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By Default or By Design?

Variations in Higher Education Programs for Early Care and Education Teachers and Their Implications for Research Methodology, Policy, and Practice

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Table of Contents

Executive Summary 1

Introduction 6

Part 1: Variation among Higher Education Programs for Early Care and Education Teachers 8

Part 2: Four Key Dimensions in Preparing Effective Early Care and Education Teachers 10

Part 3: Study Design 12

Part 4: Methodological Lessons and Recommendations and Education Teachers 16

Conclusion 27

References 28

Appendix 31

Executive Summary

Introduction

Calls to reform teacher education figure prominently in the growing national conversation about teacher performance and children's learning outcomes (National Council for Accreditation of Teacher Education, 2010a, 2010b; Sparks, 2011). Thus far, however, most proposals have focused on teachers working in kindergarten through Grade 12, with scant attention to the *quality* of education for teachers in child care or preschool settings (Carey & Mead, 2011). For the latter group, the question of which higher education degree (if any) is an appropriate standard—rather than the quality of teacher preparation—has dominated the policy discussion of teacher effectiveness (Barnett, 2003; Bueno, Darling-Hammond, & Gonzales, 2010; Burchinal, Hyson, & Zaslow, 2008; Early et al., 2008; Fuller, Livas, & Bridges, 2006; Whitebook, 2003; Whitebook & Ryan, 2011).

Recently, however, the debate has begun to shift, in response to increased expectations placed on teachers in publicly-funded preschool and Head Start programs. Proposals to investigate the quality of teacher education programs, and their influence on teacher practice in pre-kindergarten settings, are gaining traction (Bornfreund, 2011; Chu, Martinez-Griego, & Cronin, 2010; Hyson, Tomlinson, & Morris, 2009; U.S. Department of Education, 2011; University of Chicago Urban Education Institute & Ounce of Prevention Fund, 2010; Whitebook, Gomby, Bellm, Sakai, & Kipnis, 2009; Whitebook & Ryan, 2011).

But understanding how higher education contributes to teacher performance is a complex undertaking, requiring researchers to determine differences among teacher education programs along a variety of dimensions, and then to identify which variations are most relevant to student learning and teacher practice with young children. It also requires determining appropriate research methodologies that can illuminate important variations in program content and delivery, and provide solid evidence to inform policy and practice.

While such methodological challenges also face researchers of K-12 teacher education (Cochran-Smith & Zeichner, 2005), they are particularly pertinent to the early care and education (ECE) field, in which, historically, any course of study within one of several disciplines focused on children of any age has been considered an acceptable form of teacher preparation (Maxwell, Lim, & Early, 2006). As indicated by the ubiquitous "early childhood-related" label widely used to describe the educational backgrounds of teachers of young children, there is no accepted and agreed-upon standard for what constitutes a high-quality program of study for ECE practitioners. Too often, highly diverse higher education programs are assumed to produce equivalent results.

This report draws upon a case study (Yin, 2009) of two early childhood B.A. completion cohort programs in order to illuminate the limitations of current ways of conceptualizing and studying early childhood teacher education. Focusing on four dimensions—program content, clinical experiences, faculty characteristics, and institutional context—we examine challenges encountered and lessons learned in seeking to understand differences in educational experiences among students attending these two programs. We then offer a series of recommendations for more nuanced ways of describing and evaluating the quality of higher education programs for early care and education practitioners. A full report is available at: http://www.irle.berkeley.edu/cscce/.

Lessons Learned

Not all higher education programs for early care and education practitioners are alike. The first step, therefore, in developing and assessing strategies for reform is to collect more nuanced information about variations among programs than prevailing research methodologies have managed to generate—with the goal of identifying the types of early childhood-related programs that are more or less successful in preparing teachers. Indeed, research conducted without an adequate accounting of such distinctions has fueled a series of recent rejections of the need for higher education degrees for ECE practitioners at all (Early et al., 2007; Fuller et al., 2006). As our case study suggests, even two programs classified as "early childhood-related," and receiving public dollars to prepare ECE practitioners, can vary substantially in their degree of focus on children younger than age five and their emphasis on building teaching skills. Evidence-based policy making is only possible through research that adequately captures these programmatic variations.

1. Assessing variation in program content

In order to distinguish between programs focused on teacher preparation and those focused more exclusively on child development, and to compare how programs with similar or different objectives relate to student outcomes, stakeholders need information on programs' goals and objectives for student learning, the courses they offer to help students achieve these goals and objectives, and the teacher competencies or standards, if any, to which program content is aligned.

Instead, research about higher education for ECE practitioners has typically focused only on the topics included in a course of study. While counts of particular topics included in program descriptions may indicate what is missing from a course of study, they offer insufficient information for understanding the range and depth of student exposure to particular content. Even multiple mentions of a topic do not guarantee depth of coverage. And while examination of course syllabi, including assignments, may paint a more detailed picture of curricula, the usefulness of this approach is limited by the lack of equivalent and comprehensive materials for courses within and across institutions. Further, written documentation or even interviews may not yield an accurate record of what occurs in a course, as instructors often adapt their plans and interviews may not be feasible.

2. Assessing variation in clinical experiences

In order to evaluate the contribution of different types of clinical experiences to teacher development, particularly given the varied professional experience among students seeking degrees, stakeholders need detailed information about the objectives, structure, and intensity of such student experiences, rather than simply knowing whether these were focused on children of particular ages or characteristics.

Instead, research about higher education for ECE practitioners has typically asked whether or not a given program requires students to complete a clinical experience focused on young children. Further, the terms "practicum," "field work," and "student teaching" have often been used interchangeably in the research literature and in the ECE field overall, but this lack of distinction can blur significant variation in the objectives, intensity, and outcomes of such efforts. Much greater specificity about clinical experiences is needed for investigating the strengths and weaknesses of various approaches.

3. Assessing variation in faculty characteristics

Individual faculty members are the best source of information about their demographic characteristics, academic background, early childhood-specific professional preparation, ongoing professional development, and applied experience. Including them in ECE practitioner registries would permit the linking of faculty to the population of working students they teach.

Instead, research about higher education for ECE practitioners has typically relied on one person within a program to provide information about all relevant faculty members. To date, this limited approach has been useful in identifying a prevalent lack of diversity among ECE teacher preparation faculty, as well as the lack of academic focus or direct professional experience with children younger than age five (Maxwell et al., 2006). Such program representatives, however, may know only the level of education attained by a given faculty member, rather than its content, and may be unfamiliar with faculty members' child-related

experience or ongoing professional development. They also may be unsure or uncomfortable about providing demographic information. As a result, stakeholders generally lack sufficient information to assess how variations in faculty characteristics might influence the design and quality of higher education programs for ECE practitioners.

4. Assessing variation in institutional context

As states are being directed to build comprehensive ECE professional development systems, the collection and maintenance of up-to-date information on the capacity and content of higher education programs should be an integral component of such efforts. Institutions of higher education should be required to report changes in teacher preparation program offerings, whether in response to state policies, changes in funding, or other institutional dynamics, any of which could dramatically impact program quality and services offered.

Instead, the field has typically relied on occasional surveys to learn about higher education offerings for ECE practitioners. Yet this approach does not capture potentially frequent changes in program design, content, student support, and/or staffing. Stakeholders need baseline and ongoing information about institutional characteristics in order to assess changing program features, the capacity of the higher education system to deliver relevant and appropriate ECE teacher training, and the efficacy of various approaches to teacher preparation.

