5	45.5	-1.2
Classroom Environment, Domain Two	7	46.7	2	18.2	-28.5
Instruction, Domain Three	19	66.7	3	27.3	-39.4
Professional Responsibilities, Domain Four	8	53.3	6	54.5	+1.2
N	15		11		

On Survey Two, 45.5% of Principal Group respondents, 7.5% less than on Survey One, identified Peer Observation as needed professional development. Principal Group interviewees noted the importance of the peer teacher's role. One principal highlighted the peer observation process as the best component of the TPGES process. Another principal echoed by noting peer teachers shared a unique perspective with other teachers, enabling them to work together and learn from each other in a safe, trusting environment. Except for Professional Responsibilities, Principal Group survey respondents noted less need for Domain focused professional development on Survey Two than on Survey One.

Discussion

The authors clearly acknowledge potential limitations of this study. As school leaders, principals had the opportunity to allow teachers to participate in the study. School principals' biases concerning use of surveys, TPGES implementation in their schools, or the time requirement of participation for teachers could have negatively impacted the return rate. A higher return rate could have produced a higher level of confidence in results.

Another limitation concerned the use of a Likert scale survey, as respondent differences in perception among numeric ratings could impact results (Simon & Goes, 2013). This survey type forces respondents into particular categories that could limit their range of responses. To counter this limitation, interviews were incorporated to allow insight and clarification.

An additional limitation focused on dynamics of the teacher interview process, conducted in small teacher group settings at the schools. According to Maxwell (1996), those being interviewed might have responded to researchers for the benefit of the researcher or themselves by providing information that did not represent their actual viewpoints. Researchers remained conscious of how their presence was affecting the setting and the individuals being observed and how

this could impact the research results. Individual teacher interviews, with a guarantee of anonymity, could have resulted in a higher level of confidence in results. Conversely, school principals were interviewed individually, which could have resulted in a predisposition to present TPGES implementation favorably regarding their own schools. Other educator presence during principal interview sessions could have resulted in a higher level of confidence in results.

Researchers also noted study delimitations. A primary delimitation of this study was researchers' focus on "rural" schools. Purposive sampling, including only schools classified as "rural," decreased the generalizability of findings. Researchers' review of literature identified recent studies focused on professional development issues; however, they identified no recent studies focused on professional development for implementation of newly developed teacher evaluation and effectiveness systems in rural schools. Another delimitation was the researchers' decision to include data only from schools which responded to both Survey One and Survey Two. This decision to include only data from schools participating in both surveys supported the research question focused on differences between early year and year ending data.

Teacher and Principal Knowledge and Understanding of the TPGES process

The percentage of Teacher Group survey respondents indicating High Impact Response on Survey Two concerning their knowledge and understanding of the TPGES process increased by 12.7%. However, that percentage remained well below half of respondents. Fifty-eight percent of teachers indicated Noncommittal or Minimal Impact Response, which could indicate a belief of inadequate knowledge and understanding of TPGES at the end of the implementation year. However, interview data indicated some teachers' knowledge and understanding of TPGES increased during

the year. Teacher interviewees credited their school principals who provided learning opportunities.

The percentage of Principal Group survey respondents indicating High Impact Response on Survey Two concerning their knowledge and understanding of the TPGES process increased to 90.9%, an increase of 26.7%. Comprehensive TPGES training conducted the previous summer for principals, in addition to school wide implementation experiences, could have impacted principals' knowledge and understanding at the end of the year. In addition, interviewees reinforced the teachers' assertion that organized professional development for teachers, early in the year, was needed.

Teacher and Principal Viewpoints Concerning Needed Professional Development

Student growth goals

Higher percentages of Teacher Group and Principal Group respondents identified Student Growth Goals as needed professional development than other listed professional development initiatives. Interview data also supported implementation of student growth goals. Development of the new student growth goals was a statewide priority during the implementation year, and the statewide focus placed on their development and implementation could have increased educators sense of urgency.

Peer observation

Fewer than half of Teacher Group and Principal Group survey respondents identified Peer Observation as needed professional development on Survey Two. However, teacher and principal interviewees consistently stressed the importance of the peer teacher observation. Educators supported the Peer Observation process but did not perceive the need for additional peer teacher training at the end of the school year.

TPGES domains

Lower percentages of Teacher Group survey respondents identified needed professional development for each of the four TPGES Domains on Survey Two than on Survey One. For teachers, these data could support the notion that although learning throughout the year had been difficult, they had gained knowledge and understanding and no longer perceived the need for additional Domain focused professional development. Principal Group survey respondents identified the need for professional development in Planning and Preparation, Instruction, and Classroom Environment at lower percentages on Survey Two than on Survey one. Due to the intensive initial principal training and their implementation of school-based professional development, principals could have had an increased level of confidence in professional development efforts.

