# Quality Teacher Induction: "Fourth-Wave" (1997–2006) Induction Programs

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*The purpose of this essay is to describe quality teacher induction that has evolved from "fourth-wave" (1997–2006) teacher induction program development and research. A definition of quality induction is proposed, and a set of induction goals and components are outlined. Understandings gained from fourth-wave programs are described, including ways in which quality induction programs are delineated by their comprehensive systems of organized, educative mentor assistance, professional development, and formative assessment of novice teachers in their first-through-third years of teaching. More empirical studies are needed on the effects of induction on novice teacher performance and student achievement, and on subject-based and urban teacher induction.*

Throughout the last three decades, induction programs in the United States have reflected the teacher development knowledge base of the times and educational reforms of the era in which they were conceptualized (Alliance for Excellent Education (AEE), 2004; Odell & Huling, 2000). In their descriptive study of induction programs, Fideler and Haselkorn (1999) demonstrate that state-initiated induction programs have been

developed in periods or "waves" of legislation and implementation. The wave metaphor is appropriate for describing the historical ebb and flow (initiation and culmination) of induction programs due to sporadic budgetary cuts and legislative indifference. The four waves of induction development include:

• First-wave programs established prior to 1986;
• Second-wave programs implemented between 1986 and 1989;
• Third-wave programs administered between 1990 and 1996;
• Fourth-wave programs implemented between 1997 and 2006.

Each wave of induction programs is characterized by the time period in which they exist and by the sociological, political, and economic factors that shape that time period such as reduced class size or educational budget reductions. Reflecting increased understanding of teacher development, quality induction in the United States has progressed in developmental waves from informal one-to-one mentoring toward a comprehensive system of induction with multiple components. Each wave of programs has produced clearer and more comprehensive definitions, program goals, and induction components. The purpose of this essay is to describe quality induction as it has developed through "fourth-wave" (1997–2006) induction programs.

In 1978, Florida became the first state to establish a state-level induction program (Feiman-Nemser, Schwille, Carver, & Yusko, 1999). Seven other first-wave state-initiated induction programs were also begun, as well as some administered by local school districts and universities. All were focused on the needs of new teachers and their well-being and were largely informal, loosely organized, and often unfunded programs. These induction programs aimed at preventing teacher attrition, boosting novice teacher satisfaction with the profession, and increasing novice teachers' competence (Arends & Rigazio-Digilio, 2000). In 1981, Schlechty and Vance's research pointed out the disheartening fact that the most academically able new teachers often left the profession first.

Second-wave induction programs emerged between 1986 and 1989. They focused on mentoring and varied greatly in program structure. Thirty states claimed to have induction programs (Furtwengler, 1993), but some were solely site-based teacher mentoring while others, usually state-mandated programs, were more organized and began to include observations and professional development. Numerous descriptive studies were written about district and university induction programs that emerged (Odell, 1986), and this research often used the terms, "mentoring and induction" interchangeably (Huling-Austin, 1986, 1988).

Between 1990 and 1996, third-wave induction programs demonstrated more developmental and structured approaches to induction and added formative assessment to program components. Influenced by the 1991 implementation of the Interstate New Teacher Assessment and Support Consortium's (INTASC, 1991)

standards for teacher induction and state teaching and/or curricular content standards, observations of new teachers' performance became more organized and standards-based. Seventy-five percent of third-wave state-initiated induction programs had a formative assessment system; 100% had a mentoring component; and 50% offered new teachers professional development activities (Fideler & Haselkorn, 1999). A large number of studies reported the positive effects of mentoring on novice teachers (Wood, 2001; Huling-Austin, 1992; Odell & Huling, 2000). Despite evidence of accomplishing their goals, many third-wave induction programs were terminated due to elimination of program funding (Wood, 2001; Sweeny, 2000).

Quality induction in fourth-wave induction program development and research (1997–2006) is the subject of this essay. Fourth-wave induction programs are characterized by their comprehensive, organized system of integrated novice teacher assistance and assessment using multiple strategies (Alliance for Excellent Education (AEE), 2004; Bartell, 2005; Ingersoll & Smith, 2004). They provide a wide array of educative mentoring, professional development, and formative assessment activities. We examined empirical and descriptive research on fourth-wave induction programs to build our argument for the following definition, goals, and program components of quality induction.

## QUALITY TEACHER INDUCTION: A DEFINITION

Our definition of quality teacher induction builds on the work of Feiman-Nemser's (2001a) continuum of learning-to-teach, Britton, Paine, Pimm, & Raizen's (2003) conception of comprehensive induction, and Odell and Huling's (2000) quality mentoring framework. We define quality teacher induction as *the multi-faceted process of teacher development and novice teachers' continued learning-to-teach through an organized professional development program of educative mentor support and formative assessment*. A quality induction program enhances teacher learning through a multi-faceted, multi-year system of planned and structured activities that support novice teachers' developmentally-appropriate professional development in their first through third year of teaching (Alliance for Excellent Education (AEE), 2004; Ingersoll & Smith, 2004; Stanulis, Burrill, & Ames, 2007). Quality induction provides a bridge between teacher preparation and practice that supports the distinct learning needs of new teachers during their initial years of teaching.

