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RESEARCH
IN EDUCATION



Research in Education

- Selected Doctoral Research
- Faculty Research

Issue Editors: Robert C. Morris & Donald J. Reyes

Research in Education at Northern Illinois University

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EDITORS' NOTE

Robert C. Morris and Donald J. Reyes

Perhaps at no other time in the history of American education has it been more critical that research not only be encouraged, but designed in such a way that it is useful and used. With this thought in mind, this issue of *Thresholds* was developed. All 149 doctoral dissertations from the College of Education, Northern Illinois University, over the past three years were considered for publication. The 29 studies identified for this issue are represented by articles drafted by the authors specifically for this issue. It was our purpose to present a selection of research from the College that would not only demonstrate the variety of research problems and methods undertaken, but also broadly

represent the departments in the College of Education. Comments on the significance of selected dissertations by dissertation directors was also a part of this endeavor. Finally, this issue contains a complete listing of all doctoral research from the College of Education during the years 1985 to 1987, as well as an abbreviated listing of Funded Faculty of Education Research and Projects during the same period of time.

We have asked both the Dean of the College of Education, Charles Stegman, and the Dean of the Graduate School, Jerrold H. Zar, to comment on graduate and faculty research at NIU. We felt their thoughts

and perceptions would be an appropriate foreword for this issue.

Finally, we want to acknowledge the following NIU faculty as referees for this issue: Herman Green, Michael Henniger, Lowell Horton, Donald Richgels, Billie Thomas, Carl Tomlinson, Ann Trousdale, and Michael Tunnell. Thank you all.



FOREWORD:

Research at Northern Illinois University

Jerrold H. Zar

Northern Illinois University, as a contemporary comprehensive institution of higher education, pursues the tripartite mission of instruction, research, and professional service. These three functions are intrinsically interwoven, as well they should be for their mutual benefit. In teaching, there is a desire to instruct students in the latest thinking of experts, both academic scholars and practitioners, and those actively engaged in research and service will be able to bring fresh and innovative thoughts to the classroom. Those engaged in research will

find that the focus of their studies benefits from the probing of students and the guidance of the professionals who will consider and use their findings. And those wishing to provide service to practicing professionals in their fields will do so more effectively if they have helped generate new information to be conveyed and have presented it to and discussed it with the current generation of students.

This mutually supportive interaction between instruction, research, and service is very evident in professional fields such as education.

Universities exist to generate and transmit knowledge. Instruction and service are ways in which university faculty transmit knowledge. Research is the means by which what we know is modified and improved and by which the boundaries of knowledge are continually expanded. So important is research as a component of the modern university that faculty are expected to pursue such intellectual activity to contribute to their fields, and students pursuing the highest academic degree available--the doctoral degree--must propose, prepare, and defend a dis-

sertation representing personal research accomplishment.

Since converting from Northern Illinois State College to Northern Illinois University in 1957, this institution has been merging increased attention to research with continuing emphasis on advanced instruction. Since the first doctoral degree programs of 1961, both faculty and students have assumed the roles of scholars and researchers as has been

done across the country in developed and developing comprehensive universities.

This issue of *Thresholds in Education* highlights both faculty and doctoral student research in the Northern Illinois University College of Education. This demonstrates that educational research at NIU is active and strong and that this college, as one of seven degree-granting colleges at the university, is fulfilling its mission in ad-

vancing knowledge and serving the profession, with one eye on the present and the other on the future.

Jerrold H. Zar is Associate Provost for Graduate Studies and Research and Dean of the Graduate School, Northern Illinois University.



FOREWORD:

Perspectives on Research and Practice

Charles E. Stegman

The mission of the College of Education is derived from that of the university which is generally stated in terms of the transmission, expansion, and application of knowledge through teaching, research, and service. This issue of *Thresholds* is devoted to research in the College. It is particularly timely for us to recognize the role that research plays in education.

The school reform movement is steadily moving along as the list of national studies, commissions, and reports continues to grow. While all of these reports call for educational reform in the schools, many of them also recognize the fact that a research base is needed to support the changes that they are recommending. At a meeting of the National Academy of Education in 1984, which considered how education could be improved by applying research to practice, Robert Glaser effectively summarized this point when he said:

- We delude ourselves that educational reform will be sustained and that the teaching profession will be enriched without a research base like that

required in other professions. If the current fervor for change is to precede a significant period of improvement, reliance on work in the relevant sciences and disciplines will be essential.

To meet the challenge of improving education through research, many colleges and universities will have to make major changes in the ways they address teacher and professional education. There exists a need to develop a special synergy between research, scholarship and educational practice. Too often, research and practice are portrayed as polar opposites and faculty, students, and even whole programs are dichotomized into one extreme or the other.

We can avoid this polarization by stressing the need to produce knowledge that is guided and informed by the issues and problems of educational practice, and to promote practice that is guided by the scholarly knowledge of education and the disciplines. This means that as we analyze complex educational problems, we must be able to utilize a

variety of research paradigms and disciplinary bases for that study.

Some faculty and students will continue to study problems of a theoretical and fundamental nature where an immediate impact on practice or policy is not apparent. Glaser and others at the Academy are arguing that such work is crucial to education and must be supported accordingly. However, this type of research is often the hardest to secure funds for since the public, government officials and school-based educators have no difficulty in identifying an endless list of pressing problems that need immediate solution. One outcome of the synergy between research and practice is that other educators can help provide the conceptualization for such theoretical work by defining it in terms of realistic educational contexts. Such a conceptualization may help convince others of the long-term effects of this type of research.

As noted above, there is an endless list of problems looking for solutions that are generated by our ever changing social and technological world. In order to meet the need for scholar/practitioners to address these problems, colleges and universities

must have faculty who can prepare educational professionals who have the competencies to apply existing knowledge to educational practice. These faculty must be available to serve the profession by applying their knowledge of disciplined inquiry to solving complex educational problems and providing analyses related to policy formulation and decision making. The synergy between practice and research will help support the multidisciplinary research teams needed to find viable answers to real world questions. It will provide the focus for university based programmatic research efforts that will impact on specific educational problems.

A careful reading of the history of education will reveal how research and practice have always been intertwined. John Carroll (1984), among others, has written about how the

results of educational research are "well woven into the foundations of modern educational theory" and how the schools would be quite different today without the results of research on education. Regardless of where you see yourself on the scholar/researcher to scholar/practitioner continuum, scholarship is the key and I hope you find new knowledge in this issue that is relevant to you. As you continue to face the challenges that exist in education, it may help to remember the following haiku:

Problems worthy of attack
Prove their worth
By fighting back.

Education does not need more research that is trivial, non-cumulative, or ahistorical.

Charles E. Stegman is Dean, College of Education, Northern Illinois University.

