Hammill Institute on Disabilities

Rural Special Education Quarterly
2017, Vol. 36(2) 84–91

DOI: 10.1177/8756870517707926
journals.sagepub.com/home/rsq
SAGE

# The Scholars Project: Maine's Distance Education Model for Preparing Early Childhood Special Educators to Work With Young Children With Disabilities

**Deborah L. Rooks-Ellis, PhD**[1]

**Abstract**

The Early Childhood Opportunity (EChO) Scholars project was designed to address the following significant needs in Maine: (a) prepare highly qualified early interventionists and early childhood special educators through distance education, (b) develop a system of support through a mentor network, (c) provide a graduate-level early childhood special education (ECSE) curriculum emphasizing current evidence-based practices (EBPs), and (d) develop a feedback loop designed to assess candidate knowledge, skills, and implementation of EBPs. This article describes the results of a 4-year Office of Special Education Programs project designed to support early childhood special educators across rural Maine. Key program components, successes, and future directions for continuous improvement are highlighted.

**Keywords**

early intervention, early childhood special education, personnel preparation, rural, distance education

National shortages of highly qualified personnel in the fields of early intervention (EI), and early childhood special education (ECSE) are well documented in the professional literature (Dymond, Gilson, & Myran, 2007; Hebbeler, 1994; National Early Childhood Technical Assistance Center [NECTAC], 2011; Palsha, Bailey, Vandiviere, & Munn, 1990; U.S. Department of Education [DOE], Office of Postsecondary Education, 2016), and are likely to persist (McLeskey & Billingsley, 2008; McLeskey, Tyler, & Flippin, 2003; U.S. DOE, Office of Postsecondary Education, 2016). In addition to personnel shortages, less than one half of statewide early intervention/preschool special education programs ranked their workforce as being adequately trained to meet the needs of children and families receiving early intervention services, especially those children with significant disabilities (Bruder, Mogro-Wilson, Stayton, & Dietrich, 2009; Dunst, Trivette, & Hamby, 2010; Odom, Buysse, & Soukakou, 2011).

The shortage of ECSE professionals is an even greater problem in rural areas (McLaren & Rutland, 2013), with 41 states, including Maine, reporting shortages in personnel who provide Part C services (Moherek Sopko, 2010). The need for personnel preparation programs to meet the increasing need for qualified personnel in rural settings is not new. Specifically, in a national survey of Part C coordinators, 31% cited geographic issues as a barrier to recruiting and retaining adequately trained early interventionists (Bruder, 2004a), and 26% of 619 coordinators reported rural geography as a barrier for recruiting and retaining qualified early childhood special educators (Bruder, 2004b). Similar challenges in staff recruitment and retention, inadequately trained personnel, and professional isolation in rural areas have been reported (Gold, Russell, & Williams, 1993; Ludlow, Conner, & Schechter, 2005; Squires, 1996). Other challenges include the limited availability of resources and supports for children and families, scarce specialized therapeutic services, inadequate funding, and lack of competitive salaries (Bruder, 2004b; Moherek Sopko, 2010).

Although access to personnel preparation programs is a major concern, the adequacy of many personnel preparation programs in enhancing the skills of ECSE personnel in using evidence-based practices (EBPs) for serving young children, birth to age 5, with disabilities and their families is also of concern. An essential component of ECSE teacher preparation programs should be a focus on the EBPs that support the development and education of young children, including those with disabilities (National Council for Accreditation of Teacher Education [NCATE], 2010). The Council for

[1]The University of Maine, Orono, USA

**Corresponding Author:**
Deborah L. Rooks-Ellis, College of Education and Human Development, The University of Maine, 5766 Shibles Hall, 303, Orono, ME 04469, USA.
Email: deborah.l.rooks@maine.edu

Exceptional Children (CEC; 2014) advises special educators to use EBPs in their professional practice, and the special education field continues to develop criteria for classifying practices. An EBP is defined as an instructional strategy, intervention, or program that has resulted in consistent positive results when high-quality research is implemented (Mesibov & Shea, 2011; Odom, Collet-Klingenberg, Rogers, & Hatton, 2010). The resources for determining best practice are more complete and accessible than ever before, and EBPs are identified for the following areas: autism, deaf or hard of hearing intervention, early childhood transition, early literacy, family-centered practice, home visiting, inclusion, assessment, and social/emotional intervention (Division for Early Childhood [DEC], 2014; Early Childhood Technical Assistance Center [ECTA], 2011; National Professional Development Center on Autism Spectrum Disorder [NPDC-ASD], 2014; Stayton, Smith, Dietrich, & Bruder, 2012).

