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Finding Out What's in Their Heads

Using Teaching Portfolios to Assess English Education Students—and Programs

C. Beth Burch

THE PORTFOLIO HAS TYPICALLY BEEN VIEWED EITHER AS A PEDAGOGICAL strategy or an assessment tool. As a pedagogical strategy, the portfolio grounds the notion of the student's personal process and provides a framework for the display of both process and product. As an authentic assessment tool, the portfolio assesses students' multiple abilities under the ideal of mastery learning; in this capacity it has been used to place students in academic programs, to determine whether they were ready to leave those programs and/or levels, and incidentally to award them grades or at least indications of progress. The portfolio can also, as Irwin Weiser has noted, have specific advantages for preparing writing teachers, particularly inexperienced instructors treading the murky waters of evaluating student writing for the first time (Weiser 1994, 224-225). But portfolios also have other important uses: they can reveal, in the aggregate, the state of an academic program; they can provide valuable insights into what students know and how they construct that knowledge; they can provide institutional barometers, if you will, that suggest programmatic highs and lows, strengths and weaknesses. It is chiefly in this institutional context that I undertook a kind of class ethnography, with portfolios and metaportfolio writing at the center of my investigation. I used written artifacts to describe the group's "customary ways of life" in my course (Zaharlich 1991, 207); I wanted to know what my students, soon-to-be teachers, were learning,

what they knew about English, and how they were conceptualizing the discipline.[1]

Teaching portfolios had been an integral part of my Teaching Secondary English "methods" class for four years. Operating on the supposition that novice teachers would benefit from a portfolio assignment requiring them to create, collect, and select materials—and then to reflect seriously upon what they had selected and why—I had had an "open" teaching portfolio assignment in place for these years. This means that I required that methods students submit three original teaching units for the portfolio, but that the remainder of the portfolio was open—simply up to them. The context of the entire course was consciously conducive to and supportive of portfolio pedagogy; it included collaboration on projects, reflection (usually in writing), and self-assessment. As a class the students and I collaborated to develop the scoring rubric for the portfolios. We decided that the required units would be 40 percent of the portfolio grade and that the optional material would account for the other 60 percent. We agreed on certain criteria for evaluating the portfolios; we articulated desirable qualities for the portfolio including organization, originality and creativity, variety, pedagogical soundness, practicality, and evidence of effort. But when we couldn't reach consensus on weighting the criteria, I left that task up to each student. The result was a rubric allowing adjustments for individual strengths and weaknesses (see Fig. 1, Portfolio rubric).

One spring, instead of merely assessing the teaching portfolios from the methods class, I determined to study them via a kind of particularized ethnography. My study focused primarily on the documents comprising the portfolios but also included reflective pieces introducing portfolios, portfolio tables of contents, and individual reflective pieces written during the portfolio process but not included in the actual portfolios. I surmised that each student's portfolio would reveal idiosyncratic strengths and weaknesses; I hoped that each portfolio would provide a glimpse into the developing teaching personality and that each would show something of its creator's sense of the discipline in the portfolio content and structure. I hoped that, considered all together, the portfolios would give me a sense of what my preservice students as a whole knew about English and how they conceptualized the discipline.

What I learned was fascinating and sobering: it has given me pause, led me to reflect on the nature of the entire English education program, and finally drawn me to the conviction that we shortchange our students. We frequently do not give them the preparation and experience in English

Figure 1
Portfolio Rubric

Portfolio Evaluation
CSE 379 Teaching Secondary English
Dr. C. Beth Burch

Name: _____

Date: _____   Circle one: Language Arts? English?

Required Material (40 points)

__ Table of contents (5 points)
__ Overview reflective letter, memo, or essay (15 points)
__ Unit on composition and language, including one original activity/plan (10 points)
__ Unit on literature, including one original activity/plan (10 points)

__ **Total points for required material (40 possible) and comments about required material (see also the individual units and the reflective piece):**

Optional Material (60 points)

Please write in the parentheses below the number of *possible* points you want for each category, with a minimum of 5 points and a maximum of 15 points per category. If you want each category weighted equally, write in 10 points for each, but *make sure* your total possible points add up to 60!