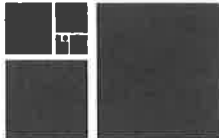
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In recent issues—

"T.L.O. and the Student's Right to Privacy," by Jeffery L. Johnson and Donald W. Crowley (Vol. 36, No. 3, Summer 1986)

"Toward a Sociological Perspective on Learning Disabilities," by Carol A. Christensen, Michael M. Gerber, and Robert B. Everhart (Vol. 36, No. 4, Fall 1986)

"Student Questions and Individual Learning," by J. T. Dillon (Vol. 36, No. 4, Fall 1986)

"A Dialogical Approach to Understanding: Horizontal Evaluation," by Andrew Gitlin and Stanley Goldstein (Vol. 37, No. 1, Winter 1987)

"Unresolved Issues in Defining Educational Goals," by Robert M. W. Travers (Vol. 37, No. 1, Winter 1987)

"Can Progressivism Be Revived?" by James E. McClellan (Vol. 37, No. 2, Spring 1987)

"Citizenship, Public Philosophy, and the Retreat from Democracy," by Henry A. Giroux (Vol. 37, No. 2, Spring 1987)

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DOCTORAL RESEARCH FROM THE COLLEGE OF EDUCATION

Northern Illinois University

Department of Curriculum and Instruction

A Sociocommunicative Microanalysis of Two Eighth-Grade Science Lessons Using Two Instructional Frameworks: The Teacher-Student Generated Lesson and the Teacher-Manual Generated Lesson

Roberta L. Berglund

Introduction and Background

Teacher and student talk is the common denominator of learning in most classrooms. It is a dynamic process which is composed of various interactions that together create a context for the learning which is taking place. Analyzing the role and function of talk provides a window for understanding the reading process.

Reading is viewed as an essentially social activity in which patterns of instruction and communication influence learning. This study describes the verbal behaviors of students and a science teacher as they mutually negotiate meaning from text within the framework of science lessons.

Problem

This study was designed to investigate the process of comprehension attainment of science text material during two lessons conducted by a science teacher. Two different reading instructional frameworks, the

Teacher-Manual Generated Lesson (TMGL) and the Teacher-Student Generated Lesson (TSGL) (Davidson, 1985) were used. The instructional procedures utilized within each framework were the Directed Reading Activity (DRA) in the TMGL and the Directed Reading-Thinking Activity (DR-TA) in the TSGL. The research question addressed was: Are there differences in the patterns of verbal behaviors exhibited by a science teacher and his students while participating in a TSGL and in a TMGL?

Design

Two groups of eight eighth-grade students who attended a junior high school in a small Midwestern city participated in the study. Participants were of average or above average reading ability. The lessons were videotaped and transcribed verbatim for the purpose of analysis. Additional methods of data collection included researcher observation, participant interviews, and field notes.

A microanalysis of the instructional conversations was conducted using Green and Wallat's (1981) Descriptive System for Sociolinguistic Ethnography and an adaptation of the Ohio Scales (Wolf and King, 1967). Microanalysis of the lessons included identification of message units and interaction units and categorization of text. Structural maps representing teacher-student student-student interaction patterns were constructed and coded. The data were analyzed by means of chi-square tests, t-test, and analysis of variance. A description analysis was also conducted.

Findings

Statistically significant difference between the two lesson types were found in: (a) the kinds of teacher questions and levels of student responses, and (b) the amount of teacher and student talk. Results showed that teacher and student verbal behavior was different during the two lessons. The TSGL/DR-TA generated higher-level student

responses and more student participation than did the TMGL/DRA.

During the TMGL/DRA, the teacher asked more factual questions and fewer clarifying, predicting, and evaluating questions than during the TSGL/DR-TA. The factual questions asked by the science teacher tended to draw text elements and concepts together for the students and signaled the teachers' role as an information giver. The students were recipients rather than active participants in the learning process.

Student responses also varied between the two lesson types. During the TMGL/DRA lesson framework the students responded with non-critical level responses indicating low levels of involvement with the text. Students frequently responded with one-word answers and with generally fewer words per response than during the TSGL/DR-TA. However, during the open communication pattern of the TSGL/DR-TA, students contributed a greater number of responses reflecting critical level of thinking and more words per response. The science teacher asked a greater number of questions during the TMGL/DRA and fewer questions during the TSGL/DR-TA, but received a higher number of student responses during the TSGL/DR-TA. Higher-level responses require more language as students explore relationships and engage in the exchange of ideas and problem solving.

Discussion

This study demonstrated that there are differences in the patterns of verbal behaviors exhibited by a science teacher and his students while participating in science lessons utilizing two different lesson frameworks. The TSGL/DR-TA framework encourages the formulation and testing of hypotheses which leads to the understanding of relationships. The findings indicate that the use of the TSGL/DR-TA may encourage student participation in science learning events. Since genuine conceptual learning occurs when the learner makes his or her own sense of knowledge, the TSGL/DR-TA instructional framework facilitates students' quest for understanding of scientific concepts through teacher-student and student-student interaction.

This study indicated that students receiving instruction using the TMGL/DRA may not go beyond the scope of the text and may not utilize levels of critical thinking in processing scientific information and scientific concepts. Thus, the TMGL/DRA may not facilitate comprehension and concept attainment nor the generation of inferences in science to the same degree as the TSGL/DR-TA.

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A Comparison of Current Criteria for Senior Elementary Education Student Teacher Evaluation With Criteria Supported by Teacher Effectiveness Research

Laura E. Frankiewicz

Recent education reform efforts across the nation and at the state level have identified the preparation of teachers as one area in need of im-

provement. Reform recommendations include incorporating current research on effective teaching into programs of teacher preparation.

At this time, little is known about the extent to which teacher effectiveness research has been incorporated into existing teacher preparation

programs. The assumption of the present study was as follows: if teacher preparation programs have incorporated teacher effectiveness research into their training curriculum, their corresponding student teacher evaluation forms will also contain criteria items related to teacher effectiveness research.

The present study investigated the following question: To what extent do senior-level elementary education student teacher evaluation forms used by teacher training institutions in the State of Illinois embody criteria identified by teacher effectiveness research, specifically in the areas of (1) classroom management and (2) academic learning time? Forty-two of the 52 teacher training institutions with state-approved programs in elementary education responded to a request letter by sending their current senior student teacher evaluation forms for analysis.

Analysis of the forms was carried out in two phases. In the first phase of the analysis, criteria items were sorted into general categories of teaching competencies suggested by Dickson and Wiersma (1984). After the general coding procedure, it was found that 24 percent of the items related to instructional strategies; 20 percent related to planning, use of teacher materials, and/or equipment and evaluation; 18 percent related to professional standards; 16 percent related to personal characteristics; 10 percent related to communication with learners; and 9 percent related to learner reinforcement. Non-categorizable criteria accounted for 4 percent of the criteria items.