Conclusion

Only when distinctions can be clearly drawn among varying approaches to the preparation of ECE teachers will researchers become able to delineate best practices and to determine the contribution of higher education to teacher effectiveness. To date, on-site professional development in the ECE profession has been more rigorously studied than higher education, despite the ECE workforce's widespread participation in both types of adult learning (Zaslow, Tout, Halle, Whittaker, & Lavelle, 2010). A precursor to this study (Whitebook, Gomby, Bellm, Sakai, & Kipnis, 2009) called for investigation of the multiple contextual factors that influence teacher learning and behavior, including how education, ongoing professional development, and workplace environments all interact to help teachers develop and maintain good practice. Such research is the precondition for moving from a default embrace of a potpourri of so-called "early childhood-related" programs to those that are intentionally designed and based on reliable evidence about effective teacher development. Establishing a rigorous and sufficiently funded research agenda will require political leadership that understands the importance of data-based decision making; without it, teacher education reform strategies run the risk of shortchanging the nation's children, teachers, and families alike.

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Introduction

Calls to reform teacher education figure prominently in the growing national conversation about teacher performance and children's learning outcomes (National Council for Accreditation of Teacher Education, 2010a, 2010b; Sparks, 2011). Thus far, however, most proposals have focused on teachers working in kindergarten through Grade 12, with scant attention to the quality of education for teachers in child care or preschool settings (Carey & Mead, 2011). For the latter group, the question of which higher education degree (if any) is an appropriate standard—rather than the *quality* of teacher preparation—has dominated the policy discussion of teacher effectiveness (Barnett, 2003; Bueno, Darling-Hammond, & Gonzales, 2010; Burchinal, Hyson, & Zaslow, 2008; Early et al., 2008; Fuller, Livas, & Bridges, 2006; Whitebook, 2003; Whitebook & Ryan, 2011).

Recently, however, the debate has begun to shift; in response to increased expectations for teachers in publicly-funded preschool and Head Start programs, more attention is now being directed toward improving higher education opportunities for teachers of young children (Bornfreund, 2011; Chu, Martinez-Griego, & Cronin, 2010; University of Chicago Urban Education Institute & Ounce of Prevention Fund, 2010; Whitebook & Ryan, 2011). Proposals to investigate the quality of teacher education programs, and their influence on teacher practice in pre-kindergarten settings, are gaining traction (Bornfreund, 2011; Chu et al., 2010; Hyson, Tomlinson, & Morris, 2009; University of Chicago Urban Education Institute & Ounce of Prevention Fund, 2010; Whitebook, Gomby, Bellm, Sakai, & Kipnis, 2009b; Whitebook & Ryan, 2011; Zaslow, Tout, Halle, Whittaker, & Lavelle, 2010).

But understanding how higher education contributes to teacher performance is a complex undertaking, requiring researchers to determine differences among teacher education programs along a variety of dimensions, and then to identify which variations are most relevant to student learning and teacher practice with young children. It also requires determining appropriate research methodologies that can illuminate important variations in program content and delivery, and provide solid evidence to inform policy and practice.

While such methodological challenges also face researchers of K-12 teacher education (Cochran-Smith & Zeichner, 2005), they are particularly pertinent to the early care and education (ECE) field, in which, historically, any course of study within one of several disciplines focused on children of any age has been considered an acceptable form of teacher preparation (Maxwell, Lim, & Early, 2006). As indicated by the ubiquitous "early childhood-related" label widely used to describe the educational backgrounds of teachers of young children, there is no accepted and agreed-upon standard for what constitutes a high-quality program of study for ECE practitioners. Maxwell and colleagues (2006), in a national study of two- and four-year institutions of higher education, noted that approximately one-fifth of programs meeting their definition of "early childhood teacher preparation" did not offer a course dedicated to children under age five or require a student teaching experience. Too often, highly diverse higher education programs are assumed to produce equivalent results.

Existing research about higher education for ECE practitioners provides a general national overview of the number of current programs, degrees offered, topics covered in courses, faculty characteristics, and challenges faced (Maxwell et al., 2006; Ray, Bowman, & Robbins, 2006; Swartz & Johnson, 2010; Whitebook, Bellm, Lee, & Sakai, 2005). Information is much more limited, however, not only on how programs differ from one another, but also on how different programs make an impact on teacher effectiveness. Increased calls by federal policy makers for state ECE professional development systems underscore the need for efficient, reliable ways to discern how specific program characteristics contribute to developing effective teachers of young children (Administration

for Children and Families, 2011a; U.S. Department of Education, 2011).

This report draws upon a study of two early childhood B.A. completion cohort programs in order to illuminate the limitations of current ways of conceptualizing and studying early childhood teacher education programs (Yin, 2009). Focusing on four dimensions—program content, clinical experiences, faculty characteristics, and institutional context—we examine challenges encountered and lessons learned in seeking to understand differences in educational experiences among students attending these two programs. We then offer a series of recommendations for more nuanced ways of describing and evaluating the quality of higher education programs for early care and education practitioners.

The report begins with an overview of the multiple ways in which ECE higher education programs can differ, and the challenges this variation poses for gathering reliable and useful data to inform policy. Part Two identifies four key components on which we focused our comparison, and Part Three describes the study design. Part Four outlines the key methodological limitations we identified in our attempt to distinguish between these programs, and proposes new methodological approaches for generating more useful and policy-relevant data to use in improving ECE teacher preparation. We conclude with a series of recommendations for more nuanced ways of describing and evaluating the quality of higher education programs for ECE practitioners.

Part 1: Variation among Higher Education Programs for Early Care and Education Teachers

The variety of programs in which current and prospective teachers pursue formal education mirrors the complexity of the U.S. early care and education delivery system. Variations in state and institutional context, specific program characteristics, and student populations shape the purpose, delivery, and quality of these higher education experiences, thereby complicating the effort to accurately compare programs across institutions.

In K-12 education, prospective teachers are required to hold a bachelor's degree, and typically participate in pre-service certification programs. But in the field of early care and education, higher education programs for practitioners typically serve both pre-service and current teachers, the latter group often having years of experience working with children but pursuing college-level study for a variety of required or voluntary motives. Early childhood students' educational goals can also range from completing a few classes to seeking a two- or four-year degree, a fifth-year certification, or a Master's degree or doctorate.

State Context

The lack of common qualification standards for teachers of young children drives much of this variation in early childhood higher education programs (Whitebook, Gomby, Bellm, Sakai, & Kipnis, 2009a). Education and certification requirements for teachers are largely, though not exclusively, regulated at the state level; within states, these requirements further vary depending on the ages of children served, early childhood program types, and funding sources.[1] While institutions of higher education (IHEs) in all states play some role in preparing teachers of young children, the nature of these educational options varies depending on whether state policy requires higher education for all teachers working with children from birth to eight years old, for those working only with more specific age groups, or is silent on the issue (Ray et al., 2006). State governments also vary in the degree of authority they exert on IHEs to: 1) align their curricula to early learning standards for children and educators; 2) promote articulation across and among two- and four-year early childhood higher education programs; 3) offer particular types of clinical experiences, if any, as a condition of teacher certification; and 4) require teacher educators to meet academic and experience requirements related to young children.

