

DOCUMENT RESUME

ED 417 385

CS 013 112

AUTHOR Krause, Suzanne
TITLE The University Supervisor: Constructing Meaning about a Restructured Teacher Education Program Relative to the Supervision of Literacy Methods Students.
PUB DATE 1997-12-04
NOTE 11p.; Paper presented at the Annual Meeting of the National Reading Conference (47th, Scottsdale, AZ, December 3-6, 1997).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Administrative Principles; *Administrator Behavior; Educational Research; Higher Education; Methods Courses; *Student Teacher Evaluation; *Student Teacher Supervisors; *Supervisory Methods; *Teacher Education; Teacher Supervision
IDENTIFIERS *Reflective Supervision

ABSTRACT

An exploratory study described the ways in which a university supervisor constructed meaning about the program goals, assessment system, and her role as a supervisor relative to a newly reconceptualized elementary student teaching program and literacy methods class. The supervisor worked in a teacher education program in a large urban university in the northwestern United States. She was chosen because of her extensive knowledge of and experience with the field and because she was unclear about many of the radical transformations taking place in the program in which she had worked efficiently and effectively for many years. Data included field notes taken in informal and formal contexts; the supervisor's written notes and memos; and audiotapes of student's literacy lesson teaching episode, the supervisor's post-observation conference with the methods students, the researcher's post-observation conference, and the post-conference reflective conversation. Results indicated: (1) the supervisor constructed meaning similarly across the categories of supervisor knowledge in terms of program goals and learning targets knowledge (44%) and strategies to increase her supervisor knowledge (46%); the supervisor focused on the first of four program goals (effective teaching, assessment, and evaluation) and related target dealing with effective instruction; and the supervisor was likely to use either talking or reflecting to construct meaning about the program. Findings suggest continued investigations of the thought processes of supervisors relative to the changing nature of the teacher education program and coaching interventions are warranted. (Contains three tables of data. Appendixes contain a program goals and objectives, an observation evaluation guide, and an observation and conference form.) (RS)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

The university supervisor: Constructing meaning about

a restructured teacher education program relative to the supervision
of literacy methods students

Suzanne Krause

California State University -- Humboldt

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL HAS
BEEN GRANTED BY

S. Krause

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

1

Paper presented at the Annual Meeting of the National Reading

Conference, Scottsdale, AZ, December 4, 1997

BEST COPY AVAILABLE

CS 013112

a. Purpose

The purpose of this study is to describe the ways in which a university supervisor constructed meaning about the program goals, assessment system, and her role as a supervisor relative to a newly reconceptualized elementary student teaching program and literacy methods class. Two questions guided the research: First, what does the supervisor's meaning construction look like during the initial stages of implementation of the new teacher education program? Second, are there patterns to the meaning construction process? This information is important because increased knowledge and understanding about the early meaning construction process of the university supervisor in a reconceptualized teacher education program and its literacy courses may have implications for supervisor training, program development, and further research.

b. Theoretical Framework

The call for radical changes in the way we view teacher education (Goodlad, 1994; Holmes Group, 1986) and teaching (Carnegie Forum on Education and the Economy, 1986) has led to substantial change in many teacher education programs. Central to many of these reforms are curricular and programmatic changes that (a) reflect an emphasis on constructivist philosophies of teaching and learning and (b) lessen the perceived "gap" between what preservice teachers learn through their university coursework and what they experience in the field (Darling Hammond, 1994; Goodlad, 1994; Tabachnick & Zeichner, 1991). Despite widespread reforms in other areas of teacher education, recent guidelines for the effective supervision of student teachers (Garland & Shippy, 1995; Anderson, Major & Mitchell, 1992), continue to promote a positivistic supervision model (Cogan, 1973). What is missing from the literature is attention to the direct connections between teacher education reform, including new systems of performance-based assessment and evaluation, and the necessarily changing role of the university supervisor (Glickman & Bey, 1990).

