

**Pamela J. Winton**, PhD, has been involved in research, outreach, professional development, and scholarly publishing related to early childhood for the last three decades. She is the director of CONNECT, a national project focused on an evidence-based practice approach to early childhood professional development. pam.winton@unc.edu

**Virginia Buysse**, PhD, is a Senior Scientist at Frank Porter Graham Child Development Institute, University of North Carolina at Chapel Hill. virginia\_buysse@unc.edu

**Beth Rous**, EdD, is Professor and Chair in the Department of Educational Leadership Studies and Director of the Kentucky Partnership for Early Childhood Services, Human Development Institute at the University of Kentucky. brous@uky.edu

**Chih-Ing Lim**, PhD, is an Investigator at Frank Porter Graham Child Development Institute, University of North Carolina at Chapel Hill. chih-ing.lim@unc.edu

**Dale J. Epstein**, PhD, is an Investigator at Frank Porter Graham Child Development Institute, University of North Carolina at Chapel Hill. dale.epstein@unc.edu

Preparation of this article was supported by Cooperative Agreement #H325J070007 from the US Department of Education, Office of Special Education Programs, awarded to the University of North Carolina at Chapel Hill with a subcontract to the University of Kentucky. The content does not necessarily represent the policy of the US Department of Education nor endorsement by the federal government.

# CONNECTING Evidence-Based Practice and Teacher Research: Resources for Early Childhood Faculty and Instructors

PAMELA J. WINTON, VIRGINIA BUYSSE, BETH ROUS,  
CHIH-ING LIM, AND DALE EPSTEIN

The national emphasis on teacher effectiveness, high stakes accountability, and standards-based education has led to growing attention to the quality of teacher education. A recent report from the National Council for Accreditation of Teacher Education calls for transforming teacher education programs through clinical teaching by preparing teachers to implement evidence-based instructional practices in the context of real classrooms (NCATE 2010).

The emphasis on clinical teaching has not been universally embraced by early educators, with some viewing this implicit and explicit attention to specific practices as overly prescriptive and narrow. Further, it is not aligned with the view that effective teaching is an adaptive process based on decisions about when, with whom, and under what circumstances certain practices should be implemented (Liston, Whitcomb, & Borko 2007; Van Driel & Berry 2012). The concern is that in this “techno-rational” model (McDiarmid 2012) teachers will be prepared as technicians whose job is to learn and use a set of decontextualized practices with inadequate attention paid to the learning needs, strengths, background, and culture of each individual child.

This technical emphasis within teacher education on a decontextualized set of practices is particularly antithetical to the teacher research approach in which the perspectives and clinical experiences of teachers are an integral part of ongoing professional learning. In the teacher research process teachers are

In response to the growing pressure to incorporate evidence-based practice into professional development, we draw from teacher research and a decision-making approach for teachers—CONNECT Project's 5-Step Learning Cycle™—to propose strategies and resources for teacher educators. Here, we explore ways teacher educators can prepare teachers to be capable decision-makers who combine evidence with clinical experience and adjust instruction to meet the individual needs of children and families within local contexts. In this paper, we describe how the 5-Step Learning Cycle™ and the teacher research process offer complementary ways for teacher educators to support the implementation of evidence-based practices in early childhood classrooms.

prepared to use systematic, data-based inquiry to develop abilities to think analytically and reflect on decisions in order to keep growing professionally (Hatch 2012; Katz 2012; Rust 2009). They identify a practical problem or interest, review the literature, develop questions or hypotheses, gather data through multiple means, and interpret the data to inform their actions in a continuous process or cycle of inquiry (Henderson et al. 2012).

