A Review of Teacher Induction in Special Education: Research, Practice, and Technology Solutions

EXECUTIVE SUMMARY

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INTRODUCTION TO INDUCTION

Educational leaders, researchers, and policymakers in the U.S. and other parts of the world recognize the potential of teacher induction to support new entrants, improve teacher quality, and increase retention. We define *induction* as the period after preservice teaching extending into the first years in the classroom. Well-planned induction is a needed strategy to address the serious and increasing shortage of qualified special education teachers [SETs]. Induction has the potential to reduce teacher attrition by supporting new teachers as they begin their work in schools. Induction also has the potential to improve SET quality. More intensive induction is necessary for those with minimal preparation, and given the high proportion of unqualified new entrants and the popularity of brief alternative routes, induction is essential to promote the use of effective practices. The purpose of this paper is to provide a comprehensive review of what is known about teacher induction in special education and to outline recommendations for the design of induction programs and further research

Guiding Questions for Review

- What are the experiences and concerns of new special educators in their first years of teaching?
- What is known about research related to the induction and mentoring of new SETs?
- What are the goals, content, processes, and outcomes of induction programs in state and local education agencies, and what are the underlying assumptions in the design of these programs?
- How can technology be used to support new teachers?
- What are the goals, content, processes, and outcomes of selected induction programs that incorporate technology as a major component?

Literature Search Procedures

An electronic search was conducted with the research literature from 1990 to mid-2008 using the terms *induction, mentor, mentoring, teacher support, technology, electronic support, e-mentoring, e-pedagogy, online mentoring, tele-mentoring, cyber-mentoring,* and *virtual mentoring* in combination with words used to describe new SETs (i.e., *beginning, beginner, novice, early career, and first-year*). Next, we reviewed the references of published research to locate additional studies. We also conducted an electronic hand-search of national peer-reviewed journals in special education since 1990. We then expanded the terms to include *technology* and *teacher education* and *online professional development* in combination with words used to refer to new teachers.

Overview of Induction Research in Special Education

A review of the literature highlights three major ways to think about induction:

- To consider induction as a phase in development with a focus on new teachers' concerns and problems of practice
- To consider teacher socialization and the people and places surrounding a new teacher's entry into the profession
- To refer to formal induction programs, including the components of such programs.

EXPERIENCES AND CONCERNS OF BEGINNING SPECIAL EDUCATORS

We outline some major challenges of learning to teach—across both general and special education studies—with special emphasis on the first year. Next, we include a careful examination of the findings from 18 published articles that primarily address the concerns

of beginning special educators. In this section, general themes about new teachers' experiences during their early years are explored using the broader induction literature. Following this general description is an analysis of the research studies on the experiences of new special educators.

An Overview of the Research on New Special Educators' Concerns

Teachers' concerns are discussed under three categories: inclusion, collaboration, and interactions with adults; pedagogical concerns; and managing roles.

Inclusion, Collaboration, and Interactions with Adults

General Educators. Beginning special educators are expected to work with general educators to assure that students with disabilities have access to and make progress in the general education curriculum. However, the majority of the research studies suggested that special educators experienced a climate that was not always supportive of inclusion and collaboration.

Administrators. Among special educators in general, those with strong principal support reported greater job satisfaction, higher levels of commitment, more professional development opportunities, greater colleague support, fewer role problems, and less stress and burnout than their less supported peers.

Paraprofessionals. These assistants are an important source of support for new teachers; however teachers across several studies indicated they received inadequate preparation for supervising, managing, and coordinating paraprofessionals.

Interactions with parents. Problems identified in several studies included low parent involvement, discomfort in conducting different types of meetings, feeling anxiety about initial interactions, and determining an appropriate amount of interaction.

Pedagogical Concerns

Special educators reported many of the same pedagogical challenges as GETs, such as needing help with materials, behavior management, instructional strategies, assessments, and learning the curriculum.

Curriculum, teaching, and assessment. New special educators often feel inadequately prepared to meet the complex needs of students across a range of curriculum areas, including academics, social skills, assessment, learning strategies, transition, technology, and alternative instructional delivery formats (e.g., peer tutoring, cooperative learning).