In the second phase of analysis, judges used content analysis to code criteria items using two areas of teacher effectiveness research, classroom management and academic learning time. Rules for coding in the two areas were derived from research on teacher effectiveness from two primary sources; the Texas Teacher Effectiveness Project (TTEP) and the California Beginning Teacher Evaluation Study (BTES). Coding items related to classroom management were

derived from the TTEP. Examples of management codes included items such as teacher withitness, rule explication and monitoring, and quality of desist.

Coding items related to academic learning time were derived from the interactive teaching model developed by the BTES researchers. Items to be coded were drawn from the model (Romberg, 1980) and included three areas: (1) presentation (teacher provides substantive or procedural information to the student), (2) monitoring (either academic observation or academic questioning, and (3) feedback (about academic performance and/or behavior).

Of the 1,377 items coded in this manner, a total of 5 percent were coded as either classroom management or academic learning time.

In the area of classroom management, once general management type statements were excluded, only 3 percent of the items actually related to specific classroom management behaviors.

In conclusion, although most of the criteria items contained on the elementary education student teacher evaluation forms were generally related to what can be considered instructional concerns, few criteria items related specifically to effective teaching research in the areas of classroom management and academic learning time. Based on the study's findings, it was concluded that despite the emphasis on instructional concerns, teacher effectiveness research in the areas of classroom management and academic learning time has not been widely translated into criteria items for evaluation.

If elementary education teacher training programs have based the pedagogical training of their students upon the teacher effectiveness research base, a possible mismatch may exist between program objectives and consequent student teacher evaluation. It is entirely likely that other research bases are being used in teacher preparation programs, however, it was beyond the scope of this present study to investigate their presence in the

current evaluation criteria. Recommendations for refinement of elementary education student teacher evaluation included incorporating current teacher effectiveness research into student teacher evaluation forms. Implications for future research in this area include further analysis of criteria items using coding rules derived from other dimensions of teacher effectiveness research or other models of teaching.

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Dissertation Director Statement:

Dr. Frankiewicz's work has demonstrated the need for Departments of Clinical Supervision to bring their summative evaluation instrument in line with modern effective teaching research. It also can stimulate self-evaluations in teacher preparation programs relative to the content being taught. The centrality of clinical experience in the preparation of teachers adds to the importance of this study.

Donald J. Reyes

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An Epistemology for Education: Knowledge as the Foundation for Educational Practice

Michael Galati

In as much as knowledge is the intended outcome of most planned educational activity, questions regarding the nature of knowledge and human understanding would seem to have relevance in determining how learning may best take place, how it may best be organized, and, how the teacher may most profitably approach the knowledge to be gained.

Assuming such relevance, this study attempted (1) to explore human understanding as it has been perceived in Western Civilization by ten major philosophers from Plato through Whitehead, (2) to develop, through synthesis, a fitting and comprehensive theory of human understanding which may serve as a useful guide to educational practices within that civilization, (3) to corroborate that theory by testing its applicability against a wide range of educational experiences, (4) to derive criteria from that theory which would prove useful in the making of educational decisions, and (5) to utilize that theory in the examination of varied educational practices.

In brief, the theory as developed included the following propositions: (1) human knowledge is intrinsically related to experience, but most knowledge is an amalgam of experience, ideas, and inference; (2) experience is given its shape and meaning on the basis of knowledge that already exists for the observer; (3) some human knowledge goes beyond experience to that which may be known through inference; (4) most knowledge is characterized by meaningfulness and consequently is seldom reducible to the mere accumulation or

possession of data; (5) knowledge is potentially generative of new knowledge; (6) a subjective element is indispensably present in knowledge that pertains to values and the aesthetic.

The theory was tested by holding it against a broad variety of learning experiences and was found applicable to those experiences. Therefore the theory was assumed sufficiently comprehensive to be useful in the examination of educational practices which have as their end the acquisition of knowledge.

From this theory, sets of criteria were derived having to do with (1) the relationship of knowledge and experience, (2) the relationship of knowledge and meaning, (3) the generative potential of existing knowledge, and with (4) the subjective-objective continuum of all knowing. Sample lessons pertaining to each set of criteria were then developed and briefly described as an illustration of the possible applications of the criteria in various learning situations.

Lastly, the theory and its criteria were applied in the examination of actual and proposed educational practices: (1) a lesson in reading, (2) the Philosophy for Children program, (3) the Junior Great Books program, (4) a graduate education program proposed by Carl Rogers, and (5) an account of character development as practiced in a fundamentalist school. The theory, which was supportive of some elements of these practices, also raised critical issues regarding each of them.

The findings of this study suggest that, given the nature of knowledge as

presented by the examined philosophical writers, those making educational decisions need to give increased attention to the reflective aspects of learning, to problem solving, to Socratic questioning, to the consideration of contradictory evidence during learning experiences, and to the sustaining of polyvalent meanings even when these may seem to be contradiction to each other.

Dissertation Director Statement:

Dr. Galati recommends that educators give more attention to the reflective aspects of knowing, including reflection on the information learned regardless of the subject before the child. Advocates for greater attention being given to the use of problem solving, the use of Socratic questioning and the deliberate consideration of contradictory evidence will find Dr. Galati's dissertation to be of great interest.

Rodney M. Borstad

Michael Galati is Head of the Humanities Division, Lemont Township High School, Lemont, Illinois.



An Analysis of the Evaluation Practices of NCATE- Accredited Teacher Education Institutions: Utilizing the Context, Input, Process, and Product Evaluation Model

Thomas M. Hebel

A series of recent studies have been critical of various aspects of the American educational system. Specifically, it is the state of the public schools that has captured the spotlight of the nation's attention. Criticisms have painted a bleak picture of both the current condition and the future of public elementary and secondary education. Given this situation, the teacher must become an important ingredient in any formula to save the schools. But here too, there have been criticisms of the quality of the preparation programs designed to train teachers:

These criticisms must be addressed in the self-evaluation programs of schools and departments of education. But how good are these evaluation programs? It would appear to be a logical first step in improving the quality of teacher education institutions to determine their degree of compatibility with some of the highest professional standards of program evaluation. This is especially important at the current time because NCATE's Redesign will force the simultaneous rethinking of the education programs and their evaluation procedures in over 500 schools of education.

This investigation thus addressed the problem: To what degree are the evaluation practices of selected accredited teacher education institutions as described in NCATE (National Council for Accreditation of Teacher Education) institutional reports consistent with components of the CIPP (Context, Input, Process, Product) evaluation model? A sample which utilized 70 percent (N

= 50) of the 71 reports that met the criteria for inclusion in this study provided the data for this research. The data collection tool was the CIPP Model Inventory developed by Fortunata Kennedy (1982) in her dissertation.

Based on the findings, the following conclusions were developed:

1. As described in institutional reports schools of education in their baccalaureate programs utilized evaluation procedures which were similar to the Evaluation Types (Context, Input, Process, Product) outlined in the CIPP Model. This compliance was mixed in that within each type of evaluation there was great variation between the subcategories. For example, in input evaluation only 2% of the schools assessed alternative designs for dealing with potential barriers, while all schools specified program objectives, methods, and schedules.