Institutional Context

The institution in which early childhood programs are housed also influences program design and delivery. Programs can be located in two- or four-year institutions of varying sizes, geographic characteristics, and cultures (e.g., commuter-oriented or largely residential schools), and may be housed in public or private research or teaching institutions. Whereas K-12 teacher preparation is typically housed in schools of education, early childhood programs can be found in a variety of departments or schools within IHEs, largely the result of the different evolu-

[1] According to the National Child Care Information Center, more than 30 states have no education or training requirements for entry-level teaching roles in licensed child care centers. Other states require a certain number of completed clock hours of training, often also requiring a certain number of hours of work experience. A handful of states require the Child Development Associate certificate or another form of certification (Administration for Children and Families, 2011b). Similarly, according to the National Institute for Early Education Research, states vary in terms of education and certification requirements for teachers in publicly funded preschool programs. Some require only an AA degree, while others require a BA and/or state licensure, and in some states, preschool teacher requirements vary further by funding source (Barnett et al., 2010).

tionary histories of various early childhood program models, including child care, nursery schools, and kindergarten (Bloch, 1991).[2] It is not uncommon for multiple programs focused on early childhood to operate on the same campus, housed in separate departments with quite different requirements and expectations. Institutions also vary by whether their programs are required to meet external accreditation standards, and if so, by which of several accrediting bodies, each of which sets its own standards. Institutions further vary by ratios of faculty to students and of adjunct to full-time faculty in early childhood programs (Maxwell, et al., 2006). Moreover, institutions differ in terms of whether, and to what extent, student support services (e.g. tutoring, cohort programs) are in place and accessible to accommodate populations of students with diverse demographic backgrounds, stage of education, academic performance history, and employment status (Dukakis, Bellm, Seer, & Lee, 2007).

Higher Education Program Characteristics

The scope and sequence of a higher education program's course of study, along with its pedagogical philosophy, play a potentially significant role in shaping students' experience and their later performance in the classroom (Darling-Hammond, 2006). Programs emphasizing child or human development may differ greatly in their depth of focus on young children (Hyson et al., 2009). Even when a program identifies young children in its scope, it may primarily address those in Grades K-3, with little or no attention to preschoolers and/or infants and toddlers. Programs with some degree of early childhood focus may or may not define their mission as teacher education, and may not require student teaching, particularly if it is not mandatory for state certification.[3] For programs that do include clinical experiences, differences in goals, intensity and frequency, time devoted to student supervision and mentoring, the quality of field sites, and the degree of partnership between the sites and the IHE program can all impact how well students are prepared to teach young children (National Council for Accreditation of Teacher Education, 2010b). Because young children are diverse in terms of culture, language, economic background, and developmental needs, the relevance of clinical experiences is also affected by whether programs offer experiences linked to different child and family populations.

Faculty members' academic background and professional experience with young children are also likely to influence the theoretical and pedagogical content of the curriculum and the depth of its focus on infants, toddlers, and preschoolers. The work load of faculty and field staff shape the frequency and depth of guidance available to students. How programs structure student-to-student learning also informs the quality of the education experience. Some programs, for example, intentionally facilitate student participation in learning communities such as cohorts to promote their mastery of topics covered in courses (Whitebook, Kipnis, Sakai, & Almaraz, 2011).

Finally, programs vary in admission standards, expected student outcomes, and the rigor with which they assess student learning. They may document student academic skills and subject knowledge using standardized tests such as Praxis I (Educational Testing Service, 2009), portfolios, classroom observations and demonstrations, or measures of self-assessment, teacher beliefs and efficacy. In other cases, programs may rely only on course completion, conducting no measures of student learning as related to classroom practice. While they are increasingly common in K-12 education, workplace evaluations of student performance, including linkages between child test scores and teacher effectiveness, are not routinely used with teachers of children prior to kindergarten, in part due to concerns about whether young children can be reliably assessed (Marsico Institute for Early Learning and Literacy, 2010; Meisels, 2006). The career trajectories of graduates can also be used as a measure of program success, yet such information is seldom collected.

[2] In California, 19 of the 23 California State University campuses offer a B.A. degree focused to some extent on young children, with programs housed in six different types of departments, schools or colleges, as follows: six in education, five in health and human services, three in social and/or behavioral sciences, two in professional studies, two in liberal studies, and one in agricultural sciences and technology. Eight of the programs explicitly define at least one of their goals as preparing teachers of young children, and align their coursework with the California Child Development Permit, the certification required for teaching staff in state-funded early care and education programs. The programs operating with this goal, however, are not necessarily those housed in departments of education.

[3] According to the national report of the Early Childhood Teacher Preparation Programs in the United States study (Maxwell et al., 2006), 19 percent of B.A. degree and 26 percent of A.A. degree programs in the sample did not require a clinical or practicum experience for students.

Part 2: Four Key Dimensions in Preparing Effective Early Care and Education Teachers

Variation among higher education programs is not inherently positive or negative. What matters is an understanding of which variations influence teacher effectiveness, and the strengths and weaknesses of different approaches for particular populations of students. From among the many variables described above, we identified four dimensions of higher education programs for early childhood practitioners that we judged likely to contribute to competence in working with young children (Table 1). Our selection was guided by research evidence and professional wisdom about higher education programs and teacher practice (Shonkoff, 2000; Whitebook, Gomby, Bellm, Sakai, & Kipnis, 2009c). We also selected components that could be used by multiple stakeholders across the research, policy, and practice communities to inform quality improvement (Kipnis & Whitebook, 2011; The Early Childhood Data Collaborative, 2010).

Program Content

Whether by design or by default, a substantial percentage of programs that prepare ECE teachers appear not to offer in-depth coursework that addresses the complex educational and developmental needs of infants, toddlers, and preschoolers, a population in the United States which is increasingly ethnically and linguistically diverse (Maxwell et al., 2006; Ray et al., 2006; Whitebook et al., 2005). Content is thus germane to understanding program variation, specifically as it relates to building and integrating pedagogical knowledge and skills, and addressing cultural and linguistic diversity as related to young children.

Clinical Experiences

There is a growing consensus about the pivotal importance of clinical experiences for teachers working with children of all ages (National Council for Accreditation of Teacher Education, 2010b). In the K-12 community, there are calls for earlier and more frequent exposure to supervised student teaching. In the ECE field, however, supervised teaching experiences are not universally required, and even when they are, they may be poorly integrated into the course of study, lack rigorous supervision or focus, or occur in poor-quality settings (Whitebook et al., 2009; Whitebook et al., 2011). These factors suggest that particular areas of clinical experience require close examination: 1) learning objectives; 2) specific child characteristics, including targeted age group; 3) location; 4) intensity; 5) supervision; and 6) how it is structured in relation to the overall course of study.

Faculty Characteristics

Faculty characteristics and knowledge shape program content, including clinical experiences. There is emerging evidence that many programs engaged in preparing ECE teachers lack a linguistically and ethnically diverse faculty, and often include faculty with limited academic or work experience directly related to early childhood (Hyson et al., 2009; Maxwell et al., 2006; Ray et al., 2006; Whitebook et al., 2005). Information about faculty demographics and professional background is essential for understanding the relationship between program content and faculty experience and knowledge.

Institutional Context

The institutional context in which a program operates, and its philosophical and financial commitment to supporting a robust ECE teacher preparation program, ultimately undergirds students' experiences and the quality and relevance of their education (Hyson et al., 2009). Such factors as the ratio of full-time to adjunct faculty, the availability of student supports, and the stability of program resources can serve as indicators of how different programs are poised to respond to student needs, and to build or sustain appropriate educational experiences for pre-service and in-service teachers.