Materials. Teachers who indicated that curriculum was a difficult problem in their first year gave significantly lower ratings to the availability of teaching materials, including outdated materials and computers; inadequate numbers of books or teacher's manuals; insufficient consumables; and problems organizing materials.

Student behavior. Surveys indicate that many teachers reported behavior problems, such as difficulty getting behavior under control, trying to teach while dealing with students who refused to work, or dealing with power struggles.

Managing roles. As districts moved toward greater inclusion of students with disabilities, both new and experienced special educators struggled to negotiate their roles in schools and coordinate complex responsibilities. Survey data indicate that many new SETs do not see their workload as manageable. Several types of overlapping role management problems were identified across the 18 reports, including time and

scheduling; caseloads; laws; individualized education plans [IEPs]; paperwork and meetings; and role confusion.

RESEARCH ON SPECIAL EDUCATION TEACHER INDUCTION

The Status of the Teacher Induction Literature

Over the past two decades, published literature on teacher induction and mentoring has proliferated as the percentage of teachers participating in induction programs has also increased and new state and federal mandates have been enacted to improve the quality of the teacher workforce. Researchers in general education provide preliminary evidence that teacher induction has a positive effect on student achievement and improves retention.

Research in Special Education Mentoring and Induction

We identified 20 research studies published since 1990 that appear in both refereed journals and doctoral dissertations. Based on our review of these 20 studies of induction and mentoring support in which beginning SETs served as study participants, we clustered the findings into the following topical areas:

Characteristics of mentors. The special education literature yields a mix of findings related to both the personal and professional characteristics of mentors. These studies emphasize the need for careful selection and matching of special education mentors to their mentees on a number of personal and professional variables if possible in the specific school context.

Other providers of support. In addition to the involvement of mentors in induction, studies in special education have also identified and examined other individuals who deliver support to beginning special educators, such as other special educators, reading specialists, and school psychologists as well as professional colleagues (including paraprofessionals), and administrators over the school year. Throughout the early years, a supportive principal can positively influence a special educator's likelihood of remaining in teaching.

Formal and informal sources of support. The research in special education suggests that induction support is delivered to beginning special educators through both formal and informal approaches. Formal supports may include formal induction programs, scheduled meetings, arranged observations with mentors, and professional development opportunities. Unscheduled meetings with mentors and colleagues as well as unannounced classroom visits or handwritten notes to check in on a beginner who is struggling are examples of welcomed (but often all too infrequent) informal supports.

Frequency of support. The frequency with which supports are provided to beginning special educators appears to influence their perceptions of the effectiveness or helpfulness of various supports.

Proximity of support. Induction researchers have also studied the physical proximity of the professionals who provide assistance to beginning special educators and have generated a number of preliminary findings. Some researchers suggest that having the mentor placed in the same school as the mentee plays an important role in establishing positive relationships between them. However, special educators from other schools or the district whose disability experience matches that of the novice SET can sometimes be even better. With the availability of e-mentoring and other electronic communications, new SETs are not as limited by proximity as in the past for support.

Content of support. Research suggests that the combined mentoring content that best predicted 1st-year SETs' overall effectiveness ratings of the mentoring they received included emotional support, materials and resources, system information pertaining to the school and district, and system information pertaining to special education.

Assessment and evaluation in induction. Teacher quality, teacher retention, and student achievement are important outcomes that are found in some studies to be related to induction. Effective methods for assessing progress in all of these areas are critical.

STATE AND LOCAL INDUCTION PROGRAMS IN SPECIAL EDUCATION

We report on a survey of state-level mentoring programs for beginning special educators and then provide an analysis of nine additional programs targeted specifically for these teachers. One promising program, the Special School District of St. Louis County [SSD], is then highlighted and described in depth. This section concludes with a discussion of programmatic considerations for researchers, LEAs, and SEAs.

Special Education Induction Programs

We identify and describe induction programs specifically designed for beginning special educators. Results also revealed commonalties across programs including:

Clearly articulated goals. The research literature in general education strongly emphasizes the importance of obtaining goal clarity in designing induction programs.