How does a university supervisor construct meaning about a reformed teacher education program, especially the implementation of new ways of assessing literacy methods students? As an integral agent of teacher education reform in the field, and as the individual who often scaffolds both campus-based and fieldsite experiences of preservice teachers, the university supervisor is a critical link in how the programmatic and curricular reforms taking place at the university are interpreted and supported in the field (Goodman, 1991). With the current emphasis on developing informed university-school partnerships (Goodlad, 1994), the literature on teacher education reform may remain incomplete without additional research into the thought processes of supervisors relative to the changing nature of the teacher education program, coursework, and the supervisory process itself.

c. Method

Participant and Setting. Kathy is an elementary, university supervisor in a teacher education program in a large urban university in the Northwest. As a supervisor, she is responsible for observing, supervising, and evaluating literacy methods students in the field. For several years prior to the reconceptualization of the program, Kathy used the university's hierarchical, skill-based assessment and evaluation system. Kathy was selected as a participant in this study because (a) her extensive knowledge of and experience with the field are typical of many supervisors in teacher education programs across the country, and (b) Kathy was unclear about many of the radical transformations taking place in the program in which she had worked efficiently and effectively for many years. The university's new program principles were developed to be compatible with advanced certification standards for professional teaching at the national level (e.g. NBPTS, INTASC, etc.) and the assessment and evaluation system was designed to gather data about and evaluate the teacher education student's achievement of four major program goals and seventeen related learning targets (see Appendix A). Achievement of the learning targets indicates progress toward becoming a knowledgeable, effective, and committed teacher. The student and the supervisor use the conference sessions that precede and follow the student's teaching to discuss the student's knowledge and degree of achievement of program goals and learning targets. Ultimately, it is the responsibility of the student to provide adequate evidence of his or her progress across each of the learning targets by the end of the fourth quarter in this five-quarter program.

Data Collection. As a faculty member with collaborative responsibility for developing and implementing the new assessment system, I met with Kathy throughout the first quarter of the new

program in a variety of formal and informal contexts for a total of sixteen hours. Data collected during include personal notes and "quickwrites" completed by Kathy and the other university supervisors; my own written notes and reflections about the supervisors' talk (comments, questions, and interpersonal exchanges) before, during, and after instruction; Kathy's written notes and memos to me and herself; and my notes taken during and after our conversations. In addition, I accompanied Kathy to the fieldsite to model and provide guided practice for implementing the new system with literacy methods students in real classroom settings. Data collected during these sessions include audiotaped transcriptions of (a) the student's literacy lesson teaching episode, (b) Kathy's post-observation conference with the methods student, (c) my post-observation conference with both the student and Kathy, and (d) Kathy's and my post-conference reflective conversation. In addition to these transcriptions, data include detailed fieldnotes of my own observations of the student's literacy lesson.

d. Data Analysis and Results

Data Analysis. Analysis of the data was systematic and a synthesis of coding procedures described by Miles and Huberman (1990) was used. Descriptive and interpretive coding was done during data collection and analysis phases. Codes and subcodes (i.e. categories applied to sentences or paragraphs of field notes defined as thought units) were of two types: prespecified (i.e. capturing the notion that the university's assessment and evaluation system is designed to gather data about and evaluate the teacher education student's achievement of the four program goals and seventeen learning targets), and those derived inductively from the field notes and transcriptions. A thought unit was defined as an episode of communication during which Kathy (co-) constructed meaning about or described her responsibilities as a supervisor in the university's reconceptualized teacher education program. Reliability in applying the coding scheme was assessed twice. First, between me and a second rater who was unfamiliar with the study. Interrater agreement of 90% was achieved and disagreements were resolved through discussion. Second, reliability was assessed between me and Kathy who was familiar with the study, but not code development. Interrater agreement was 99%. Final categorical definitions survived a search for disconfirming evidence and feedback from Kathy.

Although the recursive-generative process yielded four categories of Kathy's meaning construction about or perceptions of her role as a supervisor in the university's reconceptualized teacher education program, only two major categories and their related subcategories will be discussed. Category 1 provides evidence of Kathy supporting students' achievement of and reflection on the teacher education program's goals and/or learning targets. Category 2 provides evidence of Kathy using specific and purposeful strategies to acquire a deep, working understanding of the teacher education program's goals and/or learning targets. In addition, descriptive subcategories were defined for both categories. A percentage of total thought units (i.e. across all data sources), rather than a frequency tally, was computed for each category and subcategory.

Results (Patterns of Meaning Construction). Table 1 displays the two major categories of meaning construction that Kathy exhibited relative to her role as a supervisor in the new teacher education program. The third category, "Other," represents the two additional categories of thought units that are not discussed. The numbers represent percentages of total thought units by category. The table shows that Kathy constructed meaning similarly across both categories: (a) supervisor knowledge in terms of program goals and learning targets knowledge (44%) and strategies to increase her supervisor knowledge (46%). However, Tables 2 and 3 which display the subcategories of Categories 1 and 2, respectively, suggest that there are differences as to the degree to which Kathy talked or thought about each subcategory of supervisor knowledge.