__ Organization and accessibility of items ( ) points
__ Originality and creativity of material ( ) points
__ Variety of material chosen ( ) points
__ Pedagogical soundness of teaching material ( ) points
__ Effort apparent in compiling portfolio ( ) points

__ **Total points for optional material (60). See the back of this page, the table of contents, and throughout the portfolio for comments on the optional material.**

__ **Required Points + __ Optional Points = __ Score for Portfolio**

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course work that they need to be confident and capable teachers. Our novice English teachers are too often inadequately prepared to teach writing and language, especially, and their understanding of literature is frequently limited to a very traditional canon and to a literary-historical approach to texts. In this paper I will explain the specific findings that led me to this conviction by first describing the research population, my methods students; then explaining what I learned about them via an ethnographic investigation into their portfolios; and finally suggesting implications for teacher preparation in English.

Research Subjects: Facts and Impressions

The class whose portfolios were the subject of this study was in all ways very typical of the undergraduate methods courses at this state university of approximately 17,000 students, a Southern university with a liberal arts tradition and a terrific football team. As in all my methods classes, most of the nineteen students were female; 85 percent of this particular class were women. All but one student were twenty-five years old or younger. Eleven percent of this class were graduate students—that is, graduate students with undergraduate degrees taking the undergraduate methods course to make up a "deficiency" in their undergraduate backgrounds before going on to graduate course work in education. Over half of the students in this particular class were very close to the end of their course work and thus near the beginning of their internships: 53 percent of them would begin internships the following semester; 26 percent would intern in two semesters; and 11 percent were taking the methods course inordinately early (contrary to my advice) and would intern in three semesters. One student in the class had already been in the classroom, but as a social studies teacher, not as an English teacher; this student (the only one older than twenty-five) was returning to the university specifically for certification in English. One student would later drop out of the program and not attempt the internship; one student would begin but not complete the internship; and the remainder (89 percent) would complete internships, graduate, and become certified to teach. Of this class, 68 percent were English majors and 32 percent were language arts majors. This distinction reflects two paths to English certification at this university. Students may elect either to have two teaching majors or certification areas of approximately thirty hours each (the most common combination of which is English and history), or they may choose a comprehensive language arts major which includes, in addition to

a core of literature and language courses, classes in speech and theater. This option requires about forty-eight course hours (see fig. 2, Teaching Fields).

Figure 2
Teaching Fields

Teaching Field (Comprehensive): Language Arts	**48**
EH 101 and EH 102, or EH 2103 English Composition	6
One of the following two sequences of courses:	12
Sequence 1	
EH 205 English Literature	
EH 206 English Literature	
EH 340 Major American Writers I	
EH 341 Major American Writers II	
Sequence 2	
EH 209 American Literature	
EH 210 American Literature	
Two courses from the following:	
EH 366 Shakespeare	
EH 374 Major English Writers 1660–1780	
EH 383 Major Romantic Writers	
EH 387 The English Novel	
EH 320 Introduction to Linguistics *or* EH 423 History of the English Language	3
Approved writing elective	3
Approved linguistics or writing elective	3
Approved 300-level or higher literature or American Studies courses	3
SC 101 Introduction to Speech Communication	3
TH 142 Beginning Acting I	3
Approved speech communication electives 6	
JN 416 School Publications *or* JN 417 Teaching of Journalism	3
Teaching Field: English	**30**
EH 101 and EH 102, or EH 103 English Composition	
EH 205 English Literature	3
EH 206 English Literature	3
EH 320 Introduction to Linguistics *or* EH 423 History of the English Language	3
EH 340 Major American Writers I	3
EH 341 Major American Writers II	3
EH 366 Shakespeare	3
Approved 300-level or higher writing course	3
Approved English or American studies elective (EH 200 is recommended)	3

Students opting for the English major were openly concerned that language arts majors would have an advantage in the construction of portfolios because they would have had more English-related courses from which to draw material. This turned out to be quite a false fear.

My day-to-day observations and impressions of this class yield nothing unusual about them; the students were as usual, from a mix of rural and suburban backgrounds and socioeconomic groups. They were typically eager to get in the classroom and very fond of talking about how they imagined teaching should be done. They had many questions about my experience in the secondary classroom. They had varying prospects for employment; at one extreme, some already had the "promise" of a job where they had gone to high school, and at the other extreme, others hadn't the vaguest notion of where they might want to teach. Also, some students were quite adamant about not teaching at, for example, the middle school level, but others hadn't the slightest notion of what grades they would like to teach. All the methods students worried about classroom management and about knowing enough to teach English; all were intrigued by teacher lore. There was a common fear, often expressed in class discussions, of being inadequate for the demands of secondary teaching; yet there was also a concomitant eagerness to engage the adolescents who would materialize in their classes. There was also a frequently articulated desire to teach better than they had been taught, to improve the profession, and to change the way that high school students felt about English. These, then, were my methods students.