Central to this debate about what constitutes high-quality early childhood teacher education is the lack of consensus on how to define evidence-based practices (EBP) for education (Mattox & Kilburn 2012). The definitions in the literature vary from those that emphasize a specific set of instructional strategies supported by rigorous research as the sole source of valid evidence to those that include a more inclusive approach (Mattox & Kilburn 2012). A definition of EBP that honors the importance of both research-based practices and teachers' clinical perspectives and abilities to analyze and integrate evidence to inform decisions and actions is: *Evidence-based practice is a decision-making process that integrates the best available research evidence with family and professional wisdom and values* (Buysse & Wesley 2006; Buysse et al. 2006). This definition is aligned with those espousing teacher research as an approach to teacher education as well as those researchers who have studied and written about the complexities of teaching novices in clinical disciplines such as education, ministry, and clinical psychology (Grossman et al. 2009). It also aligns with strategies described in the literature to use case knowledge to develop decision-making skills in preservice education students (Kim, Utke, & Hupp 2005; Snyder & McWilliam 1999). In the next section, we describe a professional development curriculum based on this definition of EBP and closely aligned with the teacher research approach to teacher education.

## Bringing evidence-based practice and teacher research together through CONNECT

The CONNECT professional development curriculum is a series of free, web-based, multi-media modules (Center to Mobilize Early Childhood Knowledge n.d.; Buysse et al. 2006; Winton 2010, 2012), each focused on a specific research-based practice and organized within the 5-Step Learning Cycle™. The foci of the CONNECT modules are embedded interventions, transitions, communication for collaboration, family / professional partnerships, assistive technology, dialogic reading, and tiered instruction in early childhood. The modules are applicable to meeting the individual learning needs of young children in a variety of settings. They provide a clinical teaching curriculum for early childhood 2- and 4-year faculty and professional development providers to embed and use within multiple formats (e.g., a course, workshop, practica supervision). Organized within a 5-Step Learning Cycle™, each module promotes a continuous cycle of informa-

tion gathering, implementing and evaluating teaching strategies, and refining practices and trying again. Taken together, the steps of the cycle are designed to build decision-making skills integral to teacher research.

In the next section, more detail is provided about the CONNECT 5-Step Learning Cycle™ and how it complements teacher research.

---

### **Step 1: Starting with a practical dilemma**

Teachers encounter practical dilemmas multiple times throughout the day. In the teacher research process, the teacher defines a problem in her classroom or identifies an interest as a first step in a cycle of inquiry. Similarly, in Step 1 of the 5-Step Learning Cycle™, learners are introduced to a real-life dilemma presented from a practitioner's perspective, a strategy designed to help the learner identify with the story being told. The dilemma expresses the themes of the practice-focused module while acknowledging uncertainty about how to proceed. A family perspective is also often included in order to convey the importance of considering the family's values and experiences as part of a decision-making process.

---

### **Step 2: Developing a question or hypothesis**

Step 2 of the Learning Cycle parallels the teacher research process, in which teachers develop questions or hypotheses about why certain things happen the way they do. In this step, learners are prompted to develop an answerable question about the dilemma.

---

### **Step 3: Gathering and considering data**

Both teacher research and the CONNECT system engage in gathering data through multiple means. In this stage of the teacher research process the teacher reviews the research and theory about her particular question.

In Step 3 of CONNECT, learners are also guided to the larger body of evidence related to the practice. The three key sources of evidence (research, policies, and experience-based knowledge) that preservice teachers are encouraged to draw upon are presented in clear, succinct, and credible ways using a combination of short one-to-two page summaries of research and policy.

This step also includes important teaching and demonstration components. For example, learners are prompted to view short (1–2 minutes) video exemplars of the practice demonstrated in real-life settings (e.g., family- or center-based child care, preK classroom, Head Start, home). The videos can be viewed multiple times, which is useful for learners new to a specific practice. Checklists are included to document performance, which help learners hone their observation skills and ability to recognize nuanced aspects of a discrete set of practices. Step 3 also includes activities designed for learners to implement the practices in either real life or simulated circumstances. Observational rubrics are available for self-assessment or constructive expert feedback from faculty and professional development providers.

---

#### **Step 4: Interpreting the data to inform actions**

Analyzing and synthesizing evidence to make an informed decision and take action is a critical aspect of teacher research. The teacher researcher designs and follows a plan for collecting and analyzing the data in her own classroom, thereby producing her own evidence. Similarly, in CONNECT's Step 4 the learner is brought back to the original dilemma to integrate various sources of evidence and information. Activities guide learners to consider the relevance of research and policies to the particular child, family, and context presented in order to make a decision about whether to implement a particular practice. Learners are also provided with sample plans and checklists to aid in developing an implementation strategy.