## Rural Challenges in Maine

The U.S. Census Bureau (2012) identified Maine as the most rural state in the nation in 2010. With an area of 33,215 square miles, Maine is the largest state in New England, greater in size than the five other New England states combined. Isolated in the most northeast corner of the country, Maine is bordered by only one state (i.e., New Hampshire), two Canadian Provinces (i.e., New Brunswick and Quebec), and the Atlantic Ocean. Nearly 62% of Maine's 1,328,302 people live in rural communities of fewer than 10,000. Maine has only one city with more than 50,000 people (i.e., 66,214 in Portland). Individuals in rural, remote, and sparsely populated areas, including Maine's unorganized territories and islands, are often underserved and represent a disproportionate number of high need families (Margaret Chase Smith Policy Center, 2015; U.S. Census Bureau, 2012).

Maine has a chronic shortage of highly qualified certified early childhood personnel to serve young children birth to age 5 and their families (U.S. DOE, Office of Postsecondary Education, 2016). Compounding the shortage of qualified personnel in rural Maine are the challenges imposed by extreme poverty, high unemployment, and high rates of disability. The unemployment rates in Maine's 16 counties range from 3.2% to 7.8% (Maine Department of Labor, Center for Workforce Research and Information, 2015). In 2012, the number of Maine residents falling below the poverty line rose to almost 15% or more than one in 10 residents, and thousands of other "near poor" have incomes that do not meet basic needs. Maine's percentage of people identifying with a disability is almost 16%, 4% higher than the national average (Erickson, Lee, & von Schrader, 2012). These incidence rates highlight the disparity between the need for special education services in Maine and the lack of qualified personnel to provide such services.

There is an increasing need for professionals with the ability to understand and support high need families and particularly families with young children, birth to age 5, with disabilities. Maine Child Development Services (CDS) is an intermediate educational unit that provides both early intervention and free appropriate public education under the supervision of the Maine Department of Education. The CDS system ensures the provision of special education rules, federal and state regulations statewide, through a network of regional sites. The annual performance report from Maine CDS (Maine CDS, 2016) indicated 889 infants and toddlers (birth to age 2) and 2,046 young children (ages 3–5) are receiving early intervention services in Maine. These numbers are higher than the national average and reiterate the critical need to prepare qualified ECSE/EI personnel to serve young children and their families in Maine.

## Program Structure and Target Audience

Access to study in early intervention is extremely limited for Maine residents. Providing graduate rural personnel preparation since 1999, the University of Maine (UMaine) is Maine's flagship institution of higher education (IHE). UMaine is the only IHE in Maine to offer a master's program in special education with a concentration in early intervention. The Early Childhood Opportunity (EChO) Scholars was a 4-year Office of Special Education Programs (OSEP)–funded personnel preparation grant awarded to UMaine. The project began October 1, 2010, and included a 1-year no-cost extension period through September 30, 2015. This project represented collaborations between the UMaine Center for Community Inclusion and Disability Studies, the College of Education and Human Development (COEHD), and the Maine Department of Education. The EChO Scholars opportunity was designed to address the following significant needs in Maine: (a) prepare highly qualified early interventionists and early childhood special educators across the most rural state in New England using an innovative distance education model; (b) develop a system of support through a mentor network; (c) provide a graduate-level ECSE curriculum emphasizing current EBPs, including collaborative, inclusive, family-centered, culturally competent strategies and competencies; and (d) develop a feedback loop within graduate-level coursework and practicum components designed to assess candidate knowledge, skills, and implementation of EBPs.