Implications

Based on analysis of TPGES implementation study data, researchers identified four themes which could be advantageous for consideration as educators continue professional development efforts to improve their practice and to increase teacher quality and student learning.

Difficulty of Change Initiative Implication

Study data indicated teachers were somewhat anxious early in the TPGES implementation process. Teachers also noted learning had been difficult but was happening over time, and they believed the TPGES process would benefit their teaching effectiveness. Principals noted superintendents' support of "a TPGES learning year."

Years prior, teachers' anxiousness of change efforts was addressed by Lorti (1975) who noted change brings a certain amount of anxiety and can be threatening. Continuing, he stated that as

practitioners in many other fields, teachers are reluctant to adopt new practices or procedures unless they feel sure they can make them work. In addition, Guskey (2002) noted educators should understand that implementation of change is gradual and difficult for teachers. Any change that holds great promise for increasing teachers' competence and enhancing student learning is likely to require extra work, especially at first. Patterson (1997) stated human nature is to resist change not perceived to be in their best interests and advised leaders to provide a clear rationale for change and to focus on building teachers' resilience. Kotter (2012) noted effective change models included creating urgency for change, building a supportive coalition, and taking small steps, which takes time and steadfastness.

Importance of School-Based Professional Learning

Study data provided some evidence of the effectiveness of school-based planning focused on timely and continuous professional development for teachers. Among crucial features of effective teacher professional development in participating schools were teams of teachers and principals, learning together, throughout the year. Teachers increased their knowledge and understanding of the TPGES process throughout the year by participating in school-based professional learning communities. This timely and consistent "in-house" professional development theme is supported by Bryk, Sebring, Allensworth, Luppescu, and Easton (2009), who reported all schools needed a professional community focused on continuous improvement and learning. In addition, Allen (2014), in a study of rural school professional development processes, noted professional learning communities sustained and developed teaching and leadership practices, facilitated instructional collaboration, and produced commitment to school vision and goals. According to Penuel, Fishman, Yamaguchi, and Gallagher (2007) many teachers experienced a sense of frustration when they were asked or required to attend "en masse" professional development programs or workshops that aimed

to change their instructional practice. Instead, schools should consider professional learning communities as an alternative to traditional professional development.

Importance of Feedback and Input

Study data indicated teachers wanted authentic feedback concerning their instructional effectiveness and input in the accountability process. Teachers and principals collaboratively developed and implemented student growth goals, which they viewed as tools to provide feedback concerning their instructional effectiveness. In addition, teachers valued the principal- led work sessions focused on TPGES. They noted this school-based professional development provided opportunities for principal and teacher collaborative interaction. Guskey (2002) stressed that teachers should receive regular feedback on student achievement progress. If the implementation of new practice is to be sustained, the individuals involved should be involved in the change process and should receive regular feedback on their efforts.

Importance of Learning-Focused, Supportive Leadership

Study data indicated teachers valued the feedback, support, and leadership provided by TPGES trained peer teachers. Peer teachers shared their viewpoints concerning teaching, learning, collaboration, and understanding of classroom practices. The United States Department of Education (2013) identified peer teachers as trained colleagues who observe another teacher's professional practice to provide supportive and constructive feedback that can be used to improve practice. According to the Kentucky Department of Education (2014), empowering other professionals to share their expectations with peers provided the opportunity for teachers to engage in collegial conversations concerning pedagogical practice to improve student achievement. Supovitz, Sirinides, and May (2010) supported the concept that peer teacher influence positively impacted

instructional change. Higher levels of instructional conversation, interaction around teaching and learning, and advice networks among teachers were associated with improved teacher quality.

Teachers also noted the important role of building principal leadership in TPGES implementation. They noted principals were supportive by providing professional development sessions. Several years ago, Heck, Larson, and Macrolides (1990) examined principal supervision and support of teachers and found that higher performing principals worked collaboratively with teachers to coordinate their schools' instructional programs to solve instructional problems. Later, Supovitz, et al. (2010) found principal leadership was a positive and significant predictor of teachers' change in instruction. They suggested that principals who focused on instruction and fostered community were associated with teachers who reported making changes in their instructional practices. Likewise, Sebastian and Allensworth (2012) considered the relationship of principal leadership and instruction in schools. They associated principal-led professional development with high quality instruction.

A positive relationship between high quality professional development and teacher quality is literature based (Cochran-Smith, 2004; Guskey, 2000; Hassel, 1999; Joyce & Showers, 1988; Lumpe et al., 2014). Further study is needed to provide additional insight concerning efforts to improve professional development initiatives in diverse school settings. Researchers, focused on diverse school demographics, might consider qualitative methods such as interviews and focus groups. These methods could enable them to gain additional insight into effective professional development practices and to identify additional implications. Experimental studies could lead to more generalizable results for other school populations, providing additional insight for educators concerning research based professional development strategies that support teacher quality and student achievement.

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