Table 2 displays the five subcategories of Category 1. These include a general focus on program goals and learning targets, as well as a specific focus on each of the four major goals and related learning targets. Again, the numbers represent percentages of total thought units. Kathy was most likely to focus on the first program goal and related targets dealing with effective instruction, assessment and evaluation (see Appendix A) (25%). She was less likely to consider goals and targets in general, (5%), or goals two (6%) and three (8%) and related targets. She was considerably less likely to attend to goal four and related targets (< 1%). The patterns that emerge in Table 2 suggest a relationship between Kathy's primary perception of her role as supervisor (i.e. assessing students' classroom instruction) and the program goal (goal 1) that names and emphasizes these aspects of

effective teaching and assessment.

Table 3 displays the five subcategories of Category 2; the specific strategies that Kathy used to acquire a deeper, working understanding of the teacher education program's goals and learning targets. These are: writing, reading, talking, reflecting, and attending the methods course. Again, the numbers represent percentages of total thought units. The table shows that Kathy used all five strategies to construct meaning. However, there are differences as to the degree to which Kathy used a particular strategy. Kathy was most likely to use either talking (19%) or reflecting (19%) to construct meaning about the program. She was less likely to use writing (5%) or the methods course (4%), and even less likely to use reading (< 1%) to help her construct meaning. The patterns that emerge in Table 3 suggest a relationship among Kathy's tendency to co-construct meaning through talk, think reflectively, and her deepening understanding of the university's new teacher education program goals and learning targets.

The results, which must be interpreted heuristically and relative to the qualitative method with which the data were obtained, suggest relationships among Kathy's active and purposeful meaning construction, her co-construction of knowledge and reflective thinking, and the program's first goal and related learning targets that focus on effective instruction, assessment and evaluation.

e. Educational Importance of the Study

Schon's (1987) theories of professional artistry, the design process, and reflection-in-action provide a framework for discussing these relationships and have direct implications for educating effective university supervisors. Schon (1987) suggests that educating a reflective practitioner -- in this case a university supervisor -- necessitates engaging the supervisor in a reflective practicum because "the interventions that are most useful to them are more like coaching than they are like teaching, as in a reflective practicum" (p. 157). Schon asserts that the reason the design process can be learned, but not taught using traditional classroom methods, is due to the fact that the professional domain is, in essence, messy or ill-structured. Kathy, in her patterned efforts to construct meaning about the teacher education program's goals and learning targets, provides evidence of what Schon calls the designlike artistry of professional practice.

Schon (1987) suggests five features that make the design process in which Kathy was engaged learnable and coachable (but not teachable). These features suggest five implications for establishing effective coach-learner relationships across diverse teacher education programs. First, supervisors need opportunities to practice designing and reflect on their practice if they are to develop what Schon calls knowing-in-action. Second, supervisors need safe opportunities to risk practice in the context of a meaningful and "whole," albeit messy, process. Third, the supervisor needs a coach who can show examples of effective supervision and then name or label them to help the supervisor discriminate among examples that represent varying degrees of effectiveness. This means that the individual(s) designated as a coach in the teacher education program must be knowledgeable about both the program's goals and learning targets, as well as the content area knowledge, such as literacy, with which goals and targets are inextricably linked. Fourth, supervisors, as they shift from the role of design-student to that of design-coach, need a coach who can model his or her reflection on examples of effective supervision. Finally, the practice environment, both campus and field, must be a safe one for both coach and supervisor to construct new meanings situationally and to feel comfortable with the dynamic nature of their knowings.

Although this study cannot affirm its findings in rigorous terms, much less imply causal relationships, the value of this and other exploratory research is in its heuristic nature. Continued investigations of the thought processes of supervisors relative to (a) the changing nature of the teacher education program, including their role as interpreter and supporter of these changes in the field (Goodman, 1991), and (b) coaching interventions that model Schon's (1987) notions of the design process are warranted.

f. Key References

Darling-Hammond, L. (Ed.). (1994). Professional development schools: Schools for developing a profession. NY: Teachers College Press.

Glickman, C. D., & Bey, T. M. (1990). Supervision. In W. R. Houston, M. Haberman, & J.

