

**Beyond the ZPD:
When do beginning teachers learn from a high-stakes portfolio assessment?**

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Abstract

This study examines the impact of the Performance Assessment for California Teachers (PACT), a structured portfolio assessment, on the learning experiences and teaching practice of preservice teachers enrolled in post-baccalaureate credential programs. The potential of portfolio assessments like the PACT to promote teacher learning and the enactment of advanced teaching practice in beginning teachers seems promising in light of previous research on the use of portfolio assessments by induction programs and by the National Board for Professional Teaching Standards (NBPTS). However, research evidence documenting *what* and *under what conditions* preservice teachers learn from such assessments could be stronger.

To investigate these questions, this study used mixed methods to examine the experiences of elementary teacher candidates completing the PACT Teaching Event in the spring of 2004 at one state university in California. The quantitative component examined survey responses of piloting and control group candidates before and after completing the PACT as well as supervisor ratings. In addition, score data and survey responses of piloting candidates across the PACT campuses were examined. The qualitative component involved case studies of eight teacher candidates, four piloting candidates and four control group candidates at the same institution. Candidates' reports of learning and evidence of their growth in teaching were examined to identify patterns and differences in the learning and growth of teachers in the two groups.

Analyses of both quantitative and qualitative findings suggest that the experience of completing the PACT promoted learning and growth in areas of teaching that were experiential gaps in the existing learning opportunities provided by the university and student teaching placements. Piloting teacher candidates reported that their experience with the PACT Teaching Event improved their ability to use the results of assessments to guide instructional decisions and to reflect on their teaching through the lens of student learning. They also showed evidence of growth in these two areas in their teaching practice. However, these learning experiences were apparently dependent upon supports and preparation for completing the assessment, as well as opportunities to make teaching decisions independently.

Introduction

States have historically played an important role in setting standards for teacher preparation, licensure, and performance. In the last two decades, one strategy commonly used by states to raise the quality of individuals entering the profession has been requiring teachers to pass certification examinations for initial licensure.¹ However, the nature, content, and quality of licensing tests used by states vary widely (Haney, Madaus, & Kreitzer, 1987; NASDTEC, 2000; NCTAF, 1996), and many of these exams (usually paper-and-pencil tests of basic skills, content knowledge, and professional knowledge) have been criticized as poor predictors of teaching competency and performance in real classroom situations (Haertel, 1991; Darling-Hammond, 2001; Porter, Youngs, & Odden, 2001; Mitchell et al., 2001; Goldhaber, 2006; Wilson & Hallam, 2006).

Simultaneously, in this era of testing and accountability, when student achievement outcomes have gained primacy as *the* indicator of educational effectiveness, teacher education programs have come under fire to provide evidence of its “value-added” to teacher quality and student learning. In this context, performance-based assessments have emerged as more “authentic”² and valid measures of teacher performance that could potentially provide outcomes-based evidence of the contribution of teacher education to teacher quality. Over the last decade, teaching portfolio assessments have gained some national credibility (National Board for Professional Teaching Standards, PRAXIS III, INTASC)³ and have been incorporated into state licensing/induction systems (Connecticut, California) to support high-stakes certification decisions, and into university preservice teacher education programs.

There is a growing body of evidence that supports the idea that such assessments can better evaluate instructional practice (Porter, Youngs, & Odden, 2001; Mitchell et al., 2001). There is also evidence that portfolio assessments such as those used by the NBPTS may be more

¹ In 1977, only 3 states required teacher candidates to pass tests of basic skills, subject-area knowledge, or professional knowledge (OERI, 1987). By 1999, 38 states required basic skills tests for admission to teacher education or for an initial license, 31 required tests of subject knowledge, 28 required tests of pedagogical knowledge, and 5 required tests of applied teaching skills (NASDTEC, 2000, as cited in Darling-Hammond, 2001).

² Wiggins (1989) defines an authentic assessment as one that replicates the challenges and standards of performance that typically face real practitioners. In addition, legitimate assessments are responsive to individuals and to contexts. Accurate and equitable evaluation also entails dialogue with the person being assessed, allowing for clarification of questions and explanations of answers.

³ PRAXIS III is a teacher performance assessment developed by ETS; the INTASC (Interstate New Teacher Assessment and Support Consortium) is developing and piloting its own performance assessment.

predictive of teacher effectiveness as measured by their students' achievement (Bond et al., 2000; Goldhaber & Anthony, 2005; Cavalluzzo, 2004; Vandevort, Amrein-Beardsley, & Berliner, 2004).

Performance-based assessments as learning tools in teacher professional development.

Researchers argue that in addition to being more authentic measures of teacher performance, these innovative approaches to teacher assessment provide powerful professional development opportunities and stimulate teacher learning (Athanases, 1994; Anderson & DeMeulle, 1998; Darling-Hammond & Snyder, 2000; Davis & Honan, 1998; Haynes, 1995; Lyons, 1996, 1998a, 1998b, 1999; Rotberg, Futrell, & Lieberman, 1998; Tracz, et al., 1994; Whitford, Ruscoe, & Fickel, 2000). National Board certified teachers, in particular, have repeatedly testified to the powerful professional learning experiences they had while completing the National Board assessments, and reported that their ways of thinking about teaching and their teaching practices changed as a result of participating in these assessments (Tracz, et al., 1994; Rearick, 1997; Chittendon & Jones, 1997; Rotberg, Futrell, & Lieberman, 1998; Sato, 2000; Lustick & Sykes, 2005).

At the same time, there is limited evidence that the kind of structured portfolio assessments such as those used to certify National Board teachers and to license teachers at the in-service level are valid measures of teaching performance for novice teachers with limited teaching experience and often-times limited control over their student teaching classrooms. In addition, theories of teacher development suggest that beginning teachers are not developmentally ready to engage in the kind of reflective teaching characteristic of more expert teachers (Hollingsworth, 1989; NCRTE, 1991; Bullough and Knowles, 1990, 1991; Calderhead, 1988; Calderhead and Robson, 1991). They also argue that novice teacher need to attain greater competency in classroom management before attending to instructional aspects of teaching (Berliner, 1986; Hollingsworth, 1989; Kagan, 1992; Lidstone & Hollingsworth, 1992), and that inexperienced teachers must move through a “survival stage” prior to reaching the “mastery stage” of teaching (Fuller, 1969; Fuller & Bown, 1975; Huberman, 1993).

Background. The state of California is currently phasing in performance-based assessments as a requirement for the preliminary teaching credential through teacher education institutions (CCTC, 2003). This study was conducted as part of an investigation of the Performance

Assessment for California Teachers (PACT), piloted since the spring of 2003 by a consortium of preservice teacher preparation programs throughout the state.

The PACT assessments are structured subject-specific portfolios of teaching (called “Teaching Events”) with a standardized set of tasks that asks teachers to document their planning, teaching, assessing, and reflecting which are integrated around a series of lessons on a topic of their own choice. Preservice teachers piloting the assessments enact and document an instructional unit (comprising 3-5 hours of instruction) in their student teaching placements. The PACT handbook and rubrics are aligned with the California Teacher Performance Expectations (teaching standards for teacher credential programs), and prompt preservice teachers to attend to their particular students’ needs and student learning as the basis for their reflections. The Teaching Event also assesses teachers’ understanding of the language demands of academic work (“Academic Language”) and how well they address the language needs of students, including that of English learners.⁴ Although the assessment is summative in nature and will be used beginning in July 2008 by teacher education programs as part of the initial licensing decision, the assessment is also structured to provide teachers with formative self-assessment opportunities to reflect on and adjust their teaching practice.

The potential of the PACT assessment to promote teacher learning seems promising in light of prior studies of *preservice* teachers completing a teacher performance assessment (TPA). Studies examining the use of portfolio assessments, in particular, have found positive effects on preservice teachers’ professional learning (Anderson & DeMeulle, 1998; Lyons, 1996, 1998a, b, 1999; Snyder, Lippincott, & Bower, 1998; Stone, 1998; Whitford, Ruscoe, & Fickel, 2000). These results are encouraging, especially when “traditional” approaches to professional development have been found wanting.

At the same time, research evidence documenting *what* and *under what conditions* preservice teachers learn from such assessments could be stronger. One weakness of these earlier studies on preservice teachers is that the contribution of a portfolio assessment to preservice teacher learning represents only one among many different possible sources of teacher learning in preservice programs, such as coursework, field and practicum experiences, mentorship, supervision, and a multitude of other innovative pedagogical strategies in teacher education. It is

⁴ For an overview of the PACT Teaching Event tasks and sample Teaching Event Handbooks, go to <http://www.pactpa.org>.

difficult to disentangle the contribution of portfolio assessments to preservice teacher learning from all of these other sources of learning. Furthermore, there is little evidence that teachers actually improve their teacher practice as a consequence of completing a teaching portfolio assessment because of the lack of observational or follow-up data corroborating teachers' self-reports.

Well designed research that can disentangle the specific contributions of the portfolio assessment to preservice teachers' learning experiences and the use of other sources of data to corroborate teacher self-reports would deepen our understanding of the aspects of the assessment that promote teacher learning and the kinds of changes in teachers' knowledge and practice that result from completing the assessment. In addition, research that examines the impact of the portfolio assessment on teachers with varying levels of classroom teaching experience would shed light on beginning teacher development in relation to portfolio assessments.

Theoretical Framework

An important assumption underlying the use of performance-based assessments for teacher licensure is that such assessments can have a positive impact on the professional learning of new teachers. Performance-based assessments, which are designed to give teachers feedback for the purpose of improving their performance (Barber, 1985), can engage teachers in a cycle of inquiry or reflection that enables them to continue learning and developing their instructional practice. Darling-Hammond & Snyder (2000) also suggest that the benefits of constructing portfolios may be related to their ability to raise teaching decisions to consciousness for deeper consideration; provide opportunities for continuous practice and reflection on practice; provide benchmarks for good work and vehicles for self-assessment and peer assessment; connect thinking and performance; provide multiple lenses and sources of evidence on thinking and performance; and make teaching and learning more public so that norms and standards can be shared, and knowledge and experience are more available.

The idea that performance-based assessments like portfolios can be used formatively to promote teacher learning is also supported by professional learning theories such as Schon's (1983) "reflection in action," which conceptualizes professional practice as requiring on-going reflection in the process of carrying out an action or solving a problem. According to Schon, teaching is one profession that requires this kind of practice-based reflection. This view of

teaching is consistent with Lee Shulman's (1987) view of teaching as "pedagogical reasoning and action," rather than merely the enactment of "best practices." These theories of professional practice support the notion that a portfolio assessment like the PACT Teaching Event can provide teachers an opportunity to reevaluate and revise their teaching practice in a systematic way. The Teaching Event explicitly prompts teachers to examine and reflect on a complete cycle of teaching from planning a learning segment to evaluating student learning and devising changes in future practice. By requiring teachers to engage in self-assessment around an integrated cycle of teaching, performance-based assessments like the Teaching Event could potentially evoke the "reflection in action" that Schon and Shulman believe underlie professional learning.

The relevance of teaching and learning contexts. Psychosocial theories of teacher learning also suggest that teaching contexts influence how teachers learn and the extent to which any intervention aimed at improving teachers' instructional practice can have an impact. Social constructivist theory, originating in the ideas of Vygotsky, emphasizes the idea that learning takes place in social contexts, and that successful use of our cognitive processes is dependent on the social system or community in which we learn (Gage & Berliner, 1998; Lave, 1988; Lave & Wenger, 1991). Theories of situated cognition (Greeno, Collins, & Resnick, 1996) also suggest that the context or setting in which teachers learn is critical. Successful learning is not only dependent on an individual's reasoning, thinking, or problem solving, but is also dependent on the system in which learning takes place (Gage & Berliner, 1998).

In studies of novice teachers and their practicum experiences (Feiman-Nemser & Buchmann, 1983; Goodlad, 1990; Zeichner, 1992), the social conditions in which novice teachers learn to teach have played important roles in what teachers learn from their experiences. Studies of the social conditions of professional practice have established that teaching is influenced by the multiple and embedded contexts of schools, including department norms, school norms, the presence of a professional community, and district policy (Little & McLaughlin, 1993; McLaughlin & Talbert, 1993). Preservice teachers' learning contexts (program experiences) and teaching contexts (student teaching placements) were therefore explored in this study of teacher learning.

The relevance of support. Theories of learning, such as Vygotsky's *zone of proximal development* (ZPD), also suggests that the support of a more highly skilled "other" is needed for

a learner to move from his current skill level to the desired level. Vygotsky (1978) defines the *zone of proximal development* as the “distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p.86). Although the ZPD theory of learning has been primarily utilized to understand the conditions under which children learn, this theory highlights the importance of context and levels of support and mentorship available to beginning teachers as they learn to teach and as they complete a portfolio assessment.

The work of Tharp and Gallimore (1988) also uses the lens of the ZPD in their view of teaching as assisted performance: “Teachers, like their students, have ZPDs; they, too, require assisted performance. As with students, activity settings for teachers must create opportunities for them to receive... assistance” (p.190). Given that most teachers work in isolation from others, Tharp and Gallimore explain that current means of staff development often fail to result in the changes in teaching practice they seek to achieve because teachers have limited opportunities for receiving assistance through modeling and feedback. The conceptualization of learning as “cognitive apprenticeship” (Brown, Collins, & Duguid, 1989), or “learning-as-guided-experience” where conceptual and factual knowledge are exemplified and situated in the contexts of their use (Collins, Brown, & Newman, 1989), also lends support for the idea that teachers need modeling, scaffolding, and coaching to move from novice teaching to more expert teaching.

The purpose of this research study is to investigate the impact of the PACT Teaching Event on preservice teachers’ learning experiences. The research questions guiding the design of this study are as follows:

- 1) *What do beginning teachers learn from a structured portfolio assessment? What kinds of changes do teachers experience in their knowledge structures, thinking processes, and teaching practices as a result of undergoing the assessment?*
- 2) *Under what conditions do beginning teachers learn from a structured portfolio assessment?*
 - a. Is the impact of the portfolio assessment on teacher learning mediated by different teaching and learning contexts at school placements and at the university?
 - b. Are beginning teachers’ experiences with the portfolio assessment mediated by their levels of teaching experience in the classroom?

Understanding the value of portfolio assessment as a learning tool in preservice teacher preparation programs has important policy implications, both for rethinking the design of assessment strategies in teacher education and for governmental agencies considering the incorporation of teaching performance-based assessments in their efforts to improve teacher quality. More systematic, well-designed studies of the use of performance-based assessments in teacher education programs are needed.

Methods & Data Source

In order to answer the research questions above, one of the challenges that this research faced was to operationalize “teacher learning” in order to determine ways of measuring it. Previous studies on the use of portfolio assessments in preservice teacher education programs have documented learning gains of preservice teachers primarily based on their self-reports. While teachers’ self-reports are important sources of data for understanding teachers’ own perceptions of their learning and for identifying sources of their learning, more objective sources of evidence of teacher learning are needed to shed light on changes in teachers’ knowledge and skills. This study attempts to triangulate teachers’ reports (obtained through self-evaluations and interviews) by collecting other measures of teacher learning in order to get at the impact of the portfolio assessment on *unobservable* outcomes (teacher knowledge, beliefs, and dispositions) as well as *observable* outcomes (instructional practice). In particular, this study was concerned with tracking changes in teachers’ articulation of their pedagogical knowledge, beliefs, and dispositions (through responses to teaching-related tasks—lesson debriefs, a teaching video debrief, analysis of student work), as well as changes in teachers’ instructional practices based on supervisors’ observation notes and ratings, master teachers’ and supervisors’ final evaluations, and interviews with supervisors.