---

#### **Step 5: Assessing the impact of their decision in a cycle of inquiry**

Using evidence as part of a continuous cycle of learning is a concluding step in the teacher research process. Teacher researchers change their practice according to the findings of their investigations. In Step 5, learners are introduced to tools and strategies to evaluate the impact of the practice being implemented. Learners are asked to think systematically about different approaches to evaluation, what they might learn from evaluating their implementation plan, and how evaluative information can serve as additional sources of evidence in future decision-making. In this way, learners engage in a cycle of inquiry that can be generalized to many practice dilemmas.

---

#### **Additional instructor supports in CONNECT**

Each module has an instructor's support section for faculty and professional providers. This section includes facilitation tips for activities, alternative assignments for learners more or less advanced than the target audience, and assessment rubrics for evaluating and providing feedback on key assignments. In addition, each module includes the personnel preparation standards of the major early childhood professional organizations (i.e., NAEYC and the Council for Exceptional Children/Division of Early Childhood) and relevant US Department of Education, Office of Special Education Programs (OSEP) indicators and outcomes for state monitoring under IDEA. This ensures that the modules have a strong and obvious connection with early childhood accreditation and monitoring systems.

There is also an online discussion area on the CONNECT website for faculty and professional providers to share ideas, syllabi, or challenges, and to pose questions to one another and the CONNECT staff about using the modules. The discussion area has yielded other instructional resources incorporated into the CONNECT website, such as a list of courses and textbooks used in conjunction with the modules (as identified by faculty users from across the country). The

discussion area reinforces the underlying CONNECT tenet that modules can be customized by faculty and professional development providers.

Formative evaluation data are collected during the course of development through field tests and web statistics. Web statistics generated by Google Analytics indicate that the CONNECT modules are being accessed by users in all 50 US states as well as over 150 countries. Module usage continues to increase over time, with high rates of growth between 2010 and 2012. CONNECT staff gather feedback from faculty and professional development users to continuously develop and refine the modules, an approach that models the concept of using data to inform practices and products. This approach has contributed to the social validity and growing use of the modules.

## Conclusions

As a resource that faculty and professional development providers can use to help learners engage in systematic and intentional inquiry into their practices, the 5-Step Learning Cycle™ is uniquely suited for those who value and use teacher research as an approach to professional development. CONNECT modules go beyond simply providing online examples or video of clinical practices, such as those developed by the Carnegie Foundation for the Advancement of Teaching (Pointer-Mace 2009). Video examples are embedded within a broader decision-making framework, which makes CONNECT particularly suitable for those espousing teacher research. In personal communication with an early childhood faculty user describing the value of the process, she noted that

The 5-Step Learning Cycle™ is a really good framework to teach students to use when they are practicing. You could apply the framework to any of the dilemmas that come up when working with children and families. If you get into the habit of using it, then it becomes the basis for what you go into for problem solving on many different things that are going to take place in service delivery to young children and their families.

For those desiring to develop teacher research skills and dispositions in coursework and practica settings, the 5-Step Learning Cycle™ and accompanying professional development resources provide concrete instruction based on a specific set of research-based practices. From there, learners can start to generalize to the multiple dilemmas they encounter, with the promise of becoming “action-oriented teachers who are willing to take responsibility for the improvement of their own practices” (Hatch 2012, 124). In the words of Frances Rust:

Preservice programs that engage both students and faculty in developing and operating from an inquiry stance situate the teacher preparation process as a powerful transformative experience that enables new teachers to move into their professional lives having examined the belief systems that they developed during their ‘apprenticeships of observation,’ having learned to shape questions around practice, and having engaged in study and inquiry of theory

and research on critical issues in the field—all essential to developing as a teacher researcher, all essential to changing the ways in which schools and teachers work. (Rust 2009, 1888–1889)

As the teacher research movement stresses, practitioner knowledge is the starting point for building a professional knowledge base. Evidence-based practices such as those stressed by the CONNECT system are important strategies in integrating practitioner experience and deeply held beliefs with research findings in ways that inform decisions and actions.