Table 1

Studying Early Childhood Higher Education Program Variation: Key Variations

Characteristics	*Variables Examined*
Dimension 1: Program Content	a) Child development theory and science related to children from birth to age five b) Pedagogy related to children from birth to age five c) Cultural and linguistic diversity related to young children
Dimension 2: Clinical Experiences	a) Focus (targeted age of children, child characteristics, competencies emphasized) b) Sequence in course of study c) Structure (intensity, location, supervision)
Dimension 3: Faculty Characteristics	a) Demographic characteristics b) Academic background c) Professional background
Dimension 4: Institutional Support	a) Ratio of full-time to adjunct faculty b) Student supports c) Stability of program d) Program challenges

Part 3: Study Design

This report explores how well the most commonly used methods of studying higher education programs for ECE practitioners enabled us to understand differences between two bachelor's degree completion programs, with respect to the four key dimensions discussed above.

The Higher Education Programs Examined

Several considerations guided our selection of the higher education programs for this case study. Due to the variation among state policies regarding early childhood teacher qualifications and certification, we sought for this initial exploration to compare programs that operated in a similar regulatory environment. Because of the diversity in career and educational trajectories among ECE students, we also wanted to focus on programs serving populations with similar characteristics, such as level of degree sought, and employment history and status. Our particular interest was mid-career practitioners who were completing their B.A. degrees while working in early childhood settings, many in response to new Head Start and/or publicly funded preschool teacher qualification requirements. As this was an exploratory case study to identify methodological issues related to higher education quality, and not a representative large-scale assessment, we selected two programs that are part of our longitudinal study of B.A. completion cohort programs, *Learning Together.* [4]

The programs operated at two California State University (CSU) campuses, serving the same one region of the state (Table 2). Both programs used a cohort structure designed for mid-career, working ECE practitioners. Student cohorts in both institutions were composed of transfer students who had completed lower-division early childhood-related courses, and many of their lower-division general education requirements, at community colleges. Participants in these cohort programs were primarily women of color, from diverse linguistic backgrounds, and many were among the first generation of college attendees or graduates in their families. Each CSU program received funding from the local First 5[5] organization for targeted services to help working ECE practitioners complete their degrees, including tuition coverage, financial assistance with books and other expenses, academic counseling and tutoring, language support for students speaking English as a second language, cohorts for peer support, and conveniently located and scheduled classes (Whitebook et al., 2008; Whitebook et al., 2010; Whitebook et al., 2011).

Housed in the institution's College of Education, Program A offered a Child and Adolescent Development major designed for students interested in careers working with children and their families (Table 2). The strand of the major[6] studied here was not intended as a teacher education program per se, nor was it explicitly focused on young children; rather, its goal was to provide students with a thorough grounding in child and adolescent development. The cohort program studied here was adapted for working ECE practitioners by being offered at a convenient location, in the evenings, and in shorter modules, in recognition of participating students' many work and family demands. The cohort program replicated the content of an ongoing program for "traditional students" that was offered on campus during the work week, followed the same curriculum, and was taught by the same faculty.

[4] http://www.irle.berkeley.edu/cscce/2010/learning-together/ (Whitebook, Sakai, Kipnis, Bellm, & Almaraz, 2010).

[5] In 1998, California voters passed Proposition 10, adding a 50-cent-per-pack cigarette tax to create First 5 California, which funds education, health care, child care, and other programs related to children from birth through age five. First 5 California distributes 80 percent of these funds to the state's 58 counties, all of which have created First 5 Commissions to address local needs. The amount of funding provided to each county First 5 Commission is based upon the area's birth rate.

[6] Another strand of the major prepares students to earn the Multiple Subjects Credential, which is required for teaching children of kindergarten age or older in California public school classrooms. The credential requires a bachelor's degree and teacher preparation coursework. The certification to work in publicly funded preschools as a lead teacher, the California Child Development Permit, requires no upper-division coursework (Bellm, Whitebook, Cohen, & Stevenson, 2004).

Table 2

B.A. Cohort Program Descriptions

	Program A	*Program B*
Major	Child and Adolescent Development 18 courses	Human Development, Early Childhood Development option 16 courses
Minor	N/A	Teacher Education, Early Childhood Education 6 courses
Age span focus	Birth to adolescence	Birth to age five for Minor and some Human Development Courses; Life span for other courses
Total number of required courses	18	22

Program B offered an interdisciplinary option for working ECE practitioners which included a major in Human Development, housed in the College of Letters, Arts, and Sciences, and a minor in Teacher Education, housed in the College of Education and Allied Studies (Table 2). At the time of this study, the Human Development Department had recently launched a new option in early childhood development. Recognizing, however, that this option did not include a focus on teacher preparation, the Human Development Department partnered with the Department of Teacher Education to offer cohort students an Early Childhood Education minor, also newly developed. This hybrid program, which required the completion of both the major and the minor, was a pilot initiative intended to become an ongoing offering at the university. Students in Program B took some classes as a cohort, and some classes were offered online. (See Appendix Table A1 for a list of required courses for Programs A and B.)

Methods

For this analysis, we examined the methodologies used in the most comprehensive national studies of higher education programs related to early childhood. *Early Childhood Teacher Education Programs in the U.S.* by Maxwell, Lim, and Early (2006), a survey of two- and four-year degree institutions offering early childhood programs, provides information about the content of courses, faculty characteristics, and institutional context of programs in which ECE practitioners are being prepared. *Preparing Early Childhood Teachers to Successfully Educate All Children: The Contribution of Four-Year Undergraduate Teacher Preparation Programs,* by Ray, Bowman, and Robbins (2006), examines how categories of diversity are reflected in bachelor's degree courses for ECE teachers in pre-K through Grade 3.

As described in Table 3, Maxwell and colleagues gathered information via phone interviews with one representative from each of the nearly 1,200 relevant higher education programs in the United States. Ray and colleagues analyzed online descriptions of courses in 226 programs nationwide that offer a bachelor's degree in early childhood education or that enable graduates to receive certification in pre-K through Grade 3. To accommodate our in-depth case study design, we adapted the national studies' methodologies, as detailed in Table 4. We utilized the same questions from both studies to examine program content, but sought to answer them primarily through

document review, expanding beyond course descriptions to include course objectives and select syllabi. We relied on phone interviews with program representatives to investigate clinical experiences, and augmented these conversations with an examination of written class materials, including assignments, as well as phone interviews with students. We learned about faculty characteristics through a phone interview and a follow-up written survey with program representatives. These initial and follow-up phone interviews with representatives were used to examine institutional context.