This study used a mixed-methods design to examine teacher learning and to differentiate the impact of the PACT Teaching Event from other learning experiences during the preservice program. The **quantitative component** includes results from the “PACT Candidate Survey” completed by teacher candidates who participated in the 2003-04 pilot across the PACT campuses (N=590), PACT Candidate survey results linked with candidates’ Teaching Event scores (N=353), two “Teacher Questionnaires” on which teacher candidates at “Dewey University” rated their preparation to teach and feelings of self-efficacy at the beginning and end

of the spring semester of student teaching, and Dewey University supervisor ratings of teacher candidates' teaching skills at the beginning and end of the spring semester of student teaching.

The analyses of these data included the following:

- Identification of broad trends in teacher candidates' learning experiences with the Teaching Event and the relationship between their learning experiences and support, preparation, and constraint variables (PACT Candidate Survey).
- The relationships among teacher characteristics, reported features of their preservice preparation, reports of support, preparation, and constraint, reports of learning experiences, and Teaching Event scores (PACT Candidate Survey linked with Teaching Event scores)
- Comparison of learning experiences with the PACT , preparation, and support reported by piloting teacher candidates at Dewey University and those reported by piloting teacher candidates across all campuses. (PACT Candidate Survey)
- Comparison of the preparation self-ratings and self-efficacy ratings of Dewey University teachers in the sections piloting the PACT Teaching Event and those in the "control group" sections at the beginning and end of the second semester of student teaching. These analyses compared the aggregate responses of the piloting and control groups, and responses disaggregated by sections with similar program formats (length of student teaching placements). (Teacher Questionnaires)
- Comparison of the supervisor ratings of Dewey University teachers in the sections piloting the PACT Teaching Event and those in the "control group" sections at the beginning and end of the spring semester of student teaching (Supervisor Ratings).

The results of these analyses are reported in entirety in Chung (2005). Highlights are reported here.

Data collection occurred over a period of approximately five months during the spring of 2004. Questionnaire 1 was distributed to elementary program cohorts at Dewey University through their section leaders in early February and collected through section leaders (with some returning their questionnaires directly by mail). Questionnaire 2 was distributed in late April and collected by mid-May by section leaders. An online version of Questionnaire 2 was also posted to give credential candidates another chance to complete the survey if they did not receive a hard copy in their sections. Supervisors were asked to complete the observation ratings instrument at the end of the spring semester after completing their final observations of their student teachers. Case study subjects were interviewed in person five times, once a month, from February through

late May of 2004. Supervisors of these subjects were interviewed by telephone at the beginning of June, after candidates had completed the program and graduated.

The comparison groups and sample sizes for the questionnaire component of the study are found in **Figure 1** below.

	Full-semester Student Teaching Sections	8-weeks/semester Student Teaching Sections	ALL SECTIONS
PILOTING	Section 1 (N=11, 10) ¹	Section 2 (N=26, 20) ¹	Section 1,2 (N=37, 30) ¹
NON-PILOTING ("CONTROL")	Section 3 (N=29, 26) ¹	Sections 4,5,6 (N=34, 43) ¹	Sections 3,4,5,6 (N=63, 69) ¹

¹First N is Questionnaire 1 sample size and second N is Questionnaire 2 sample size.

Figure 1. Comparison Groups for Questionnaire Analyses

One unfortunate weakness in this quasi-experimental design is that the teacher education program being studied was organized in a cohort-based model, meaning that different groups of teachers enrolled in different cohort programs had different preparation experiences. Therefore, direct comparisons across piloting and non-piloting groups could not be made. While candidates across cohorts took the same coursework and all had student teaching, there were systematic differences in the length of field placements, course instructors, and sequencing of coursework (concurrent versus non-concurrent with field placements). Placement into cohorts was also non-random, but appeared to be related to residential proximity to school districts rather than any particular demographic or academic differences among teachers. There were also systematic differences in the school locations in which different cohort teachers did their student teaching. Sections 1 and 2 (both piloting cohorts) had a higher percentage of low-income students, primarily because Section 1 candidates were all placed in a low-income area of the city. Section 1 also had a higher percentage of below-average or very low-achieving students than did the control group sections. Section 2 (a piloting cohort) had a much higher percentage of candidates reporting district-mandated texts than those in the control group cohorts.

In analyzing responses from the first questionnaire, initial differences between piloting and control groups were found on the teacher preparation and teacher efficacy ratings. These differences may be a result of the differences in each cohort’s program components cited above. These differences were taken into account in the selection of subjects for the case study component of the study. (There were no other differences between the two piloting and control groups in terms of demographic characteristics, amount of previous teaching experience, and grade levels of teaching placements.)

The **qualitative component** of the study consisted of eight case studies of elementary teacher candidates at Dewey University, four of whom had completed the PACT Elementary Teaching Event in the spring of 2004 and four who did not complete Teaching Events. Within the piloting group and the control group, two subjects were selected from sections with semester-long student teaching placements and two subjects from sections with 8-week placements during each semester. **Figure 2** below displays the case study subjects and the sections from which they were recruited.

	Semester-long Student Teaching Placements	8-week Student Teaching Placements
PILOTING	Adrienne, Maya (Section 1)	Margaret, Dylan (Section 2)
NON-PILOTING	Sylvia, Pedro (Section 3)	Emily (Section 4) Gwen (Section 6)

Figure 2. Case Study Subjects and their Sections

The case studies involved 5 structured interviews of the eight teachers over a four-month period, which included teaching exercises (card sort exercises, 3 lesson debriefs, a debrief of a teaching video, and a student work analysis exercise) meant to reveal and track changes in their knowledge, beliefs, and dispositions about teaching and learning during the spring semester. Case study data also included supervisors’ observation notes, supervisors’ final evaluations (both anecdotal and ratings), and interviews of teacher candidates’ supervisors conducted at the end of the semester, as well as the final evaluations completed by candidates’ cooperating teachers in some cases. These sources of data were meant to serve as a proxy for multiple direct

observations of teaching practice. Also collected were course syllabi and other program documents to study learning opportunities within the existing program components.

Case study data were analyzed within cases, using data from across the data corpus for confirmatory and contradictory evidence to determine what teacher candidates reported learning, identify changes in their beliefs or dispositions about teaching, check for whether their teaching practices reflected what they reported learning, and to identify the sources of their learning. Cross-case analyses were then conducted to discern patterns in learning reported and confirmed in teaching practices across the piloting subjects and “control group” subjects. All of the data on each case study subject (including teaching exercises, and supervisor and master teacher evaluations) were also scored using the Teaching Event scoring rubrics⁵ on a three-point scale (1=Little evidence, 2=Some evidence, 3=Strong evidence) to identify changes in their teaching practices. The results of these analyses are reported fully in Chung (2005). Highlights are reported here.

Findings

1) *What do beginning teachers learn from a structured portfolio assessment? What kinds of changes do teachers experience in their knowledge structures, thinking processes, and teaching practices as a result of undergoing the assessment?*

The quantitative analyses of the PACT Candidate Survey found that approximately two-thirds of teacher candidates across the PACT campuses⁶ agreed that they had learned important teaching skills through the process of completing the Teaching Event. (See **Appendix A-1** for descriptive statistics on responses to all of the learning related items on the PACT Candidate Survey.) *Reflecting on teaching* and *Assessing student learning* were two areas of teaching on which piloting candidates across the PACT campuses agreed the most (72% and 64% respectively) that they had learned through the process of completing the Teaching Event. These findings are supported by findings from the case studies of the piloting subjects at Dewey University, which found that there was consistent evidence of growth in these two areas of teaching (*Assessing and Reflecting*) reported by the subjects as areas of learning. Not as many respondents across campuses (53%) reported that the Teaching Event helped to improve their

⁵ The Teaching Event scoring rubrics were used to score the body of evidence that was collected about each case study teacher near the beginning and end of the last semester of student teaching. The Teaching Event rubrics were used as a benchmark against which the body of evidence was compared because they represent important constructs of teaching skill in which the researcher was interested.

⁶ 590 piloting candidates completed this survey, representing a return rate of approximately 94%

lesson planning. However, this result may be related to the fact that planning is an area in which most teacher candidates (including those not piloting the PACT) complete their programs feeling confident (as evidenced in the case study results of the control group subjects – discussed in the next section - which show that they had also improved in their planning skills over the course of the spring teaching placement).

These findings from the PACT Candidate Survey contrast sharply with the responses of piloting subjects at Dewey University on similar items on Questionnaire 2 (see **Appendix A-2** for descriptive statistics on responses to these items), in which only 34.5% of piloting respondents agreed or strongly agreed that they had “learned important skills through the process of constructing the Teaching Event.” These differences are likely related to a number of factors arising from variations in the implementation of the PACT at the different campuses, differences in the characteristics of teacher candidates enrolled at these campuses, and learning/teaching conditions that piloting subjects at Dewey University faced during their completion of the Teaching Event, which are explored in more depth later in this paper.

An examination of **Table 1** below (“Piloting Subjects’ Perspectives on the PACT Teaching Event Tasks”) indicates that most of the piloting candidates at Dewey University did not find the Teaching Event tasks valuable for learning to teach, with mean ratings of the value of the tasks being around 2.0 (“Not much value”). Their responses on the “Overall Value” item indicates that only 31% of respondents found the Teaching Event overall to be valuable (somewhat, very, or extremely valuable) for learning to teach. About two-thirds of the 29 respondents found the Teaching Event tasks to have either “No value” or “Not much value” and only between 14-20% found the various Teaching Event tasks to be “Very valuable” or “Extremely valuable.”

Table 1

Piloting Subjects' Perspectives on the PACT Teaching Event Tasks (Dewey University)

DV: How valuable did you find each portfolio task for <i>LEARNING TO TEACH</i>?								
(1=No value, 2=Not much value, 3=Somewhat valuable, 4=Very valuable, 5=Extremely valuable)								
Teaching Event Task	Total N	1	2	3	4	5	Mean	Std Dev
Instructional Context	29	15 51.7%	6 20.7%	4 13.8%	1 3.4%	3 10.3%	2.00	1.336
Planning	29	14 48.3%	4 13.8%	5 17.2%	3 10.3%	3 10.3%	2.21	1.424
Teaching (+Videotaping)	29	16 55.2%	3 10.3%	5 17.2%	3 10.3%	2 6.9%	2.03	1.349
Assessing	29	14 48.3%	6 20.7%	4 13.8%	2 6.9%	3 10.3%	2.10	1.372
Reflecting	29	16 55.2%	3 10.3%	5 17.2%	2 6.9%	3 10.3%	2.07	1.412
Overall Value	29	15 51.7%	5 17.2%	5 17.2%	2 6.9%	2 6.9%	2.00	1.282

Piloting subjects at Dewey University seemed to have negative overall experiences with the Teaching Event in general. Nearly 90% of piloting subjects found the Teaching Event difficult to complete and nearly all agreed or strongly agreed that “The Teaching Event took too much time and work to complete.” This may have been an important factor that colored their experiences with the assessment. (Implementation factors that may be related to these attitudes are discussed further later in this paper.) In their written responses to a question that asked for additional comments about their experiences with the PACT Teaching, many candidates expressed frustration with the amount of work and writing involved, the added stress of an additional assignment, lack of support for completing the Teaching Event, confusion about the formatting and requirements of the TE, and redundancy in the writing task.

Analysis of differences between piloting and control groups on Questionnaires 1 & 2. On both questionnaires (administered at the beginning and end of the spring semester), piloting and control group candidates were asked to rate their preparation to teach (on a five-point Likert-like scale) across 30 different areas of teaching knowledge and skill and on 10 teacher self-efficacy related items. Piloting and control group subjects’ preparation self-ratings and self-efficacy ratings were compared to determine whether piloting subjects’ feelings of preparation to teach and self-efficacy were influenced by their experiences with the PACT Teaching Event in ways that did not influence the control group subjects. Three basic analyses were conducted:

- 1) Analysis of differences between piloting and control groups on Questionnaires 1 and 2 using all respondents' data; differences between piloting and control groups disaggregated by program cohort sections.
- 2) Analysis of differences between piloting and control groups on Questionnaires 1 and 2 using only the matched responses for the same teacher candidates, matched by ID numbers they supplied; differences on the same data disaggregated by program cohort sections; differences between piloting and control groups on the second set of ratings, controlling for their first ratings and length of student teaching.
- 3) Analysis of differences in “gain scores” between piloting and control groups on Questionnaires 1 and 2 using only the matched responses and disaggregated by program cohort sections; differences between piloting and control groups on “gain scores”, controlling for their first ratings and length of student teaching.

There were a number of initial differences between the preparation self-ratings and self-efficacy ratings of the piloting and control groups, primarily due to differences in responses between Section 1 and Section 3, with Section 1 (piloting) subjects rating themselves lower on average across items than the rest of the sections and Section 3 (control) subjects rating themselves higher on average across items than the rest of the sections. On the second questionnaire, candidates in the piloting group (Section 1 candidates in particular) appear to have closed the gap in their feelings of preparation and self-efficacy to some extent and had greater “gain scores” on average than did candidates in Section 3 (control group). The areas of teaching in which they closed the gap were in core areas of teaching that may have been associated with their experiences with the Teaching Event, although we cannot draw strong conclusions about this because of the aforementioned weaknesses in the design of the study. (See **Appendix B-1** and **Appendix B-2** for a comparison of “gain scores” across these two groups.) The areas of teaching in which they appear to have “caught up” with their control group counterparts were:

- Planning skills (Prep 4 and Prep 7)
- Teaching literacy (Prep 8)
- Teaching mathematics (Prep 9)
- Providing feedback to students on their learning (Prep 18)
- Using assessments (Prep 26)

In addition, they closed the gap on one of the efficacy items: Efficacy 1 (“If I try hard, I can get through to almost all students”).

There were very few significant differences between the self-ratings of subjects in Section 2 (piloting) and subjects in Sections 4, 5, and 6 (control) on either the first or second questionnaires. In fact, the “gain scores” in self-ratings and efficacy ratings of subjects in Section 2 (piloting) were significantly lower than those of subjects in Section 1 (piloting). This suggests that there were differences in the learning experiences of candidates in these two piloting sections, which could be attributed to differences in the structure of their programs (whole year vs. 8 week teaching placements, fieldwork that is concurrent vs. non-concurrent with coursework, placements in a professional development district vs. placements in a variety of districts), as well as differences in the way the PACT was implemented in the two different sections.

Regression analyses that used matched respondents’ data from the second questionnaire and that controlled for their first ratings and weeks of student teaching did not yield results that were substantially different from those obtained when all responses on both questionnaires were utilized. There were few significant differences in the self-ratings between the two groups, but there were a few items related to planning on which the piloting sections had higher gains in self-ratings, controlling for the first set of self-ratings:

- Prep 4 - Develop curriculum that builds on students' experiences, interests and abilities (marginally significant difference)
- Prep 6 - Plan and teach an extended curriculum unit (marginally significant difference)
- Prep 7 - Create interdisciplinary curriculum (significant difference)

Control group subjects had significantly higher gain scores on items related to affective elements of teaching:

- Prep 14 - Understand how students' social, emotional, physical, and cognitive development influences learning (marginally significant difference)
- Prep 19 - Engage and motivate students to learn (significant difference)
- Prep 20 - Develop a classroom environment that promotes social development and group responsibility (significant difference)

Because of varying response rates from the various sections (with a high percentage of control group subjects coming from Section 3, and low percentages from Sections 4, 5, and 6, and because of the lack of directly comparable piloting and control groups, the findings from the analyses of the two questionnaires are somewhat limited.