Data from workforce studies indicated that the salaries of many child care teachers and early interventionists who were likely to participate in the Scholars project were very modest. Low pay for early childhood personnel is a national

concern (Austin, Whitebook, Connors, & Darrah, 2011; Maine DOE, 2015; North Carolina Institute for Early Childhood Professional Development, 2008). In addition to low salaries, few early care and education programs in Maine provide course reimbursement to their staff; therefore, the project provided full tuition stipends linked to service agreements to students through the Scholars project. Service agreements outlined that, for every full year of academic tuition support received, a scholar would commit 2 years to the field of early intervention in Maine.

## Key Components

### *Framework and Competencies*

The conceptual framework for the Scholars project aligned with the UMaine COEHD mission and conceptual framework for early childhood professional development and personnel preparation (CEC, 2012; National Association for the Education of Young Children [NAEYC] Professional Standards, 2010). As outlined by the National Professional Development Center on Inclusion (2011), professional development for early childhood personnel should be competency based. The recommended standards of NAEYC, CEC, and DEC guided the Scholars project curriculum. The project aligned program competencies with the standards articulated in the *State of Maine Early Learning and Development Standards* (Maine DOE, 2015), the NCATE core teaching standards, recently updated to the Interstate Teacher Assessment and Support Consortium (InTASC) core teaching standards, and the CEC professional standards (see Table 1 for a crosswalk of standards and coursework).

**Table 1.** InTASC Core Teaching Standards and CEC Professional Standards Crosswalk With Scholar Program Special Education Early Intervention Courses.

| Standards | Graduate course |
|---|---|
| Learner development and individual learning differences InTASC 1, 2; CEC 1 | SED 505–diversity in development |
| Assessment InTASC 6, CEC 4 | SED 506–assessment for young children |
| Professional learning and ethical practice InTASC 9; CEC 6 | EHD 510–introduction to research |
| Curricular content knowledge and application InTASC 3, 4, 5, 7, 8; CEC 2, 3, 5 | SED 517 with SED 523–natural environments and practicum |
| Instructional strategies InTASC 3, 4, 5, 7, 8; CEC 2, 3, 5 | SED 511 with SED 521–center-based and practicum |
| Learner development and difference InTASC 1, 2; CEC 1 | SED 598–positive behavior management for EI |
| Collaboration and leadership InTASC 10; CEC 7 | SED 514–admin & public policy |
| Collaboration and leadership InTASC 10; CEC 7 | SED 516–collaborative consultation |
| Curricular content knowledge and application InTASC 3, 4, 5, 7, 8; CEC 2, 3, 5 | SED 529–language and early literacy |
| All competencies addressed | SED 655–graduate project |

*Note.* InTASC = Interstate Teacher Assessment and Support Consortium; SED = serious emotional disturbance; CEC = Council for Exceptional Children; EI = early intervention; EHD = education human development.

### *Coursework and Practica*

The EI master's program required 36 credit hours of graduate-level coursework, including three practicum credit hours within a natural environment, typically the child's home, and three practicum credit hours in a classroom-based setting. In addition, students completed 20 to 45 additional field hours in early intervention settings to gain experience working with young children and their families. These hours, which were embedded throughout the 2.5-year program, allowed students immediate application of EBPs, including working with families, routines-based intervention, inclusion, classroom assessment, and collaborative consultation. Special education faculty taught all courses. Students completed the 36-credit master program in 2.5 years by enrolling in two courses per semester—fall, spring, and summer. Graduates of the Scholars program earned both (a) a master's degree in education, special education with a concentration in early intervention; and (b) Maine state certification, 282 Birth to Age 5 for working with young children with disabilities and their families. The Scholars project incorporated several remarkable features to deliver coursework, including the use of distance education (Allen & Seaman, 2013), on-site and online supervision and coaching, and a strong mentoring component used as an induction and retention practice.

### *Distance Education*

The use of distance education technology has emerged as a tool for meeting challenges of providing accessible personnel preparation programs (Beattie, Spooner, Jordan, Algozzine, & Spooner, 2002). Within the Scholars project, students learned to use Internet learning platforms, including Blackboard and Moodle. These platforms delivered content and fostered discussions and interactions between the students and the instructor. In addition, Adobe Connect Pro (ACP), FaceTime, Google Hangouts, and Zoom provided opportunities for students and instructors to connect in real time, while providing options for delivering content

and furthering discussions. Instructors used a combination of approaches to best meet the needs of the students.