Method of Research

The semester of this study all portfolios were submitted as usual—on time with portfolio evaluation sheets, each reflecting what the student believed to be his or her strengths filled out for each portfolio. I scored portfolios also as usual, logging them in and out, writing notes to accompany the evaluation forms. But I also kept the portfolios longer than usual so that I could photocopy all the tables of contents, letters, and completed evaluation forms and so that I could prepare detailed descriptions of each item in each portfolio. My method was to note each item by name or general description, to indicate how many pages it constituted, and to determine if possible the source of the item. Items were recorded in the exact order of their arrangement by the student. I considered an item to be a unit of material, regardless of page length; thus a sample examination of four pages comprised one item.

This description turned out to be a very lengthy process indeed; handwritten lists of items and descriptions routinely ran to approximately twenty unlined pages per portfolio. After item lists and descriptions were prepared for each portfolio, I analyzed each student's list to determine how the portfolio was organized (of course the table of contents told me this, but the item list was much fuller than the table of contents, which listed only file folders or subcategories), what its unusual features were, and what the chief sources of its materials seemed to be. I then correlated the evaluation sheet, tables of contents, portfolio grade, and course grade with the portfolio description. Finally I traced each student's internship record through the clinical experiences office, added that information to each record, and began searching for patterns.

Contents of Portfolios: A Quantification and Description

The amount of material in the portfolios varied greatly, from the smallest portfolio of 99 items to the largest of 466 items. The overall mean number of items was 214; English majors had a mean number of 237 items, compared to language arts majors' mean number of 192 items. Thus the English majors' fears that the language arts majors would have a natural advantage proved groundless; English majors averaged 45 more items per portfolio than did language arts majors.

My initial sense of the portfolios was that their major contents mirrored, rather predictably, the way I had structured the methods course: divided into chunks about language, composition/rhetoric, and literature. I found material about literature, about writing or composition, and about pedagogical concerns in all the portfolios. In 95 percent of the portfolios I found material about teaching grammar. In an understandably smaller percentage of portfolios I found material about teaching journalism (37 percent) and speech (32 percent) (remember that only 32 percent of the students had been required to take courses in these areas because they were becoming certified in language arts as opposed to English and a second area major.)

More specifically, material about literature and literary study dominated all the portfolios. The literary material referred primarily to canonical English and American literature before the modern era; it consisted mostly of notes from literature classes. All portfolios had material on Shakespeare, for example, but only 15 percent of them included any information or material on modern poetry. Fifty-two percent of the portfolios contained material that could be considered multicultural literature, but all of these

also included handouts on multicultural literature that I had provided in class. Also, most students conceptualized *multicultural literature* one-dimensionally, as Afro-American literature, probably because they had taken a course in Afro-American literature. Some students did create innovative literary categories; Fredricka[2] had a section on fairy tales and frontier literature; Shannon added a separate adolescent literature category. Among the disappointing finds were these: fifty-two pages of "canned" exercises and tests on *To Kill A Mockingbird* in one portfolio and in another two whole and complete volumes (anthologies) of American literature for Christians, the contents of which were not only expurgated, but carefully chosen to preclude anything explicitly challenging Christian beliefs and indeed presented in such a way as to reinforce them.

What I found in students' material about teaching writing was hardly more cheering. The material conformed nearly absolutely to modal distinctions (narrative paragraphs, etc.) and consisted primarily of writing assignments to be given to students plus information on invention strategies (my class handouts again). Many students included papers they had written in various English courses and other students' workshop copies of poems and stories (*creative* writing is emphasized more than *expository* writing in the English department at this university). What was striking was what was not, for the most part, there: professional articles about rhetoric or teaching writing; notes from writing classes or theories of rhetoric classes; information on evaluating and assessing students' writing, including grading schema, heuristics, even checklists; material on planning for writing or revising, editing, and publishing—all topics which we had addressed in class but not topics on which I had provided handouts. Clearly what James Berlin has called *current traditional rhetoric* was the conceptual model for my methods students; their sections on composition emphasized products, were rooted in the traditional modes, and provided only the rarest indications of formal knowledge of rhetoric (Berlin 1987, 36-43).