However, there were similar patterns in the supervisor ratings that seem to support the questionnaire analyses. Control group candidates were rated significantly higher than piloting group candidates by their supervisors at the beginning of the spring semester. By the end of the spring semester, the gap between supervisor ratings of Section 1 (piloting candidates) and Section 3 (control group candidates) had closed on 8 out of 11 items. See **Appendix C-1** for a comparison of supervisor ratings “gain scores” for these two groups. In the case of candidates in Section 2 (piloting) and Section 4/5/6 (control group), there were no significant differences between groups at the beginning of the semester, but by the end of the semester, control group subjects were rated significantly higher on most items.

The apparent closing of the gap in both self-ratings and supervisor ratings between Sections 1 & 3 may be due to the limitation of the scales used in both the self-ratings items in the questionnaires and in the scale used in the supervisor ratings form (that may have led to a ceiling effect). In addition, the supervisor ratings are limited in reliability because there was no training provided to supervisors on the ratings instrument. However, similar findings from both sources of data (and results from the PACT Candidate Survey) suggest that piloting subjects (in Section 1) may indeed have experienced more powerful learning experiences (through their experience with the PACT) that promoted their feelings of preparation and self-efficacy to a greater extent than control group subjects’ learning experiences.

Case Studies - Reports of learning. During each of the five interviews conducted with case study teachers, they were asked about areas of teaching they felt were strengths and areas of weakness and what they had gained from their student teaching experiences and program courses. Subjects’ responses to these interview questions, as well as changes in their self-ratings in the card sort exercise⁷ were examined. Subjects were then asked to explain why they felt they had improved in the skills they reported as being strengths, and to identify the sources of their learning in these areas.

Piloting and control group subjects were similar in that most of the subjects in both groups reported growth in the areas of *Classroom management* and *Planning*. All four piloting subjects

⁷ In the card sort exercise, teachers were asked to sort 16 different teaching knowledge/skills by order of importance for effective teaching (Most important, Somewhat important, and Not as important). Additionally, subjects were asked to rate themselves on the same skills by sorting the cards into three categories (Strong, Less strong, and Need to work on it). These two sorting procedures were completed by each case study subject at the first and last interviews (conducted in February and late May).

reported growth in these two areas of teaching, while three out of four control group subjects reported growth in these areas. However, these were the only areas of growth that were reported universally by subjects in the piloting and control groups. In examining these two areas of growth and teachers' reports of the sources of this learning, it appears that subjects grew in these areas primarily due to experiences in their student teaching placements and opportunities made available to them to plan and teach units in their placements.

What is different about the piloting and control group subjects' learning experiences, however, is that piloting subjects' growth in the area of Planning may partially be related to their experiences with the PACT Teaching Event, which provided piloting subjects with an additional opportunity to plan and teach a sequence of lessons, and for subjects who did not previously have this opportunity in their placements (e.g., Dylan), at least one opportunity to do so.

Adrienne and Maya, piloting subjects who were enrolled in Section 1, both felt more confident by the end of the semester about their planning skills and attributed this growth to having had more opportunities and time to plan and teach in their student teaching placements. However, when asked specifically about their experiences with the Teaching Event, both cited the value of engaging in the planning and teaching of a unit of instruction.

For Dylan (one of the piloting subjects), the opportunity to plan a unit was the only valuable aspect of the Teaching Event that he could really pinpoint. This may have been because this was an area of weakness, along with classroom management, that he had been focusing on during his spring student teaching placement. An interview with his supervisor revealed that these two areas were the focus of their observational conferences and that these were also the two primary areas in which he had made some progress. Part of Dylan's progress in the area of planning seems to be strongly linked to his planning a unit for the PACT Teaching Event. Although he had had to plan units for some of his methods units, Dylan explained that he had never had to actually teach any of those planned units in his student teaching placements. Thus, the opportunity to actually plan and teach the curriculum unit he constructed for the Teaching Event on California history, along with a unit that he planned and taught after the Teaching Event unit, served to boost his confidence in his ability to plan and teach.

While the additional opportunity to independently plan and teach a unit in their placements was a benefit provided by the Teaching Event, it does appear that for most of the case study subjects enrolled at Dewey University there were already a number of opportunities to learn to

plan a unit and teach it in student teaching placements, either through course assignments or through opportunities provided by master teachers. *Planning a sequence of lessons* was not a novel activity for teacher candidates.

The other areas of growth commonly reported across piloting subjects (at least three out of four subjects) were different from the areas of growth commonly reported across control group subjects (at least three out of four subjects).

Three out of four piloting subjects reported growth in the areas of teaching below:

- Addressing special learning needs
- Knowing students as individuals and learners
- Teaching mathematics

In contrast, three out of four control group subjects reported growth in the following areas of teaching, which were not commonly reported by piloting subjects:

- Challenging students to meet high standards
- Teaching language arts

Since this study focuses on learning experiences related to the Teaching Event, the above reports of learning and growth are not discussed in detail here.

The areas of growth that piloting subjects specifically associated with their experiences with the PACT Teaching Event were *Planning a sequence of lessons*, *Assessing student learning to guide instruction*, and *Reflecting on Teaching*. There were two other areas of learning that piloting subjects associated with their experience with the Teaching Event (*Making connections across the curriculum* and *Promoting language development*), but these were not reported across piloting subjects.

Assessing student learning to guide instruction. Three out of the four piloting subjects either identified the assessment of student learning as an important teaching skill that they felt they had grown in, or that the Assessment task had made them more aware of the need to make assessment of student learning a more important consideration in their planning of instruction. The Assessment task of the Teaching Event requires candidates to analyze student work from one assignment completed during the 3-5 hour learning segment documented in the Teaching Event. Candidates are prompted to select three representative samples from the class set, including one sample from a student with language challenges (e.g., an English learner), and to

cite evidence from these samples in their analysis. In the 2003-04 pilot year, candidates were also prompted to collect three work samples from two students over time and to analyze their learning progress. Candidates are also prompted to describe how they would use the information from this assignment to inform their next steps in teaching, and (in the 2003-04 version of the Teaching Event) were prompted to describe or indicate what kind of feedback was provided to students on their work.

Margaret and Adrienne both recognized the value of assessing student learning to guide instruction, but felt they needed more practice and growth in this teaching skill.

I think it's [assessment] obviously a very meaningful thing that you have to do as a teacher. And I think that one of my biggest areas, and it [the Teaching Event] did help me to really look at the work and assess it and "Okay, well, now based on this, what would I do?" ...I think that the area that I need the most work is making the student work really meaningful and as far as like grades and assessment and going from there, I feel like that's part of the circle that I'm missing or like the weakest in. (Margaret, Interview 4)

I still need to work on it [Assessment]. I mean, I think I have gotten a little bit better just because I've learned more assessment tools. Um, but actually using it to guide my instruction is the trick. So I probably could put that back over [into the "Need to work on it" category]. I mean, and this is what I'm gonna have to do for reading interventions, so I better know how to do that, otherwise I'm not going to go anywhere. (Adrienne, Interview 5)

Maya also felt that the Assessment task of the Teaching Event was helpful for learning how to use assessment to guide instruction, and although she felt the write-up of the Assessment task of the Teaching Event was difficult and laborious, she felt that she would continue to engage in ongoing assessment to guide her instruction.

Two of the control group subjects (Emily and Pedro) also reported growth in the area of assessment, and similar to the piloting subjects, both of them rated themselves less highly in the second card sort on *Assessing student learning* ("less strong") than they did in the first card sort. In Emily's case, she felt she had grown in *Assessing student learning* because she had learned how to administer diagnostic literacy assessments from her master teacher and had had experience administering them to the students in her reading group. She also cited the literacy case study that was required for her reading/language arts methods course the previous semester as a source of learning about administering formal literacy assessments. Pedro reported that he had begun to think more about what students were learning and less about what he was doing as

he gained more experience in the classroom and attributed this area of growth to experience and feeling more confident in his teaching.

Reflecting on teaching. Three out of the four piloting subjects felt that the experience of completing the PACT Teaching Event led them to reflect on their teaching practice, although they did not specifically cite reflecting as an area of growth in interviews or the card sort exercises. None of the control group subjects reported *Reflecting on teaching* as an area of growth.

I think it [the Teaching Event] was really helpful in reflecting on what I didn't do and what I could've done better as a teacher...I feel like it was a lot of paperwork that maybe could've been avoided, but I don't know how 'cause you kind of need a lot of those steps to really process what you did and think about what you did, but it was just a lot. (Adrienne, Interview 4)

Another aspect of the Teaching Event that piloting subjects found valuable for reflecting on their teaching practice was the Instruction task, specifically the analysis of their teaching videos.

It [videotaping] was a good thing because you really do get to see how you are... It's interesting to watch yourself, 'cause you don't know, you can't see yourself up there so, yeah, it was interesting. It was definitely an interesting thing...I mean overall it makes you conscious about what you do and in that sense it's [Teaching Event] a good project. (Adrienne, Interview 4)

Well, I mean the videotape, like how you're reflecting on your teaching itself was very helpful... I think that was very helpful, and pointing out the questions, pointing out what you did good and how you can improve it. I think those kind of things helped a lot. (Maya, Interview 3)

Although Adrienne and Maya had both had the opportunity to videotape themselves and analyze their teaching in a few of their curriculum and instruction courses, both felt that the experience of videotaping and analyzing their teaching for the Teaching Event was a valuable activity. It may be that the prompts in the Instruction task of the Teaching Event probed them in ways that made them evaluate their teaching differently from their previous experiences with video analysis.

Linking theory and practice. Three of the piloting subjects expressed that although they did not feel that the tasks in the Teaching Event were novel, they did feel that the Teaching Event served to link what they learned in their university courses (principles and theories of teaching) with actual practice. In other words, because the Teaching Event gave them an opportunity to

apply what they learned in their courses to an entire unit of instruction, they learned what their university courses were trying to teach them more deeply.

We were very prepared. I mean, we were taught the theory of it. And now we just went through the teaching part of it. So it was very helpful. (Maya, Interview 3)

Dylan: I mean this one pairs practical experience with the theoretical and none of my other projects really had me do that...

RC: So when you say that it pairs the practical with the theoretical, what's the theoretical part of it that you feel is coming into play in your Teaching Event?

Dylan: Well, I think it's just the planning, thinking about what you're going to do. (Dylan, Interview 4)

So I think that, those are things, I think that it brought up all things that we've learned in our methods courses. There wasn't anything like, "Oh, that's different or new!" I mean, I don't think there was anything that was really like that. But just reinforce some of those things, how important it is to really kind of assess your kids, not only what they're doing on paper but who they are, and what their experiences are and what they bring. (Margaret, Interview 3)

Although it is difficult to draw strong conclusions based on a few cases, the differences between the two groups in what they reported learning suggest that there were systematic differences in their learning experiences during the spring semester. These differences in their learning experiences may have stemmed from variations in their coursework (because they were taught by different faculty), variations in their student teaching experiences, variations in their teaching contexts and the demographic characteristics of their students, and/or the additional experiences with planning and teaching a unit that completing the Teaching Event provided to piloting subjects.

Case Studies – Changes in teaching practice. Analysis of changes in the subjects' teaching practices also indicates that piloting subjects were more likely to show growth in their *Reflecting* and *Assessing* skills than were control group subjects. This analysis draws from evidence of changes in subjects' perspectives on teaching based on three types of teaching exercises: three lesson debriefs over the course of the spring semester placement, a student work analysis, and a video or observation debrief. This section also examines evidence of candidates' teaching practice based on one observation of teaching (on video or in person), supervisor ratings at the beginning and end of the spring semester, supervisor observation notes, supervisor and master teacher final evaluations, and interviews with supervisors at the end of the spring semester.

Two types of analyses were conducted using the evidence described above. First, piloting subjects' reports of learning were checked against evidence of change in their teaching practice to determine whether what subjects reported learning and the areas of teaching in which they reported improving could be confirmed in the ways they described their teaching practice, their reflections on their teaching practice, in their actual teaching practice as observed on the videotape or in person, and in their teaching practice described and evaluated by supervisors and master teachers.

Second, the same evidence described above was used to score candidates on eleven dimensions of teaching that are captured in the Teaching Event Score Rubrics. These rubrics and dimensions of teaching were adopted and adapted as measurement tools because they are relevant to this study's interest in expertise in teaching, they capture the teaching skills that the Teaching Event seeks to promote in beginning teachers on a developmental continuum, and because they are aligned with the California TPE (Teaching Performance Expectations), the professional standards that serve as the basis by which all beginning teachers in the state are judged and credentialed.

Because this research was concerned with the candidates' growth over time and progress in particular areas of teaching, each subject received two sets of scores, the first representing their teaching practices at the beginning of their student teaching placements and the second representing their teaching practices by the end of their placements. Subjects were scored by the researcher according to the strength of the evidence that could be gathered from the sources of data described above. Because the sources of evidence are *samples* of teachers' practice, and may not accurately represent the totality of teachers' practice at any point in time, this scoring scale acknowledges the limitations to this scoring procedure. The three score points for each of the 11 Teaching Event rubrics were 1=Little Evidence, 2=Some Evidence, and 3=Strong Evidence.

The strength of evidence at each point in time was scored based on whether the subject demonstrated the skills captured in the rubric descriptors at least at the "3" level of performance (considered a "solid" performance on each of the Teaching Event Score Rubrics). If there were no data that showed evidence of the skill captured in the rubric or there was minimal evidence of the skill in the teaching exercises or supervisor/master teacher evaluations, the data was scored as showing "little evidence." If there were one or two solid pieces of data that showed evidence

of the skill captured in the rubric, the data was scored as showing “some evidence” (even if there seemed to be contradictory evidence). If there were two or three solid pieces of data that showed evidence of the skill captured in the rubric, but there were a similar number of pieces of contradictory evidence, the data was scored as showing “some evidence.” If there was consistent evidence (multiple examples and not contradicted by other sources of data) of the skill captured in the rubric, the data was scored as “strong evidence.” The data serving as the evidentiary base on which subjects were scored at each point in time included the following:

Beginning of spring semester

- Lesson Debrief 1-Interview 2 (including written lesson plans)
- Supervisor ratings on TPEs (beginning of semester)⁸
- Supervisor observation notes, mid-placement evaluations

End of spring semester (cumulative evidence)

- Lesson Debrief 1-Interview 2 (including written lesson plans)
- Lesson Debrief 2-Interview 3 (including written lesson plans)
- Lesson Debrief 3-Interview 4 (including written lesson plans)
- Student Work Analysis-Interview 4 or 5 (including assignment and samples of student work)
- Video/Observation Analysis-Interview 5 (including notes on video/class observation)
- Supervisor ratings on TPEs (end of semester)
- Supervisor observation notes, mid-placement and final evaluations, interviews
- Master teacher final evaluations (in most cases)

These analyses are limited because the evidence used to draw inferences about teaching practice are merely samples of teaching that may or may not be representative of a teachers’ overall practice at that moment in time. In addition, the use of cumulative evidence for making inferences about teaching at the end of the spring semester is problematic because a larger sample of teaching may make it appear that there is greater evidence of a skill simply because there were more occasions from which to draw evidence. However, the presence of supervisor and master teachers’ evaluations of practice (both ratings and anecdotal evaluations) strengthens the validity of the inferences made about subjects’ teaching skills at both points in time because supervisors and master teachers have had many more occasions on which to make their judgments (daily observations, in the case of master teachers, and weekly or bi-weekly observations in the case of supervisors). A final limitation is the subjectivity of the researcher

⁸ Supervisors were asked at the end of the spring semester to rate their teacher candidates’ teaching skills as they would have at the beginning of the semester and at the end of the semester.

and possible bias in the coding of qualitative evidence. Blind coding by two scorers with a check on their inter-rater reliability would improve the trustworthiness of these results.

