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ABSTRACT

This study was conducted to determine the extent to which writing to learn and reflective teaching within an interdisciplinary elementary methods course gave undergraduates the opportunity to change their perspective from student to teacher. Participants were 31 preservice elementary education majors enrolled in a one semester interdisciplinary methods course involving science, reading, and language arts. A number of whole class experiences were devised both on and off campus to provide a cognitive apprenticeship through a variety of opportunities to observe classes, experience life as a teacher, and to be exposed to children. Data were collected through students' writing, videotapes of science classes, researcher's field notes of class proceedings, and small group discussions. Findings suggest that: (1) the structure of the course as an interdisciplinary workshop that asked students to consider themselves as scientists, readers, and writers forced all students to confront their self-concepts in each discipline; (2) the emphasis on written reflection allowed students to discover just what troubled them about teaching science, reading, and language arts; and (3) the course structure and activities forced students to see themselves evolving from students to thinking, rational, intuitive, and decision-making teachers. (LL)

REFLECTIVE TEACHING AND CONCEPTUAL CHANGE IN AN INTERDISCIPLINARY ELEMENTARY METHODS COURSE

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INTRODUCTION

This study examined the extent that writing-to-learn and reflective teaching within an interdisciplinary elementary methods course gave undergraduates the opportunity to change their perspective from being a student to being a teacher. Further, it also incorporated the call from those in general education or liberal arts to move toward interdisciplinary study in education.

The framework for the research was drawn from three seemingly separate areas of work within education, namely, reflective teaching (Schon, 1983; Baird, et al, 1989), conceptual change (Posner et al,1982 ; Anderson and Smith, 1988), and the writing-to-learn (Murray, 1987) movements. All three disciplines called for meaningful learning experiences, envisioned learners as needing to go through stages of developrnent in a long-term change process, and all three advocated reflection as the most powerful tool for growth and development.

DESIGN OF THE STUDY

Study Population - Thirty-one preservice elementary education majors enrolled in a one semester interdisciplinary methods course involving science, reading and language arts served as the study population. Of the total population, 25 were juniors and 6 were seniors; 23 were traditionally aged undergraduates and 8 were non-traditional students in regards to age and family experiences.

Fieldwork - A number of on and off campus whole class experiences were devised to give students a variety of opportunities to observe and experience life as a teacher and exposure to children across a variety of ages . The most extensive of these experiences was a four day teaching experience in which students were to plan for and teach at least two hours a day across the three disciplines covered in the methods course. These experiences provided a form of "cognitive apprenticeship" as the conceptual framework to permit reflection.

Description of the Course

The course was team taught by two faculty (one being the author), two days per week for approximately six hours per day. The faculty spent a large part of that time interacting together with all students or with them in small groups. There was time, however, each day for one or both professors to also work with students on a specific topic in one of the disciplines. The course syllabus reflected the integrated nature of the course through its emphasis on shared goals and assignments. Specific goals included the development of observational strategies, literacy in the three content areas, the nature of the disciplines, resource materials, reading and writing across the curriculum, and the transition from thinking as a college student to thinking and acting as a teacher.

Throughout the course, many special events occurred to help students "think as teachers". Most of these revolved around actual classroom experiences and visits by teachers, others who were connected with the teaching profession, as well as science content experts.

Students spent several full days, apart from their extended teaching experience, in whole class observation/participation experiences intended to highlight various aspects of the course. They worked with two separate individuals in a kindergarten class taught by a graduate student of one of the researchers. They visited a K - 8 school that is in the process of change from a traditional curriculum to one based more on a process philosophy to education. They culminated the course by spending an entire day in the classroom of one set of penpals they had been writing to all semester. The teacher for that day was the student who had worked in the classroom during his four day teaching experience.

Students also had several opportunites to work side by side with a group of students (ranging in age from 8 to 15) who had come to spend the day in the college classroom to engage in hands-on science activities.

Data Collection Strategies

Data for this study was collected mainly through students' writing of various forms and purposes throughout the semester. These writing samples included, chronologically:

1. A reflective piece written during the first week on: "How you remember being taught to read, write and learn science" and " How you think you will teach each of these subjects".
2. Interactive journals written over the first two-thirds of the semester and handed in four times to the instructors for conceptual feedback including positive response and questions for expansion of thinking.
3. Field experience journals kept during a four full-day teaching experience occurring two-thirds of the way through the semester (including thoughts before the experience, self-evaluations after each day, and lesson plans as well as an evaluation of the student by the cooperating teacher).
4. A draft done the first class period after the extended field experience on: "How do I now view myself as a teacher and what questions do I know have?"
5. A first draft response to: "How do I react to change?"
6. An evaluation of six components of the course and a self-evaluation of performance.
7. Rough drafts and a final draft of a paper on: "How you would now teach reading, language arts and science?"

In addition, videotapes were made of many of the science classes. The researchers kept thorough field notes of each day's class proceedings. Additional data came from individual and

small group spontaneous discussions outside of class time.