### Supervision

In a study of preparation experiences across various helping professions, Grossman. (2005) found teacher education provided fewer opportunities for novices to practice elements of teaching and receive immediate feedback compared with other professions. The project faculty recognized the importance of immediate feedback to improve practice; therefore, students received both on-site and online supervision from instructors and supervising teachers. Concerted efforts provided students with structured practice-based opportunities within the field and practicum experiences. Supervising classroom teachers observed students weekly, and students submitted video observations twice per semester to the instructor. In addition, during the natural environment practicum, students submitted video recordings of specific evidence-based activities, including routines-based interview, collaboration with child care, and support-based home visiting with families. Students received implementation checklists outlining best practice and self-rated their practice. Comparison of these checklists with the checklists completed by supervising teachers and instructors led to the development of joint action plans between students and instructors to support strengths and needs related to teaching.

### Mentoring

Coaching and mentoring (Kucharczyk et al., 2012; Rush & Shelden, 2011) were essential components of the Scholars project. The project paired each scholar with a mentor for the duration of the program, with the likelihood that a collaborative relationship would develop and the coaching and mentoring would become reciprocal between the partners beyond graduation from the master's program. There is a current network of 32 early childhood education (ECE)/ECSE professionals who mentor students in the master's program. Mentors are often graduates of the master's program and are experienced EI or ECSE professionals. This opportunity offers project students access to skilled role models and colleagues who encourage professional growth and who may be consulted for academic and professional advice. Project faculty facilitated activities twice per year for students and mentors to meet in person. Each year, students participated in a mentor/mentee satisfaction survey. The survey consisted of six questions focused on communication, information provided, and level of support. Sixty-seven percent of students reported a rating of 4 or higher on a five-point scale (4 = *being satisfied* and 5 = *being highly satisfied with the mentor/mentee experience*). Overall, students reported a successful relationship with supportive and helpful mentors. Comments included the following:

- I feel the mentor/mentee relationship was successful because she offered lots of support and critical thinking opportunities.
- I learned a lot from my mentor. She always made me feel comfortable to ask questions, while also providing me with a sense of independence through my graduate journey.
- I feel this relationship was hugely successful and I hope to continue it after I graduate from this program. She was helpful from the get go.
- Our relationship has felt like a team one. She supported, offered advice, listened to me.

### Ongoing Scholar Assessment

In addition to extensive quantitative data (e.g., demographics, degree information, employment information and employer evaluations, test scores, online portfolios), Scholar assessment included *annual Scholar focus groups* conducted with project faculty. Interviews addressed barriers and facilitators to implementation and feedback regarding courses and project activities. The project partners used the feedback to improve project goals and curriculum.

The project used the previously described implementation checklists in conjunction with the *Student Rating of Knowledge and Skills* (SRKS). Developed specifically for the project, the SRKS identified the early intervention standards (InTASC, CEC) and competencies (DEC) outlined in the project curriculum. Students and mentors used the SRKS as a self-assessment tool to identify scholar progress, success, and areas for improvement on each professional standard and competency. Students submitted their SRKS each semester to project faculty for further evaluation of students' understanding and application of competencies as compared with course assignments, observed field experiences, and individual and group mentoring sessions. Students met with mentor or faculty to discuss the feedback and updated the joint action plan.

## Program Outcomes

The Scholars project achieved definitive results for Maine's young children with high need and their families. The project accepted students into EI cohorts to help students complete the program requirements in a timely fashion and to provide academic and logistical support to help students succeed. The project recruited, supported, and retained to completion 45 students within two cohorts across Maine over a 4-year period. All 45 students completed both certification requirements for Maine State Certification in the area of ECSE (birth to age 5) and requirements for the Master in Special Education with a concentration in early intervention at UMaine. During the 1-year no-cost extension period, an additional 14 students completed

requirements for Maine State Certification in the area of ECSE (birth to age 5), and 11 of the 14 students earned their master's degree.