Within induction research and conceptual work, three frameworks influence the way an induction program is designed. First, induction is often viewed as a *transitional phase in teacher development* between preservice and in-service professional growth during which novice teachers are evolving from students of teaching to teachers of students (Feiman-Nemser et al., 1999). According to Ingersoll and Smith (2004), one component of a comprehensive induction system involves

a guidance program for novice teachers during their transition into teaching. Induction grounded in the view of induction as a transitional stage of teacher development emphasis activities such as setting up classrooms or initiating classroom management routines.

Second, induction is commonly perceived as a *socialization process* in which novice teachers acclimate to school and district cultures where powerful school cultural norms often persuade novices to adapt to the status quo of schooling (Feiman-Nemser, 2001b; Kelchtermans & Ballet (2002). Peterson (2005), Quartz & TEP Research Group (2003), and the Urban Teacher Collaborative (2000) write about the culture shock novice teachers encounter when first faced with classroom realities. Induction focused on socialization emphasizes the development of skills that help novices feel like they fit into the teacher culture. Induction for socialization emphasizes orientation and other induction activities that stress novice teachers' acclimation to the school climate (Horn, Sterling, Blair, & Metler-Armijo, 2006).

Finally, induction is frequently viewed as a *coherent, comprehensive system of intensive support, professional development, and formative assessment for novice teachers lasting from one to three years* (Alliance for Excellent Education (AEE), 2004; Bartell, 2005; Olebe, 2001; Villani, 2002). Researchers and practitioners who hold this view of induction concentrate on helping novice teachers learn subject matter knowledge and pedagogical skills that develop and deepen over time. This induction focus is often grounded in teaching, as well as content standards. We believe that there are critical elements of all three conceptualizations of induction that are necessary to ground quality induction programs and contribute to the richness and reflective nature of an effective induction process.

## INDUCTION PROGRAM GOALS

Although modified by particular local contexts, commonly accepted goals of teacher induction have remained relatively consistent over time with different emphases in various waves of induction (Alliance for Excellent Education (AEE), 2004; Wood, 2001; Fox & Singeltary, 1986). As more was learned about teacher development in first to fourth-wave induction programs, teacher well-being and retention were recognized as insufficient purposes for induction. Because fourth-wave programs developed in a time of assessment and accountability mandates and increasingly more diverse K-12 student populations, these fourth-wave programs place more emphasis on: (a) teacher quality, (b) developing a teaching practice for diverse learners (Darling-Hammond & Baratz-Snowden, 2005), and (c) increasing student achievement through improving teacher performance (Arends & Rigazio-DiGilio, 2000; Alliance for Excellent Education (AEE), 2004; Fletcher, Strong, & Villar, 2008). To date, goals of quality induction are to:

• Increase novice teachers' retention,
• Promote novice teacher personal and professional well-being,

- Improve teacher competence,
- Improve students' academic achievement through improving teacher performance,
- Satisfy mandated requirements related to induction and certification.

## PROGRAM COMPONENTS: INDUCTION CONTENT

Fourth-wave induction studies identify a somewhat consistent set of program components. These program components are listed in order of prominence in fourth-wave induction programs. Quality induction programs usually encompass the first six components, and inclusion of the last three components is less frequent with little descriptive or empirical research on these components. Our position is that quality induction should include all of the following nine program components (Alliance for Excellent Education (AEE), 2004; Wood, 2001; Bartell, 2005; Olebe, Jackson, & Danielson, 1999). They include:

(1) Educative mentors' preparation and mentoring of novice teachers,

(2) Reflective inquiry and teaching practices,

(3) Systematic and structured observations,

(4) Developmentally appropriate professional development,

(5) Formative teacher assessment,

(6) Administrators' involvement in induction,

(7) A school culture supportive of novice teachers,

(8) Program evaluation and/or research on induction,

(9) A shared vision of knowledge, teaching, and learning.

## Educative Mentors' Preparation and Mentoring of Novice Teachers

Within this section, a description of educative mentoring is provided, along with important considerations in developing an effective mentoring induction program component including mentor selection, mentor incentives, matching mentors and novices, preparation of mentors and mentor release time or service delivery models.

Educative mentoring relies on developing an explicit vision of quality teaching and of teacher learning where mentors interact with novice teachers in ways that help them learn in and from their practice (Feiman-Nemser, 2001b). Quality educative mentors are prepared to use specific mentoring practices (Feiman-Nemser, 2001b) and focus on helping novices learn to teach along professional standards of teaching and learning (Odell & Huling, 2000).