Table 3

Comparison of Sample, Design and Purpose in Three Studies Examining Early Childhood Higher Education Programs

Study	*Methods*	*Sample Description*	*Purpose*
Maxwell, Lim & Early, 2006 *Early Childhood Teacher Education Programs in the U.S.: National Report*	Phone interview with higher education program representative.	1,179 institutions of higher education in United States, Washington DC, and Territories offering a certificate or degree to prepare individuals to work with children from birth through age 4.	To provide a national picture of the number of programs offering early childhood degrees or certificates, types of coursework and practicum experiences, characteristics of faculty, and challenges faced by faculty in meeting the professional development needs of the ECE workforce.
Ray, Bowman & Robbins, 2006 *Preparing Early Childhood Teachers to Successfully Educate All Children: The Contribution of Four-Year Undergraduate Teacher Preparation Programs*	Document review, online course descriptions	226 U.S. bachelor's degree programs offering a degree in early childhood education or enabling graduates to receive certification in pre-K to Grade 3.	To examine how the developmental and educational needs of children with special needs, children of color, children of low-income families, immigrants, second language learners and second dialect speakers are reflected in bachelor's degree ECE teacher preparation program courses.
Current study: *By Default or By Design? Variations in Higher Education Programs for Early Care and Education Teacher and Their Implications for Research Methodology, Policy, and Practice*	Phone interviews with higher education program representatives; document review (course descriptions, objectives, and select syllabi); student surveys.	Two B.A. completion cohort programs in four-year public universities designed for students employed in settings for children primarily from birth to age five.	To assess methodologies commonly employed in ECE higher education research as tools to compare variations in program content, clinical experiences, faculty characteristics, and institutional support.

Data collected fall 2009 and winter 2010

Table 4

Comparison of Methods Used in Three Studies to Examine Course Content, Clinical Experiences, Faculty Characteristics, and Institutional Support in Higher Education Programs for Early Care and Education Practitioners

Area of Inquiry	*Maxwell, Lim & Early, 2006*	*Ray, Bowman & Robbins, 2006*[7]	*Current Study*
Course Content	Interviewed program representatives by telephone to determine coverage of specific topics included in one or multiple class sessions or dedicated courses.	Reviewed course descriptions for coverage (number and frequency) of specific diversity descriptors.	Reviewed course descriptions, objectives, and select syllabi for count of specific topics and descriptors. Interviewed students by telephone to gather information about their perception of helpfulness of courses.
Clinical Experiences	Interviewed program representative by telephone to determine presence of clinical experiences and population focus (age and characteristics of children).	N/A	Interviewed program representative by telephone to determine presence of clinical experiences. Examined course materials (descriptions, objectives and assignments) to determine focus (age and characteristics of children) and emphases on child observation or teaching.
Faculty Characteristics	Interviewed program representative by telephone to ascertain demographic and professional background of faculty.	N/A	Interviewed students by telephone to gather additional information about the structure of the experience and their assessment of it. Asked program representative to complete a written survey of faculty demographic and professional background, using Maxwell et al. (2006) categories; added questions about language, background and tenure; conducted follow-up interviews to gather missing data.
Institutional Context	Interviewed program representative by telephone to determine challenges facing faculty.	N/A	Interviewed program representative by telephone to determine program challenges as categorized by Maxwell et al. (2006) to investigate program history, and to ascertain faculty ratios. Tracked impact of major funding cuts on program stability in follow-up interview.

[7] Between 2006 and 2011, Ray and colleagues updated their diversity categories. The updated version, consisting of 16 categories, was used in this study.

Part 4: Methodological Lessons and Recommendations

This case study of challenges we experienced in investigating two B.A. completion cohort programs for ECE practitioners revealed key lessons for policy makers and researchers who seek to understand the contribution of higher education to teacher effectiveness. The following discussion highlights the problems encountered in distinguishing between programs with respect to content, clinical experiences, faculty characteristics, and institutional context, and concludes with research and policy recommendations.

Assessing Variation in Program Content

Focusing on topics included in a course of study fails to generate information of sufficient depth for comparing programs. A more fruitful approach would be to ask programs what their goals and objectives are for student learning, which courses they offer to help students achieve them, and to which competencies or standards, if any, they align. Such data would enable stakeholders to distinguish between those programs focused on preparing teachers and those focused more exclusively on child development, allowing for comparisons of student outcomes in programs with different or similar objectives.

Approach. Maxwell and colleagues (2006) assessed program content by asking representatives to describe how extensively their programs addressed various topics, as listed in Table 5; i.e., in one class session, in multiple sessions, or in an entire course. Using the same topics, we modified this methodology by examining whether the topics were explicitly mentioned in the descriptions and objectives for each course. In the interest of brevity, we report here our findings on the first four topics.

We also conducted a count of the presence and frequency of specific descriptors related to diversity (Table 6), as developed by Ray, Bowman, and Robbins (unpublished, 2011). Whereas Ray and colleagues examined online course descriptions, we extended our count to include course objectives drawn from syllabi.

Additionally, we reviewed full syllabi in both B.A. programs for courses on cognitive or social development, examining the content for lectures, readings, or assignments related specifically to infants and toddlers and/or preschool age children, and to working with children of diverse ethnic, cultural, and/or linguistic backgrounds. Finally, through interviews, students provided their assessment of the helpfulness of their courses along several dimensions, as listed in Table 7.

Table 5

Topics Used to Identify Areas of Content in Early Childhood Higher Education Programs, As Developed by Maxwell et al., 2006

Topics
1. Education/care of infants/toddlers
2. Education/care of preschoolers
3. Working with diverse cultures
4. Working with bilingual children
5. Education and care of young children with disabilities
6. Emergent literacy/literacy strategies
7. Early childhood program administration
8. Working with families
9. Assessment/observation
10. Math
11. Social/emotional development
12. Physical health/motor development
13. Appropriate learning environments
14. Classroom behavior management
15. Collaborating with professionals from other disciplines
16. Professional knowledge
17. Adult learning and development
18. Leadership and advocacy
19. Research and evaluation

Table 6

Diversity Descriptors Used to Identify Areas of Content in Early Childhood Higher Education Programs, As Developed by Ray et al. (Unpublished, 2011)

Diversity Descriptors
1. All children
2. Culture
3. Diversity
4. Ethnicity
5. Gender
6. Global community/global citizen
7. Immigration status
8. Language
9. Minorities
10. Race
11. Sexual orientation
12. Social class
13. Social justice/anti-bias
14. Special needs
15. Student learner characteristics
16. Other: Religion, family beliefs, definition of family, at risk, drug culture, age

Table 7

Student Assessment of Courses in Relation to Classroom Practice

Student Assessment of Courses in Relation to Classroom Practice
1. teach children language and literacy skills
2. teach children social skills
3. teach children math skills
4. teach children science skills
5. develop positive interactions with children
6. create a positive emotional environment for children
7. create a positive instructional environment for children (an environment that promotes opportunities for learning)
8. work with children who are English language learners
9. work with children with challenging behaviors
10. work with children with physical disabilities
11. work with children with emotional/learning disabilities
12. work with children from cultures different from your own background
13. work with children from multiple cultural backgrounds in the same classroom
14. work with children from multiple linguistic backgrounds in the same classroom

Questions Answered. The strategy of counting topics revealed that a greater number of Program B course descriptions and objectives mentioned the topics of education and care of infants, toddlers, and preschoolers, compared to those for Program A. For example, the education and care of infants and toddlers were mentioned in materials for four Program B courses, but in only one Program A course; similarly, the topic of education and care of preschoolers was mentioned in materials for five Program B courses, but only in materials for two Program A courses. Course descriptions and objectives for five courses in each program mentioned the topic of diverse cultures, and one course for each program specifically mentioned the topic of children's linguistic backgrounds. We analyzed the percentage of diversity descriptors, as developed by Ray et al. (unpublished, 2011), found in the course materials of both programs. Nearly all (92 percent) of the Program A courses included at least one diversity descriptor in the course description and objectives, compared to three-fifths (61 percent) of those for Program B courses. Program A courses were more likely than those in Program B to include four or more descriptors per course. The syllabi provided an impression of the course of study at the two institutions which was similar to that generated from counts of specific topics mentioned in course descriptions and objectives. Namely, Program B appeared to offer students a greater focus on young children (Table 8). While both programs offered courses on cognitive and social/emotional development, only Program B offered courses on these topics that were exclusively focused on children age five and younger.