## References

- Buysse, V., & P.W. Wesley, eds. 2006. *Evidence-Based Practice in the Early Childhood Field*. Washington, DC: ZERO TO THREE.
- Buysse, V., Wesley, P.W., Snyder, P., & P.J. Winton. 2006. "Evidence-Based Practice: What Does It Really Mean for the Early Childhood Field?" *Young Exceptional Children* 9 (4): 2–11.
- Center to Mobilize Early Childhood Knowledge. n.d. *CONNECT Modules*. Online: <http://community.fpg.unc.edu/>.
- Grossman, P., Compton, C., Igra, D., Ronfeldt, M., Shahan, E., & P. Williamson. 2009. "Teaching Practice: A Cross-Professional Perspective." *Teachers College Record* 111 (9): 2055–2100.
- Hatch, A. 2012. "Teacher Research: Questions for Teacher Education." In *Our Inquiry, Our Practice: Undertaking, Supporting, and Learning from Early Childhood Teacher Research(ers)*, eds. G. Perry, B. Henderson, & D.R. Meier, 117–126. Washington, DC: NAEYC.
- Henderson, B., Meier, D.R., Perry, G., & A.J. Stremmel. 2012. "The Nature of Teacher Research." In *Our Inquiry, Our Practice: Undertaking, Supporting, and Learning from Early Childhood Teacher Research(ers)* eds. G. Perry, B. Henderson, & D.R. Meier, 3–10. Washington, DC: NAEYC.
- Katz, L.G. 2012. "Developing Professional Insight." In *Our Inquiry, Our Practice: Undertaking, Supporting, and Learning from Early Childhood Teacher Research(ers)*, eds. G. Perry, B. Henderson, & D.R. Meier, 127–132. Washington, DC: NAEYC.
- Kim, O., Utke, R., & S. Hupp. 2005. "Comparing the Use of Case Studies and Application Questions in Preparing Special Education Professionals." *Teacher Education and Special Education* 28 (2): 104–113.
- Liston, D., Whitcomb, J., & H. Borko. 2007. "NCLB and Scientifically-Based Research: Opportunities Lost and Found." *Journal of Teacher Education* 58 (2): 99–107. doi: 10.1177/0022487107299980
- Mattox, T., & M.R. Kilburn. 2012. "Understanding Evidence-Based Information for the Early Childhood Field: Tips from RAND's Promising Practices Network." *ZERO TO THREE* 32 (4): 4–10.
- McDiarmid, G.W. 2012. "Driving and Guiding Program Change: Teachers for a New Era at the University of Washington." Presentation at the meeting of the American Educational Research Association, in Vancouver, BC, Canada.
- National Council for Accreditation of Teacher Education (NCATE). 2010. *Transforming Teacher Education through Clinical Practice: A National Strategy to Prepare Effective Teachers*. Retrieved from <http://www.ncate.org/Public/ResearchReports/NCATEInitiatives/BlueRibbonPanel/tabid/715/Default.aspx>.
- Pointer-Mace, D. 2009. *Teacher Practice Online: Sharing Wisdom, Opening Doors*. New York: Teachers College Press.
- Rust, F. 2009. "Teacher Research and the Problem of Practice." *Teachers College Record* 111 (8): 1882–1893.
- Snyder, P., & P.J. McWilliam. 1999. "Evaluating the Efficacy of Case Method Instruction: Findings from Preservice Training in Family-Centered Care." *Journal of Early Intervention* 22 (2): 114–125.

- Van Driel, J.H., & A. Berry. 2012. "Teacher Professional Development Focusing on Pedagogical Content Knowledge." *Educational Researcher* 41 (1): 26–28. doi: 10.3102/0013189X11431010
- Winton, P.J. 2010. "Professional Development and Quality Initiatives: Two Essential Components of an Early Childhood System." In *The Quest for Quality: Promising Innovations for Early Childhood Programs*, eds. P.W. Wesley & V. Buysse, 113–129. Baltimore, MD: Brookes.
- Winton, P.J. 2012. "Professional Development: Supporting the Evidence-Based Early Childhood Practitioner." In *Handbook of Response to Intervention (RTI) in Early Childhood*, eds. V. Buysse & E. Peisner-Feinberg, 325–338. Baltimore, MD: Brookes.