

PROCEEDINGS  
OF THE  
1988 MIDWEST RESEARCH TO PRACTICE  
IN ADULT AND COMMUNITY EDUCATION

Editor: Chere Campbell Coggins

To order copies of the 1988 Proceedings, contact:

The Department of Continuing and Vocational Education  
University of Wisconsin-Madison  
225 North Mills Street, Room 264  
Madison, WI., 53706

A Comparison of Three Transfer of Training Strategies In  
Inservice Adult Teacher Training

Dr. John A. Henschke

Associate Professor of Adult Education		Continuing Education Specialist
Chair, Department of Educational Studies	and	East/West Gateway Area
School of Education		East Central Region
University of Missouri-St. Louis		University Extension
		University of Missouri

201 Marillac Hall  
Department of Educational Studies  
University of Missouri-St. Louis  
8001 Natural Bridge Road  
St. Louis, Missouri 63121-4499

ABSTRACT:

The need for effective inservice education for teachers is great. Often, inservice programs teach new knowledge and skills, but there is little carry over into teaching practice. The purpose of this study was to develop an effective inservice program in methods of teaching specific subject matter and to compare the effectiveness of four different follow-up strategies: consultant coaching, team coaching, group meetings, and no follow-up. The major hypotheses tested were: teachers receiving training will demonstrate a significant increase in mean scores on a knowledge test and on a skill performance instrument when compared with a group of teachers not receiving the same training; there will be significant differences in performance of skills between trained subjects exposed to follow-up treatment and trained subjects receiving no follow-up treatment; and, there will be no significant differences in skill performance among treated groups receiving the four levels of follow-up. Data were analyzed using two-factor analysis of covariance. The covariates were age, years of schooling, and years of teaching experience. A significant difference was found between trained and untrained subjects on the knowledge criterion. No other significant interactions were found, however, subjects receiving follow-up made positive changes on the two performance measures. Subjects in the consultant coaching and group meeting treatments improved more than subjects in the team coaching and no follow-up groups.

A Comparison of Three Transfer of Training Strategies in  
Inservice Adult Teacher Training

Considerable amounts of time and effort are spent providing continuing education for employees of organizations with varying degrees of success. Inservice education or staff development is defined as any training activity designed to increase competencies needed by employees in the performance of their assignments (adapted from Wade, 1985). The rapid increase of change in all aspects of society calls for improved quality in educator competencies.

The need for effective inservice education for teachers is great. Often, inservice education programs teach new knowledge and skills. Teachers usually emerge refreshed from these experiences, but there is little carry over into teaching practice. Some suggest that the key to effective inservice lies in the transfer of training into classroom practice. However, this vital link has been largely ignored.

Certain elements have proven effective in helping teaching professionals learn new skills or refine already existing ones. The elements of a fully elaborated inservice program include an understanding of the theory behind the skill being learned, modeling or demonstration of the skill, practice and feedback in the use of the skill, and in-class assistance with the transfer of the skill to the actual teaching situation.

The purpose of this study was twofold. One objective was to design and implement an effective training program in methods of teaching specific subject matter. Although the audience for this was day care teachers and the subject matter was mathematical concepts, these teachers are adults. Hence, the model of inservice education developed and followed considered and included adult learning principles. The effectiveness of the training was assessed in terms of changes in teacher behavior in the classroom and knowledge of the subject matter.

A second objective of this study was to investigate and compare the most effective means of assisting these adult teachers with the transfer of knowledge and skills learned in inservice education to actual classroom use.

Research Problem

Research in inservice education has established that training should be organized and conducted following certain general guidelines and that some sort of in-class assistance is necessary for effective transfer of training. While there is no specific theoretical model of effective inservice education, empirical studies support the need for skillful planning, implementation, and follow-up.

Phase I of the study measured the effectiveness of a training program designed for this study, which follows the general model supported in the literature for inservice education of teachers at other levels. Because of the range of experience, ages, and years of schooling represented in the teacher population, these factors were controlled in the experiment. Trained subjects were compared on various performance parameters with subjects receiving no training in order to measure the effectiveness of the inservice program itself.

In Phase II, the population of trained subjects was exposed to four different transfer strategies and compared on the ability to utilize inservice training in the classroom. This comparison provided information on the most effective ways to facilitate transfer of new knowledge and skills to the classroom.

### Hypotheses

After length of teaching experience, age, and years of schooling were taken into account, the following hypotheses were tested:

1. In Phase I of the study, a group of teachers receiving inservice training will demonstrate a significant increase in mean scores on a skill performance instrument when compared with a group of teachers not receiving the same training.
2. In Phase I of the study, a group of teachers receiving inservice training will demonstrate a significant increase in mean scores on a knowledge test when compared with a group of teachers not receiving the same training.
3. In Phase IIA of the study, there will be significant differences in performance of skills between trained subjects exposed to follow-up treatment and trained subjects receiving no follow-up treatment.
4. In Phase IIB of the study, there will be no significant differences in skill performance among the treated groups receiving the four levels of follow-up.