In an annual survey provided to all graduates and exited students of the Scholars project, 100% of students (45/45) and 100% of no-cost students (14/14) reported they currently work in the area for which they were prepared. In addition, 49% (22/45) of the students self-reported that they currently hold leadership roles in ECE/ECSE, including the following: early intervention program manager, site director, Part B evaluator, lead teacher, Part C technical advisor, and assistant site director. These 59 fully qualified students under Individuals With Disabilities Education Act (IDEA) reside in all 16 of Maine's counties, demonstrating the far-reaching impact the use of distance technologies used within the project has had on Maine's young children and families. Survey data are collected annually for 5 years since project completion and will be used to determine the percentage of program graduates who maintain employment for 3 years or more in the area for which they were prepared and who are fully qualified under IDEA.

Students completing their program prior to September 2015 received an email inviting them to participate in a brief telephone survey to rate the overall satisfaction of the program. Of the 49 students contacted, 26 responded and agreed to a telephone survey. Of those 26 students interviewed, 19 reported they were highly satisfied with the master's program in early intervention, and seven reported they were satisfied with their overall program. All 26 responded with a 3 or above, with 5 being *highly satisfied* and 3 being *satisfied*.

## Lessons Learned and Possible Solutions

As discussed in the "Program Outcomes" section, the Scholars project was a success. Project faculty implemented a quality graduate curriculum using distance technologies to train students to provide EBPs to young children with disabilities; however, the project identified challenges with the Scholars project, and possible solutions are offered below.

### *Supply and Demand*

Characterized by high attrition rates and personnel who are not certified (Maine CDS, 2016), Maine's early intervention field is a profession chronically faced with teacher shortages, as evidenced by a minimum of three open positions at each of the nine CDS sites statewide (Serving Schools, 2016). Early care site directors often inquire about UMaine's potential graduates and have expressed difficulty in finding qualified personnel for open positions. Although the Scholars project trained 59 students, the majority of these students held ECSE/EI positions while enrolled in the Scholars project; therefore, the project was not able to meet the workforce demand for new hires.

UMaine is committed to graduate rural personnel preparation in early intervention and continues to prepare professionals to work with Maine's high needs young children and their families by offering the Master in Education, special education with a concentration in early intervention; however, as noted above, the ability to afford graduate tuition is a barrier for Maine's professionals seeking a higher education degree. As a result of the successful outcomes of the Scholars project, UMaine applied for and was newly awarded a 5-year OSEP personnel preparation grant that began in January 2016. The new Scholars project, Mentoring and Advanced Preparation for Maine's Early Intervention Scholars (MAP-ME), will help alleviate the continued critical shortage of highly qualified personnel by providing financial support to 54 students prepared to serve high need populations of young children (birth to age 5) with disabilities and their families.

### *Challenges With Distance Technologies*

The use of distance technology typically requires a high-speed connection to the Internet to ensure quality delivery of course content. Various platforms used in the Scholars project included ACP, Zoom, and FaceTime for synchronous online learning and Blackboard, Google Sites, and First Class for asynchronous online learning. Distance technologies allowed for flexibility and brought the once thought advantages only found in classroom-based in-person instruction to the online classroom. For example, instructors had the ability to create small breakout sessions in ACP, encouraging students to have real-time interactions and discussions with their peer support group about content and practicum experiences. ACP provided options for embedded video and PowerPoint presentations for content, as well as cameras, emoticons, and chat boxes for communication. Zoom proved to be an excellent tool for group projects, group chats, peer support, and mentor support and feedback. The project regularly used FaceTime to observe students implementing learned practices, to provide real-time coaching, and to connect with students.

Although students indicated high satisfaction with the online delivery of course content, students also reported technology as a challenge of the project. The project provided a list of required technologies to students prior to the start of the Scholars project, and each course syllabus repeated the list. Students reported not having an option for high-speed Internet in their communities, limiting their options for quality access. Students described dropped and slowed connections during class or the need to reconnect multiple times. Weather also played a role in the quality of the technology connection, as connections were always

stronger on clear evenings as opposed to windy or snowy evenings. Students reported Zoom and FaceTime as more reliable, but they also used those technologies for shorter periods of time (e.g., 1 hr or less as opposed to 2–3 hr for class sessions).