2. The selected schools closely followed both the CIPP Model's conceptualization of evaluation as a process and the processes for obtaining information while there was reduced compliance with the Model's delineating and providing information functions. Specific elements of the CIPP Model such as delineating criteria for decision making, describing evaluative assumptions related to the sampling, measurement, treatment and analysis of data, and preparing reports to fit the needs of the various audiences in the system were seldom attempted.

3. The schools studied emphasized planning and recycling (product) decisions in their evaluation practices. Structuring and implementing decisions received less attention than the other two decision types. There was low compliance with the CIPP Model in areas such as staff development and public relations activities.

The great variation in adherence to the CIPP Model within the various categories and subcategories of the CIPP Model Inventory appeared to result from the fact that sometimes there was and sometimes there was not agreement between the CIPP Model and NCATE's Standards. When there was agreement, the CIPP Model Inventory's scores were high, and when there was no agreement the scores were lower. This unexpected finding gives substantial evidence of the apparent importance of the NCATE Standards in determining the nature of the evaluations conducted utilizing them.

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Dissertation Director Statement:

This project provides a baseline of data against which to measure future teacher college evaluation practices as stimulated by the new NCATE update. In addition, colleges of education can see

where their evaluation practices can be improved based on Dr. Hebel's work with the application of the CIPP model. He also demonstrated the feasibility of using a comprehensive model to develop a state-of-the-art program evaluation plan.

Donald J. Reyes

Thomas M. Hebel is a teacher in the Niles Public Schools, Niles, Illinois.



Clinical Supervision Skills Used By Principals, Abstracted from Narrative Teacher Observation Records

Cheryl Wilson Kopecky

The study is set within the context of the 1980's educational reform legislation and the recent research on the role of the principal as the instructional leader of the school. The descriptive study analyzes one aspect of the principal's supervisory responsibility, the narrative records of teacher observation.

A review of clinical supervision literature provided the basis for the identification of 12 supervisory skills, demonstrable in written form. Content analysis methodology was used to determine the appearance or nonappearance of these twelve skills in principals' narrative teacher observation records. Three anonymous, randomly-selected narratives from each of 51 elementary school, middle school/junior high school and senior high school principals were analyzed. The sample included 37 elementary school principals, 8 middle school/junior high school principals and 6 senior high school principals. A total of 153 narratives were analyzed.

To analyze the data, three coders were trained and completed a pilot study achieving 91% interrater agreement. The final analysis was completed by one coder, analyzing the 153

narratives. An interrater reliability check was conducted by drawing a 10 percent random, proportional sample of narratives which were analyzed by the two other coders. The three coders achieved 82.3 percent interrater agreement, a percentage which supports the reliability of the study.

The 12 clinical supervision skills demonstrable in written form are identified below. The five observation and data gathering skills are:

1. Provides a seemingly objective record of actual classroom events and dialogue.
2. Records the verbal and physical behavior of the teacher.
3. Records the verbal and physical behavior of the student.
4. Uses a variety of data-gathering and recording techniques.
5. Includes data related to the purpose of the observation and/or of special interest to the teacher.

The seven analytic skills are:

6. Identifies salient patterns and/or categories of teacher and student behaviors.
7. Identifies the lesson objective.

8. Assesses the extent to which the students have achieved the objective.

9. Identifies possible cause-effect relationships within the teaching-learning process.

10. Identifies productive teaching behaviors.

11. Identifies interfering teaching behaviors.

12. Identifies goals for the teacher's improvement of instruction.

Three research questions guided the study. Research Question 1 asked, "Do selected principals demonstrate observation and data-gathering skills of clinical supervision in narrative records of observation?" Research Question 2 asked, "Do selected principals demonstrate analytic skills of clinical supervision in narrative records of observation?" Research Question 3 asked, "Do selected elementary school principals demonstrate observation and data-gathering skills and analytic skills of clinical supervision in narrative records of observation?" Research Question 3b asked, "Do selected middle school/junior high school principals demonstrate observation and data-gathering skills and analytic skills

of clinical supervision in narrative records of observation?" Research Question 3c asked, "Do selected senior high school principals demonstrate observation and data-gathering skills and analytic skills of clinical supervision in narrative records of observation?"

The data from the three research questions were compared. The findings of Research Question 1 and 2 were compared using a two-tailed test for two proportions from the same group to determine the difference between the principals' observation and data-gathering skills as compared to their analytic skills. There was no significant difference. The findings of Research Questions a, 3b, and 3c were compared to determine the difference between elementary school, middle school/junior high school and senior high school principals' supervisory skills, as defined by the 12 identified skills. A two-tailed test for two proportions from independent groups was used for the comparison. Again, no significant difference was indicated.

An analysis of the findings of the study provided the basis for the following conclusions:

1. The principals' demonstration of the clinical super a great deal.
2. There was no difference in the principals' use of observation and data-gathering skills when compared to their use of analytic skills. In both skill areas there were strong and weak skills.
3. Objective recording, recording the verbal and/or physical behaviors of the teachers and students were the most commonly used observation and data-gathering skills.

4. The extensive influence of Hunter's clinical supervision model on the sampled principals has had a positive effect on three data-gathering skills; objective recordings, recording the physical and verbal behavior of the teacher and recording the physical and verbal behavior of the students. Hunter's use of script taping has diminished the importance of other systems of data-gathering. Using other systems of data-gathering was the skill demonstrated by the fewest number of principals.

5. Identifying patterns and categories of student/teacher behaviors and labeling productive teaching behaviors were the most commonly used analytic skills.

6. A pattern of skill use indicated the principals' common repertoire of supervision skills included five of the identified skills. Most principals gathered objective data about the verbal and/or physical behavior of the teacher and students, labeled patterns or categories of student senior high school principals' demonstration of the skills.

7. Cause and effect relationships within the teaching/learning process were identified more often in supervisory instruments that allowed total narrative than those that designated categories of observation.

8. Most principals identified patterns of behavior but they seldom elevated that information to a theoretical level by identifying categories of behavior.

9. Focused observations based on identified goals were infrequently demonstrated, unless formal goal setting was the thrust of the school district's supervisory model.

10. The most serious weakness of the principals' analytic skills was their

failure to determine the extent to which students achieved the objective of the lesson.

The major goals of clinical supervision are instructional improvement and teacher development. The accomplishment of these goals relies, in part, on the instructional leadership of the principals. To fulfill this responsibility, the principal must develop the skills of classroom observation and analysis. The 12 skills identified in this study provide a basis for principal in-service training and also a yardstick against which principals can analyze their own narrative teacher observation records.