Each of the subjects reported numerous areas of growth (e.g., classroom management, teaching students to work cooperatively, creating a warm and safe environment), but only the teaching skills that are most salient to this research (areas of teaching skill that might be associated with more advanced teaching skill and teaching skills that are theorized to be promoted by the Teaching Event) were examined in this study and will be described in more depth below. Case study subjects' reported areas of growth were checked against evidence of teaching practice. Cross-case analysis of piloting subjects indicates that many of the areas of teaching in which subjects reported growth were supported by either "some evidence" or "strong evidence" in their teaching practice.

In comparing the piloting subjects and control group subjects with regard to evidence of growth in the areas of teaching in which subjects reported learning, there seems to be some overlap in the skills in which subjects exhibited growth. (See **Appendix D-1** for a summary of evidence of reported learning in teaching practice.) Subjects in both groups seem to have grown in *Planning a sequence of lessons* and *Assessing student learning*. However, subjects in the piloting group showed more *consistent* growth (at least three subjects showing evidence of growth) in these areas than did subjects in the control group (only two out of four subjects showed evidence of growth in these areas). In addition, only subjects in the piloting group showed consistent evidence of growth in *Reflecting on teaching*. These areas of growth in teaching were reported by piloting subjects in connection with their experiences with the Teaching Event. That these three areas of growth directly map onto three of the Teaching Event tasks also strongly suggest that growth in these areas may be related to subjects' participation in the PACT pilot during that semester.

Although it may seem tenuous to assert that a group in which three subjects displayed evidence of growth showed "consistent evidence" while a group in which two subjects displayed evidence of growth did not, this analysis procedure was used to discern slight differences between groups on particular teaching skills that might otherwise be difficult to discern based on holistic impressions.

In comparing the patterns of evidence of growth on the Teaching Event Rubric Scores between the piloting subjects and control group subjects, there were also similarities between the two groups in the areas of growth captured in the Teaching Event rubrics, independent of their reports of learning. See **Table D-2** in **Appendix D** for a summary of evidence of changes in teaching practice on the Teaching Event Rubric Scores. Subjects in both groups seem to have grown in some aspects of Planning, Teaching, and Assessing. However, there were subtle differences in the facets of these teaching skills on which subjects in the two groups showed evidence of growth. Subjects in the piloting group showed consistent growth (at least three subjects) on the Teaching Event rubrics below:

- **Planning-Balanced instructional focus** (all four subjects)
- **Reflecting-Monitoring student progress** (all four subjects)
- **Reflecting-Reflecting on learning** (all four subjects)
- Planning-Making content accessible (three subjects)
- *Teaching-Monitoring student learning* (three subjects)
- *Assessing-Analyzing student work* (three subjects)
- *Assessing-Using assessment to inform teaching* (three subjects)
- *Assessing-Providing feedback to students on their learning* (three subjects)

Again, there seems to be a strong relationship between piloting subjects' reports of learning with regard to their experiences with the Teaching Event and evidence of their growth in teaching captured in the Teaching Event Score Rubrics. That these areas of growth were reported consistently across piloting subjects and that their reported growth was confirmed by evidence in their teaching practice also suggests that one impact of the Teaching Event was to make piloting subjects' learning experiences more consistent across the program by providing similar opportunities to learn in practice.

Subjects in the control group showed consistent growth (at least three subjects) on the Teaching Event rubrics below:

- **Assessing-Providing feedback to students on their learning** (all four subjects)
- *Planning-Balanced instructional focus* (three subjects)
- *Planning-Making content accessible* (three subjects)
- *Teaching-Engaging students in learning* (three subjects)
- *Teaching-Monitoring student learning* (three subjects)
- *Developing Academic Language* (three subjects)

There appears to be some overlap in the evidence of growth displayed by subjects in the two groups on the Teaching Event rubrics. Subjects in both groups showed evidence of growth in Planning – Balanced instructional focus, Planning – Making content accessible, Teaching – Monitoring student learning, and Assessing – Providing feedback to students on their learning. However, there were also differences in the Teaching Event rubrics on which subjects in the two groups showed evidence of growth. Piloting subjects showed more consistent evidence of growth in Reflecting-Monitoring student progress, Reflecting-Reflecting on learning, Assessing-Analyzing student work, and Assessing-Using assessment to inform teaching. Control group subjects showed more consistent evidence than piloting subjects in Teaching-Engaging students in learning, and Developing Academic Language.

While weaknesses in the quasi-experimental study design limit the interpretations that can be drawn about the contribution of the Teaching Event to preservice teacher learning from quantitative analyses of the two questionnaires and supervisor ratings, the results of these analyses do seem to be triangulated by the PACT Candidate Survey analyses and analyses of the case studies. Through the case study interviews and analysis of subjects' course syllabi, it was possible to disentangle to some extent the influence of the Teaching Event on candidates' learning and growth from those that could be attributed to experiences provided by their credential programs. It was possible to discern where there were overlapping influences (e.g., *Planning a sequence of lessons*) and where the TE provided unique experiences that promoted learning and growth in particular areas (e.g., *Assessing student learning to guide instruction*, *Reflecting on teaching*). In addition, analyses of evidence of learning in teaching practice as described above suggest that the reported areas of growth were confirmed in teachers' practice.

The reports of learning that piloting case study subjects associated with their experiences with the PACT Teaching Event are consistent with the results of the PACT Candidate Survey across campuses, which found high levels of agreement on the items related to improving assessment and reflection skills in the process of completing the TE. However, as noted above, these positive views of the learning value of the Teaching Event were not representative of piloting candidates at Dewey University overall. The following section explores some of the contextual and implementation factors that may be related to these lower ratings of experiences with the TE at Dewey.

2) Under what conditions do beginning teachers learn from a structured portfolio assessment?
a. Is the impact of the structured portfolio assessment on teacher learning mediated by different teaching and learning contexts at school placements and at the university?

The differences between the reported learning experiences of piloting candidates at Dewey University (enrolled in two different program sections) and those of piloting candidates across the PACT campuses is likely related to differences in implementation, including lack of supports and preparation for completing the Teaching Event and lack of integration with existing program requirements (at Dewey). Analysis of variance on the candidates' responses about the learning value of the Teaching Event by ratings of support and preparation for completing the Teaching Event (on both the PACT Candidate Survey and Questionnaire 2 - Dewey University) indicate that piloting candidates were significantly more likely to agree that they had learned important skills from the process of constructing the Teaching Event when they rated the supports and preparation they received for completing the Teaching Event more highly.

On the PACT Candidate Survey, participants were asked to rate the helpfulness of various individuals (other credential candidates, university supervisor, cooperating/master teacher, site administrator at school, university instructors/professors, and the teacher preparation program director) as they completed the Teaching Event. Candidates were asked to rate each source of support on a five-point Likert scale ranging from "Not Very Helpful" to "Very Helpful" (with no descriptors on the points in between). The more highly candidates rated the support provided by their supervisors, cooperating teachers, and university faculty members, the more likely they were to agree that the Teaching Event provided opportunities to demonstrate teaching knowledge and skills and the more likely they were to agree that they had learned from the Teaching Event tasks. Although not all of the agreement levels were significantly different across all the items, on most items, candidates who rated the support provided by supervisors, cooperating teachers, and university faculty members very highly (4-"helpful" or 5-"very helpful") and very low (1-"not very helpful") had significantly different levels of agreement. These results were replicated in the Dewey University survey responses, although because of lower sample sizes, there were fewer significant differences in agreement levels across ratings of support.

These findings seem to be corroborated by evidence from the case studies. In the two cohort programs in which the PACT Teaching Event was piloted, case study interviews and interviews

with the directors of those two cohort programs revealed differences in the ways that support was provided to candidates as they completed the Teaching Event. Both Adrienne and Maya were enrolled in the same cohort program (Section 1), which had gone over the Teaching Event Handbook after one class session of the Student Teaching Seminar⁹, but the Handbook tasks and prompts were not revisited in subsequent classes. Students naturally discussed the Teaching Event amongst themselves when they met for class sessions and emailed the section leader with questions when they arose, but there were no additional classes spent clarifying the instructions in the Handbook.

Subjects in Section 2, which had eight weeks of intensive coursework followed by eight weeks of student teaching, had even less access to guidance during the time they were completing the Teaching Event because all of their classes (with the exception of an educational technology course) had stopped meeting. Although the Section 2 leader had made herself available for one session in the middle of the 8 weeks of student teaching to address questions about the Teaching Event, she stated that no one took advantage of her offer of help. In a way, constraints that prevented the provision of regular support and guidance for completing the Teaching Event were imposed by the existing structure of the cohort program (the 8 weeks/8 weeks format). Because there were no systematic or regular means for providing support to candidates (e.g., assistance with designing plans and assessments, guidance on analyzing videotapes and assessments; providing feedback on their write ups before completing a final draft), many of them struggled with understanding the requirements of the tasks, overcoming some of the logistical hurdles, and feeling unsure whether they had documented their Teaching Event units correctly.

Comments made by piloting subjects in Section 2 indicate that they did not feel well supported in completing their Teaching Events:

I think our section leader would've probably given us support. I know that she held a meeting and I don't think anybody showed up. But, no, I don't think that there was a lot of guidance or support and something I kind of stressed I think before, there wasn't, I think a lot of people almost feel like they don't know why they're doing it. I understand why we're doing it because I think it's a useful thing, but there wasn't a lot of importance or incentive I

⁹ Because the student teaching seminar included secondary candidates in the cohort section who were not piloting the Teaching Event, class time was not used to introduce candidates to the Teaching Event. Instead, elementary candidates were kept after class to go over the Handbook.

think to make it meaningful and use it in the right way, which I think might have been helpful... And it would've been, I think, almost better if we had it in a situation where, like our first semester where we were coming in, you know, maybe even once a week for, you know, during those eight weeks of (university) courses where we could have been doing some of the stuff and getting feedback at the same time where we were connecting...I think things weren't connected as well as they could've been. (Margaret, Interview 4)

Dylan also reported knowing that his section leader (who was also his supervisor) was available to provide help on the Teaching Event. However, because he had switched placements halfway into the second semester teaching placement, he was unable to plan and teach the Teaching Event until late in the semester. Since he was writing up his Teaching Event in the days before it was due, there was no opportunity to obtain feedback on his writing. He mentioned that his master teacher had provided some assistance in videotaping his lessons for the Teaching Event, but other than that, he did not feel that he had received much support or guidance in constructing the Teaching Event. It is not surprising then, that what Dylan reported learning from his experience with the Teaching Event was limited.

In contrast, piloting case study subjects in Section 1 felt that they had had access to some support for completing the Teaching Event. One subject, Maya, had actually taken advantage of her section leader's offer to accept drafts of the Teaching Event tasks in pieces and to provide feedback on their writing. This enabled her to refine her documentation of the Teaching Event and feel more confident about her performance on the assessment. Adrienne also felt that her section leader was very supportive in providing feedback and in making suggestions for what to teach:

Well, I mean our [seminar leader] was very supportive in just like doing it and getting done and she was very supportive in like looking it over before we turn it in and giving us feedback and any questions we had, she was very available. She really tried to give us ideas of what to do and was there with us to help us structure it. (Adrienne, Interview 4)

Preparation provided by program coursework. Using data from the PACT Candidate Survey, ANOVAs were used to determine whether there were any differences in the mean levels of agreement about learning experiences with the Teaching Event across groups with different levels of agreement about coursework preparation. The more candidates agreed that their teacher preparation coursework had prepared them to complete the Teaching Event, the more likely they were to agree that they had learned important teaching skills from the Teaching Event. Post-hoc

comparisons showed that there were significant differences between groups reporting different levels of agreement about their coursework preparation on all of the “learning” items. Cross-tabs analyses (see **Table 2** below) also indicate that there were significant differences in the distribution of agreement levels about “learning” from the Teaching Event across groups that differed in their levels of agreement about coursework preparation. Of those who strongly agreed that their coursework had prepared them for the Teaching Event, 76% agreed or strongly agreed that they had learned important skills from constructing the Teaching Event while only 32% of those who strongly disagreed that their coursework had prepared them for the Teaching Event agreed that they had learned important skills.

Table 2
Relationship between Ratings of Coursework Preparation for the Teaching Event and Reports of Teacher Learning

<i>“I learned important skills through the process of constructing the Teaching Event”</i>	Coursework Preparation				Total
	Strongly Disagree	Disagree	Agree	Strongly Agree	
Strongly Disagree	13 52.0%	19 29.2%	38 11.5%	16 9.9%	86 14.8%
Disagree	4 16.0%	27 41.5%	90 27.2%	22 13.7%	143 24.6%
Agree	8 32.0%	16 24.6%	178 53.8%	81 50.3%	283 48.6%
Strongly Agree	0 .0%	3 4.6%	25 7.6%	42 26.1%	70 12.0%
Total	25 100.0%	65 100.0%	331 100.0%	161 100.0%	582 100.0%

Notes: (a) $\chi^2 = 103.673 (.000)$. (b) All items (opportunity to demonstrate teaching skills and “learning value” items) had significantly different distributions of agreement level across coursework preparation levels.

When asked whether they felt their programs had prepared them to complete the Teaching Event, three out of four of the piloting case study subjects at Dewey (Margaret, Adrienne, and Maya) reported feeling well prepared to complete the Teaching Event.

A lot of things I think were similar. So that course [Reading/Language Arts C&I] definitely did. And I feel like for the most part, you know, nothing’s really perfect, but I think for the most part they prepared us to be able to handle it. (Margaret, Interview 3)

We were very prepared. I mean, we were taught the theory of it. And now we just went through the teaching part of it. So it was very helpful. (Maya, Interview 5)

All three of those subjects cited examples of course assignments that resembled the Teaching Event tasks. For example, all of the candidates reported completing a literacy case study of a student for their Reading/Language Arts C&I courses in which they administered literacy assessments to a single student and planned lessons based on the results of those assessments. When asked pointedly whether he had been assigned a case study during his credential program, Dylan acknowledged that had completed a case study that involved administering literacy assessments for his Reading/Language Arts C&I course.

Case study subjects also reported that they had had a few opportunities to plan and teach units (some of the subjects more than others). Margaret reported that she had the opportunity to plan and implement a social studies unit, and for her science and math methods courses, she was required to plan units, but not to teach them. (Dylan, on the other hand, the one subject who did not report feeling that the program had prepared him for the Teaching Event, said that he had had the opportunity to plan units, but had never been required to teach them.) Both Adrienne and Maya also reported having opportunities to develop units and teach them in their student teaching placements (during the fall semester).

A few of the piloting case study subjects also reported that they had been required to videotape their own teaching and analyze their teaching for their program courses. Subjects in Section 1, in particular, reported having to videotape their teaching for all of their methods courses, as well as once for their supervisors.