Focus on mentoring. In an effort to analyze mentoring features and compare these programs with results from existing research, information was organized into the same categories as in the previous research review: (a) characteristics of mentors, (b) delivery of support, (c) frequency and proximity of support, and (d) content of support.

Characteristics of mentors. Programs included descriptions of both personal and professional characteristics of mentors.

Delivery of support. SETs received support from several methods of delivery in numerous ways, including classroom visitations, telephone, e-mail, before- and after-school meetings, online forums, and unscheduled contacts.

Content of support. Although research studies found that beginning teachers ranked emotional support highly, only one induction program explicitly aimed at providing this type of support. The Bridges to Success program specifically trained mentors to foster emotional support. The other eight programs focused on improving the instruction of beginning teachers in various ways.

Individualized support. Five of nine programs reviewed in depth required the mentor and mentee to develop some type of personal plan and goals for improvement. For example, the beginning teachers in the Bridges to Success program completed a self-assessment at the beginning of the year that the mentor-mentee pair used to develop goals and an implementation plan based on the specific needs of the beginner.

Extended support. The majority of the nine programs offered mentor support beyond the 1st year.

Outcome data. The majority of the nine programs provided evaluation data to support the effectiveness of their programs, although the type of study design (qualitative vs. quantitative survey) and the rigor of data collection and analysis differed significantly across the studies.

Spotlight on SSD Academies. The purpose of this spotlight is to give a snapshot of one promising program designed to support the retention and quality of beginning special educators. While Missouri requires a mentoring program for all beginning teachers, its Special School District provides an induction program far beyond the minimum state requirements. It is an especially effective and innovative program, which not only boasts high retention rates, but also includes the most ambitious agenda for supporting beginning SETs. The program involves several academies. The primary goals of the SSD induction program are to retain efficacious teachers and to increase student achievement. The district's expectation of beginning teachers is to engage in professional learning. Academy I is the most intensive, with 3 years of activities aimed at supporting the development of fundamental skills for all beginning SETs. Academy II is designed for teachers in their 4th and 5th years of teaching and has as its primary goal to improve the special educators' use of data to increase student achievement. The total cost budgeted for 2 years, 2007-2009, was $5,500 per beginning teacher. SSD collects extensive outcome data annually for their induction program in order to assess program success and make recommendations for further improvement. Several data sources are used to assess (a) professional growth, (b) mentor-mentee relationships, and (c) retention.

RESEARCH ON INDUCTION AND TECHNOLOGY

Mentoring and Technology

With the enhanced use of technology in the classroom, the application of e-learning/online learning for teacher education and ongoing professional development, and the emphasis on technology-based solutions in the greater society, a promising complement to face-to-face mentoring and efforts in teacher induction is found in innovative uses of computer-mediated communications [CMC] and Internet-based tools.

Introduction – Current Research on E-mentoring

In this section, we share information relevant to e-mentoring in two distinct components. The first offers a traditional review of the research that has been conducted on e-mentoring during initial teacher induction. The studies considered include induction experiences. The second part of this section offers knowledge gained from current e-mentoring programs that support novice teachers.

Technology-based solutions to support e-mentoring. The majority of e-mentoring studies feature text-based communication in the form of e-mail and/or discussion board or forum entries as the primary format for mentor-mentee interaction.

Nature of the mentoring. While internet-based tools do not appear to be the primary variable for e-mentoring studies, the need for the distance solution is central to the e-mentoring process. Whether it was limited access to appropriate in-building mentors, mentees feeling vulnerable when asking for in-building support, expertise identified at alternate sites, scheduling conflicts necessitating alternative formats, or similar situations, central to all studies is the mentor-mentee interaction and overall process.

Peer and mentor support. Research found evidence that teachers who are provided with support via mentoring and induction activities in their early years of teaching are less likely to leave the profession.

Reflective learning. Reflection on the part of the preservice and novice teacher is often a critical attribute in a preparation as well as an induction support program. Engaging in personal reflection—combined with sharing ideas, concerns, or observations with a peer or related professional—is conducive to the ongoing learning process and often puts things in perspective for the individual.