Dissertation Director Statement:

Dr. Kopecky reinforces the position that more reflective, theoretical analysis is needed to assist teachers in the critical inquiry about teaching and learning. Dr. Kopecky's study contributes to the literature in the improvement of supervision in the instructional program. Dr. Kopecky's study received the 1987 Outstanding Dissertation Award in the Area of Supervision by the Association for Supervision and Curriculum Development.

Rodney M. Borstad

Cheryl Wilson Kopecky is Principal of Prospect School, Elementary District #181, Clarendon Hills, Illinois.



The Effectiveness of Standardized vs. Individualized Teaching, in Combination with a Counseling and Exercise Program, for Clients in Cardiac Rehabilitation Programs, in Relation to the Reduction of Coronary Risk

Georgianna Trofimuk-Thomas

The problem of this study was to determine whether differences in the effectiveness of two teaching formats lowered scores on the Coronary Risk Factor Profile. A "Standardized Structured Educational Program" versus an "Individually Based Informal Educational Program" were the programs used with selected cardiac rehabilitation clients. They were designated as "Phase II." A reduction of coronary risk factor scores would indicate that resumption of self-care action and compliance with the Phase II program are of benefit for the recovery from cardiac events.

Sound cardiac rehabilitation programs can provide a mechanism through which individuals can strengthen their ability to perform self-care action. Clients can care for themselves responsibly by adjusting to necessary behavioral changes, which include: (a) understanding risk factors (such as smoking, dietary habits, and control of weight); and (b) working toward the development of a habit of regular exercise.

A modified, pre-experimental, non-randomized design was used. A pre-test, post-test component was also incorporated into the design. The independent variable was the educational methodology utilized at each center. The dependent variable was the status of each client's cardiac risk factors. At the beginning of the cardiac rehabilitation program, upon its completion, and monthly thereafter for three months, the cardiac risk factor status of each subject was assessed.

A 2-tailed t-test was used to compare mean risk factor scores between groups.

The major conclusion of this study was that no statistically significant differences were noted between either teaching method regarding total cardiac risk factor scores. However, a trend toward lowering these scores was evident in both groups. Graph A. Significant differences were noted in both groups between the individual risk factors of exercise, diabetes, and stress. However, these findings could not be attributed to the method of teaching.

This study implies that educational programs with structured exercise programs for cardiac rehabilitation clients do reduce total scores on the Coronary Risk Factor Profile post-program, and for three months thereafter, from pre-level values. Clinically this study helps to establish a positive function for these programs overall.

Since both groups received teaching, no comparison can be made with clients in rehabilitation programs without teaching programs.

Self-care action was exhibited by the selected clients overall, in that behaviors did change and were maintained at lower scores from actions identified preprogram. The categories most influenced were exercise and stress. The educational component reinforced and clarified rationale for actions they assumed. The support and positive stroking offered by staff during each program also ap-

peared to have an influence on these risk factors.

Systematic education and appropriate support are the two mechanisms discussed in Orem's theory as the "Third Nursing Care System." This study helps to reinforce these activities for nurses who perform these positive and worthwhile activities.

Dissertation Director Statement:

Schools of Nursing are devoting considerable attention to the improvement of instruction. Dr. Thomas' recommendations should be given serious consideration by educators in Schools of Nursing as they do curriculum planning and evaluate teaching. There is also a real message for cardiac rehabilitation clients in respect to the importance of self-care action for themselves to improve their health.

Rodney M. Borstad

Georgianna Trofimuk-Thomas is Clinical Specialist at the Glenbrook Hospital, Glenview, Illinois.



Department of Educational Psychology and Special Education

The Extensiveness of Needs Assessments and Resulting Effectiveness of Instruction

Lynn C. Greene

Needs assessments have become a common first step in course, program, or curriculum planning. The literature is filled with descriptions of needs assessment models and procedures, yet there is a dearth of empirical studies supporting the described procedures. The extensiveness of needs assessment and the relationship to the effectiveness of the courses identified and developed through the needs assessments were analyzed in this study.

The study was done at a large training organization which supports a service industry with multiple service lines. There are seven separate training units in the organization. Four of the units correspond to individual

content areas (service lines) of the overall organization. The other three units address human resources, quality assurance and research issues. These three units are not specific to the organization studied and appear in many large companies, independent of the focus of the business. All of the units function to support the professional development or training needs of the personnel in the overall organization – the “students.”

The needs assessments procedures used by different professional educational units in this large training organization were analyzed through documentation reviews. A checklist of needs assessment procedures was developed by grouping procedures

found in the literature into four phases of a generic needs assessment model. The four phases were:

- identify a broad range of goals.
- rank goals in order of importance.
- identify discrepancies between desired and actual performance.
- set priorities for action.

A fifth category was also included to encompass techniques which included more than one of the four phases.

Table 1

Checklist of Needs Assessment Procedures

Phase/Procedure	Paired-weight Procedure	Set Priorities for Action
Identify a Broad Range of Goals	Budget Allocation Force Field Analysis	Weighted Scores Survey Subjective Decision Research/Subjective Decision
Task Analysis Critical Incidence Technique Advisory Committee/Task Force Survey Questionnaire Objective Open-ended Interview	Identify Discrepancies Between Desired and Actual Performance	Procedures Encompassing More Than One Phase
Rank Goals in Order of Importance	Discrepancy Survey Two column One column Behavioral Training Need Formula Extant Data	Nominal Group Techniques Questionnaire Interview Rating/Ranking Sheet Delphi Forecasting Method Advisory Committee Questionnaire (repeated) Rating/Ranking Sheet Fault Tree Analysis Interview
Ordering from Phase 1 above Card Sort Rating/Ranking Sheet Magnitude Estimation Scaling		

The checklist of needs assessment procedures is presented in Table 1. The checklist was used during the documentation reviews to determine the procedures used by each unit for their needs assessment. The number of procedures used for needs assessments by the professional education units ranged from three to ten. The number of procedures used was collapsed into two categories: more extensive and less extensive.

The pilot offerings of courses identified and developed through the needs assessments were evaluated by the students through anonymous evaluation questionnaires. These evaluations were used to measure the effectiveness of the instructional products.

The more extensive needs assessments led to statistically significant higher student evaluation ratings for overall effectiveness than the less extensive needs assessments, as measured by the median test, a non-parametric statistic. Specific evaluation items addressing correct audience, logical organization and correct degree of difficulty did not

reach statistical significance as a function of the extensiveness of the needs assessments.

The findings of the study supported the hypothesis that more extensive needs assessments result in more effective instructional products than less extensive needs assessments. The high evaluations for all of the courses identified and developed through the needs assessments may indicate that even less extensive needs assessments are worthwhile.

The extensiveness of needs assessments did not have a significant relationship to the specific evaluation ratings for correct audience, logical organization, or correct degree of difficulty. It is possible that these factors are more influenced by the development of materials or presentation of instruction than by the extensiveness of the needs assessment.