In general, subjects did not feel that the Teaching Event tasks and prompts were asking them to do anything new or beyond what they had already learned in their program courses, but they felt that it gave them an opportunity to put what they had previously learned “by book” (in Adrienne’s words) into practice. In fact, on Questionnaire 2 (Dewey University), about 72% of the 29 respondents agreed or strongly agreed that “My teacher credentialing program prepared me in ways that allowed me to be successful on the Teaching Event.” This compares with 84% of respondents across the PACT consortium.

While interviews with case study subjects indicate that most felt their programs had prepared them to be successful on the Teaching Event, this seems to conflict with the level of confusion they reported among fellow candidates in their sections about the requirements of the assessment and the workload involved, which seem to have colored their attitudes about the learning value of the Teaching Event.

It appears that while 72% of piloting candidates at Dewey felt that they were well prepared by their program experiences to be successful on the Teaching Event, nearly 90% felt that the Teaching Event was difficult to complete. Again, these results are understandable in light of qualitative data from interviews and case studies. In Section 2, the Teaching Event was not integrated into program courses or assignments, but served as an “add-on” assignment without alteration of other program requirements. As a consequence, candidates complained about the unmanageable workload that this created for them. Margaret (Section 2) mentioned that piloting candidates in her section were allowed to use their Teaching Event units to fulfill one of the assignments given in their reading/language arts methods course (planning and teaching an inquiry lesson that integrated language arts with another content area). In addition, candidates in Section 2 were given the option of using the Teaching Event (if integrated with science content) as the final project for their science methods class; however, because many of them did not teach science in their placements, it was impractical to use the Teaching Event for their science methods class. Dylan expressed feeling that on top of all of his other coursework, asking them to also complete the Teaching Event created an unreasonable workload:

The time...this program is a lot of work and I think if they're going to add one, something huge like this [the Teaching Event], they should really think about what they're going to take away. (Dylan, Interview 4)

In contrast, in Section 1, the Teaching Event was integrated into the program as the required culminating assignment in the Reading/Language Arts methods class and in the Science methods class. However, one implementation factor that made the workload of the Teaching Event unmanageable for candidates in Section 1 was that it was not made clear to candidates (who were *required* to integrate their language arts instruction with science content) that they were to document *only 3-5 hours* of instruction for the Teaching Event. For the science methods class, which required the Teaching Event unit as the final project for the class, candidates were expected to plan and teach an integrated language arts/science unit, without a specification for how long the unit had to be. However, because they were not specifically instructed to document only 3-5 hours of instruction (although this was specified in the Teaching Event Handbook), some candidates documented the entire unit (in Adrienne's case, two weeks of instruction) and ended up with 100-page documents. It is no wonder that some of the piloting candidates in Section 1 felt that the assignment was “massive” (Adrienne).

These analyses highlight the importance of integrating preparation for the Teaching Event into program coursework and in balancing the workload required of candidates (rather than simply adding it on to existing requirements). This does not suggest that programs should “teach to the test”, but it does suggest that the more guidance is provided for completing the Teaching Event during program coursework, the more likely it is that candidates are to experience the Teaching Event as a learning experience.

Preparation provided by student teaching placements. On the PACT Candidate Survey, about 90% of respondents agreed or strongly agreed that their student teaching placements had prepared them to complete the Teaching Event. It is not likely that cooperating teachers were all that familiar with the Teaching Event or that they explicitly facilitated candidate’s experiences with the assessment (based on anecdotal evidence from program directors about implementation), but in the case studies, piloting candidates at Dewey did report receiving help from cooperating teachers in planning their learning segments and videotaping. That so many candidates agreed that their student teaching placements had prepared them for the Teaching Event suggests that their previous experiences in the classroom were relevant to the tasks on the Teaching Event and that the Teaching Event was tapping an experiential base of knowledge and skill that was not a result of “teaching to the test”.

Although the groups that reported disagreement or strong disagreement that their student teaching placements had prepared them for the Teaching Event were small, there were significant differences in the candidates’ responses to the survey items between groups reporting different levels of agreement about their student teaching placement preparation across all of the “learning” items. The more candidates felt their student teaching placements had prepared them for the Teaching Event, the more likely they were to agree that they had learned important skills from the Teaching Event. Among those who strongly agreed that their student teaching placements had prepared them for the Teaching Event, 70% agreed or strongly agreed that they had learned important skills through the process of constructing the Teaching Event, while zero percent of those who strongly disagreed that their student teaching placements had prepared them agreed that they had learned important teaching skills. The distribution of agreement levels across groups was significantly different. This result suggests that the connection between candidates’ student teaching experiences and their experiences with the Teaching Event is an important one. If candidates were not engaging in activities and experiences in their student

teaching placements that were relevant to the Teaching Event tasks, they were much less likely to report learning from their experiences with the Teaching Event.

Added constraints and requirements. On the PACT Candidate Survey, candidates who reported higher levels of constraints on their teaching decisions (e.g., constraints related to their master teacher's expectations, district mandated curriculum, required pacing, or required district/departmental tests) were significantly less likely to report learning important teaching skills from the Teaching Event. These results were replicated using the Dewey survey responses alone. 59% of Dewey University piloting candidates reported that their instructional decisions were influenced "very much" or "a great deal" by district/school requirements, 69% reported their instruction was influenced "very much" or "a great deal" by their master teachers, and 65% reported their instruction was influenced "very much" or "a great deal" by their teacher preparation program. Only 48% of candidates reported that they had "very much" control over the instructional decisions made in their teaching placements. These reports of constraints make sense because the large city school district in which many of the elementary teacher candidates from Dewey University were placed was notorious for its district mandated reading and math curricula, which restrict both master teachers and student teachers in their freedom to plan and implement lessons in these areas.

In addition, there were a number of additional constraints on the Teaching Event imposed by Section leaders that challenged candidates and complicated their teaching experiences. For example, it was logistically difficult for some candidates to complete the requirement to integrate science content into their language arts instruction because they did not normally teach science in their student teaching placements. In addition, there were a number of requirements that were added to the Teaching Event requirements for candidates in Section 1. The Section 1 leader required candidates to use a DRTA methodology (a shared reading strategy) as an instructional strategy in at least one of their Teaching Event lessons. Candidates were also required to utilize a CLOZE assessment, which entailed administering a pre-assessment of (listening) comprehension skills to their students before teaching their lessons, during the unit, and at the end of the unit. According to the Section 1 leader, these added requirements were meant to facilitate candidates' planning of lessons and assessments that would satisfy the requirements of the Teaching Event. The DRTA was a whole-class instruction strategy that was easy to

videotape and that would show the instructor scaffolding the comprehension of text¹⁰, while the CLOZE assessment was meant to provide student work samples that would enable candidates to analyze a whole class set of work and student learning over time. However, by mandating the use of these instructional and assessment strategies, the section leader in effect co-opted candidates' opportunity to make independent instructional decisions, and compounded the requirements for completing the Teaching Event. During the videotape debrief at the last interview, when asked why she had chosen to use the DRTA reading strategy using graphic organizers, Adrienne explained that she had to use that strategy to meet the section leader's requirement, and that in general, she felt that the experience of constructing the Teaching Event was about fulfilling requirements:

And the point, actually the point of that was the DRTA. I mean, it was – I was just trying to follow the steps that [Section leader] wanted us to do, and so a part of it is to create a graphic organizer where they put information down. So that was it. That's why. I mean, I did it to try to meet a requirement and yeah, that's the only reason why I did it - was to meet a requirement, you know, because you had to do these certain steps for this whole DRTA lesson which had very specific steps that you're supposed to follow. That's why I did that.... You know, you're in a crunch. You're trying to meet so many different people's needs. It's like, you tend to find yourself just being like a robot. You're just trying to get through something to meet someone else's needs. And that's what ends up happening a lot of times. (Adrienne, Interview 5)

Maya, also enrolled in Section 1, expressed similar feelings about the experience of constructing the Teaching Event – that it was about following the directions rather than an authentic teaching event:

It just confuses you more and you concentrate on getting the task from the booklet [Teaching Event Handbook] more than your teaching. 'Cause your goal is to teach, not to follow a task to get it done so you can write up your paper. You know what I mean? So I guess a lot of us, we [were] focusing on that too much and we forget about teaching, about how we want to be an effective teacher by doing what we are best at; instead, just looking at something that we need to be doing in order to complete a task, so that when we teach, everything is in the back of our mind saying that, 'You know what? I need to do this because I need to write this up.' And then you get confused and you constantly looking back at the directions saying, 'Am I doing this right?' or 'Do I need to add this in because if I miss this part how am I going to write it up?' So it's constantly, it's not about teaching anymore, it's about following the right direction, you know what I mean? (Maya, Interview 4)

¹⁰ The Elementary Literacy Teaching Event required that candidates' lessons plans and video clips be focused on supporting students in the comprehension and/or composition of text.

These comments suggest that the specifications of the Teaching Event tasks may have detracted from its authenticity as a representation of teaching. However, it also appears that when candidates are limited in their ability to make independent teaching decisions, and are required to follow prescribed teaching methods, they are less likely to see the Teaching Event as an opportunity to learn from teaching and more as a series of requirements to fulfill.

Another consequence of the added requirement to integrate science content with language arts instruction was that some of the subjects in Section 1 who did not normally teach science in their placements had to find other classes in which to teach their Teaching Event units. Both Adrienne and Maya had to find other classes in which to teach their units. (In fact, Maya had to trek to another neighborhood school during her lunch period over the course of a week to teach her integrated language arts/science unit to a group of kindergarteners, a much different group of students than the fifth graders in her regular placement.) This meant that they did not have time to get to know the students they were going to teach before planning and teaching the units. This teaching situation, then, detracted from Adrienne and Maya's experiences with the Teaching Event because they were not able to use their knowledge of students and their students' learning needs to plan for instruction, a key component of the Teaching Event.

Analysis of piloting candidates' responses to the items related to the learning value of the Teaching Event by section indicates that there were significant differences between the two piloting sections in their learning experiences with the PACT. Piloting candidates in Section 1 had consistently higher ratings of the value of the Teaching Event tasks for learning across all items, and the differences were significant on five of those items. This finding further supports observations about the differences in implementation and preparation to complete the Teaching Event between the two piloting sections at Dewey.

These variations in implementation between the two piloting cohorts, and the lack of integration of the Teaching Event into program coursework (for Section 2), were due, in part, to the decentralized and cohort-based structure of the credential program (as well as decentralized decision-making and leadership). The lack of integration into the program coursework may also be related to the lack of "buy-in" among faculty in Dewey University's elementary credential program to implement the PACT, which was seen as a mandate from above and an imposition on their program curricula. As a consequence, only faculty members who were willing to implement the assessment in their own courses participated in the implementation by including

the assessment as a course assignment. However, even then, not much room was made in the program courses to assist candidates as they completed the PACT. The program and section leaders also did not feel they could give the Teaching Event more “teeth” as an assessment, with real consequences for program completion, because it was a pilot assessment and the state law was in moratorium due to the lack of state funding for the mandate. Consequently, even though completion of the Teaching Event was required as a final project for some courses, the quality of the work did not have substantial consequences for candidates. This led to a lack of incentive for candidates to take the PACT seriously or make real investments in constructing their Teaching Events.

2) *Under what conditions do beginning teachers learn from a structured portfolio assessment?*

b. Are beginning teachers’ experiences with the portfolio assessment mediated by their levels of teaching experience in the classroom?

Relevance of prior teaching experience. Most of the case study subjects did not have very much previous classroom teaching experience. Most had had some experiences with children -- teaching ice skating, music, or karate lessons (e.g., Sylvia, Gwen, Dylan, Margaret); serving as teachers’ aides or after-school/summer camp counselors (Maya, Margaret, Adrienne); or completing at least the minimum of 30 hours of fieldwork that was required for admission into the program (Emily, Gwen). Two of the subjects, Dylan and Pedro, had more extensive time in classrooms, with Dylan serving as a long-term substitute (four months in a middle school music class, and eight months as a full-time substitute in other schools) and Pedro as an America Reads program tutor in an elementary school for two years. However, Dylan’s more extensive classroom experience did not seem to have a bearing on his learning experiences with the Teaching Event. He did not report learning much from his experience with the Teaching Event and showed the least evidence of growth in his teaching practice over the course of the spring semester.

If there is any relationship between prior experience in the classroom and a candidate’s ability to learn from the Teaching Event, it was not evident in the case studies. It was also difficult to see how the length of student teaching placements affected the case study subjects’ experiences with the Teaching Event. Of the four piloting subjects, Margaret and Dylan (both enrolled in Section 2) had relatively short placements (8 weeks full-time) during both the fall and

spring placements, and Adrienne and Maya (enrolled in Section 1) had longer placements (16 weeks, graduated time) during both the fall and spring placements. However, because of differences in the implementation of the PACT in each of these piloting sections and the variations in their student teaching experiences, it is difficult to determine the salience of placement length on their learning experiences with the Teaching Event. It may be that even with a shorter student teaching placement, if a candidate is given ample opportunities to plan and teach independently (as in Margaret's case), she will experience more growth in her teaching and show stronger evidence of growth in her teaching practice than a candidate with a longer student teaching placement but without many opportunities to plan and teach independently (e.g., Adrienne).

Candidates' reports of learning on the PACT Candidate Survey were analyzed for differences based on their reports of previous paid teaching experience. These analyses were also repeated using the Dewey University survey respondents only. There were few significant differences in candidates' perspectives on the Teaching Event by level of previous teaching experience. On the learning items, none of the differences between groups were statistically significant (although this may be related to small sample sizes in a few of the groups).

Relevance of length of student teaching experience. The responses of piloting subjects at Dewey University to the items related to the learning value of the Teaching Event on Questionnaire 2 were analyzed by the length of their student teaching placements. Candidates were divided into two groups: Group 1=1-16 total weeks of student teaching, Group 2=17 or more total weeks of student teaching. These groupings were used because in some cohorts, the established number of weeks of student teaching each semester was 8 weeks.

Although we find significant differences on only two of the items, and marginally significant differences on two other items (probably because of low sample sizes), it appears that overall, candidates with longer student teaching placements were more likely to agree that the Teaching Event tasks were valuable for learning to teach and that they had learned important skills from the process of constructing the Teaching Event. This finding is consistent with a similar analysis of the PACT Candidate Survey. However, because we know that length of student placements among the piloting subjects at Dewey University co-varies with section differences (Section 1 having longer placements and Section 2 having short placements), and because we know that subjects in Section 2 had more negative experiences with the Teaching Event partly because of

lack of supports and scaffolding, we cannot infer that length of student teaching has anything to do with the differences in candidates' learning experiences with the Teaching Event.

Similar analyses were conducted on the data from the PACT Candidate Survey. Candidates were asked to report the total number of weeks of student teaching that they had during their credential programs, and this variable was recoded so that there were three ranges of student teaching weeks. These ranges were determined by natural breaks in the number of weeks reported as well as by what would be considered short, middle, and longer placements across programs in the state. On the learning items, there were consistently significant differences between groups, with groups with the shortest (1-20 weeks) and longest (31+ weeks) student teaching placements having significantly higher agreement levels about learning from the Teaching Event than did candidates with moderately long student teaching placements (21-30 weeks).¹¹

Although such curvilinear relationships are difficult to interpret, these results seem to indicate that when candidates have had shorter student teaching placements and longer student teaching placements, they tended to have a greater appreciation of their experiences with the Teaching Event. Short student teaching placements may co-vary with the quality of candidates' student teaching experiences and may indicate that the Teaching Event experience helps to fill some of the experiential gaps in candidates' field placements. On the other hand, candidates with longer student teaching placements also expressed higher levels of agreement that they had learned important teaching knowledge and skills from the Teaching Event. This may be where candidates' stages of development as teachers come into play. Candidates who have had more teaching experience during student teaching may be more developmentally "ready" to learn from the Teaching Event because of the assessment's practice-based nature.