In quality induction programs, mentors enact their practice in specific ways. These include interacting regularly with their assigned novice teachers (Arends & Rigazio-DiGilio, 2000); conducting formative assessment observations (Alliance for Excellent Education (AEE), 2004; Wood, 1999; Ames, Stanulis, & VanZee, 2006; Moir, 2003; Moir & Stobbe, 1995; Strong & Baron, 2004a); reflecting with novice teachers on their strengths and areas of need for further growth (Wood, 1999); and coplanning and coteaching to strengthen the novice's instruction and classroom learning environment (Feiman-Nemser et al., 1999; Kershaw, Blank, Benner, & Cagle, 2006).

**Mentor Selection.** The selection of teachers as mentors is a critical component of induction programs (Arends & Rigazio-Digilio, 2000; Gless, 2004). Since helping adults develop involves a distinct skill set from helping K-12 students learn, some mentoring programs seek indicators of excellence in multiple areas. For example, the mentor selection process in the *Launch into Teaching through Comprehensive Induction Program* at Michigan State University consists of interviews of potential mentors to try to uncover teachers' skills in articulating their thinking in order to help novice teachers think about decisions they are making in their own teaching practice (Stanulis, 2006).

Mentor selection criteria in quality induction programs include:

- A quality instruction practice of three or more years (Moir & Gless, 2001);
- A reflective approach to one's own teaching (Stanulis et al., 2007);
- Content knowledge and subject-based pedagogy (Moir, 2003);
- Commitment to ongoing personal and professional growth (Norman & Feiman-Nemser, 2005);
- Excellent interpersonal and communication skills (Costa & Garmston, 2002);
- Experience in teaching adult learners effectively (Arends & Rigazio-DiGilio, 2000);
- Empathy toward the needs of novice teachers (Gold, 1996);
- Commitment to the functions and processes of mentoring (Feiman-Nemser, 2001a).

**Mentor Incentives.** In most induction programs, mentors receive incentives to compensate for the time it takes to develop and practice this role (Odell & Huling, 2000). As part of compensation for their work, professional development, mentor release time from teaching, university credits, and stipends are some of the ways teachers are reimbursed for mentoring time (Villani, 2002). In most quality induction programs, mentors receive monetary stipends (Feiman-Nemser, 2001a), but that compensation varies greatly among induction programs (Wood, 2001). Youngs' research (2007) demonstrates that offering mentors monetary incentives leads to increased systematic involvement with their assigned novice teachers.

**Matching Novices and Mentors.** In quality induction programs, mentors are well-matched to novice teachers according to school site, grade level, and subject (Wood & Waarich-Fishman, 2006; Bartell, 2005; Schwille, Nagel, & DeBolt, 2000). For example, Youngs (2007) found that novice teachers' learning-to teach in two urban Connecticut districts was influenced in part by whether their mentor was very familiar with the novice's content area and grade level.

**Mentor Preparation.** Once selected, mentors participate in professional development to help them develop a repertoire of knowledge and strategies to help novice teachers improve their practice. Mentor preparation occurs prior to meeting assigned mentees and continues throughout a mentor's practice (Schwille & Dynak, 2000). Schwille and Dynak (2000) outline quality indicators for mentors' preparation. These include (a) understanding new teachers' needs and development, (b) studying one's own teaching and mentoring practices, (c) participating in simulations of mentoring situations, and (d) working with other mentors to share and learn.

Research on fourth-wave induction programs shows that mentor preparation focuses on the following elements:

• Novice teachers' needs and characteristics (Moir, 2003; Odell & Huling, 2000; Schwille and Dynak, 2000);

• A sound rationale for supporting novice teachers (Ingersoll & Smith, 2004; Odell & Huling, 2000);

• Formative assessment strategies to identify the strengths and needs of novice teachers (Bartell, 2005; Moir & Gless, 2001; Odell & Huling, 2000);

• Strategies for building a trusting relationship (Gold, 1996; Odell & Huling, 2000);

• Coaching techniques (Costa & Garmston, 2002; Helman, 2006; Moir & Gless, 2001);

• Observation skills (Moir & Gless, 2001; Olebe, 2001);

• Work with adult learners (Arends & Rigazio-DiGilio, 2000);

• Collection and analysis of evidence of student learning and effective teaching. (Olebe et al., 1999; Stansbury & Zimmerman, 2002).

Evertson and Smithey (2000) found mentor preparation to be an important factor influencing novices' classroom practices. In their study, novice teachers with trained mentors (four-day workshop before school began with monthly follow-up meetings) had better classroom management and routines, and their students had better behavior and engagement than those whose mentors received no training. In addition, prepared mentors were able to elicit more reflective responses from their mentees.

Strong and Baron (2004a) found that mentors prepared in a mentoring model influenced by cognitive coaching (Costa & Garmston, 2002) use language provided in their professional development experiences. Helman (2006) advocates that mentors analyze mentor-mentee conversations as part of their ongoing preparation.