The project staff ascertained that distance technology challenges were as much about students' familiarity with the distance technologies as access. To support students' comfort level with the required technologies, project partners implemented a technology orientation session as part of scholar induction to the project. The UMaine instructional technologies department offered webinars and presentations describing each technology, including the purpose of the technology, how to meaningfully use the technology, and whom to contact for support. Although faculty referred students to these online materials for support, they explicitly used the materials during the in-person orientation, thereby increasing a student's knowledge of, and use and familiarity with, the technology.

## Next Steps

An essential component of any ECSE/EI teacher preparation program should be a focus on the research-based practices that support the development and education of young children, including those with disabilities (NCATE, 2010). Accountability has raised the bar in terms of expectations of early childhood special educators and early interventionists. Attention has shifted to not only how those practitioners are being prepared and supported in their professional roles but also the importance of evaluation of students' implementation fidelity of EBPs. The Scholars project included multiple ways for students to self-assess implementation fidelity. Self-assessment contributed positively to learning outcomes (Brown & Harris, 2013), and student self-assessment was strongly advocated as an important practice (Leahy, Lyon, Thompson, & Wiliam, 2005); however, self-assessments can be inaccurate, including the tendencies to (a) be unrealistically optimistic about one's own abilities, (b) believe that one is above average, (c) neglect crucial information, and (d) have deficits in information (Dunning, Heath, & Suls, 2004). Although this project focused on scholar accountability by using mentors, supervising teachers, conducting in-person and video-recorded observations of scholar practice, and using a consistent feedback loop to strengthen students' fidelity and improve outcomes for young children, more data are needed to demonstrate EI implementation fidelity and the impact this may have on child outcomes.

## Conclusion

Early intervention and preschool programs are in critical need of meeting the demand for highly qualified ECSE teachers to provide services to young children with disabilities and their families in rural areas. Special education preparation programs are encouraged to teach EBPs within course content and strengthen student use of EBPs within practica experiences (CEC, 2012; Council of Chief State School Officers, 2011). Paired with an accountability system to monitor student implementation of EBPs, programs will be more responsive to the needs of their students and ensure positive outcomes for the young children with whom they are working. The Scholars program in Maine and the lessons learned through implementation provide a road map to other states pursuing a comprehensive and sustainable personnel preparation program for early childhood special educators.

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The funding for this document was made available under U.S. Department of Education, Office of Special Education Programs Grant Award #H325K100124. The views expressed herein do not necessarily represent the positions or policies of the Department of Education. No official endorsement by the U.S. Department of Education of any product, commodity, service, or enterprise mentioned in this publication is intended or should be inferred.

### References

Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States*. San Francisco, CA: Babson Survey Research Group and Quahog Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Austin, L., Whitebook, M., Connors, M., & Darrah, R. (2011). *Staff preparation, reward, and support: Are quality rating and improvement systems addressing these key ingredients necessary for change?* Berkeley, CA: Center for the Study of Child Care Employment, Institute for Research on Labor and Employment, University of California at Berkeley. Retrieved from www.irle.berkeley.edu/cscce/?s=staff+preparation+reward+and+support

Beattie, J., Spooner, F., Jordan, L., Algozzine, B., & Spooner, M. (2002). Evaluating instruction in distance learning classes. *Teacher Education and Special Education*, *25*, 124–132.

Brown, G. T. L., & Harris, L. R. (2013). Student self-assessment. In J. H. McMillan (Ed.), *The SAGE handbook of research on classroom assessment* (pp. 367–393). Thousand Oaks, CA: SAGE.