These differences between candidates with different amounts of student teaching seem to suggest that the length of student teaching experiences may influence the value of the Teaching Event as a learning opportunity. However, it may be that the total weeks of student teaching co-varies with programs and that it is really program differences that account for the differences in candidates' experiences with the Teaching Event. OLS regression analyses indicate that program differences explained much more of the variation in piloting candidates' reports of

¹¹ Analyses using different break points for the three lengths of student teaching (1=1-16 weeks, 2=17-25 weeks, 3=26+ weeks) were also conducted. Results were similar to those described above but with fewer significant differences.

learning than did their weeks of student teaching. **Table 3** below summarizes four models that were used to analyze the contribution of student teaching length or type of teaching placement on candidates' reports of learning. We find that by themselves, the dummy variables for student teaching length do not contribute much to the model (although the coefficient for 31+ weeks is small and significant) and that the dummy campus variables do contribute significantly to the model (Models 1 and 2) (Adjusted $R^2 = .156$). When the variables for student teaching length are added to the campus variables (Model 3), the coefficient for the student teaching length variable loses its significance but the Adjusted R^2 increases very slightly to .164. This seems to indicate that the student teaching length variables and the campus variables co-vary and that there may be an interaction effect. Thus, it appears that length of student teaching has a somewhat weak relationship with candidates' learning experiences with the Teaching Event and that it co-varies to a great extent with campus differences.

Similarly, the type of teaching placement (intern, student teaching, emergency permit) does not seem to have a strong relationship to candidates' reports of learning. This seems to be contradictory of the results discussed in the section below. However, because we know that the type of placement is confounded with the program components (program differences seem to co-vary with different types of teaching placements), and we know that program differences contributed to candidates' learning experiences, the differences between candidates' learning experiences with different types of placements seem to have been explained by program differences.

Intern teaching versus student teaching. In the PACT Candidate Survey, candidates were also asked to report whether they were teaching as student teachers or as intern teachers. Candidates in three programs reported that they were teaching as intern teachers. In most cases, these teachers were teaching independently in their own classrooms on a full-time basis. One of the intern programs was a district-run program in which candidates had been teaching full-time over the entire year while taking coursework part-time to meet credential requirements. In most cases (74 out of 87 intern teachers), these candidates reported that they had had 31+ weeks of student teaching, with 8 intern teachers reporting 21-30 weeks and 5 intern teachers reporting 1-20 weeks of teaching experience. ANOVAs were conducted to compare student teachers' and intern teachers' responses, and found that intern teachers were significantly more likely to agree that the Teaching Event provided them with opportunities to demonstrate a variety of teaching

knowledge and skills, and that they had learned important teaching skills from the Teaching Event. (There were significant differences on all of the “learning value” items.)

Table 3
Linear Regression Models for Predicting Learning Experiences with the PACT by Length of Student Teaching, Campuses, and Type of Teaching Placement

Variables	Model 1	Model 2	Model 3	Model 4
1-20 weeks	.154 (.100)		.161 (.115)	
31+ weeks	.263** (.100)		.033 (.105)	
Campus A		-2.025*** (.294)	-2.182*** (.305)	-1.871*** (.309)
Campus B		-.879 (.530)	-.868 (.530)	-.711 (.539)
Campus C		-.907*** (.252)	-1.016*** (.264)	-.764** (.266)
Campus D		-1.331*** (.259)	-1.362*** (.264)	-1.189*** (.275)
Campus E		-.848*** (.262)	-.853*** (.263)	-.680* (.282)
Campus F		-.595* (.266)	-.614* (.270)	-.498 (.273)
Campus G		-.925*** (.288)	-.976*** (.292)	-.763* (.305)
Campus H		-.445 (.277)	-.463 (.277)	-.286 (.294)
Campus I		-1.235*** (.288)	-1.219*** (.304)	-1.067*** (.306)
Campus J		-1.545*** (.366)	-1.577*** (.369)	-1.434*** (.372)
Student teacher				-.168 (.105)
Emergency permit teacher				-.399 (.378)
Constant	2.408*** (.081)	3.545*** (.245)	3.513*** (.267)	3.545*** (.245)
R-Squared	.012	.170	.181	.176
Adjusted R-Squared	.009	.156	.164	.158
Sample Size	570	582	570	581

Notes: (a) Dependent variable: “I learned important skills through the process of constructing the Teaching Event” (1=Strongly Disagree → 4=Strongly Agree); (b) Standard errors in parentheses; (c) In Model 1, missing dummy variable is 21-30 weeks; (d) In Model 2, missing dummy variable is Campus K; (e) In Model 4, missing dummy variable is Intern teacher.

*Significant at the .05 level **Significant at the .01 level ***Significant at the .001 level

These findings lend support for the earlier findings that the more experience candidates had during their teacher credential programs, the more likely they were to have more positive perceptions of the Teaching Event and more likely to agree that they had learned important

teaching skills from the Teaching Event. However, as the regression analyses above indicate, it appears that program differences accounted for more of the variation in candidates' reports of learning.

We cannot conclude definitively that the level of classroom experience that teacher candidates have during the preparation year is irrelevant to candidates' learning experiences with the Teaching Event. Because the amount of classroom experience that student teachers have is tied up in overall program differences, it is difficult to know how much classroom experience matters for teachers' learning experiences. The case studies suggest that opportunities available to candidates to plan and teach independently, some flexibility in implementing their Teaching Event units, and the provision of regular guidance and support as they construct and document their units might have a greater impact on their learning experiences with the Teaching Event, regardless of the length of their placements.

Discussion & Conclusion

Given the less-than-ideal learning conditions created by implementation decisions made at the program and cohort level at Dewey University, it is not surprising that the majority of piloting candidates' experiences with the PACT were not positive. And indeed, we see that Dewey University candidates' negative experiences are reflected in the comments written by piloting subjects on Questionnaire 2.

This task was way too much time consuming and frustrating. University supervisor and master teacher did not support a lot. My advice - don't implement this again! The PACT was way too much work on top of everything else! It is too much work piled on top of student teaching, lesson planning. It didn't really enhance my teaching that much. Everything in the PACT I was already doing anyways in my student teaching. This was not an efficient use of time, on top of everything else we have to do. Don't overwhelm us! I wouldn't have it again.

Overall, I think the idea of the PACT is very beneficial. However, the way the material was presented (how we were supposed to do the PACT) was very confusing. I often found myself writing the same information, reflections, strategies, assessment, etc. over and over. I think it would be help in the future to give an outline (or checklist) at the beginning so student teachers have an overall picture of what is to be expected - instead of a very detailed packet. Then, the packet can be used as the lessons take place. I feel that the ideas behind the PACT assignment are valid but there seemed to be far too much paper work. I began to feel as though I was repeating myself over and over again. It was very tedious.

Nevertheless, about a third of piloting candidates at Dewey University (who responded to the second questionnaire) still agreed or strongly agreed that they had “learned important skills through the process of constructing the Teaching Event.” In addition, piloting candidates who participated in the case studies consistently reported a number of areas of learning from their experiences with the Teaching Event (Planning a sequence of lessons for a curriculum unit, Assessing student learning to guide instruction, Reflecting on Teaching), and consistently showed evidence of growth in Planning, Reflecting, and aspects of Teaching and Assessing.

These findings suggest that even without ideal learning conditions (lack of supports and scaffolds, heavy workloads, constraints, confusion about requirements, and lack of incentives), there may be something inherent in the experience of constructing the Teaching Event that promotes teachers’ learning and growth in particular areas of teaching, and that it can contribute to the learning experiences of beginning teachers beyond what they have already learned in their credential program experiences.

The value of the Teaching Event as a tool for learning, despite its use as a summative assessment, may be related to the format and nature of the assessment. By prompting candidates to revisit and evaluate their teaching decisions and to propose alternate decisions for the future, the Teaching Event seems to promote candidates’ reflectivity about their teaching. By querying candidates about how they assessed student learning and how they used evidence of student performance to inform future teaching decisions, or by prompting candidates to discuss how they took into account the unique learning needs of their students in their plans, the assessment seems to lead candidates to pay greater attention to these principles of teaching and to become more aware of weaknesses in these areas of their own teaching.

Evidence of the Teaching Event’s contribution to piloting candidates’ learning experiences. One of the findings from the case study analysis was that the subjects who completed the Teaching Event reported learning and displayed evidence of growth in areas of teaching that were consistently found across the piloting subjects. In addition, the areas of teaching in which they consistently reported learning and showed evidence of growth were different from those of the control group subjects (with a few exceptions, e.g., planning).

What these case study findings seem to suggest is that the experience of constructing the Teaching Event provided a common set of teaching experiences that resulted in more consistent reports of learning and areas of growth. Whereas there tended to be some idiosyncratic

variations in teacher candidates' learning experiences across sections because of differences in courses (taught by different faculty) and different experiences in student teaching contexts, the Teaching Event provided for more consistency in the experiences of piloting teacher candidates across two cohorts. Where there were experiential gaps in teacher candidates' teaching experiences due to these variations (opportunities to plan and teach units, videotape and reflect on teaching, collect student work and analyze student learning in depth, reflect on teaching decisions in light of evidence of student learning), the Teaching Event filled in those gaps or reinforced what was previously learned in theory by providing opportunities to apply those theories in practice.

The finding that piloting candidates appeared to develop stronger skills in assessment and reflection as a result of their participation in the PACT assessment is consistent with the findings of studies of teachers who have completed the certification process for the National Board for Professional Teaching Standards (Tracz, Sienty, and Mata, 1994; Tracz et al., 1995). In the study conducted by Tracz et al., (1995), teachers who had completed the National Board certification process reported in interviews that the process had prompted them to examine their teaching critically and to rethink their daily teaching decisions. In addition, teachers in Tracz, Sienty, and Mata's (1994) study reported that videotaping their own teaching and analyzing student work helped them become more conscious of and better at organizing teaching and learning tasks, assessing student learning, and revising their practice when necessary. Athanases (1994) also found evidence of effects on assessment skills from completing a portfolio assessment.

In examining the areas of teaching in which case study subjects reported learning and showed evidence of growth, it appears that the experience of completing the Teaching Event promoted learning and growth in areas of teaching that were experiential gaps in the existing learning opportunities provided by the credential program at Dewey, encompassing both coursework and student teaching components. In addition, findings from the case studies (corroborated by findings from the PACT Candidate Survey and data from Questionnaire 2) indicate that piloting candidates' learning experiences were affected by program implementation decisions (e.g., supports and scaffolding) and constraints on teacher candidates' ability to make independent teaching decisions and to enact the kinds of teaching practices valued by the PACT.

While the data from the case studies seemed to provide some evidence that candidates' acquired learning and made changes in their teaching practices through their experiences with the PACT Teaching Event, it was more difficult to draw conclusions in the quantitative component of the study, which compared piloting and control group subjects based on data from the two questionnaires and supervisory ratings of candidates at Dewey University. This was because of weaknesses in the design of the study related to the lack of truly comparable comparison groups. (There were systematic differences in the learning experiences of the different cohort sections due to different instructors, different student teaching placement types, and different teaching contexts. Although the original intent of this research was to select a group of credential candidates that had comparable program learning experiences, it turned out that there were multiple cohorts taught by different faculty and with different student teaching placement formats within the same elementary credential program at Dewey. Although the cohort-based organization of the program was known prior to the beginning of the study, the varying lengths of student teaching placements and course content, as well as systematic differences in the school placements by cohort region, were unforeseen variations.)

Can beginning teachers move beyond their ZPDs to more advanced levels of teaching practice? Previous teaching experience or length of student teaching experiences did not seem to have a significant bearing on teacher candidates' learning experiences with the PACT, although there was some evidence (from the PACT Candidate Survey and Questionnaire 2) that candidates with the longest student teaching placements were significantly more likely to report learning important skills from the Teaching Event. However, because the duration of student teaching and program/section differences co-varied, it was not possible to isolate the impact of student teaching placement length on candidate learning.

Previous teaching experience and the length of candidates' student teaching placements were explored because stage theories of teacher development suggest that beginning teachers with little classroom teaching experience cannot be expected to learn and achieve levels of expertise in teaching because of developmental limitations (Berliner, 1986; Hollingsworth, 1989; Kagan, 1992; Lidstone and Hollingsworth). Vygotsky's principle of the ZPD (zone of proximal development) also suggests that while the assistance of more expert and capable others (master teachers, supervisors) is needed to help beginning teachers move to more advanced levels of

teaching skill, if the beginning teacher's existing skills are too far below the desired teaching skill, s/he may not be able to achieve that level of expertise even with assistance.

As seen in the patterns of teacher candidates' performance on the Teaching Event in the 2002-04 pilot years, there were weaknesses in candidates' performances in the areas of Assessing, Reflecting, and Developing Academic Language. Anecdotal evidence from program faculty across the PACT campuses suggests that weaker performances in these areas are related to a combination of developmental factors (beginning teachers' abilities) and gaps in the preparation provided by their programs. There is some consensus among those faculty that the ability to use evidence of student learning to guide instruction, to reflect on teaching (through the lens of student learning), and to attend to the language needs of their students are skills that beginning teachers often struggle with and that even experienced teachers may not develop without focused professional development (PACT Standard Setting Meeting Minutes, 1/24/05, 2/23/05).

And yet, in the case studies conducted at Dewey University, where it is highly probable that implementation conditions weakened the results, piloting subjects were found to report learning and growth in these areas of teaching skill (*Assessing student learning to guide instruction*, *Reflecting on teaching*) and to show evidence of growth in these areas of teaching in their teaching practice. These reports of learning, specifically identified with their experiences with the Teaching Event, and evidence of growth were different from those seen in the control group case study subjects. These results suggest that the additional guided experiences that piloting subjects had with the Assessing and Reflecting tasks in the Teaching Event helped them to break through the limitations often associated with beginning teachers and to begin developing skills that are more often associated with expert teaching.

These results also challenge notions about the limitations of beginning teacher development and stage theories that suggest that we cannot expect much from beginning teachers who are preoccupied with classroom/behavior management and classroom survival. These results build on other studies of some effective teacher preparation programs, which have found that preservice teachers can develop teaching skills that are associated with more expert teaching practice when program components are well designed to provide guided experiences and focused supports for developing those skills (Darling-Hammond and Macdonald, 2000; Hammerness,

Darling-Hammond, and Shulman, 2002; Koppich, 2000; Merseth and Koppich, 2000; Miller and Silvernail, 2000; Snyder, 2000; Whitford, Ruscoe, and Fickel, 2000; Zeichner, 2000).

These findings have important implications for the design of teacher credential programs and for approaches to strengthening teacher preparation. It was apparent from supervisor observation notes of each case study subject that the foci of pre- and post-observation conferences were classroom management and student engagement. This strongly suggests that programs may want to reassess the kinds of supports and training that they provide in their coursework, field placement supervision, and assignments. If programs choose to emphasize certain areas of teaching skill (e.g, classroom management, student engagement) and skim over areas of teaching that they may deem to be too “difficult” for beginning teachers (e.g., assessing student learning), it is not surprising that they might produce teachers with strengths in classroom management and student engagement but with continuing weaknesses in other important areas of teaching skill.