When she worked with mentors who listened to and analyzed mentor-novice conversations, she found that the type of mentoring stance taken by the mentor (extending thinking, teaching directly, promoting accountability) during the conversation impacted the beginning teacher's response. More open-ended mentor questions produced more reflective and extended novice teacher responses.

**Mentor Release or Service Delivery Models.** Mentoring within an induction program is influenced by what model is used to deliver services (mentor full-release, partial, or no release). Quality induction programs are set up to provide release time to mentor teachers to meet and work with novice teachers and acknowledge that mentoring should not take place in addition to full-time teaching. Research on mentoring release or service delivery models (Meckel & Rolland, 2000; McGlamery, Fluckiger, & Edick, 2002; Villani, 2002) describes the advantages and disadvantages of each model, but no research has shown one model to be more effective than others. Quality induction programs choose the model that best suits their needs and resources and provide clear definitions of roles and responsibilities of novice teaches, mentors, and assessors, as well as clear descriptions of the service delivery model.

## Reflective Inquiry and Teaching Processes

The ways in which reflective inquiry and habits of mind are fostered within an induction program can influence the kind of mentoring and novice teacher learning that occurs. Ball and Cohen (1999) describe the importance of helping novice teachers learn in and from practice by studying authentic artifacts of practice in collaboration with other teachers. A mentor's background knowledge, dispositions for inquiry into their own practice, open-mindedness, and willingness to practice inquiry reflective teaching practices themselves can impact the novices' induction experiences (Norman & Feiman-Nemser, 2005). Similarly mentors' understanding of the induction program's purpose and whether or not reflection is a key component of it, shapes the novice teachers' experiences (Wood, 2000; Spillane, 2002; Youngs, 2007).

Youngs (2007) found that the kind of learning experiences provided to novices varied based on mentor selection, novice teachers' assignments, and the kinds of professional development experiences offered to novice teachers. He found that the quality of assistance novices received in two different urban districts varied considerably. Mentors who emphasized support through reflection included experiences such as analyzing student work and prompting novices to think about the impact of their curricular decisions. Reflective habits of mind were also fostered through helping novice teachers understand specific curricular needs of students at a particular grade level and curricular connections between ideas. Mentors in another district who did not emphasize helping novices develop reflective practices focused more on classroom management techniques and psychological support for novice teachers, rather than on content-specific knowledge and skills for gathering evidence of student learning.

## Systematic and Structured Observations

Systematic, structured observations of novice teachers' teaching practices are a major component of fourth-wave quality induction programs (Wood, 1999; Ingersoll & Smith, 2004). These observations are frequently grounded in teaching standards (Alliance for Excellent Education (AEE), 2004; Stanulis, 2006; Bartell, 2005) and/or academic content standards (Wood & Waarich-Fishman, 2006; Olebe et al., 1999).

All observed novice teacher behaviors become topics of mentor/novice teacher dialogue about observed lessons and larger issues about teaching and learning (Wood, 1999; Stanulis, Meloche, & Ames, 2006; Olebe et al., 1999). These observations often follow the peer coaching model (Costa & Garmston, 2002; Showers & Joyce, 1996) where the observation is preceded by planning between the novice teacher and the mentor and followed by a feedback conference. Observations are used to encourage novice teachers to think critically about their practices and to reflect on their knowledge, skills, and abilities as teachers (Alliance for Excellent Education (AEE), 2004; Educational Testing Service (ETS), 2003; Olebe, 1999).

Novice teachers' observations of their mentors' and other experienced teachers' instructions are valued induction activities. Findings show that novice teachers view observations with their mentors of experienced teachers as most useful because they can compare their own observations with their mentors' observations (Arends & Rigazio-Digilio, 2000; Wood & Waarich-Fishman, 2006; Stanulis, 2006).

## Developmentally Appropriate Professional Development

Because of the developmental needs of novice teachers, induction programming should differ from the first to the third year of teaching (Alliance for Excellent Education (AEE), 2004; Bartell, 2005; Feiman-Nemser, 2001a; Yopp & Young, 1999). Effective professional development should have at its core a goal that participation in professional development can improve teaching practice and should:

1. Focus on critical problems of practice that are school-based and embedded in teacher work (Abdal-Haqq, 1996).

2. Occur often and long enough to ensure progressive gains in knowledge, skill, and confidence (Little, 2003).

3. Provide opportunities for novice teachers to ask questions, engage in research-based inquiry about their questions, and reflect on new understandings of subject matter, students, and learning and teaching (Wilson & Berne, 1999).

4. Focus on student learning and the contexts in which student learning takes place (Ball, 1996).

5. Encourage collaborative work (Lieberman & Miller, 2000) to recognize and foster novice teachers' growth (Putnam & Borko, 1997) and create a community

of practice among teachers who study authentic issues together (Stanulis, Fallona, & Pearson, 2002).