### Review of Related Literature

In order to understand what is involved in identifying the most effective inservice training techniques and ways in which learning can be transferred from inservice training to classroom use, several different areas of research were reviewed. They included transfer of training, adult development as well as adult learning theory in addition to conceptual systems theory, elements of effective staff development practices, and the variety of strategies including knowledge acquisition which are part of the training format.

Transfer of training according Grabowski (1983), Joyce and Showers (1981 a & b) and others assert that conditions associated with success in this area include relevance of training, competency in learned skills, motivation to change behaviors, the forecasting of transfer problems during training, and on-the-job feedback regarding performance of skills.

Adult learning and conceptual systems development theory as expressed by Rogers (1951), Tough (1971), Knowles (1980), and others indicate that learning experiences should be based on the needs and developmental levels of individuals and provide for practice and feedback of newly acquired skills.

Tough (1971), Herzberg (1966), Joyce and Showers (1981A), Wade (1985) and others focus on eight elements of effective training including: based on learner needs, objectives clear and specific, supported by organization, participation motivated, supportive feedback provided, accessible, length and depth appropriate, individual characteristics considered.

Regarding training format, Showers (1983A), Wade (1985), Roper, Deal and Dornbusch (1976), Bondi (1970) and still others suggest four levels of program content leading to different training outcomes: knowledge acquisition, modeling and demonstration, practice and feedback, and, coaching and goal-setting.

Based on the literature review a comprehensive model of inservice education was developed. The model includes four general principles which were used in the development of the inservice training model used in this study. The principles and some suggestions for implementing follow.

First, training must be needs based. It must be built around the assessed needs and interests of the learners and be of practical use in the classroom. These may be accomplished by conducting formal and informal needs assessments. Mix and match learner needs with stated program objectives, check that needs are being met throughout, use class examples of problem solving.

Second, teachers are motivated to participate. Motivation should be intrinsic, yet care should be taken to remove obstacles to enthusiastic participation by conducting time convenient training, appealing to professionalism, using team-building, voluntary participation, forecasting transfer problems, creating trust, respect, and support, and developing active investment in planning and conducting learning.

Third, the organization must actively support the training by prior agreement on objectives, attendance, follow-up, resources, and encouragement for attempting training transfer.

Fourth, an on-the-job coaching process by supervisors, peers, consultants, or in group meetings needs to focus on analysis and application of new skills, support and companionship, goal-setting and evaluation of goals and plans for future coaching.

#### Methodology

The study consisted of an instrument development phase and a main study with two experimental phases. Subjects were twenty-seven teachers from twenty-four licensed day care centers in the St. Louis Metropolitan area. A pilot study was conducted in which an observational rating scale was designed to measure the quality and frequency of use of skills in the teaching setting which were learned during training. Validity and inter-rater reliability were assessed. Raters were trained in the use of the instrument and conducted all observations in the teaching setting. Also during the pilot phase, a pencil-paper test of knowledge of the content of the inservice program was designed and validated. High inter-rater reliabilities and content validity as judged by three experts, permitted the conclusion that the teacher performance rating scale represented a valid measure of teacher performance. Similarly, content validity was judged high by the same three experts for the knowledge test.

In the training phase or Phase I of the study, twenty-two teachers were trained and five untrained teachers served as a comparison group. Dependent measures were a pencil-paper test of knowledge and ratings on a teacher behavior and physical environment observational scale. They were administered both prior to and immediately following training. Data were analyzed using two-factor analysis of covariance. The first factor, Training, had two levels -- training and no training. The second factor, Testing, also had two levels -- pre-test and post-test. The covariates were age, years of schooling, and years of teaching experience.

During the follow up Phase IIA, two-factor analysis of covariance was used to determine if significant differences emerged in performance of skills between trained subjects exposed to follow-up and trained subjects receiving no follow-up treatment among coaching groups. The dependent measures were the two sub-scales of the observational rating scale-teacher behavior and physical environment. The

first factor was Treatment, with two levels -- follow-up and no follow-up. The second factor, Testing had two levels -- after training and after coaching. Covariates were age, number of years of schooling, and number of years of teaching.

During the follow-up Phase IIB of the study, teachers trained in this project were randomly divided into four follow-up groups: consultant coaching, team coaching, group meetings and no follow-up. Ratings on the observational rating scale were conducted immediately after training and after follow-up. All follow-up observations were conducted in the subject's teaching setting. Data were compared and analyzed using the two factor analysis of covariance to determine if any differences in skill performance emerged among the treated groups receiving the four levels of follow-up. The first factor was Treatment with four levels -- consultant, coaching, team coaching, group meetings and no follow-up. The second factor, Testing, had two levels -- after training and after coaching. The covariates were age, years of schooling, and years of teaching experience.