Students offered a somewhat different perception of differences between the programs. The majority in both programs rated their courses as good to excellent with respect to diversity topics, though the counts suggest that there were differences in the degree of focus along these lines. Students attending the two programs rated their courses differently in only two areas. Students in Programs A were more likely to rate their courses in the high or excellent range with respect to their ability to work with children with emotional/learning disabilities, and students in Program B were more likely to rate their courses in the high or excellent range with respect to helping them in their ability to teach math skills to young children.

Methodological Challenges. Neither program interviews nor count strategies can provide verified reports of what actually takes place in classrooms. Thus, the data provide only an impression of the focus of a given course of study, rather than a clear picture. Counts of particular topics are useful, and may provide an indicator of what is missing from curricula, but they may also give inaccurate impressions

Table 8

Birth-to-Five Age Group and Diversity Focus in Select Course Syllabi

Child Characteristics	*Program A*			*Program B*		
	Cognitive Development Courses	Social/Emotional Development Courses	Clinical Experience Courses	Cognitive Development Courses	Social/Emotional Development Courses	Clinical Experience Courses
Total courses offered	1	1	1	2	3	1
Children birth to 5	0	0	1	1	1	1
Children from diverse ethnic, linguistic, and cultural backgrounds	1	1	1 (as optional emphasis)	0	1	1 (as optional emphasis)

of differences between programs. Frequency of mention does not necessarily constitute better coverage, nor does the count approach allow us to determine the depth and breadth applied to a particular topic. Counts of topics also do not allow for an understanding of how topics are integrated with one another, such as whether diversity issues focus on children younger than age five or on older children.

Syllabi, while containing more detail, are also limited in value. We encountered a fair degree of variability in the level of detail for assignments and readings included in course syllabi, both across and within institutions. Many instructors appear to use online classroom and teaching tools such as Blackboard® to post additional course content. Online student resources may not be accessible to researchers, as was the case for this study, making it difficult to know whether additional materials alter the amount and depth of focus on a particular topic. Further, over the duration of a course, instructors may depart in various ways from what is presented in a syllabus, often in response to student need. In the absence of detailed faculty rubrics or observation, one cannot definitively establish the relative balance between science, theory, and pedagogy related to particular topics.

Student perspectives can augment what we know about a course of study, but without more information about student practice in classrooms with young children, or other forms of assessment, student satisfaction alone cannot be used to conclude that courses have necessarily helped students reach an acceptable level of competence in any particular area of classroom practice.

Recommendations for Future Research and Policy. The strategies discussed above may be more effective when applied to higher education programs trying to prepare students to master agreed-upon competencies. But such agreement is missing among higher education programs for early care and education teachers. Only recently have states begun to articulate early educator competencies for teachers regardless of setting or program funding, but in most states, early childhood offerings in the higher education system have yet to align with such competencies. Asking whether a topic is covered does not reveal what is being addressed about that topic, and provides no insight into the focus as it relates to science, theory, or pedagogy.

A more fruitful approach would be to ask programs what their goals and objectives are for student learning, which courses they offer to help students achieve them, and to which competencies or standards, if any, they align. Additionally, asking whether a program must go through an approval process to determine whether or not it is aligned with its stated goals and objectives or with state standards would allow researchers to compare programs operating within different regulatory environments, and to categorize programs with different expectations and requirements. The collection of such data would have multiple benefits. First, it would allow for categorizing programs according to their objectives, distinguishing between programs focused on preparing teachers and those focused more exclusively on child development. Second, accurately categorizing programs by objectives would allow researchers to compare student outcomes in programs with different or similar objectives. Asking programs to report on whether and how they assess students, and how assessment data are used to improve the program, could provide another avenue for program comparison and evaluation.

Assessing Variation in Clinical Experiences

A lack of distinction among labels for clinical experiences, such as practica, field work, or student teaching, can obfuscate variations in learning outcomes for students. In order to evaluate the contribution of different types of clinical experiences to teacher development, what is needed is not only an understanding of whether these experiences focus on children of particular ages and characteristics, but also more detail about their objectives, structure, and intensity—information that has not been traditionally collected in early childhood education research.

Approach. Maxwell and colleagues (2006) sought basic information about whether higher education programs required a clinical experience, which they defined as supervised work in an early care and education setting with children of any age from birth through four years. Their definition specified that the experience, alternatively called a practicum, field experience, or student teaching, must involve students in more than observing children, although they did not provide additional guidelines about the nature of engagement with children that they expected an experience to include. They also sought information

about the focus of the clinical experience—e.g., on working with infants and toddlers, preschoolers, young children with disabilities, children learning English as a second language, and/or families. Like Maxwell and colleagues, we interviewed program representatives to determine the presence of clinical experiences and whether they were focused on children of certain ages and/or with certain characteristics. To gain greater detail on the objectives and focus of clinical experiences, our research team also reviewed course syllabi, focusing on course descriptions and assignments, and surveyed students about their clinical experiences.

Questions Answered. Through our interviews with program representatives, we were able to learn that clinical experiences, which were required for all students, focused on toddlers and preschoolers in one program, and on preschoolers in the other, and that neither course mentioned infants specifically. We also learned that all students were allowed to complete their clinical experience at their own workplace, in order to accommodate their schedules, and that the majority of experiences took place in the students' own classrooms. Syllabi confirmed what we had learned from program representatives about diversity topics; namely, that they were an optional, rather than mandatory, area for child observations and final course assignments.

Based on these interviews with program representatives, we concluded that Programs A and B offered students similar clinical experiences, since both were focused on children of similar ages and were of equivalent duration. Additional information gleaned from syllabi, however, revealed that the two programs differed in their objectives for the clinical experience. Program A was designed to help students "begin to apply" information gained through coursework in child development, psychology, and sociology classes to "a living environment serving young children," and to "refine observational skills, apply conceptual information to the understanding of children in toddler and preschool settings, and design and evaluate age-appropriate programs and activities for two- through five-year-olds." The Program B clinical experience was oriented more toward the teaching of young children, with a stated focus on "preschool models, standards-based instruction, positive classroom environments, characteristics of effective programs, and working with colleagues and families." Course assignments included in the syllabi provided further information to confirm program differences. Assignments for students in Program A were focused on child observation and designing activities for a particular child, whereas assignments in Program B required students to develop and implement classroom teaching improvement plans.

Methodological Challenges. While the syllabi shed light on different emphases in the intent of clinical experiences, they provided very limited information about how students were supervised. The syllabi indicated that students met with a supervisor, but neither the syllabi nor program interviews allowed us to determine the frequency or nature of the supervision. Because of the importance of clinical supervision to the learning experience (National Council for Accreditation of Teacher Education, 2010b), we asked students who was responsible for their supervision and how satisfied they were with it. While all students were supervised by a faculty member, students in Program B were assigned a mentor, and nearly one-half also had an onsite supervisor. In Program A, students did not have a mentor, and only one-third reported having an onsite supervisor. Students in Program B who had been supervised by a mentor were much more likely to report that they had received the guidance and supervision they needed, with sufficient opportunities for reflection, than those who had been supervised only by an instructor/faculty member or by staff at the clinical site. We had no information about criteria for approving clinical settings, or for qualifications or training required for serving as a mentor or supervisor.