6. Emphasize learning as the center of teaching (Lieberman & Miller, 2000) by providing opportunities for teachers to learn continuously while tackling their own classroom problems (Phlegar & Hurley, 1999).

Quality induction programs deliver professional development in multiple ways including novices' observations of peers and experienced teachers, seminars, workshops, joint mentor-novice teacher observations; college courses; and district or state-sponsored online courses specifically targeted to novice teacher learning needs, including an emphasis on deepening content knowledge, classroom management skills, and the ability to establish and maintain good relationships with students and their families (Alliance for Excellent Education (AEE), 2004; Ingersoll & Smith, 2004).

## Formative Teacher Assessment

Through the collegial relationship of the novice teacher and mentor, support and formative assessment are provided to novices with the goal of improving their practice (Moir & Stobbe, 1995). Observations are frequently conducted within structured formative assessment systems (Olebe, 1999; Moir & Baron, 2002, Educational Testing Service (ETS), 2003). In these systems, mentors model the Reflective Teaching Cycle (Plan, Teach, Reflect, and Apply) and teach novice teachers how to use it consistently in their practice. Examples of observation feedback might include (a) how much a novice teacher focuses on specific students, (b) what students are off-task and for how long, or (c) what kind of classroom interruptions occur and how are they handled.

Some induction programs utilize the Pathwise system of formative assessment (Educational Testing Service (ETS), 2003) based on Danielson's (1996) framework/ continuum of the growth of novice teachers' knowledge and skills across six developmental domains of teaching. Others use *the Formative Assessment System (FAS)* designed by the New Teacher Center at the University of California, Santa Cruz (Moir & Baron, 2002). It is composed of a series of collaborations between mentor and teacher that focus on student learning. Many formative assessment systems such as the *California Formative Assessment and Support System for Teachers (CFASST)* are grounded in state teaching, as well as curriculum content standards. Within all formative assessment systems, novice teachers participate in a series of structured formative assessment activities that are carried out with their mentors (Athanases & Achinstein, 2003; Olebe, 1999; Wood, 1999), and novice teachers learn how to self-assess their professional competence through organized and reflective discussions with their mentors about their teaching practices (Wood, 2000).

Many quality induction programs end with a culminating formative assessment activity in which novices and mentors reflect on the novices' professional growth over their induction years and formulate goals for future growth. In some programs, this means novices participate in an exhibition of their performance across identified induction standards (Olebe et al., 1999). In others, novices share portfolios that represent their development of the knowledge and abilities specified in state-mandated teaching standards (Wood, 2000).

## Administrators' Involvement in Induction

Administrators, particularly principals, play a vital role in the induction process (Alliance for Excellent Education (AEE), 2004; Wood, 2005; Bartell, 2005; Brock & Grady, 1997). The effective implementation of other induction components depends on site administrators' leadership and commitment to induction. Although most novice teachers cite their mentors as the most important person in their entry into teaching, many novices cite having a supportive principal as the most critical factor in their professional development (Wood, 2005; Brock & Grady, 1997; Haberman, 2005).

In Wood's study (2005) of a large urban school district, she discovered that principals occupied five central roles in the induction process as: (a) instructional leader, (b) teacher recruiter, (c) facilitator of site-based educative mentor preparation and mentoring, (d) school culture builder, and (e) novice teacher advocate.

**Principal as Novice Teacher Recruiter.** A largely unrecognized role of principals is their recruitment of novice teachers. Wood (2005) found that principals' involvement in new teacher recruitment was positive for the novice teachers who accepted employment at schools where principals stayed several years to build collaborative interactions with them. However, it was deleterious for those novice teachers whose placement was in a school where their recruiting principals were subsequently, and often abruptly, transferred from the school during the novice teachers' first year of teaching. This loss had lengthy negative influences on their first several years of teaching (Wood, 2005).

**Facilitator of Site-Based Mentor Preparation and Mentoring.** Principals directly or indirectly facilitate educative mentoring through approving and providing time and resources for: (1) novice teachers and mentors to collaborate, (2) grade-level and/or subject area new and experienced teachers to discuss student work, (3) observations in novice teachers' classrooms, (4) collaborative observations by novice teachers and their mentors of other experienced teachers' classrooms, and (5) site-based formal and informal ways in which novice teachers can interact with each other (Wood, 2005). Administrative support is essential for both mentors and mentees in quality induction programs (Wood, 2005; Bartell, 2005; Brock & Grady, 2005).

**Novice Teacher Advocate.** Some novice teachers view their principals as being their *advocates* (Wood, 2005; Brock & Grady, 1997). What they describe

as principals' actions and words varies greatly in terms of number, frequency, and duration of novice teacher and administrator interactions. It is, perhaps, the novice teachers' *perceptions* of such advocacy that matters more than the actual interactions. Novice teachers positively recall principals who visit their classrooms regularly, talk to them about their lessons, express interest in their progress, and give them advice to prevent teacher burnout (Alliance for Excellent Education (AEE), 2004; Wood, 2005).