Bruder, M. B. (2004a, December). *The national landscape of early intervention in personnel preparation standards under Part C of the Individuals With Disabilities Education Act* (IDEA; Study I Data Report). Farmington, CT: A. J. Pappanikou Center

for Excellence in Developmental Disabilities. Retrieved from http://uconnucedd.org/wp-content/uploads/sites/1340/2015/06/pp_data_report_study1_partc_11_14_08.pdf

Bruder, M. B. (2004b). *The national landscape of early childhood special education in personnel preparation standards under 619 of the Individuals With Disabilities Education Act (IDEA)* (Study I Data Report). Farmington, CT: A. J. Pappanikou Center for Excellence in Developmental Disabilities. Retrieved from http://www.uconnucedd.org/pdfs/projects/per_prep/pp_data_report_study1_619_11_19_08ccs.pdf

Bruder, M. B., Mogro-Wilson, C., Stayton, V., Smith, B. J., & Dietrich, S. (2009). The national status of in-service professional development systems for early intervention and early childhood special education practitioners. *Infants & Young Children*, *22*, 13–20.

Council for Exceptional Children. (2012). *CEC Initial and advanced preparation standards: NCATE approved*. Retrieved from https://www.cec.sped.org/Standards/Special-Educator-Professional-Preparation/CEC-Initial-and-Advanced-Preparation-Standards

Council for Exceptional Children. (2014). *Standards for evidence-based practices in special education*. Retrieved from https://www.cec.sped.org/~/media/Files/Standards/Evidence%20based%20Practices%20and%20Practice/EBP%20FINAL.pdf

Council of Chief State School Officers. (2011). *Interstate Teacher Assessment and Support Consortium (InTASC) model core teaching standards: A resource for state dialogue*. Washington, DC: Author.

Division for Early Childhood. (2014). *DEC recommended practices in early intervention/early childhood special education 2014*. Retrieved from http://www.dec-sped.org/recommendedpractices

Dunning, D., Heath, C., & Suls, J. M. (2004). Flawed self-assessment: Implications for health, education, and the workplace. *Psychological Science in the Public Interest*, *5*, 69–106.

Dunst, C. J., Trivette, C. M., & Hamby, D. (2010). Meta-analysis of the effectiveness of four adult learning methods and strategies. *International Journal of Continuing Education and Lifelong Learning*, *3*, 91–112.

Dymond, S. K., Gilson, C. L., & Myran, S. P. (2007). Services for children with autism spectrum disorders. *Journal Disability Policy Studies*, *18*, 133–147.

Early Childhood Technical Assistance Center. (2011). *The importance of early intervention for infants and toddlers with disabilities and their families*. Retrieved from http://ectacenter.org/~pdfs/pubs/importanceofearlyintervention.pdf

Erickson, W., Lee, C., & von Schrader, S. (2012). *Disability status report: United States*. Ithaca, NY: Cornell University Employment and Disability Institute. Available from http://www.disabilitystatistics.org

Gold, V., Russell, S., & Williams, E. (1993). Special education in northwest Ohio: A case study of rural service delivery problems. *Rural Special Education Quarterly*, *12*, 42–46.

Grossman, P. (2005). Research on pedagogical approaches in teacher education. In M. Cochran-Smith & K. Zeichner (Eds.), *A Review of research in teacher education* (pp. 425–476). Washington, DC: American Educational Research Association.

Hebbeler, K. (1994). *Shortages in professions working with young children with disabilities and their families*. Chapel Hill, NC: NECTAX Coordinating Office Publications.

Kucharczyk, S., Shaw, E., Smith Myles, B., Sullivan, L., Szidon, K., & Tuchman-Ginsberg, L. (2012). *Guidance & coaching on evidence-based practices for learners with autism spectrum disorders*. Chapel Hill: National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, The University of North Carolina.

Leahy, S., Lyon, C., Thompson, M., & Wiliam, D. (2005). Classroom assessment: Minute by minute, day by day. *Educational Leadership*, *63*, 18–24.

Ludlow, B., Conner, D., & Schechter, J. (2005). Low incidence disabilities and personnel preparation for rural areas: Current status and future trends. *Rural Special Education Quarterly*, *24*, 15–24.