Recommendations for Future Research and Policy. Efforts to design and implement policies and practices to improve early childhood teacher preparation would benefit greatly from an improved understanding of which variations in clinical experience contribute best to teachers' classroom practice with young children. Because ECE teachers are not universally required to participate in a clinical experience, research to date has focused on the presence of any experience, rather than its features. This is exemplified by the interchangeable use of terms such as practica, student teaching, and field experience, terms that carry distinct meanings in the K-12 community.[8] Using standard definitions for these terms is a first step towards clarifying the variety of experiences that are offered to students in different higher education programs.

The development of a detailed protocol for describing clinical experiences would strengthen our understanding of the range of practices included in higher education programs for early care and education practitioners, and permit us to assess different approaches. Such a protocol should include questions about the focus, duration and intensity of the clinical experience, criteria for selecting clinical sites, supervision design, qualifications and expectations for those who supervise students, and approaches to student assessment. Because early childhood students are both pre-service and in-service teachers, it is particularly important to understand how different designs of applied experiences may work better for teachers in different stages of their development, and for those who are currently working full-time with children.

Assessing Variation in Faculty Characteristics

Individual faculty members are best able to provide information about their demographic characteristics, academic background, early childhood-specific preparation, ongoing professional development, and applied experiences, and should be included in early childhood registries that would permit a linkage of faculty members with the population of working students they teach.

Approach. Our research team contacted chairs of the major department for both institutions, as well as the program coordinator of the minor offered at Program B. They were asked to complete a written survey about the individual faculty members teaching cohort students in their program, and if necessary, were asked to participate in a follow-up phone interview to provide missing data. We used the same phrasing employed by Maxwell and colleagues (2006) regarding the mean number of full-time and part-time faculty per program; the race/ethnicity of full- and part-time faculty; faculty members' highest level of education, whether they had a degree in early childhood education that specifically covered birth to age 4 years, and the percentage of faculty members who had direct employment experience with children from birth to age 4 years. Our case study also included questions about faculty tenure and linguistic background, due to its salience to members of the early education workforce pursuing degrees, many of whom speak English as a second language (Whitebook et al., 2008).

[8] In K-12 education, the terms "practicum" or "field work" typically refer to a prerequisite to student teaching, short in duration, often focused on a particular skill or population, and supervised by a faculty member and/or mentor; "student teaching" typically refers to a capstone experience prior to certification, requiring full-time immersion in a classroom, and supervised by a cooperating teacher.

Questions Answered. Program representatives had no difficulty providing information about the number of faculty members and their full- or part-time status. They were also able to provide information about individual faculty members' highest level of education, their tenure in the department, and select demographic characteristics.

Methodological Challenges. Asking one person to report demographic and background information about other faculty members in the program proved to be difficult, resulting in significant amounts of missing data, and in some cases, by the representative's own admission, possibly inaccurate data. Ethnicity information was missing for more than one-third of faculty members employed by the programs in our case study. Respondents expressed discomfort with revealing information about certain faculty characteristics, notably age and race. Although program representatives were able to provide information about languages spoken by faculty in addition to English, this approach did not allow us to understand whether students who require tutoring or support in a language other than English have access to faculty members who can provide it. To understand the relevance of faculty linguistic ability, such information must be tied to the linguistic background of their students, suggesting the need for linking faculty and student datasets.

Questions typically asked in research about faculty members' professional preparation and experience do not yield the level of detail necessary for a deeper understanding of this variable's contribution to program design and quality, nor can such information be reliably provided by someone other than faculty members themselves. Asking whether a degree specifically covered children age four or younger, as in the Maxwell et al. study (2006) and the current study, does not tell us whether the focus was primarily on preschoolers and/or on infants and toddlers. Nor does it indicate whether the degree program emphasized child growth and development or the teaching of young children. Program representatives often do not have sufficient information about faculty members' education to determine the age group of children their degrees addressed. Further, existing faculty surveys request no information on how recently they have worked with young children, their experience with culturally or linguistically diverse populations, or the ongoing professional development they have completed to update or fill gaps in their knowledge.

As with demographic data, a linkage between faculty professional information and specific teaching responsibilities would advance our understanding of program variation and quality. For example, an instructor's prior experience with young children might enrich the teaching of a statistics course, but such experience is not critically important. In contrast, the ability of a faculty member to teach a cognitive or social development course on preschool children would be severely hampered by a lack of work experience with preschoolers (National Council for Accreditation of Teacher Education, 2010b).

Recommendations for Future Research and Policy. As interest in the quality of teacher preparation increases, the evidence base for assessing best practices will be significantly expanded by gathering background data from individual faculty members that can be linked with information about the courses and students they teach. More finely developed data elements about faculty background must become the norm for ECE teacher preparation research. Individual faculty members should be asked additional questions such as:

- "What, if any, direct work experience do you have with infants and toddlers and/or with preschoolers?"
- "What, if any, preparation have you had in teaching teachers to work with children who are learning English as a second language?"
- "How recently have you worked directly with young children?," and
- "In what ongoing professional development experiences have you participated since completing your degree?"

Most importantly, data about faculty members need to be regularly updated and maintained in a data system such as an early childhood workforce registry (Kipnis & Whitebook, 2011).

Assessing Variation in Institutional Context

As states are being directed by federal guidelines to build comprehensive professional development systems, maintaining up-to-date information on both the capacity and the content of higher education programs should be considered an integral system component, and institutions of higher education should be required to report changes in their offerings, whether in response to state policies, funding, or other institutional dynamics. Because early childhood higher education programs are historically under-resourced, budget cuts and augmentations can dramatically impact program quality and services offered, further increasing the need for an ongoing mechanism to assess changes in program features.

Approach. Like Maxwell and colleagues (2006), we collected data about institutional context from program representatives, but we interviewed more than one representative from each program and conducted select follow-up interviews. In the initial interview, we asked about staffing patterns and program challenges related to students and faculty, using the same categories as Maxwell and her team (Table 9). Additionally, we asked about student supports,[9] program history, how courses of study were structured, and sources of internal and external funding. The first interviews provided an understanding of how the programs were situated within their department or school and within the institution as a whole. The follow-up interviews were conducted in response to severe budget cuts to the California State University system that affected the institutions in which both programs were housed.

Questions Answered. In the initial interview, program representatives were able to provide data that allowed our research team to identify similarities and differences between the programs. We learned how the two programs designed their student supports for working adults, including generous financial assistance, conveniently located and scheduled classes, and tutoring. Neither of the programs had previously offered such extensive services, and they were only able to do so with external funding. The initial interviews also enabled our research team to understand the histories of these two early childhood programs, and their relationship to other priorities within their department or school.

Public higher education programs are very sensitive to political and economic developments. Thus, for example, if a particular course of study extends beyond an academic year, it is often necessary to confirm whether program features remain constant. In the face of a multi-billion dollar California state budget deficit, the California State University system was dealt a $625 million reduction for the 2009-2010 fiscal year (California State University, 2010). This was layered onto previous years of budget reductions, with the anticipation of additional cuts in the future. Because these cuts took place during the period of this study, we felt it was necessary to investigate their impact on our cohort programs of interest, and indeed, we learned that even though external funding continued, institutional cuts led to dramatic changes in the features of one of the programs.