The findings from this research suggest that the Teaching Event, which provided piloting candidates with a guided experience through an entire teaching cycle of planning, instruction, assessment, and reflection, promoted piloting candidates’ skills in these areas, particular in those areas that are traditionally seen as weaknesses in beginning teachers and that may have been gaps in their program preparation. These findings suggest that teacher credential programs should consider ways of strengthening teacher candidates’ skills in these important areas and that one effective way of doing so is to provide opportunities for candidates to have guided experiences with these skills in real classroom situations.

Implications for Implementation of the PACT. There are a number of implementation lessons that can be learned from the findings of this study. If teacher education programs or states choose to implement structured portfolio assessments like the PACT Teaching Event, they must carefully consider the learning and teaching conditions in which teachers complete the assessment. First, teacher candidates need the support and guidance of more knowledgeable others as they complete the assessment. In order to provide the support candidates need, these individuals should have a good understanding of the portfolio assessment, its logistical requirements, and the kinds of teaching practice that it assesses. Members of the PACT consortium have reported that the participation of faculty and supervisors in scorer training and scoring the Teaching Events has been one valuable means of helping support providers gain a deeper understanding of the assessment as well as develop a common understanding about what

the program expects its graduates to know and be able to do. There are also logistical factors that can facilitate or impede the provision of support. So that candidates can receive the support and guidance they need from faculty and supervisors on planning, implementing, and documenting their Teaching Events, they need regular opportunities to meet with these support providers. This would require that candidates have regular access to these support providers during a period concurrent with their completion of the assessment.

Second, candidates need the freedom to make independent teaching decisions in their teaching placements in order to fully benefit from the process of planning, teaching, and reflecting on their Teaching Events. Teaching in districts or school contexts in which instructional decisions are highly constrained (e.g., with scripted or paced curricula) makes it less likely that teachers will learn from the process of completing the Teaching Event. Careful and thoughtful placement of student teachers into schools and districts with minimal constraints may provide more opportunities for student teachers to engage in independent planning and teaching. Clear communication with master teachers about expectations for granting autonomy and planning/teaching responsibility to student teachers would also increase the opportunities for student teachers to learn from their teaching decisions.

Ensuring candidates' abilities to make independent teaching decisions would also preclude the addition of other requirements to the portfolio assessment. Programs should not prescribe particular teaching strategies, assessments, or content integration as required elements of the Teaching Event because this detracts from the experience of reflecting authentically on teaching decisions that were made by the teacher. The content and teaching strategies candidates select to document in their Teaching Events should fall within their regular teaching responsibilities at the schools and in the classrooms in which they have been teaching all semester.

Third, this study found that integrating the Teaching Event into existing credential coursework and assignments and reducing the workload in other areas (as opposed to simply adding it on to existing program requirements) would make it more likely that teacher candidates have positive experiences with the assessment. Scaffolding and supports provided in the context of program coursework would also enhance candidates' experiences with the assessment.

Preparing candidates by providing them with opportunities to learn and practice the skills that are assessed in the Teaching Event would also facilitate their experiences with the assessment. As previously noted, candidates who reported feeling well prepared by their

program coursework and student teaching experiences were more likely to agree that they learned important skills from the Teaching Event. Drawing explicit connections between the theories of learning and principles of teaching learned in coursework with their day-to-day teaching practices would increase candidates' ability to apply their knowledge of pedagogy, pedagogical content knowledge, and knowledge of students as they implement their Teaching Events.

Timing the completion of the Teaching Event is another critical factor that can influence candidates' performance on the assessment as well as their learning experiences. The assessment should be completed at a point in the credential program when candidates have had adequate preparation in their methods courses and adequate experiences in the classroom, as well as adequate time to get to know the students in their classes. At the same time, the assessment should not be completed at the very end of the school year, when candidates would be rushed to complete their documentation and would have no opportunities to receive feedback.

A final logistical decision that would facilitate candidates' learning experiences with the Teaching Event is appropriate timing of field placements. Piloting candidates at Dewey University who had only 8 weeks of student teaching late in the spring semester had only a few weeks to learn about their students and their learning needs before planning and teaching their Teaching Events, and little flexibility in the timing of their Teaching Event units.

Implications for Teacher Education and Policy Related to Teacher Quality. If it is true that the experiences that piloting candidates at Dewey had with the Teaching Event helped to close the gap in their feelings of preparation and self-efficacy (and the case studies support this idea), this suggests that portfolio assessments like the Teaching Event could serve as a useful learning tool that can help to make teacher candidates' learning experiences more consistent across sections of a credential program. For example, if a teacher candidate has not had much experience with planning and enacting a unit of instruction in his student teaching placement (because it was not required by program coursework or because a master teacher did not provide opportunities for independent planning and teaching), the portfolio assessment provides an opportunity to do so. The same could be said for investigating the characteristics and learning needs of the students in one's class, analyzing one's teaching through the lens of a videotape, collecting student work and analyzing what students in the class have learned, or reflecting on an entire unit of instruction. In a sense, one of the consequences of implementing a structured

portfolio assessment in a credential program is the standardization of the learning experiences of teacher candidates.

The results of this study seem to suggest that the state's top-down policy of requiring that teacher candidates pass a performance-based assessment aligned with the teacher performance standards set by the state has, to some extent, influenced the content of teacher education by providing candidates with experiences that they might not otherwise have had. However, because of "loose coupling" (Weick, 1976), the extent to which programs have chosen to integrate the assessment with existing coursework and assignments is highly variable. As we saw in the case of Dewey University, few changes were made to the existing program components and little was done to support or scaffold the experiences of candidates completing the assessment. Thus, it appears that the extent to which the state is able to influence the content of teacher education is limited by the way programs choose to implement the assessment.

Like other standards-based and assessment-based accountability measures (e.g., No Child Left Behind) aimed at improving teaching and student learning by attaching high stakes to the outcomes of state assessments, the state's teacher performance assessment mandate seeks to change how newly credentialed teachers are prepared in the state by tying teachers' preliminary credentials to success on the TPA. Many teacher educators teaching in California credential programs find this an onerous requirement and an affront to their professional judgment and autonomy. If, however, it is agreed by teacher educators in the state that the teaching skills measured by structured portfolio assessments like the Teaching Event are worthy goals for beginning teachers to work toward, the state's mandate may prove to be an effective way of improving teaching in the state. Of course, there are a number of other factors that will also affect the viability of a teacher licensing system that utilizes performance-based assessments – the cost-effectiveness of implementing the assessment system (which costs much more than paper-and-pencil assessments), establishing reliability and validity in the scoring process, and building a fair scoring system that will be strong enough to withstand legal challenges, to name a few.

Another implication of this research is related to teacher education design. One of the findings of this research is that there are some weaknesses in the way preservice teachers are prepared not only at Dewey University but also across the campuses that are participating in the PACT Consortium. The analyses of teacher candidates' aggregate Teaching Event scores across

campuses and evidence from the case studies at Dewey of gaps in teacher candidates' preparation (e.g., to use the results of assessments to guide instructional decisions, to reflect on their teaching in light of student learning, and to promote students' academic language) suggest that programs may want to consider ways of strengthening their preparation of credential candidates in these areas. The findings of this study highlight the importance of providing a carefully guided experience with an entire teaching cycle – to plan and teach a curriculum unit, to design and administer assessments with which to analyze student learning, and to reflect on an entire unit of instruction – or of providing more opportunities to practice these individual skills in the teaching cycle with guidance and scaffolding. Although these principles of teacher education pedagogy are not new to many preservice preparation programs, this study emphasizes the need for *guided* and *integrated* experiences with the entire teaching cycle.

Another finding of this study is that even within a single credential program, there seems to be wide variation in the learning opportunities provided in different cohort sections of a single program, and that many candidates' learning experiences seem to be dependent on idiosyncratic circumstances (e.g., quality of master teacher's mentorship, differences in the quality of coursework instruction, opportunities to independently plan and teach, district mandated curricula) that lead to inconsistent learning outcomes for teacher candidates. Credential programs such as the program at Dewey University may want to consider ways of making the learning opportunities available to teacher candidates more consistent and less dependent on serendipity. Because it is so difficult for programs to control the quality of student teaching placements and master teacher mentorship, programs should consider improving the consistency and quality of credential coursework, field placement formats, and field-related projects assigned by instructors across the program.

A final implication of this research for policy is that a structured portfolio assessment like the PACT Teaching Event could be used by teacher education programs as one summative measure among an array of measures (including pass rates on other licensing exams, candidates' performances on course-embedded assessments, supervisor and master teacher ratings, course grades) for evaluating the strengths and weaknesses of their programs. Local accreditation agencies and state departments may also consider including scores from portfolio assessments as one source of information about the quality of preparation programs across the state.

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Table A-1
Candidates' Perspectives on the Teaching Event's Value for Learning to Teach (PACT Candidate Survey 2003-04)

Indicate your level of agreement	N	Missing	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Mean	Std. Dev.
Please indicate your level of agreement with each of the statements about the PACT Teaching Event below:								
1. I learned important skills through the process of constructing the Teaching Event	590	7 1.2%	86 14.6%	143 24.2%	283 48.0%	71 12.0%	2.58	.885
2. The process of constructing the teaching Event helped to improve my lesson planning	590	5 .8%	96 16.3%	177 30.0%	244 41.4%	68 11.5%	2.49	.901
3. The process of constructing the Teaching Event helped to improve my knowledge of learners	590	5 .8%	80 13.6%	166 28.1%	275 46.6%	64 10.8%	2.55	.861
4. The process of constructing the Teaching Event helped to improve my assessment of student learning progress	590	5 .8%	73 12.4%	137 23.2%	289 49.0%	86 14.6%	2.66	.877
5. The process of constructing the Teaching Event helped me to improve my implementation of instruction	590	7 1.2%	81 13.7%	158 26.8%	272 46.1%	72 12.2%	2.57	.878
6. The process of constructing the Teaching Event helped me to reflect more carefully on my instructional decisions	590	8 1.4%	56 9.5%	99 16.8%	308 52.2%	119 20.2%	2.84	.858
7. My teacher preparation experience was enhanced by the Teaching Event	590	6 1.0%	126 21.4%	164 27.8%	240 40.7%	54 9.2%	2.38	.924
8. The Teaching Event will be useful for my future teaching practice	590	6 1.0%	115 19.5%	148 25.1%	261 44.2%	60 10.2%	2.46	.921

Table A-2

Piloting Subjects' Perspectives on their Experiences with the PACT Teaching Event (Dewey University)

Please indicate your level of agreement with each of the statements about the PACT Teaching Event below. (1=Strongly disagree, 2=Somewhat disagree, 3=Somewhat agree, 4=Strongly agree)							
	N	1	2	3	4	Mean	Std Dev
a. The Teaching Event was difficult to complete.	28	1 3.6%	2 7.1%	3 10.7%	22 78.6%	3.64	.795
b. The Teaching Event took too much time and work to complete.	28	1 3.6%		3 10.7%	24 85.7%	3.79	.614
c. The Teaching Event tasks were not relevant to teaching.	27	4 14.8%	7 25.9%	5 18.5%	11 40.7%	2.85	1.170
d. The Teaching Event tasks did not capture essential aspects of my teaching practice adequately.	27	2 7.4%	3 11.1%	8 29.6%	14 51.9%	3.26	.920
e. I learned important skills through the process of constructing the Teaching Event.	29	13 44.8%	6 20.7%	4 13.8%	6 20.7%	2.10	1.189
f. The process of constructing the Teaching Event helped to improve my lesson planning.	29	14 48.3%	5 17.2%	5 17.2%	5 17.2%	2.03	1.111
g. The process of constructing the Teaching Event helped to improve my knowledge of learners.	29	15 51.7%	4 13.8%	5 17.2%	5 17.2%	2.00	1.158
h. The process of constructing the Teaching Event helped to improve my assessment of student learning progress.	29	15 51.7%	4 13.8%	5 17.2%	5 17.2%	2.00	1.175
i. The process of constructing the Teaching Event helped to improve my implementation of instruction.	29	13 44.8%	6 20.7%	5 17.2%	5 17.2%	2.07	1.105
j. The process of constructing the Teaching Event helped me to reflect more carefully on my instructional decisions.	29	13 44.8%	6 20.7%	5 17.2%	5 17.2%	2.07	1.114
k. My teacher preparation experience was enhanced by the Teaching Event.	29	16 55.2%	2 6.9%	5 17.2%	6 20.7%	2.03	1.200
l. My teacher credentialing program prepared me in ways that allowed me to be successful on the Teaching Event.	29	7 24.1%	1 3.4%	10 34.5%	11 37.9%	2.86	1.122
m. University professors provided helpful support as I completed the Teaching Event.	29	8 27.6%	4 13.8%	7 24.1%	10 34.5%	2.66	1.194
n. My university supervisor provided helpful support as I completed the Teaching Event.	29	7 24.1%	6 20.7%	7 24.1%	9 31.0%	2.62	1.147
o. My master teacher (mentor teacher) provided helpful support as I completed the Teaching Event.	29	7 24.1%	5 17.2%	6 20.7%	11 37.9%	2.72	1.208

Table B-1.

Preparation Self-ratings "Gain Scores" – Comparison of Sections 1 (Piloting) & 3 (Control)

"How well prepared do you feel to do the following?" (1=Not well prepared to 5=Very well prepared)		N	Mean	Std. Dev.	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Prep 1. Teach subject matter and skills in ways that help all students in your classroom achieve high academic standards	Section 1 (Piloting)	6	1.17	.408	.167	.74	1.60
	Section 3 (Control)	23	1.00	.739	.154	.68	1.32
Prep 2. Understand how different students in your classroom are learning	Section 1 (Piloting)	6	.83	.408	.167	.40	1.26
	Section 3 (Control)	23	.87	.694	.145	.57	1.17
Prep 3. Set challenging and appropriate expectations of learning and performance for all students in your classroom	Section 1 (Piloting)	6	.83	.753	.307	.04	1.62
	Section 3 (Control)	23	.65	.832	.173	.29	1.01
Prep 4. Develop curriculum that builds on students' experiences, interests and abilities*	Section 1 (Piloting)	6	1.33	.516	.211	.79	1.88
	Section 3 (Control)	23	.35	.885	.184	-.03	.73
Prep 5. Evaluate curriculum materials for their usefulness and appropriateness for your students	Section 1 (Piloting)	6	.67	1.211	.494	-.60	1.94
	Section 3 (Control)	23	.65	.885	.184	.27	1.03
Prep 6. Plan and teach an extended curriculum unit	Section 1 (Piloting)	6	1.00	.632	.258	.34	1.66
	Section 3 (Control)	22	.64	.848	.181	.26	1.01
Prep 7. Create interdisciplinary curriculum	Section 1 (Piloting)	6	1.17	.753	.307	.38	1.96
	Section 3 (Control)	23	.70	.876	.183	.32	1.07
Prep 8. Teach literacy skills (reading/writing)	Section 1 (Piloting)	6	.83	.983	.401	-.20	1.87
	Section 3 (Control)	23	.48	.593	.124	.22	.73
Prep 9. Teach mathematics (Elementary only)	Section 1 (Piloting)	6	.67	.816	.333	-.19	1.52
	Section 3 (Control)	23	.35	.647	.135	.07	.63
Prep 10. Teach science (Elementary only)	Section 1 (Piloting)	6	1.00	.632	.258	.34	1.66
	Section 3 (Control)	23	1.17	1.072	.224	.71	1.64
Prep 11. Teach social studies (Elementary only)	Section 1 (Piloting)	6	1.17	.983	.401	.13	2.20
	Section 3 (Control)	21	1.00	1.378	.301	.37	1.63
Prep 13. Use instructional strategies that promote active student learning**	Section 1 (Piloting)	6	1.17	.753	.307	.38	1.96
	Section 3 (Control)	23	.61	.656	.137	.32	.89
Prep 14. Understand how students' social, emotional, physical, and cognitive development influences learning	Section 1 (Piloting)	6	.83	.753	.307	.04	1.62
	Section 3 (Control)	23	.35	.775	.162	.01	.68
Prep 15. Identify and address special learning needs and/or difficulties	Section 1 (Piloting)	6	.83	.983	.401	-.20	1.87
	Section 3 (Control)	22	.55	.963	.205	.12	.97