Induction Programs Incorporating Technology

E-Mentoring in practice. Ten e-mentoring programs that illustrate a range of program structures were included in this review. Although each program described contains unique features, certain program commonalities emerged across the programs. We provide a summary of the e-mentoring programs, including information about technology integration, online structures, mentor-mentee interactions, and data collection, as well as additional information about the e-mentoring programs, such as mentor professional development, the roles of facilitators within the e-mentoring programs, and financial sustainability mechanisms.

Programmatic considerations. All 10 e-mentoring programs reviewed above faced three major categories related to implementation: (a) technical considerations, (b) mentor and mentee considerations, and (c) financial sustainability considerations. These programs illustrated a range of methods for addressing the three areas.

Integration. Reported technology considerations in e-mentoring programs covered four main areas: (a) which software operating platform should be used, (b) whether communication should occur through asynchronous versus synchronous media, (c) whether to include online resources and curricula within the site, and (d) the role of facilitators within the programs.

Asynchronous versus synchronous communications. Typical interactions within mentoring and induction programs consist of close interaction and effective communication between mentors and mentees. Likewise, communication within the e-mentoring programs is not only critical but also the main aspect of the programs. Although many of the programs incorporated online resources and self-paced professional development content, the communication between the mentors and mentees was the main draw of these programs. Five types of communication were reviewed: asynchronous text-based, synchronous text-based, video and/or audio, and online resources and curricula.

Mentor-mentee relationships. Interactions within the e-mentoring programs varied considerably based on the types of mentor-mentee relationships within the programs. The paper also reviews the following differences between programs:

- Mentor-mentee pairing
- Dyadic/small group mentor-mentee supports
- Large group mentor-mentee supports
- Mentor preparation
- Mentor recruitment
- Facilitator roles
- Technical facilitator supports
- Program facilitator supports

Alternate funding sources. Most programs aggressively pursued alternate funding sources in order to sustain their e-mentoring program. These alternate funding sources included foundation funds, state departments of education, school districts, IHEs, as well as other partners and stakeholders.

Program reduction. Several of the programs had to dramatically reduce the amount of support they could provide because of funding issues.

SUMMARY AND RECOMMENDATIONS FOR PRACTICE AND RESEARCH

Findings from the five sections of this paper synthesize the knowledge base related to (a) new teachers' experiences in their first years, (b) research on induction programs, (c)

descriptions of induction programs in local and state agencies, (d) research on induction programs that incorporate technology, and (e) how technology has been used in general education induction programs.

Recommendations for Special Education Induction Programs

- Improve the work context for new SETs.
- Encourage a school culture that includes SETs
- Set the stage for collaboration and inclusive practices in schools
- Provide "protected status" to new teachers
- Systematically design induction programs
- Understand and address beginning special educators concerns
- Consider comprehensive induction packages
- Determine goals, processes, and evaluation of induction programs
- Structure mentor programs
- Encourage mentors to assume a non-evaluative role
- Match mentors and mentees on personal and professional characteristics (e.g., personality, exceptionality areas, grade levels or subjects taught)
- Encourage mentors to assume a non-evaluative role
- Ensure close proximity or reasonable accessibility between mentors and mentees
- Give opportunities for mentors and mentees to meet at least weekly
- Provide release time for classroom observations (mentee to observe mentor and vice versa)
- Create measurable professional goals for beginning teachers and assess progress on a regular basis
- Provide professional development opportunities
- Obtain state and local support
- Improve the technology-based solutions for e-mentoring
- Identify low-cost universally accessible technology-based solutions
- Provide training on the technology-based tools
- Identify key personnel and develop technology infrastructure
- Recognize unique challenges and solutions of e-mentoring
- Provide training on supporting mentees at a distance
- Consider lessons from other e-learning frameworks.

Recommendations for Future Research

- New special educators' conceptualizations of their roles
- Hiring and assignment practices
- Mentors and other support providers
- Frequency, proximity, and content of support
- Formal and informal support
- Differentiation of support
- Assessment and evaluation
- E-mentoring and technology
- Peer-to-peer support in the mentoring process.
- Willingness to share thoughts, concerns, fears and feelings.
- Role of the facilitator in the e-mentoring process.

This paper also includes extensive tables organizing all the key literature reviewed for easy reference by other researchers.