Program planners and educators preparing to conduct needs assessments should use the results of this study as justification for including several procedures in the needs assessment. The additional resources utilized to perform more extensive

needs assessments may be well worth it in terms of instructional product effectiveness.

Dissertation Director Statement:

The study analyzed the extensiveness of needs assessments and their relationships to the resulting instructional program in a major business organization which operates large-scale training programs. More than one procedure appears to be necessary for needs assessments to be effective. This finding should be useful to school districts as well as businesses and industry.

Marvin Powell

Lynn C. Greene is Program Associate in Test Development, American College Testing, Iowa City, Iowa.



Extant Data Effects of Computer—Assisted Instruction on Comprehension of Abstract Concepts

Patricia A. Johnson

The purpose of the present study was to evaluate the effectiveness of two methods of instruction on the comprehension of abstract concepts by deaf adolescents. The two methods of instruction were (a) teacher-directed instruction and (b) computer-assisted instruction. Previous research has indicated that deaf persons experience more difficulty than hearing persons in comprehending abstract concepts. Recent findings have suggested that the use of the computer can facilitate abstract learning in the normal hearing person. The present study was conducted to determine whether computer-assisted in-

struction would facilitate performance by deaf adolescents on tasks requiring comprehension of abstract concepts significantly beyond the increased performance gained by deaf adolescents receiving teacher-directed instruction.

A sample of 30 profoundly deaf children from four northern Illinois public high schools participated in the study. The students were randomly placed into one of two groups (Group 1 = teacher-directed instruction, Group 2 = computer-assisted instruction). The researcher served as instructor in both treatment conditions for all 30 students. Students

were taught in small groups of one to three students per group.

Each subject received ten one-half hour sessions one day a week for ten weeks. Four sessions were used for testing. Instruction was provided in Euclidean geometry for six of the ten weeks.

Fifteen deaf subjects received computer-assisted instruction using software program, "Geometry with LOGO." Fifteen deaf subjects received teacher-directed instruction. The teacher-directed instruction was paced to match instruction employing the use of the software program, "Geometry with LOGO."

Two pretests, one test each for two sessions, were given and the same two tests were repeated as posttests. The first of the two tests given was a nonstandardized test of geometric concepts designed by the author and publishers of the software program, "Geometry with LOGO." The second of the two tests given was the *Abstract Reasoning Test*, Form V, of the *Differential Aptitude Tests* which provided a measure of nonverbal reasoning ability.

The results of the study indicated that no general significant difference exists between computer-assisted instruction and teacher-directed instruction in terms of facilitating performance by deaf adolescents on tasks requiring comprehension of abstract concepts. Both methods of instruction were significant in being able to raise the performance level of deaf children on tasks requiring comprehension of abstract concepts.

Factors that did seem to make a slight difference among the students included modes of communication (students who could both speak and sign seemed to learn more efficiently than students with only one mode of communication), and occupation of the father (children of professionals seemed to do slightly better than those whose parents held other types of employment).

The researcher can only speculate at possible explanations for this finding. It may be due to expectations of deaf children by their parents, to role modeling, to parental encouragement of independent behavior, or to combinations of these or other factors.

The results, then, while demonstrating that the use of computer-assisted instruction (CAI) can be as effective as typical teaching approaches in teaching abstractions to deaf children, identifies new approaches which need to be researched to find *more effective ways* of "break-

ing through" to hearing impaired students.

Dissertation Director Statement:

The study attempted to determine whether computer-assisted instruction might be more effective than teacher-directed instruction for comprehension of abstract concepts for deaf students. Euclidean geometry was the subject and the computer-assisted instruction used "Geometry with LOGO" software. There were no statistically significant differences between the two approaches. This is a well done study.

Marvin Powell

Patricia A. Johnson is Assistant Professor, Department of Education, Pikeville College, Pikeville, Kentucky.



Job Satisfaction and Job Stress Characteristics of Staff Nurses Employed on Different Work Shifts and Clinical Areas

Barbara A. Kakta

An ex post facto study was conducted to identify job attitudes of staff nurses employed within two functionally differentiated work groups which are work shifts and clinical areas. The selected job attitudes were job satisfaction and job stress. Job satisfaction was delineated into two categories. Job stress was described by seven job stressors. The selected work shifts were days, evenings, and nights. The selected clinical areas were medical-surgical, pediatric, obstetric, and intensive care units. The measurement instruments were the Minnesota Satisfaction Questionnaire-Short Form and the Nursing Stress Scale.

The sample for this study was comprised of 432 registered nurses in staff nurse positions. These staff nur-

ses were employed at least one year in an acute care hospital environment. They had worked on their present units and on their present shifts for a minimum of three months.

The settings for this study were five medium-sized, suburban, community, acute care hospitals in the Chicago area. Within these institutions, units were selected which maintained a three work shift scheduling pattern and which met the criteria for one of four clinical areas. A further consideration in the selection of units was the stability of staffing across these work shifts and between other clinical areas.

The questionnaires were distributed and collected by nursing supervisory personnel within the institu-

tions. The researcher met individually or collectively with the supervisory personnel, in order to provide them with a description of the study which included criteria for study and unit selection.

Each staff nurse selected to participate in the study received a copy of both instruments, as well as a demographic data sheet and cover letter. Individual envelopes were provided to endure anonymity of returns.

Discriminant analyses were used to identify job characteristics of nurses employed across work shifts and clinical areas. Two-way analyses of variance were completed to test work shift-clinical area interactions effects.

The Marascuilo-Levin test was utilized to compare cell means.

Five percent and 37 percent of the variance between groups, for work shifts and clinical areas respectively, was explained. Day nurses expressed job stress from workload and conflict with physicians. They were satisfied with extrinsic rewards. No discriminating job attitudes were found for evening or night nurses. Medical-surgical nurses expressed job stress from death and dying and from workload. Pediatric nurses expressed job stress from workload. Obstetric nurses expressed job stress from death and dying, conflict with physicians, and conflict with nurses. No specific job satisfiers characterized nurses in particular clinical areas.

Work shift-clinical area interaction efforts were found for the job stressors of uncertainty concerning treatment, workload, conflict with physicians, and total stress. Day obstetric and night pediatric nurses expressed the least amount of stress from these four job stressors. No work shift-clinical area interaction effects were found for job satisfiers.

Implementation of the findings of this study would incorporate changes in policies and procedures that contribute to characteristic job stressors for particular groups of nurses. Evaluation of existing practices and establishment of support groups and inservice programs are recommendations for practice derived from the findings of this study.

Based upon the findings of this study, several recommendations for future research are presented. These recommendations include further delineation of job attitude variables, addition of variables to the discriminant analysis, job stress - and job satisfaction-related factors.

Barbara A. Kakta is Director of the Department of Undergraduate Studies, College of Nursing at Lewis University, Romeoville, Illinois.