**Builder of a Supportive School Culture for Novice Teachers.** More than any other person in a school, the principal is the one who sets the tone of how easily or difficult it is for novice teachers to be accepted into the school learning community. The principal's role goes beyond sponsoring orientation activities. It means that the principal: (1) learns about the district and/or state induction program and its expectations for principals, (2) participates in available principals' induction training, (3) communicates with district induction personnel, (4) supports induction activities both during and after school hours, (5) plans special site-based activities in which novice teachers can interact with each other, (6) supervises and regularly communicates with the mentor whom she/he appoints to run the school's induction program, and (7) interacts regularly with novice teachers at the site (Wood, 2005).

Principals in high-quality induction programs understand the implications of research that demonstrates that novice teachers who are placed in poor working conditions are programmed to fail (Peterson, 2005; Quartz & TEP Research Group, 2003; Urban Teacher Collaborative, 2000). Peterson (2005) refers to these well-known school practices as "the hazing" of new teachers. Common "hazing" practices include giving novice teachers: (1) the largest class sizes, (2) more students with special needs and/or behavioral problems, (3) classrooms with insufficient textbooks, equipment, and/or resources, (4) many extracurricular duties such as after-school tutoring or coaching, (5) dual grade-level classes or a new grade-level each year, and (6) no classrooms, instead assigning them as *roving or floating teachers* who move from classroom to classroom. Administrators in quality induction programs work collaboratively to ensure that novice teachers are not hazed and instead work in a school milieu that promotes their own development and learning, as well as the students' (Arends & Rigazio-DiGilio, 2000; Wood, 2005; Bartell, 2005; Brock & Grady, 2005; Darling-Hammond, LaFors, & Snyder, 2001; Johnson, 2004; Quartz & TEP Research Group, 2003; Stansbury & Zimmerman, 2002).

## A School Culture Supportive of Novice Teachers

School culture plays a vital role in ways in which novice teachers' continued learning is valued or stifled (Johnson & Kardos, 2004; Stanulis et al., 2006). Studies on the impact of teachers' working conditions point to the power of the school environment on novice teachers' success or failure (Peterson, 2005; Quartz &

TEP Research Group, 2003). Quality induction programs prosper in contexts that provide novice teachers substantive orientation activities specific to their teaching context, sanctioned time for novice teachers and mentors to reflect and collaborate, and opportunities for collegial interactions among novices.

**Novice Teacher Orientation.** The substance and length of orientations for novice teachers varies greatly among induction programs and is influenced by the district's concept of induction. Some entire "induction programs" offer little else than school orientation activities (Horn et al., 2006). Others offer a half-day program, while some programs sponsor a full week of orientation activities (Arends & Rigazio-DiGilio, 2000; Horn et al., 2006; Youngs, 2007).

Typical components of the orientation are an overview of the school's mission, curricula, and school/district policies (Horn et al., 2006; Stansbury & Zimmerman, 2002) related to teaching and/or academic content standards (Moir & Gless, 2001). During orientation workshops, curricular initiatives and/or important curriculum features are explained. These professional development orientation workshops prepare novice teachers in a district's specific curricular offerings and requirements (Horn et al., 2006; Stansbury & Zimmerman, 2002). Such orientations are critical to helping new teachers understand the particular rituals, norms, and expectations within a school and district.

**Sanctioned Time.** Quality induction programs provide sanctioned time for novice teachers to plan, reflect, on and develop instructional strategies with their mentors (Alliance for Excellent Education (AEE), 2004; Arends & Rigazio-DiGilio, 2000; Stansbury & Zimmerman, 2002). Novice teachers need time to observe experienced teachers' classrooms, attend professional development workshops, and collaborate with their mentors to analyze student work and their teaching practices (Wood, 1999; Horn et al., 2006; Ingersoll & Smith, 2004; Moir & Stobbe, 1995).

Within a learning community, novice teachers need ongoing opportunities to analyze their practice (Ball & Cohen, 1999). Induction programs need to provide opportunities for them to "learn about, discuss, try out, and reflect upon how these conversations are put into practice" (Helman, 2006, p. 80). Additionally, induction program leaders and mentors need sanctioned time to reflect on and continue to improve their support of novices (Alliance for Excellent Education (AEE), 2004; Bartell, 2005).

**Collegial Interactions.** Novice teachers need opportunities to interact with both their notice peers and other experienced teachers, as well as their mentors. These interactions include groups of teachers who engage in instructional planning, team planning, grade-level needs, and novice teacher assistance (Arends & Rizagio-DiGilio, 2000). Networks can include Internet bulletin boards or listservs. They may be novice teacher book groups in which professional educational books are read collaboratively in study groups that focus on specific topics where novice teachers can learn from colleagues or higher education faculty (Stansbury & Zimmerman, 2002; Feiman-Nemser, 2001a).