Studying the portfolio sections on grammar revealed similar inadequacies. The height of complex grammatical thinking was the eight parts of speech (and one student had a file on the parts of speech, yet omitted verbs!) and kinds of sentences (simple, compound, complex, compound/complex). No one had a file on sentence combining. No one had a file on building periodic or loose sentences. No one mentioned participles or even clauses except in the context of labeling kinds of sentences. No one included any materials demonstrating how grammar could function in the service of rhetoric and be integrated with writing and reading assignments. No one

had a file on dialects or history of the language. No one had a linguistics file—although all students in both programs are required to take at least one linguistics course. But 73 percent of them had publishers' worksheets—from a total of twelve different publishers. The record was Melissa's 109 pages of grammar worksheets.

The portfolio files that were pedagogically related were somewhat more encouraging. Although most of these files contained some notes and hand-outs clearly identifiable from other education courses in such areas as special education, educational psychology, tests and measurements, and general methods, several students included material obviously collected independently: magazine and newspaper articles about schools and education; homiletic and inspirational material and poems about teaching. Sixty-eight percent of the portfolios contained something originally from *English Journal*—so we may assume that students are acquainted with this important professional resource.

Other findings: all the material about teaching speech and journalism came exclusively and clearly from speech and journalism courses. Several students did put unusual files in their portfolios: Ellen included a "Life Skills" folder; Mary had one on "Professional Ethics"; Jane had publishers' catalogs, sheet music, and information about grants; Amy included a file on "Middle Schools"; and Jolene had one file entitled "Just My Style," every item in which came, ironically, from me. I was amazed that many students included whole textbooks (Fran had eleven; Jolene and Tim, four). Fran also put in thirty-six empty folders (to indicate what she eventually hoped to add to her teaching portfolio) as well as a copy of the biographical introductions to every single author whose work was anthologized in a high school literature textbook. Bill padded his portfolio with 257 pages of unedited class notes and 125 pages of workshop writing (not all his).

Students drew from a variety of identifiable sources to compile their portfolios. All portfolios contained material from English and education classes: notes, papers written, examinations completed. All portfolios also contained material that I had made available to students in the methods class. This material constituted a sizable percentage of the mass of the portfolios—a mean of 20 percent of the total portfolio contents came from me, suggesting perhaps that students believed that I wanted to see my teaching imprint in their materials or that they simply appreciated the practical material. Other sources for portfolio materials were fellow students (the course structure encouraged extensive collaboration) and practicing secondary teachers. Frequently, my methods students acquired material

from the education curriculum library and from my former methods students, many of whom were doing internships or teaching in the area. Determining the exact sources of material (other than from my class) was impossible, but the reflective letters indicated that students had drawn their material from these sources.

Organization of Portfolios

Although a portfolio organization was never suggested to the methods students and sample portfolios from previous classes were deliberately not made available, my methods students' teaching portfolios were remarkably similarly arranged and organized, or not arranged and disorganized, depending on one's perspective. Seventy-nine percent of the portfolios had a distinctive and perceptible overall organization. Of these *organized* portfolios, 80 percent were topically arranged along the topics of (in order of frequency) literature, writing/composition, teaching, grammar, language, drama, classroom management, journals, and speech. Thirteen percent of the portfolios combined topical with alphabetical arrangement. Seven percent of the portfolios were exclusively alphabetically arranged. Beyond major categories of organization, though, hardly any portfolios were further organized at all. Indeed, within the large chunks inside portfolios existed a startling degree of disarray; only one student of the nineteen (the graduate student with an undergraduate degree and an English emphasis for graduate study) had used an apparent system for arranging files within the major headings, even though the class had agreed that *organization and accessibility* would be a criterion for evaluation. Fran, for instance, arranged the literature section so that the file "Emily Dickinson" preceded "Beowulf" and "Plato" was adjacent to the "Romantics." Walter's poetry folders followed this perplexing arrangement, with these exact labels: "Burns," "William Carlos Williams," "Poe," "Gwendolyn Brooks," "Shakespeare," "Wordsworth," "Narrative Poetry," "Lyric Poetry," "Dramatic Poetry." Jill separated "Adolescent Literature" from her literature section and inexplicably placed it between folders labeled "Language Skills and Your Future" and "Journals." There were also some refreshingly interesting organizing strategies: Jennifer color-coded all the files within sections—blue for literature, green for composition. Jill cross-referenced many files. Christy used Post-it notes to call my attention to selected aspects of her portfolio. Several students included empty folders: Fran, thirty-six; Jill, seven; and Jolene, three.