Development Of An Evaluation Model For The Summer Research Apprenticeship Program At Argonne National Laboratory

Marianne M. Smith

The Summer Research Apprenticeship Program was mandated by the U.S. Government in 1979 in order to increase the number of minorities pursuing careers in science and engineering. The six-week program held at Argonne National Laboratory for high school sophomores included academic enrichment in mathematics and the sciences as well as exposure to a number of energy-related research projects at Argonne. The program was directed toward sophomores in order to encourage the students to take more math and science courses at the high school level, beyond the minimum required for high school graduation.

A follow-up study of the students who participated in the first two years of the program (the summers of 1980 and 1981) was undertaken during 1984 when the participating students were college freshmen and sophomores. This study looked at the factors common to those students who were actively pursuing science careers with

the anticipation that, if these factors could be identified in high school students, better selection criteria could be developed for the Summer Research Apprenticeship Program.

Retrospective opinions from the students were important to the evaluation of the program itself; it was anticipated that the passage of time as well as the students' increased knowledge of science would lead to more thoughtful evaluation.

Telephone interviews were completed with 63 out of the 72 students who participated in the Summer Research Apprenticeship Program during the summers of 1980 and 1981. The interviews found that 45 out of the 63 students interviewed were actively pursuing science careers, that is, were enrolled in college in a course of study leading to a career in science, engineering, or mathematics.

At the end of the 1981 summer session, an exit questionnaire was developed and administered. An analysis of these questionnaires found

that not one of these variables was significantly correlated to the outcome variable, whether the student would continue to pursue a career in science. This further substantiates the necessity for subsequent evaluation to determine the effectiveness of a program.

In order to obtain a predictive model based on the available parameters, multivariate techniques were considered in order to find the set of variables that would differentiate the students who were pursuing science careers from those who were not pursuing science careers. Because more than 100 numeric variables were derived from the follow-up questionnaire and initial application information, the REQUARE procedure in the SAS system of computer software was used to find the combinations of variables that would explain the maximum amount of variance in the outcome variable. These combinations were then entered into discriminant analysis

procedures. The discriminant equations produced were significant, as measured by the F-statistic, and effectively predicted the outcome group (90%). A composite model was developed with the equations that produced the greatest amount of explained variance requiring the agreement of at least four of the seven equations for classification placement. Six out of the 63 students were still misclassified, but the misclassifications were explainable: non-science students classified as science students were bright students who had chosen other areas of study, usually business related. All had very good math and science skills as well as high grade-point averages. Science students classified as non-science were usually students in special admission programs in science or engineering, and usually having a difficult time with college.

Several methods were used to validate these models. The jack-knife procedures to the discriminant analysis produced no more than one or two additional errors in classification. Errors in classification more often occurred with the college freshmen than with the college sophomores as some college attrition had already occurred in the sophomore group, and some had changed from science to non-science majors.

Structural correlations, the correlation of the individual variable to the equation, were also investigated. All correlations of the variables in the discriminant equation to the structure, the summation generated by the discriminant equation, were sig-

nificant. The strengths of the correlations placed the variables in the same order as the importance of the variable to the discriminant equation. These variables, in order to strength, are current enrollments in college, the student's self-rating of mechanical ability, the rating of Books and Library facilities at Argonne, the student's having participated in other special science programs, the student's self-rating of scientific ability, and the rating of program Rules and Regulations.

The high percentage of correct classification and the strong validation by the structural correlations demonstrated that discriminant analysis procedures may be used without adhering to the accepted 50 to 1 ratio of number of subjects to number of variables in the equation. Valid discriminant equations containing 3, 4, and 5 variables were developed and substantiated with 63 student subjects. The method presented in this work would be extremely useful to other studies with a relatively small number of subjects.

A key ingredient to a student's pursuance of science still goes back to the classroom teacher: students who indicated that their junior and senior year teachers knew of their experience in the Summer Research Apprenticeship Program, and because of this experience, expected more out of the students, were more likely to be continuing to pursue a science career. Students who made classroom presentations about their experience in the Summer Research Apprenticeship

Program were also more likely to be pursuing science careers. The classroom teacher nurtures the students interest in math and science on a day-to-day basis; without these teacher-developed interests and skills, the student would not have the desire to participate in special summer science programs.

Dissertation Director Statement:

The challenge to make a program evaluation study of practical value to the Education Administrators at Argonne and also of academic rigor for a doctoral dissertation was successfully met by Marianne Smith. Not only were the findings of her study very useful to the Argonne Educators in the review and development of the summer research apprenticeship program to assist minorities interested in a science career, but also the research design and methodology used were shown to be especially effective for such settings. The use of a very comprehensive telephone survey and the unique discriminant analysis models developed from the vast array of objective and subjective information were helpful contributions to research methodology.

Robert Karabinus

Marianne M. Smith is Statistician at New Brunswick Laboratory, Department of Energy in Bolingbrook, Illinois.



Health Conception and Health-Promoting Lifestyles Among Older Adults

Kevin Volkan

Health-promoting lifestyle practices can be thought of as behaviors which enhance health and well-being. They are related to growth and actualization rather than to the prevention of illness (Ardell, 1979, 1986;

Pender, 1982). These health-promoting lifestyle dimensions may have special significance for older adults. Health-promoting lifestyle and its determinants, however, have not been extensively studied in the elderly. Of

the possible determinants of health-promoting lifestyle in older adults, health conception may play an important role. Four categories of health conception have been suggested in order to expand the concepts of health

beyond the standard medical viewpoint (Smith, 1981, 1983; Laffrey, 1985, 1986). The first conception of health was labeled clinical and represented an illness prevention approach to health derived from the medical model. In this conception, health is seen as a state free from disease or debilitating conditions. The second conception of health was labeled role performance and viewed health as the ability to perform normally in society. The third conception of health was labeled adaptive and viewed health as the ability to adapt to environmental change. The fourth conception of health was labeled eudaimonistic and viewed health as the experience of exuberant well-being. Little specific information is known about the nature of health conception and its relationship to health-promoting lifestyle in older adults. Using data from the Older Adult Project within the Health Promotion Research Program at Northern Illinois University, this study examined these four dimensions of health conception and their relationship to six dimensions of health-promoting lifestyle in a population of older adults.

Method

Sample. This study involved secondary analysis of data from the Older Adult Project in the Health Promotion Research Program at Northern Illinois University. The sample consisted of 364 older adult volunteers drawn from northern Illinois between May, 1985 and June, 1986. The ages of the sample ranged from 55 to 91 with a mean age of 69.5.

Instrumentation. Health-promoting lifestyle was measured in the study by the *Health-Promoting Lifestyle Profile* (HPLP). The HPLP instrument consists of a total scale and six subscales which measure self-actualization, health responsibility, exercise, nutrition, stress management and interpersonal support. The HPLP contains 48 items which are scored in a 4 point Likert-type format.