DATA ANALYSIS AND RESULTS

The data analyses followed the format suggested by Erickson (1986) for ethnographic and interpretive research. Assertions were generated through a systematic search of the writings of students for relationships among assertions and an interpretation of their meanings.

Actual analysis began by reading and rereading complete sets of assigned papers in chronological order. After that was accomplished, the papers were reorganized back to their original authors so that we had sets of writing, in chronological order, from each student. These documents were read from beginning to end, absorbing the "story" of individual students juxtaposed against the patterns discerned from all of the student papers.

According to their first piece of writing, done during the first two class periods, almost all of the students remembered very traditional instructional backgrounds in learning to read and write and in learning about science.

However, after reading and rereading the first and last sets of papers, we concluded that:

(1) Unlike most research findings, no student, no matter what background, entered the course totally unconcerned or naive about teaching concerns. At the beginning of the course (as at the end) there was a range of students representing a broad continuum of yet undetermined perspectives on teaching.

(2) There were three broad categories of students within this continuum range: traditionally aged students who had very unspecified concerns, nontraditional students who also had very unspecified concerns, and nontraditional students who came to class with broad but tentative teaching concerns.

Analysis of the data from the students and cooperating teachers overwhelmingly confirms that this experience did, in fact, act as a catalyst to students' seeing themselves in the role of teacher, and reflecting on their own teaching.

Shortly after the students completed their four full-days of teaching, they were asked in class in a first draft form to respond to: "How do you now feel about yourself as a teacher?" Twenty-six of the thirty-one students reported very positive feelings about themselves as teachers after the experience. Many described a new confidence in themselves as teachers, feeling comfortable to make mistakes and learn from them.

A recurring theme through many of the responses was that the experience made the textbooks and course discussions "real". One student stated: "Listening to you talk in class about integrating subjects and how to go about teaching, and actually doing it are two different things. I needed to see that these ideas really do work and that students do enjoy them. You keep saying that hands-on activities are best for students, well hands-on teaching was good for me, too".

Other comments included the following:

"For me the field experience was as valuable as the class time because some things you just can't learn from a book. You must see and experience it personally - hands-on learning. I not only learned a lot out in the field but my confidence is much greater in the classroom".

" We were in the field all the time putting to use what we were learning. This made what we were learning more tangible and it also enabled us to have the choice to ask any questions we had about teaching. This made us in class think as teachers because I think we began to ask more "teacher" questions instead of "student" questions".

This last quote verifies the ultimate purpose for having structured all the concurrent field work - to use fieldwork as a catalyst to help students truly move from thinking just as our students in yet another isolated college class to thinking as teachers, to reflecting on their decisions in a professional manner.

CONCLUSIONS/IMPLICATIONS

Significant patterns that emerged from the data were the following.

(1) The structure of the course itself, as an interdisciplinary workshop that first asked students to consider themselves as scientists, readers and writers, forced all students to confront their self-concepts in each discipline. Because many reported learning to read, write and do science from a traditional, isolated, text-driven philosophy, the structure of the course also forced students to reconceptualize all three fields and, specifically, how they could be taught under a new paradigm.

(2) The structure of the course with its constant emphasis on written reflection through many different genres of writing forced and allowed most students to discover just what, at that point in their career, troubled them most about teaching as a career.

(3) The structure also forced them to see themselves evolving from "just being college students" to beginning to think as rational/intuitive decision-making teachers. Students honestly began to "see themselves as teachers". There was a change in their openess to try new teaching methods to bring about more meaningful learning of which an interdisciplinary approach is one of them, especially the role of teacher as facilitator. An attempt was made to empower them as learners so they would/could try that themselves. They began to come to grips with the content knowledge-pedagogical content knowledge concern of where to find knowledge/information and how to teach it.

(4) Ours students, as undergraduate elementary methods students, are automatically considered as "novice teachers" by experts in the field of education. Therefore, many assume that these students bring no background or experience to the task of teaching. The findings of this study seem to indicate a richer background than that of a "novice". One of the critical findings of this study (that parallels much of the research on student centered elementary classrooms) is that,

while no student entered the class"tabla rasa", no two students grew in their ability to reflect on teaching in the same way.

Major implications from this study, then are the following: (1) Undergraduate methods instructors cannot assume that any student in a methods course has not already begun some reflection on what it means to him/her to be a teacher. The key is to find ways to capitalize on that early thinking. On the basis of this study, one effective way is through students' writing. (2) The methods course must be structured so that each students discovers and confronts what, developmentally, is his/her "next" conceptual roadblock to adopting the role of teacher. This study supports the use of an integrated methods block - integrated both in curricula disciplines and in combining coursework and fieldwork - that creates a "workshop" atmosphere instead of the traditional lecture/authority model of college teaching. This new structure can be a powerful framework to promote undergraduate elementary methods students' ability to begin to think and act as a teacher.

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