Implications of Findings

My findings include observations about the students' constructs of the discipline and some conclusions about the students themselves. Three motifs about the students themselves emerged through this study, mainly through their self-assessments and reflections. The teaching portfolios revealed that preservice teachers believe their portfolios to be *personal and practical.* Bill believed that "a lot of what [he] would teach would come from [his] head." "I hope," he wrote, "that this reflects some of what's in there." Sandra wrote that she tried to "anticipate what [she] would run into" in the classroom. And Jenn wrote in her reflective letter, "Since I don't know what level I will teach, I have tried to include material in my portfolio which is applicable for grades seven to twelve." Students also reiterated the sense of *process* involved with the portfolio although they had not seemed aware of process (in reading or writing) for their students-to-be. "This is a fluid process," wrote Jill. And Bill echoed, "This portfolio is a work in progress." Sharon claimed that her portfolio "was not finished." "Even at the 'turning in' point," she wrote in frustration, "I have to restrain myself from rearranging folders and adding new things." Here is the clear awareness of new teachers' personal need for what Kathleen Yancey has called the "time to develop" (Yancey 1994b, 210).

On a darker note, however, students' constructs of the discipline appeared unsound, incomplete, and extraordinarily lopsided, with the emphasis strongly on literature, especially canonical British literature and American fiction. This imbalance reflects, I believe, the preponderance of literary courses in students' preparation as well as the structure of the English department at this particular university, a department clearly oriented toward literary studies and creative writing. This portfolio imbalance may also indicate students' primary interests; many teachers may agree that their interest in the discipline originated in their love of literature and reading. Students' constructs of the discipline were also marked by lacunae: noticeably missing from the portfolios were references to linguistics or language study, especially an even remotely sophisticated view of grammar; references to literary criticism or any informally articulated strategies of interpretation; and materials suggesting contemporary literature or any literatures other than English or American, particularly contemporary literature. What was not there, chiefly, was evidence of metalinguistic ability. The portfolios suggest that students do not possess many tools for talking and writing about texts. Without the means of sophisticated reflection, teachers and teachers-

to-be are handicapped in their abilities to evaluate and create materials. Minus the metalinguistic tools of literary criticism, grammatical terminology, and linguistic understandings, preservice teachers (and in-service teachers too) can do little but succumb to current teacher-proof curricula, textbooks, and "quick-fix" teaching strategies, thus perpetuating the status quo and maintaining the influence of those (frequently outside) forces that determine curriculum and that structure schools.

These deficiencies in preservice teachers' knowledge were—and are— alarming, especially because so many of these preservice teachers were so close in time to independent teaching; immediately after the semester in which the portfolios were assembled, 52 percent of these students were performing internships in secondary classrooms. And one semester after that, they graduated and were certified to teach independent of supervision. No teacher-educator will argue that content knowledge is not among the most important components of the knowledge base for preservice teachers—and most will agree that content knowledge is at the top of the list of what teachers should "know." It has been so during the history of English education. Within the past thirty-five years, though, content knowledge, specifically metalinguistic ability, has been reiterated as necessary for successful teaching. In a chapter on English education in the *Handbook of Research on Teacher Education*, Roy O'Donnell summarizes the 1961 report on *The National Interest and the Teaching of English;* he includes an NCTE-sponsored statement from the Standing Committee on Preparation and Certification specifying that in addition to fundamental knowledge of language and literature, English teachers should have "an informed command of the arts of language—rhetoric and logic" as well as "the insight to use critical approaches in order to discover their literary and human values" (O'Donnell 1990, 707). The 1986 *Guidelines for the Preparation of Teachers* from this same standing committee called for the integration of language arts and argued that among many other necessary requirements, teachers need to know about "composition and analysis of language"—just what appeared missing from students' teaching portfolios and thus from their constructs of the discipline (O'Donnell 1990, 712). In a 1987 article in *Harvard Educational Review*, Lee Shulman argues for a more learned view toward teacher education and for a considerably increased liberal arts influence in the preparation of teachers. Shulman goes so far as to make specific what an English teacher should know:

> . . . English and American prose and poetry, written and spoken language use and comprehension, and grammar. In addition, he or she should be familiar

with the critical literature that applies to particular novels or epics that are under discussion in class. Moreover, the teacher should understand alternative theories of interpretation and criticism, and how these might relate to the issues of curriculum and of teaching. (Shulman 1987, 9)

Shulman retells Grossman's story of Colleen, a new teacher, teaching two very different lessons with two very different outcomes. When Colleen taught literature, an area in which she was informed, competent, and interested, the lesson was effective and "highly interactive" (Shulman 1987, 18). When Colleen taught a grammar lesson, her performance was "highly didactic, teacher-directed" and by Colleen's admission "uncertain." Colleen had virtually no grammar instruction although she had two university degrees in English; and because of her inadequate knowledge of grammar, she had to devote the energy that might have gone into teaching the material into mastering the material. Clearly, teachers must know their subjects thoroughly and feel confident in these subjects before they can feel free to address students' learning needs and consequently their teaching styles; flexible and interactive teaching techniques are not available to Colleen, Shulman argues, when she does not understand the topic to be taught (Shulman 1987, 18). Sandra Hollingsworth also points out that "understanding subject specific content and pedagogy [is] a *necessary* but not sufficient condition for learning to teach" (Hollingsworth 1989, 177, italics added). An understanding of the subject to be taught is not all that teachers must master, certainly, but that is a necessary precondition for successful teaching. My methods students' teaching portfolios—even the *A* portfolios—revealed an understanding of English that was so incomplete as to make the teaching of English often unnecessarily difficult and thus to limit reform of practice. One may argue that this content learning may be done on the job—and that no professionals are at first totally prepared for independent practice. But learning one's subject and learning to teach simultaneously can be inordinately difficult. Neophytes in other professions frequently have more than four years of undergraduate preparation and a period of paid internship besides. Many teachers do not. The exception is the beginning teacher with a master's degree; indeed, one of the best portfolios was completed by the graduate student with an undergraduate degree in English, but one graduate student example is not sufficient evidence from which to generalize. This student was furthermore at the beginning of course work and would go on not only to take more courses in English but an additional course in graduate English methods besides. Teachers also have a high early attrition rate of 15 percent for the first year (Huling-Austin 1986, 2-5).

We cannot attribute burnout solely to inadequate preparation in the content area, but we can say inadequate preparation in the content area may contribute to the professional frustration of novice teachers.

It is also possible that teacher-educators and preservice teachers belong to cultures that are more distinctive and separate than any of us would like to believe. Preservice teachers are typically not sufficiently immersed either in the culture of school or the culture of English graduate studies to recognize what might be missing from their preparation to teach. And their aims are, after all, distinctly personal: to acquire the credentials for entrance to the profession and to be prepared to succeed personally in managing students and the material to be taught. Teacher-educators, who have teaching experience in secondary schools as well as extensive experience in the culture of graduate studies in English, generally want not only to prepare their students to succeed in the classroom but to sow the seeds of institutional reform. These goals are less tied to personal performance and more related to political aims than are those of preservice teachers. Thus the two cultures have different knowledge bases, different experiences, different perspectives, and different purposes.

What's a teacher-educator to do? How can we insure that English education graduates are better prepared? First, we need more time to prepare English teachers, more time to create more overlap between the cultures of preservice teacher and teacher-educator, and more time to include additional course work and experience, especially in composition and grammar. Accomplishing this goal will be politically risky, for it entails either adding on degree time (a five year program, at minimum) or reconfiguring existing degree programs and removing some courses somewhere to make room for additional content courses in English. Increased cooperation between departments of English and colleges of education will also help prepare more English-knowledgeable teachers. Many students in undergraduate English courses are education majors and vice versa; surely the two entities can find more ways to cooperate in the spirit of mutual interest. Finally, more specific attention to authentic assessment of our preservice teachers may yield valuable information about what they know and so may guide us toward developing better teacher education programs. Open teaching portfolios may be particularly potent reflections of how disciplinary content knowledge is constructed, and we should continue to use portfolios to assess programs as well as the progress of individual students.

Notes

1. Renee Clift's award-winning study of a novice teacher asks this question, among others: "Is it possible that teacher-educators have the same questions about their students' learning that Lesley [the subject of Clift's study] had about her students?" (Clift 1991, 369). The answer to Clift's question is *yes,* for that is exactly why I undertook this study.
2. All students' names have been altered to maintain anonymity.