### Results

In Phase I of the study, a significant difference was found between trained and untrained subjects on the knowledge criterion. The mean score on the training group moved from 12.22 on the pre-test to a mean score of 17.27 on the post-test. The no training group only moved from a mean score of 12.00 on the pre-test to a mean score of 12.60 on the post-test. No other significant interactions were found. However, subjects receiving follow-up made positive changes on two performance measures. Subjects in the coaching and group meeting treatments improved more than subjects in the team coaching and no follow-up groups.

### Implications and Recommendations

Additional research needs to be conducted to determine if extent of skill practice and length of time between training/coaching and observation of skill and/or other kinds of follow-up to training could increase skill performance change.

In spite of the lack of statistical significance, this study indicates the importance of carefully planned inservice programs which follow principles of adult and inservice education. Also indicated is a need for organizational support as well as follow-up to initial training in order to insure transfer of training into the teaching or training setting. In practice, principles of effective inservice and adult education should be followed and teachers should be supported as they transfer what is learned in those programs to their teaching and training setting.

## BIBLIOGRAPHY

- Baker, R.G. (1981). The contribution of coaching to transfer of training: an extension study. Unpublished doctoral dissertation, University of Oregon, Eugene.
- Bentz, R.H., & Hovey, K.R. (1981). Staff development-Changes in the individual. In B. Dillon-Peterson, ed. Staff Development/Organization Development. ASCD Yearbook, 11-36.
- Bondi, J.C., Jr. (1970). Feedback for interaction analysis: Some implications for the improvement of teaching. Journal of Teacher Education, 21, 189-196.
- Burillo, L.C., & Orbaugh, T. (1982). Reducing the discrepancy between the known and the unknown in inservice education. Phi Delta Kappa, 63, 385-388.
- Duke, D.L., & Corno, L. (1981). Evaluating staff development. In B. Dillon - Peterson, ed. Staff Development/Organization Development. ASCD Yearbook, 93-111.
- Feldens, M., & Duncan, J. (1978). A field experiment: Teacher-directed changes in instructional behavior. Journal of Teacher Education, 29, 47-51.
- Grabowski, S.M. (1983). How educators and trainees can ensure on-the-job performance. In S.M. Grabowski, ed. Strengthening connections between education and performance. San Francisco: Jossey-Bass, 5-10.
- Herzberg, F. (1966). Work and the nature of man. Cleveland: World Publishing Co.
- Joyce, B., & Showers, B. (1980). Improving inservice training: The messages of research. Educational Leadership, 37, 379-385.
- Joyce, B.R., & Showers, B. (1981a). Improving inservice training. In B.R. Joyce, C. C. Brown, and L. Peck, ed. Flexibility in teaching: An excursion into the nature of teaching and training. N.Y.: Longman, 166-173.
- Joyce, B.R., & Showers, B. (1981b). Teacher training research: working hypothesis for program design and directions for further study. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles.
- Joyce, B., & Showers, B. (1981c). Transfer of training: the contribution of "coaching". Journal of Education, 163, 163-172.
- Joyce, B., & Showers, B. (1982). The coaching of teaching. Educational Leadership, 40, 4-10.
- Joyce, B., & Showers, B. (1983). Power in staff development through research on training. ASCD.
- Knowles, M. (1977). The adult learner: A neglected species. Houston: Gulf Publishing Co.
- Knowles, M. (1980). The modern practice of adult education: From pedagogy to andragogy. Chicago: Follett.
- Moore, J.W., & Schaut, J.A. (1978). Increasing instructional effectiveness through the use of a problem-solving approach to the design of instructional systems. Journal of Experimental Education, 47, 156-161.
- Reat, Lee Ann, (1987). A Comparison of Three Transfer of Training Strategies in Early Childhood Inservice Teacher Education. Unpublished Ed.D. Dissertation, University of Missouri-St. Louis.
- Roethlisberger, F.J., & Dickson, W.J. (1940). Management and the worker. Cambridge, MA: Harvard University Press.
- Rogers, C.R. (1951). Client-centered therapy. Boston: Houghton-Mifflin.
- Roper, S.S., Deal, T.E., & Dornbusch, S. (1976). Collegial evaluation of classroom teaching: Does it work? Educational Research Quarterly, 1, 56-66.
- Showers, B. (1983a). Coaching: A training component for facilitating transfer of training. Paper presented at the annual meeting of the American Educational Research Association, Montreal.
- Showers, B. (1983b). Transfer of training. Paper presented at the annual meeting of the American Educational Research Association, Montreal.
- Showers, B. (1984). Peer coaching and its effects on transfer of training. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- Sparks, G.H. (1983). Synthesis of research on staff development for effective teaching. Educational Leadership, 41, 65-72.
- Tough, A. (1971). The adult's learning projects: A fresh approach to theory and practice in adult learning. Ontario: Ontario Institute for the Study of Education.
- Waide, R.K. (1985). What makes a difference in inservice teacher education? a meta-analysis of research. Educational Leadership, 42, 48-54.