Program Evaluation and/or Research on Induction

We believe, as other researchers do, (Alliance for Excellent Education (AEE), 2004; Arends & Rigazio-Digilio, 2000; Bartell, 2005) that an evaluation and/or research component is essential for quality teacher induction. A thoughtful, collaboratively designed program evaluation or research study: (a) keeps the program grounded in novice teachers' needs, (b) produces information on how well the program is functioning, and (c) identifies areas for program improvement.

In 2003, 80% of all the novice teachers in the U.S. reported that they were participants in some form of teacher induction (Ingersoll & Smith, 2004). In 2004, 30 states reported having induction programs, six of which were tied to credentialing and employment requirements (Wood, 2001). Among the existing 30 state-sponsored, fourth-wave induction programs, approximately ten have evaluation requirements, another third recommends program evaluation, and one third has no program evaluation requirements. Although most induction programs do not have a mandated research or evaluation component, in practice, many quality induction programs voluntarily conduct evaluation or research to provide program feedback (Wood, 2001; Fideler & Haselkorn, 1999; Resta, Huling, White, & Matscheck, 1997).

Few researchers have studied the evaluation or research component in quality induction programs. Two fourth-wave studies (Gitomer's, 1999; Storms, Wing, Jinks, Banks, & Cavazos, 2000) have examined the evaluation of one type of formative assessment system used in California's induction program, the *California Formative Assessment and Support System of Teachers (CFASST)*. Although these studies are rare examples of research that analyzes how one induction program component was evaluated, these program evaluation studies still rely heavily on descriptive, self-report survey data, and neither of them addresses the effects of the induction program on novice teachers' performance or on student learning.

Shared Vision of Knowledge, Teaching, and Learning

Arends and Rigazio-DiGilio (2000) recommend that induction programs "provide a clear definition of teaching in order to develop assessment tools to give feedback on novice teachers' instruction, establish a knowledge base on which rubrics and formative assessments can be developed, and provide a common language with which new teachers and mentors can discuss teaching" (p. 12).

We agree and think this program component should ground quality induction programs, match program components with program goals, and unite its constituents. It seems to be present in many quality induction programs, but to date, there is scant research on the effects a shared vision has on novice teachers' performance or on induction programs' effectiveness.

Schwille et al. (2000) point out that when universities and districts collaborate to provide mentoring for novice teachers, the selection criteria often include

ensuring a match between the district mentors' and the university's ideas of effective teaching and agreeing on a shared vision for the practice of quality mentoring. Feiman-Nemser (2001a) found that mentors, who base their mentoring on an explicit vision of good teaching, work with novices in ways that foster inquiry and continued learning.

In university/district collaborative induction programs, there can be a mismatch in purposes and practices if this explicit vision is not discussed and developed together. Researchers in a pilot induction program examined the challenges of shifting the focus of mentoring from "how's it going" to talk about teaching and learning in a school culture where such talk was not the norm. (Stanulis et al., 2006). In a comparison study of a district-based induction program with a university/school partnership program, Luft, Roehrig, & Patterson (2003) found that a collaborative model impacted novice teachers' practices. Novice teachers in the partnership program, who participated in the university-based workshops, shifted towards more concept-oriented, student-centered beliefs and inquiry-based science lessons. In contrast, novice teachers in district-based induction program conducted more teacher-directed lessons.

## DISCUSSION

Fourth-wave induction research has documented many improvements in induction, but there are still challenges ahead. A new definition of induction has emerged in fourth-wave induction programs that defines induction as *an intensive, comprehensive system of educative mentor support, professional development, and formative assessment of novice teachers in their first through third years of teaching*. Together the components of induction compose the induction process which is carried out through the systematic offering of induction components and the support of relationships and shared understandings of all participants in the program.

*Educative mentoring* is practiced in quality induction programs and refers to mentoring grounded in subject matter knowledge and subject-specific pedagogy. It focuses on novices and mentors collaboratively and reflectively designing lesson plans, discussing observations, analyzing student work, and reflecting on the novice teacher's growth as a teacher (Feiman-Nemser, 2001b; Odell & Huling, 2000). Numerous fourth-wave induction studies document novice teachers' need for further growth in subject knowledge and subject-specific pedagogy. This is especially true for special education and secondary mathematics and science teachers (Billingsley, Carlson, & Klein, 2004; Boyer, 2005; Kennedy & Burnstein, 2004; Kilgore, Griffin, Otis-Wilborn, & Winn, 2003; Luft et al., 2003; Rosenberg et al., 1997; Whitaker, 2000).