Maine Child Development Services. (2016). *Child development services annual report*. Retrieved from http://www.maine.gov/doe/cds/reporting/index.html

Maine Department of Education. (2015). *Maine's early learning and development standards*. Author. Retrieved from http://www.maine.gov/doe/publicpreschool/documents/Maine-ELDS.pdf

Maine Department of Labor, Center for Workforce Research and Information. (2015). *Unemployment and labor force*. Retrieved from http://www.maine.gov/labor/cwri/laus.html

Margaret Chase Smith Policy Center. (2015). *Where exactly is the poverty line in Maine?* Maine Public Broadcasting Network. Retrieved from http://news.mpbn.net/post/where-exactly-poverty-line-maine#stream/0

McLaren, E., & Rutland, J. (2013). Preparing early childhood special educators in Appalachian Kentucky. *Rural Special Education Quarterly*, *32*, 46–55.

McLeskey, J., & Billingsley, B. S. (2008). How does the quality and stability of the teaching force influence the research-to-practice gap? *Remedial and Special Education*, *29*, 293–305.

McLeskey, J., Tyler, N., & Flippin, S. (2003). *The supply of and demand for special education teachers: A review of research regarding the nature of chronic shortage of special education*. Gainesville, FL: Center on Personnel Studies in Special Education.

Mesibov, G. B., & Shea, V. (2011). Evidence-based practices and autism. *Autism*, *15*, 114–133.

Moherek Sopko, K. (2010). *Workforce preparation to serve children who receive Part C services*. Retrieved from http://nasdse.org/DesktopModules/DNNspot-store/productfiles/86_7b9701c9-c1d3-4c85-a6b7-e5756646664d.pdf

National Association for the Education of Young Children. (2010). *NAEYC standards for early childhood professional preparation*. Retrieved from https://www.naeyc.org/caep/standards

National Council for Accreditation of Teacher Education. (2010). *Transforming teacher education through clinical practice: A national strategy to prepare effective teachers*. Washington, DC: Author.

National Early Childhood Technical Assistance Center. (2011). *The importance of early intervention for infants and toddlers*

*with disabilities and their families*. Available from http://www.nectac.org

National Professional Development Center on Autism Spectrum Disorder. (2014). *Evidence-based practices for children, youth, and young adults with autism spectrum disorder*. Retrieved from http://fpg.unc.edu/sites/fpg.unc.edu/files/resources/reports-and-policy-briefs/2014-EBP-Report.pdf

National Professional Development Center on Inclusion. (2011). *Competencies for early childhood educators in the context of inclusion: Issues and guidance for states*. Chapel Hill: FPG Child Development Institute, The University of North Carolina.

North Carolina Institute for Early Childhood Professional Development. (2008). *Compensation*. Retrieved from http://ncicdp.org/compensation/salary-schedule/

Odom, S. L., Buysse, V., & Soukakou, E. (2011). Inclusion for young children with disabilities: A quarter century of research perspectives. *Journal of Early Intervention*, *33*, 344–356.

Odom, S. L., Collet-Klingenberg, L., Rogers, S. J., & Hatton, D. D. (2010). Evidence-based practices in interventions for children and youth with autism spectrum disorders. *Preventing School Failure*, *54*, 275–282.

Palsha, S. A., Bailey, D. B., Vandiviere, P., & Munn, D. (1990). A study of employee stability and turnover in home-based early intervention. *Journal of Early Intervention*, *14*, 342–351.

Rush, D., & Shelden, M. (2011). *The early childhood coaching handbook*. Baltimore, MD: Paul H. Brookes.

Serving Schools. (2016). *Early childhood special educators job search*. Retrieved from https://www.servingschools.com/search

Squires, J. (1996). Preparing personnel in rural areas. In D. Bricker & A. Widerstrom (Eds.), *Preparing personnel to work with infants and young children and their families: A team approach* (pp. 253–272). Baltimore, MD: Paul H. Brookes.

Stayton, V. C., Smith, B. J., Dietrich, S. L., & Bruder, M. B. (2012). Comparison of state certification and professional association personnel standards in early childhood special education. *Topics in Early Childhood Special Education*, *32*, 24–37.

U.S. Census Bureau. (2012). *American Community Survey*. Retrieved from https://www.census.gov/programs-surveys/acs/about.html

U.S. Department of Education, Office of Postsecondary Education. (2016). *Teacher shortage areas*. Retrieved from http://www2.ed.gov/about/offices/list/ope/pol/tsa.html