Sikula (Eds.), Handbook of research on teacher education (pp. 549-566). NY: Macmillan.
 Goodlad, J. I. (1994). Educational renewal. San Francisco: Jossey-Bass.
 Goodman, J. (1991). Using a methods course to promote reflection and inquiry among preservice teachers. In B. R. Tabachnick & K. M. Zeichner (Eds.), Issues and practices in inquiry-oriented teacher education (pp. 56-76). NY: The Falmer Press.
 Schon, D. A. (1987). Educating the reflective practitioner: Toward a new design for teaching and learning in the professions. San Francisco: Jossey-Bass.

Table 1

Major Categories of University Supervisor's Meaning Construction About New Teacher Education Program and Assessment System

Category	Percentage of total thought units
1. Student achievement of program goals and learning targets	44
2. Strategies for understanding goals and learning targets	46
3. Acceptance of ill-structured domain	6
4. "Traditional" role of supervisor	3

Table 2

Subcategories of University Supervisor's Meaning Construction About Program Goals and Learning Targets

Subcategory	Percentage of total thought units
General focus on program goals and learning targets	5
Program goal 1 and related targets	25
Program goal 2 and related targets	6
Program goal 3 and related targets	8
Program goal 4 and related targets	<1

Table 3

Subcategories of University Supervisor's Strategies for Constructing Meaning About Program Goals and Learning Targets

Category	Percentage of total thought units
Writing	5
Reading	<1
Talking	19
Reflecting	19
Attending the methods course	4

Program Goals And Learning Targets

In the TEP, instruction and experiences on campus and in the field are based on specific GOALS in four (4) important areas:

- Effective Teaching, Assessment, & Evaluation
- Meeting the Needs of Diverse Learners
- Creating a Positive Learning Environment
- Professional Commitment

The LEARNING TARGETS in these areas represent a common core of essential teaching knowledge and skills. However, the TEP student's performance of specific teaching decisions and actions occurs in numerous and varied contexts. This means that the evidence of the student's performance of learning targets is also numerous and varied.

GOAL 1 EFFECTIVE TEACHING, ASSESSMENT & EVALUATION:
TEP students will be aware of and able to demonstrate effective teaching, assessment, and evaluation practices within appropriate content areas.

Learning Target 1A: The TEP student will understand the central concepts, tools of inquiry, and structures of content/subject matter and will create learning experiences that make subject matter meaningful and understandable to learners.

Learning Target 1B: The TEP student will understand and use a variety of instructional strategies, materials and resources (including media and technology) to encourage learners' development of critical thinking, problem solving, and academic performance.

Learning Target 1C: The TEP student will incorporate knowledge of subject matter, students, community, and curriculum goals into his or her planning and teaching.

Learning Target 1D: The TEP student will develop classroom routines and classroom management strategies that support academic learning and the creation of a positive learning environment for all learners.

Learning Target 1E: The TEP student will understand and use formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.

GOAL 2 MEETING THE NEEDS OF DIVERSE LEARNERS:
TEP students will demonstrate an understanding of child development through developmentally appropriate practice, and a commitment to supporting diverse students within the classroom.

Learning Target 2A: The TEP student will understand how children learn and develop, and will provide learning opportunities that support intellectual, social, and emotional development.

Learning Target 2B: The TEP student will understand how learners differ in their approaches to learning and how differences in race, ethnicity, class, culture, and language can affect engagement and success in school.

Learning Target 2C: The TEP student will demonstrate his or her ability to adapt curriculum and instruction to meet the needs of diverse learners in the classroom.

Learning Target 2D: The TEP student will be able to create a learning community in which individual differences are respected.

GOAL 3 CREATING A POSITIVE LEARNING ENVIRONMENT:
TEP students will use an understanding of classroom and social dynamics to create a positive learning environment that encourages supportive social interactions, active engagement in learning, and self-regulated learning.

Learning Target 3A: The TEP student will use knowledge of effective verbal and nonverbal communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.

Learning Target 3B: The TEP student will understand and use classroom strategies that encourage learners to work together productively.

Learning Target 3C: The TEP student will demonstrate respect for learners as thinkers and as individuals in all interactions.

GOAL 4 PROFESSIONAL COMMITMENT:
TEP students will demonstrate professional commitment to teaching by :

- working within and beyond the school to support children's learning and well being
- embracing the belief that learning to teach is a life-long process,
- conducting oneself as a respected professional.

Learning Target 4A: The TEP student will work with colleagues within the school to make the school a productive learning environment.

Learning Target 4B: The TEP student will foster professional relationships with parents/guardians, other professionals, and other agencies within the community to support learners' learning and well being.

Learning Target 4C: The TEP student will understand the ethical dimensions of the teacher's role and be able to identify and reflect on ethical aspects of classroom practice and professional conduct as they arise.