Table B-1. (Continued)

Preparation Self-ratings "Gain Scores"– Comparison of Sections 1 (Piloting) & 3 (Control)

		N	Mean	Std. Dev.	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Prep 16. Teach in ways that assure academic achievement of English language learners	Section 1 (Piloting)	6	1.17	.753	.307	.38	1.96
	Section 3 (Control)	22	.82	.853	.182	.44	1.20
Prep 17. Choose teaching strategies to meet different student needs	Section 1 (Piloting)	6	1.17	.753	.307	.38	1.96
	Section 3 (Control)	23	.74	.864	.180	.37	1.11
Prep 18. Give productive feedback to students to guide their learning	Section 1 (Piloting)	6	1.00	.894	.365	.06	1.94
	Section 3 (Control)	23	.74	.810	.169	.39	1.09
Prep 19. Engage and motivate students to learn	Section 1 (Piloting)	6	1.00	.894	.365	.06	1.94
	Section 3 (Control)	23	.57	.507	.106	.35	.78
Prep 20. Develop a classroom environment that promotes social development and group responsibility**	Section 1 (Piloting)	6	.50	.548	.224	-.07	1.07
	Section 3 (Control)	23	.65	.647	.135	.37	.93
Prep 21. Engage students in cooperative group work as well as independent learning*	Section 1 (Piloting)	6	1.17	.753	.307	.38	1.96
	Section 3 (Control)	23	.57	.590	.123	.31	.82
Prep 22. Encourage students to see, question, and interpret ideas from diverse perspectives	Section 1 (Piloting)	6	1.33	.816	.333	.48	2.19
	Section 3 (Control)	23	1.00	.953	.199	.59	1.41
Prep 23. Assign work that helps students use their higher-order thinking skills to think critically and solve problems	Section 1 (Piloting)	6	1.50	.548	.224	.93	2.07
	Section 3 (Control)	23	1.17	.778	.162	.84	1.51
Prep 24. Understand how factors in the students' environment outside of school may influence their life and learning	Section 1 (Piloting)	6	.17	.753	.307	-.62	.96
	Section 3 (Control)	23	.30	.703	.147	.00	.61
Prep 25. Work with parents and families to better understand students and to support their learning	Section 1 (Piloting)	6	.83	1.169	.477	-.39	2.06
	Section 3 (Control)	22	.82	.958	.204	.39	1.24
Prep 26. Use a variety of assessments (e.g., observation, portfolios, tests, performance tasks, anecdotal records)	Section 1 (Piloting)	6	1.17	1.169	.477	-.06	2.39
	Section 3 (Control)	23	.57	.728	.152	.25	.88
Prep 27. Evaluate the effects of your instructional decisions and reflect upon your practice to improve instruction.	Section 1 (Piloting)	6	1.00	.894	.365	.06	1.94
	Section 3 (Control)	23	.78	.671	.140	.49	1.07
Prep 28. Resolve interpersonal conflict in the classroom	Section 1 (Piloting)	6	1.00	1.095	.447	-.15	2.15
	Section 3 (Control)	23	.61	.988	.206	.18	1.04

Table B-1. (Continued)
Preparation Self-ratings "Gain Scores"– Comparison of Sections 1 (Piloting) & 3 (Control)

		N	Mean	Std. Dev.	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
"How well prepared do you feel to do the following?" (1=Not well prepared to 5=Very well prepared)							
	Prep 29. Maintain an orderly, purposeful learning environment	Section 1 (Piloting)	6	1.00	.632	.258	.34
	Section 3 (Control)	23	.43	.788	.164	.09	.78
Prep 30. Overall, how well prepared do you feel to teach as a full-time teacher today?	Section 1 (Piloting)	6	1.50	.548	.224	.93	2.07
	Section 3 (Control)	23	.96	.706	.147	.65	1.26

Note: Prep 12 is omitted because it relates only to secondary subject candidates.

* Differences between piloting and control groups are significant at the .05 level.

** Differences between piloting and control groups are marginally significant.

Table B-2
Teacher Self-Efficacy Ratings "Gain Scores" - Comparison of Sections 1 (Piloting) & 3 (Control)

Please indicate your level of agreement with these statements. (1=Strongly Disagree, 2=Disagree, 3=Unsure, 4=Agree, 5=Strongly agree)		N	Mean	Std. Dev.	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Efficacy 1. If I try hard, I can get through to almost all students.**	Section 1 (Piloting)	6	.67	.516	.211	.12	1.21
	Section 3 (Control)	23	.04	.767	.160	-.29	.38
Efficacy 2. I am confident of my ability to handle most discipline problems that may arise in my classroom.*	Section 1 (Piloting)	6	1.33	.816	.333	.48	2.19
	Section 3 (Control)	23	.17	.717	.149	-.14	.48
Efficacy 3. Students fail because they do not apply themselves	Section 1 (Piloting)	6	-.50	1.049	.428	-1.60	.60
	Section 3 (Control)	22	-.05	.486	.104	-.26	.17
Efficacy 4. My students' peers have more influence on their motivation and performance than I do.	Section 1 (Piloting)	6	-.17	.983	.401	-1.20	.87
	Section 3 (Control)	23	-.22	1.278	.266	-.77	.34
Efficacy 5. I am confident of my ability to teach all students to high levels	Section 1 (Piloting)	6	.83	.983	.401	-.20	1.87
	Section 3 (Control)	23	-.04	1.261	.263	-.59	.50
Efficacy 6. I am confident that I am making a difference in the lives of my students.	Section 1 (Piloting)	6	.33	.816	.333	-.52	1.19
	Section 3 (Control)	23	.09	.900	.188	-.30	.48
Efficacy 7. A lot of my ideas about teaching and learning come from what I learned in my teacher preparation program.	Section 1 (Piloting)	6	.33	.516	.211	-.21	.88
	Section 3 (Control)	23	.30	.974	.203	-.12	.73
Efficacy 8. A lot of my ideas about teaching and learning come from my own experience as a K-12 student.	Section 1 (Piloting)	6	.83	.983	.401	-.20	1.87
	Section 3 (Control)	21	.00	1.265	.276	-.58	.58
Efficacy 9. I am uncertain how to teach some of my students.	Section 1 (Piloting)	6	-.67	.516	.211	-1.21	-.12
	Section 3 (Control)	23	-.74	.964	.201	-1.16	-.32
Efficacy 10. Most of a student's performance depends on the home environment, so teachers have little influence.	Section 1 (Piloting)	6	-.83	1.602	.654	-2.51	.85
	Section 3 (Control)	23	-.17	.650	.136	-.46	.11

* Differences between piloting and control groups are significant at the .05 level. ** Differences between piloting and control groups are marginally significant.

Table C-1

Comparison of Section 1 (Piloting) and Section 3 (Control Group) – Supervisor Ratings “Gain Scores”

Difference between Rating 1 (beginning) and Rating 2 (end) of placement		N	Mean	Std. Dev.	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
TPE 1. Understands state content standards and demonstrates ability to use subject-specific pedagogical skills for subject matter instruction*	Section 1 (Piloting)	9	1.22	.441	.147	.88	1.56
	Section 3 (Control)	19	.74	.452	.104	.52	.95
TPE 2. Monitors and supports student learning during instruction*	Section 1 (Piloting)	11	1.18	.603	.182	.78	1.59
	Section 3 (Control)	18	.50	.514	.121	.24	.76
TPE 3. Uses and interprets assessments to evaluate student learning and guide instruction; provides productive feedback to students*	Section 1 (Piloting)	11	1.27	.786	.237	.74	1.80
	Section 3 (Control)	12	.50	.522	.151	.17	.83
TPE 4. Uses a variety of strategies to make content comprehensible*	Section 1 (Piloting)	11	1.36	.505	.152	1.02	1.70
	Section 3 (Control)	19	.79	.419	.096	.59	.99
TPE 5. Promotes student engagement as well as active and equitable participation**	Section 1 (Piloting)	11	1.09	.539	.163	.73	1.45
	Section 3 (Control)	19	.74	.452	.104	.52	.95
TPE 6. Understands students’ development and designs instructional activities that provide appropriate learning experiences**	Section 1 (Piloting)	11	1.09	.539	.163	.73	1.45
	Section 3 (Control)	18	.72	.461	.109	.49	.95
TPE 7. Knows and applies theories, principles, and instructional practices for the instruction of English learners	Section 1 (Piloting)	11	.91	.701	.211	.44	1.38
	Section 3 (Control)	13	.54	.519	.144	.22	.85
TPE 8. Assesses students’ skills, and understands children’s needs as individuals and learners*	Section 1 (Piloting)	11	1.27	.467	.141	.96	1.59
	Section 3 (Control)	14	.64	.497	.133	.36	.93
TPE 9. Sets appropriate instructional goals and selects appropriate strategies, activities, and materials to connect academic content to students*	Section 1 (Piloting)	11	1.36	.674	.203	.91	1.82
	Section 3 (Control)	19	.68	.478	.110	.45	.91
TPE 11. Establishes and maintains a positive social environment for learning*	Section 1 (Piloting)	11	1.18	.603	.182	.78	1.59
	Section 3 (Control)	19	.58	.607	.139	.29	.87
TPE 13. Regularly evaluates and reflects on own teaching to improve teaching practice**	Section 1 (Piloting)	11	.91	.539	.163	.55	1.27
	Section 3 (Control)	19	.47	.612	.140	.18	.77

Note: Ratings ranged from 1=Beginning (Novice), 2=Developing proficiency (Apprentice), 3=Proficient (Independent Practitioner), 4=Highly Proficient (Effective Practitioner)

* Difference between groups is significant at the .05 level. ** Difference between groups is marginally significant

APPENDIX D. EVIDENCE OF REPORTED GROWTH IN TEACHING PRACTICE

Table D-1

Evidence of Reported Growth^a in Teaching Practice

PILOTING SUBJECTS	Strong evidence	Some evidence
Margaret	<ul style="list-style-type: none"> -Planning a sequence of lessons -Assessing student learning to guide instruction -Reflecting on teaching --Keeping students engaged and motivated (already strong) 	<ul style="list-style-type: none"> -Addressing special learning needs -Promoting language development
Adrienne	<ul style="list-style-type: none"> -Planning a sequence of lessons 	<ul style="list-style-type: none"> -Assessing student learning to guide instruction -Reflecting on teaching -Addressing special learning needs -Keeping students engaged (remained at “some evidence”) -Promoting active learning (remained at “some evidence”)
Maya	<ul style="list-style-type: none"> -Planning a sequence of lessons -Assessing student learning to guide instruction -Reflecting on teaching -Teaching students to work cooperatively -Promoting active student learning -Knowing students as individuals and learners -Providing feedback to students 	
Dylan		<ul style="list-style-type: none"> -Planning a sequence of lessons -Knowing students as individuals and learners -Teaching students to work cooperatively -Teaching a diverse class
CONTROL SUBJECTS	Strong evidence	Some evidence
Emily	<ul style="list-style-type: none"> -Planning a sequence of lessons -Assessing student learning to guide instruction 	<ul style="list-style-type: none"> -Integrating content areas
Sylvia	<ul style="list-style-type: none"> -Planning a sequence of lessons (already strong) -Providing feedback to students 	<ul style="list-style-type: none"> -Knowing students as individuals and learners
Gwen		<ul style="list-style-type: none"> -Planning a sequence of lessons (remained at “some evidence”) -Using a variety of teaching strategies (remained at “some evidence”) -Keeping students engaged (remained at “some evidence”)
Pedro	<ul style="list-style-type: none"> -Keeping students engaged and motivated -Meeting students’ learning needs 	<ul style="list-style-type: none"> -Assessing student learning to guide instruction

^a This table includes only those areas of teaching on which subjects reported growth in interviews and in the card sorts.

APPENDIX D. EVIDENCE OF REPORTED GROWTH IN TEACHING PRACTICE

Table D-2
Case Study Subjects – Evidence of Growth in Teaching Practice

Piloting Subjects				
Teaching Event Score Rubrics	MARGARET	ADRIENNE	MAYA	DYLAN
Planning-Balanced instructional focus	2 → 3	3 → 3	1 → 3	1 → 2
<i>Planning-Making content accessible</i>	2 → 3	3 → 3	2 → 3	2 → 2
Planning-Designing Assessments	1 → 3	2 → 2	1 → 3	2 → 2
Teaching-Engaging students in learning	3 → 3	2 → 2	2 → 3	2 → 2
<i>Teaching-Monitoring student learning</i>	2 → 3	2 → 2	2 → 3	1 → 2
<i>Assessing-Analyzing student work</i>	1 → 3	1 → 2	1 → 2	1 → 1
<i>Assessing-Using assessment to inform teaching</i>	2 → 3	1 → 2	1 → 3	1 → 1
<i>Assessing-Providing feedback to students on their learning</i>	2 → 3	1 → 1	2 → 3	1 → 2
Reflecting-Monitoring student progress	1 → 3	1 → 2	2 → 3	1 → 2
Reflecting-Reflecting on learning	1 → 3	1 → 2	1 → 3	1 → 2
Developing Academic Language	2 → 2	2 → 2	2 → 3	1 → 2
Control Group Subjects				
Teaching Event Score Rubrics	EMILY	SYLVIA	GWEN	PEDRO
<i>Planning-Balanced instructional focus</i>	2 → 3	3 → 3	2 → 2	2 → 3
<i>Planning-Making content accessible</i>	2 → 3	3 → 3	2 → 2	2 → 3
Planning-Designing Assessments	1 → 2	3 → 3	2 → 2	2 → 2
<i>Teaching-Engaging students in learning</i>	1 → 2	3 → 3	2 → 2	2 → 3
<i>Teaching-Monitoring student learning</i>	2 → 3	2 → 3	2 → 2	2 → 3
Assessing-Analyzing student work	2 → 2	1 → 2	2 → 2	1 → 2
Assessing-Using assessment to inform teaching	2 → 3	2 → 3	2 → 1	2 → 2
Assessing-Providing feedback to students on their learning	1 → 2	1 → 3	1 → 2	1 → 2
Reflecting-Monitoring student progress	2 → 2	1 → 2	2 → 2	2 → 3
Reflecting-Reflecting on learning	2 → 3	1 → 2	2 → 1	2 → 2
<i>Developing Academic Language</i>	1 → 2	1 → 2	1 → 1	1 → 2

Notes: (a) 1="Little evidence", 2="Some evidence", 3="Strong evidence". (b) The first score indicates strength of evidence at beginning of placement and the second score the strength of the cumulative evidence collected by the end of the spring placement. (c) The rubrics in bold are those on which all subjects within the group showed evidence of growth (or strengths), and the rubrics in italics are those on which three subjects showed evidence of growth (or strengths). (d) The full descriptors for these 11 of these rubrics (with the exception of Assessment-Providing feedback to students on their learning) can be found on the PACT website (<http://www.pacttpa.org>).