As a new interdepartmental effort to create an early childhood program that linked human development and teacher education, Program B fared much worse in the budget crisis than Program A, which was well-established and staffed by more permanent faculty. Two additional cohorts of students had entered Program B, expecting to pursue the course of study described in this report. As a result of the budget crisis, these students learned midway through their studies that the early childhood minor courses, including the clinical experience, had been eliminated. The students also lost their exposure to the faculty members who had the most direct experience working with children from birth to age five—namely, adjunct faculty. In contrast, Program A, designed as a one-time effort and relying on full-time permanent faculty, was allowed to continue without disruption.

Our follow-up interviews allowed us to understand how the early childhood programs compared to other emphases within their schools and departments. The early childhood minor in Program B was vulnerable not only because it was new, but also because it represented a change in institutional practices, since all other teacher education programs were offered at the post-baccalaureate level. Although the undergraduate minor in Program B met the needs of the

[9] In addition to the questions about student supports posed by Maxwell et al. (2006), we conducted, as part of our Learning Together study (Whitebook et al., 2008; Whitebook et al., 2010), a more extensive assessment of student supports, how the need for such supports changed over the course of the program, and how students perceived the contribution of such support to their success.

Table 9

Categories Used to Identify Institutional Challenges Faced by Early Childhood Higher Education Programs, As Developed by Maxwell et al., 2006

Student-related
1. Students' competing work or family related responsibilities
2. Lack of student motivation
3. Students' lack of academic preparation or skill
4. Lack of financial support or scholarships
Faculty-related
5. Lack of faculty members in your department with expertise in early childhood education
6. Lack of full-time faculty in your department
7. Poor faculty working conditions and wages
8. Difficulty attracting and retaining ethnically diverse faculty
9. Difficulty attracting and retaining linguistically diverse faculty
Institution-related
10. Problems with transfer of credits and articulation
11. Lack of support from your college/university for early childhood teacher preparation
12. Inability to serve the number of students who want to enroll
Community-related
13. Lack of quality early childhood practicum sites (any ages 0-4)
14. A difficulty attracting and keeping students due to poor working conditions and wages in the field of early childhood

early childhood community, its deviation from the graduate-level pre-service model for K-12 educators rendered it more vulnerable, and, as a result of the budget cuts, it was jettisoned in favor of the graduate program.

Methodological Challenges. With regard to learning about the institutional context, the methodological issues are less about which questions to ask, and more about an ongoing mechanism that can capture changes in program design, content, student supports, and staffing. To assess such changing program features, baseline information about institutional characteristics is necessary. Such information is particularly important to students who are selecting where to pursue their education, and to those interested in assessing the capacity of the higher education system to deliver relevant and appropriate teacher training.

Recommendations for Future Research and Policy. Absent program updates, misinformation is likely, with implications for various stakeholders. As states are directed to build comprehensive professional development systems, maintaining up-to-date information on both the capacity and content of higher education programs should be considered an integral system component, and institutions should be required to report changes in their offerings, whether in response to state policies, funding, or other institutional dynamics. Assessing best practices also requires a research strategy that can generate evidence to measure the efficacy of various approaches to teacher preparation, an effort facilitated by an established database with current and reliable program information.

Conclusion

This case study examined the usefulness of existing methodologies for discerning differences among higher education programs relied upon for preparing early care and education teachers. The commonly used methodologies have helped to document persistent weaknesses in many of these programs, related to content, pedagogical focus, faculty, and resources (Hyson et al., 2009; Maxwell et al., 2006; Whitebook et al., 2005). Studies based upon these methods, including the current one, have highlighted what many of these higher education programs are missing, and thus have strengthened the call for reform in early childhood teacher preparation.

Developing and assessing reform strategies, however, begins with collecting more nuanced information about differences among ECE higher education programs than our existing approaches can generate. Research conducted without such nuanced information has fueled condemnations of higher education for this profession *per se,* without differentiating among types of early childhood-related programs that are more or less successful in preparing ECE teachers (Early et al., 2007; Fuller et al., 2006). As our case study suggests, even two programs classified as "early childhood-related" and receiving public dollars to prepare ECE practitioners can vary substantially in their degree of focus on children younger than age five and in their emphasis on building teaching skills. Evidence-based policy making depends on research that can adequately capture these variations.

This study enabled us to identify the necessary variables for a new methodological approach to studying higher education in the ECE field. A forthcoming companion report will offer a detailed protocol, *Early Childhood Higher Education Inventory,* which states and communities can employ to establish baseline descriptions of their higher education offerings for ECE practitioners that can identify distinctions among program objectives, inform reform strategies, and assess changes over time. The *Inventory* is intended to assist states in responding to the federal government's call to develop and align early educator competencies with higher education offerings.

Only when distinctions can be clearly drawn among varying approaches to the preparation of ECE teachers will researchers become able to delineate best practices and to determine the contribution of higher education to teacher effectiveness. To date, on-site professional development in the ECE profession has been more rigorously studied than higher education, despite the ECE workforce's widespread participation in both types of adult learning (Zaslow, Tout, Halle, Whittaker, & Lavelle, 2010). A precursor to this study (Whitebook, et al., 2009c) called for investigation of the multiple contextual factors that influence teacher learning and behavior, including how education, ongoing professional development, and workplace environments all interact to help teachers develop and maintain good practice. Such research is the precondition for moving from a default embrace of a potpourri of so-called "early childhood-related" programs to those that are intentionally designed and based on reliable evidence about effective teacher development. Establishing a rigorous and sufficiently funded research agenda will require political leadership that understands the importance of data-based decision making; without it, teacher education reform strategies run the risk of shortchanging the nation's children, teachers, and families alike.

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Appendix

Table A1

Required Courses for Students in Programs A and B, as of March 2011

General Content Areas	*Program A Major: Child and Adolescent Development*	*Program B Major: Human Development, Early Childhood Development Option*	*Program B Minor: Early Childhood Education*
Social/Emotional Development	Social and Emotional Development in Childhood and Adolescence	Lifespan Social and Emotional Development Social and Cultural Dynamics Human Development Early Childhood Social Development	
Cognitive Development, Language and Literacy	Contextual Influences on Cognitive Development Developing Literacy in a Diverse Classroom Developing Communicative Competence	Lifespan Physical and Cognitive Development Early Childhood Cognitive Development	Language and Literacy Development Integrated Language Arts and Social Studies Integrated Mathematics and Science Integrated Arts
Theory	The Concept of Childhood Senior Seminar in Child Development Critical Issues in Adolescent Development	Theories of Childhood Child Development Foundational Aspects of Adolescent Development Theories of Human Development Adult Development and Aging	
Miscellaneous	Contemporary Parenting	Children in Families and Communities	
Topics/Specific Groups	Family and Community Violence Community Nutrition Child Care Administration II Motivating Children and Adolescents in Educational Settings Atypical Development in Young Children Childhood Psychopathology Writing Workshop	Girls and Women Across the Lifespan	Children with Special Needs
Practicum	Child Development Practicum	Research Methods in Human Development	Professional Seminar and Practicum
Research	Research Methods in Child Development	Applying Theory & Methods Human Development Senior Research Seminar I Senior Research Seminar II	
Additional Course	Juvenile Justice, Social Work with Families, or Social Services for Children and Youth		