More research needs to be conducted on the impact of program evaluation/ research and program vision/mission on quality induction programs. Is each

essential to developing a quality induction program? If so, what makes each indispensable? What are guidelines for designing a useful induction program evaluation? What are the challenges of crafting a workable vision for an induction program's success?

Educational renewal research has delineated the relationship between teacher quality and student achievement (Darling-Hammond, 1997; Hirsch, 2001). It is estimated that 43% of student achievement is related to teacher qualifications (licensing, examination, and experiences) and that students' test score units are increased most by teacher education and teacher experiences. Despite the importance of teacher quality, there is a dearth of research that examines the effects of induction on teacher or student performance. One that does is Fletcher et al.'s (2008) carefully-designed quasi-experimental study, in which they found that the impact of induction on student performance was influenced by the intensity level of how certain program components were implemented. More studies like this one are greatly needed.

Villar's (2004) results of his cost-benefit study of mentor-based induction demonstrate the value-added effect of mentoring on novice teacher effectiveness that is linked to student achievement. More cost-benefit induction research is needed to explore the cost-benefits of quality induction programs with different delivery service models as well as different kinds of mentor incentives. Future studies' findings can guide the development of induction programs and motivate legislators to fund them more consistently than they have funded programs in the past.

Fourth-wave induction research still remains largely descriptive and includes numerous program evaluation studies (Mitchell et al., 1997–2000). They are predominantly state-mandated, self-report survey studies of stakeholders' perceptions of the induction program. To promote empirical induction research, the U.S. Department of Education has contracted with Mathematic Policy Research, Inc. (2006) to conduct a multi-year experimental research study on the effects of two high-intensity induction programs on teacher quality and student achievement. It is still in the data collection phase, but a review of its design notes that it too relies heavily on survey data. We hope that fifth-wave induction studies will use more empirical research methods to systematically study the effects of induction on novice teachers' and their students' performance.

Developed and implemented in a *No Child Left Behind (NCLB)* era, in 2007, fifth-wave induction programs were ushered in on a wave of intense debate about and pressure for more accountability. In contrast to previous waves of induction programs, these fifth-wave programs could no longer ignore or downplay the importance of the effects of their induction programs on teacher effectiveness or on K-12 student learning. Combined with the ever-increasing diversity of the K-12 student population and more emphasis on subject matter knowledge, fifth-wave induction programs are demarcated by the implementation of more subject-based induction programs, induction programs focused on issues of urban schooling, and

induction emphasizing the need for differentiation of instruction for the diverse students whom novice teachers serve.

Lastly, and perhaps the most significant challenge that remains for future induction research includes the study of how to prepare novice teachers to meet the needs of culturally and linguistically diverse learners in urban schools in impoverished communities (Haberman, 2005; Urban Teacher Collaborative, 2000). This research needs to address the challenges of urban schooling (Johnson, 2004; Quartz & TEP Research Group, 2003) that can sometimes negate the positive effects of induction. Addressing the extreme shortage of quality teachers in impoverished urban schools, Haberman (2005) reminds us that seven million students (largely low-income and/or children of color) attend school in the 120 largest school districts in the nation whose schools employ the highest percentage of unqualified teachers. He challenges us to reflect on who we are recruiting into urban teaching, what urban induction experiences they need and how we are preparing them to be successful urban teachers

## CONCLUSION

Quality teacher induction programs thrive in school milieus that respect novice teachers' need to continue to learn to teach while they teach (Alliance for Excellent Education (AEE), 2004; Wood & Waarich-Fishman, 2006; Stanulis et al., 2007; Bartell, 2005; Johnson, & Kardos, 2004). They are administered by involved site administrators (Alliance for Excellent Education (AEE), 2004; Wood, 2005; Brock & Grady, 2005) and provide a shared vision of teaching and learning and developmentally appropriate professional development. Quality induction programs provide strong mentor support systems and offer formative assessment systems (Athanases & Achinstein, 2003) that teach novice teachers to analyze and improve their practice reflectively. Lastly, they integrate this induction process with a district or school approach to educational reform (Wang, Strong, & Odell, 2004) and regularly assess how it is functioning (Gitomer, 1999).

Because of fourth-wave induction research, we now have clearer definitions of mentoring and induction and are more aware of the complexities of integrating the nine components of quality induction programs into a comprehensive system of induction. As fifth-wave induction programs are implemented, there will be more opportunities to conduct research that: (1) links induction with novice teacher performance and K-12 student achievement, (2) studies the cost-benefits of specific induction program components, (3) compares the effectiveness of subject-specific with traditional induction programs, and (4) explores the specific induction needs of novice teachers working in urban schools.

We hope that fifth-wave induction studies will utilize more rigorous empirical research methods and focus more on the impact of novice teacher practices on

student learning. We look forward to conducting research on fifth-wave induction programs and examining which of the issues raised in this article fifth-wave induction programs help to clarify or resolve and what additional challenges to quality induction these fifth-wave teacher induction programs reveal.

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