Learning Target 4D: The TEP student will develop into a reflective practitioner who continually evaluates the effects of his/her choices and actions on others.

Learning Target 4E: The TEP student will actively seek out professional development opportunities to foster his or her growth as a teacher.

Appendix B

Observation Evaluation Guide

The evaluation guide, used for determining the degree to which the student has demonstrated the learning target, can be applied to students' performance across each of the learning targets in a variety of contexts.

Students may progress through more than one level in a given quarter. Performance may also vary considerably on a given learning target in a different context.

Words and phrases that might describe the performance of a beginning teacher, at progressive levels of achievement are suggested

Unattempted (UA)

The student has not yet focused on or tried to implement the learning target.

Unsatisfactory (US)

The student's performance and/or conference:

- fails to address
- shows little or no understanding of
- misinterprets

important aspects of learning target.

Basic/Beginning (B)

The student's performance and/or conference:

- inconsistently/incompletely addresses
- shows surface (e.g. the "what" vs. the "how/when/why") vs. deep understanding of

important aspects of the learning target.

Developing (D)

The student's performance and/or conference:

- adequately addresses
- shows good understanding (e.g. the "what" and the "how") of
- demonstrates tentative connections among
- demonstrates tentative extensions of

important aspects of the learning target.

Advancing (A)

The student's performance and/or conference:

- firmly addresses
- shows excellent understanding (e.g. including the "when and why") of
- evidences strong connections among
- evidences strong extensions of
- reflects knowledge of alternative views relative to

important aspects of the learning target.

Appendix C

Observation and Conference Form

TEP student's Name _____ Date _____

Quarter: 2 3 4

Observation/Conference:

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

Observation Time: _____ to _____ Conference Time: _____ to _____

School _____ District _____

Cooperating Teacher _____ Grade level _____

University Supervisor _____

Learning Targets: (Please Circle at least 2)

Expected Evidence:

1. Effective Teaching Assessment & Evaluation:
A B C D E
2. Meeting the Needs of Diverse Learners:
A B C D
3. Creating a Positive Learning Environment:
A B C
4. Professional Commitment:
A B C D E

Field Notes (including evidence of and/or need to address, additional learning targets):

Are there concerns that require the attention of the TEP Office? NO ___ YES ___
If yes, please explain:

University Supervisor Signature _____

TEP student Signature _____

Copies: White - University file; Pink - TEP student; Yellow - University Supervisor



U.S. Department of Education
 Office of Educational Research and Improvement (OERI)
 Educational Resources Information Center (ERIC)



REPRODUCTION RELEASE
 (Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: Paper presented at the National Reading Conference (Scottsdale) <i>The University</i> <i>Krause, Suzanne</i> <i>Supervisor: Constructing Meaning, etc.</i>	
Author(s):	
Corporate Source:	Publication Date: Dec. 3-6, 1997

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Service (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following two options and sign at the bottom of the page.

Check here
For Level 1 Release:
 Permitting reproduction in microfiche (4" x 6" film) or other ERIC archival media (e.g., electronic or optical) *and* paper copy.

The sample sticker shown below will be affixed to all **Level 1** documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 1

The sample sticker shown below will be affixed to all **Level 2** documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 2

Check here
For Level 2 Release:
 Permitting reproduction in microfiche (4" x 6" film) or other ERIC archival media (e.g., electronic or optical), but *not* in paper copy.

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but neither box is checked, documents will be processed at **Level 1**.

"I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries."

Sign here → please

Signature: <i>Suzanne Krause</i>	Printed Name/Position/Title: <i>Suzanne Krause, Assist. Prof. Ph.D.</i>	
Organization/Address: <i>Dept of Education Humboldt State University Arcata, CA 95521</i>	Telephone: <i>(707) 826-5851</i>	FAX: <i>(707) 826-5868</i>
	E-Mail Address: <i>SK9@axe.humboldt.edu</i>	Date: <i>4/16/98</i>

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:	<i>Requisition</i> ERIC/REC 2805 E. Tenth Street Smith Research Center, 150 Indiana University Bloomington, IN 47408
---	---

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

~~ERIC Processing and Reference Facility
1100 West Street, 2d Floor
Laurel, Maryland 20707-3598~~

Telephone: 301-407-4080
Toll Free: 800-709-3742
FAX: 301-953-0263
e-mail: ericfac@inet.ed.gov
WWW: <http://ericfac.piccard.ese.com>