The HPLP instrument has been shown to be valid and reliable (Walker, Sechrist, & Pender, 1987).

The *Laffrey Health Conception Scale* (LHCS) consists of 28 items and uses a 6 point Likert-type format. The instrument scales have been shown to be valid measures of Smith's (1981) four conceptions of health. The health conception scales were found to be reliable (Laffrey, 1986).

Procedures. Subjects were supervised in completing a pencil/paper test battery which included the health conception and health-promoting lifestyle instruments. Two theoretical models suggested by the literature, Ma and Mb were programmed as covariance structure models and tested for goodness-of-fit using the LISREL VI program (Joreskog and Sorbom, 1985). The two covariance structure models were evaluated using methodology shown to be effective for testing models related to health phenomena (Bentler & Speckart, 1979; Rothman, 1983).

Results

Both models (Ma & Mb) were compared using a number of measures provided by the LISREL program (cf. Carmines & McIver, 1981; Hoelter, 1983; Lomax, 1982; Wheaton, 1977). Mb was found to fit the data very well, while Ma was found not to fit the data.

Therefore Mb was judged to represent the structure of the relationship between health conception and health-promoting lifestyle.

This model of the relationship of health conception to health-promoting lifestyle consisted of two latent health-promoting lifestyle variable. The first latent health conception variable was seen as supporting a positive strength of health conception dimension and was positively related to health-promoting lifestyle.

The second latent variables was seen as supporting a clinical, illness-preventing health conception dimension and was negatively related to health-promoting lifestyle.

Discussion

The model validated in this study provides some interesting information about health conception and health-

promoting lifestyle among older adults. It is possible that older adults with a clinical conception of health may choose not to engage in health-promoting behaviors, while those older adults with more expanded conception of health may perform health-promoting behaviors with greater frequency. Educational programs aimed at expanding the older adults health conception into a broader, more eudaimonistic framework may be effective in helping older adults achieve a health-promoting lifestyle. It was concluded that findings of this study provide the groundwork for further studies on the relationship between health conception and health-promoting lifestyle among older adults. Studies should also be done addressing the contrast between older and younger populations in the areas of health conception and health promotion.

Dissertation Director Statement:

This study is part of a large scale grant on Health Promotion, and compared Health Conception to Health-Promoting Lifestyle among adults between the ages of 55 and 91. The researcher also developed a useful model of the structure of health conception. Health conception factors were positively related to health promoting lifestyle. This is a very important study to make available information for health promotion for the elderly.

Marvin Powell

Kevin Volkan is Assistant Professor of Education and Acting Director of the Research Office, College of Education at Northern Illinois University, DeKalb, Illinois.

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Department of Leadership and Educational Policy Studies

A Theoretical Model of a Computer Literacy Curriculum and an In-Service Teacher Education Program for Mara Junior Science Colleges in Malaysia

Zoraini Wati Abas

The computer revolution has spurred a movement to include computer literacy education in schools worldwide. Malaysia is no exception. Limitations imposed on the development of a curriculum and an inservice teacher education program for computer literacy in Malaysia initiated this study. Hence the purpose was to develop a theoretical model of a computer literacy curriculum and an inservice teacher education program for Malaysia's Mara Junior Science Colleges - a system of secondary schools.

The study was carried out in two stages. The first stage consisted of literature review, correspondence, and interviews with Malaysian educators. Definitions, needs, approaches, curricula, and teacher training programs for computer literacy curricula worldwide were reviewed. Educational policies of Malaysia and the concept of Mara Junior Science Colleges were examined.

From the literature review, a set of computer literacy in instructional objectives developed by Minnesota Educational Computing Consortium (MECC) was found to possibly meet Malaysia's needs. In addition, it was found that there was no universal definition for computer literacy. However the various definitions offered for computer literacy could actually be grouped into four approaches. The four approaches have been proposed in the study. Nevertheless, it was generally agreed that the need for computer literacy is obvious and immediate especially among high school graduates.

Correspondence and interviews with Malaysian educators helped to obtain the latest information on com-

puter education in Malaysia. In general, the school authorities were serious about introducing computer education in secondary schools, but the lack of experienced personnel to design the curriculum as well as the high costs involved in purchasing hardware and training teachers were two major obstacles. However, the authorities were determined to overcome the problems.

The second stage consisted of a survey. MECC's objectives were adapted for the questionnaire distributed in this survey. The questionnaire was distributed to 371 Malaysian computer science and mathematics students enrolled in tertiary educational institutions in the United States with at least one computer science course. The response rate was 85.3 percent.

Based on the analysis of the data collected by the questionnaire, the following factors were evident:

- An overwhelming majority (88.5 percent) of the respondents agreed that programming should be taught.
- More than half (50.2 percent) of the respondents agreed that 26-50 percent of the time allocated to teaching about computers should be spent on teaching programming.
- The majority (67.7 percent) of the respondents chose BASIC as the most appropriate computer language.

- The order of importance (from high to low) of the content areas was:

- programming and algorithms
- software and data processing
- attitudes, values, and motivation
- applications
- hardware
- impact

In addition, a sequence of instructional units was proposed as follows:

- Unit 1: Hardware
- Unit 2: Programming and Algorithms
- Unit 3: Software and Data Processing
- Unit 4: BASIC Programming
- Unit 5: Applications
- Unit 6: Impact
- Unit 7: Attitudes, Values, and Motivation

Suggestions on inservice teacher education and recommendations for Mara were also included in the dissertation. While the model developed in the study was specific to Malaysia, it may be relevant for other countries similarly keen on propagating com-

puter literacy skills among their secondary school children.

Dissertation Director Statement:

In this investigation, Zoraini Wati Abas surveyed Malaysian students in the United States who were then enrolled in at least one computer science course in U.S. institutions of higher education. her intent was to determine what curriculum would be appropriate as preparation for Malaysian pre-college

students and how teachers of this course of study might be prepared. She did extensive examination of the state of computer education in Malaysia prior to the survey and concluded that U.S. models for computer education could be revised to support that effort in her country. She derived a model from those she examined and then created a prototype teacher education workshop to provide those teachers who would

deliver the courses sufficient experience in methodology to transmit the content as designed.

David G. Gueulette

Zoraini Wati Abas is Computer Consultant for Malaysia Schools and Workshop Director for Mara Junior Science Colleges in Malaysia.



The Effects of Self-Paced and Group Instruction on Microcomputer Literacy Among Secondary Preservice Teachers

Susan M. Cooper-Shoup

Introduction

The microcomputer has taken its place in our society, and the impact of this position is being felt by students and teachers throughout the country. In the quest to prepare students for the future, school districts are grappling with the task of supplying the classrooms with teachers who are able to cope with microcomputers and provide students with necessary instruction. While some researchers such as Nansen (1982) stress the need to provide inservice education for existing teachers, others feel that the preparation can be accomplished more efficiently at the preservice level (Friedman, 1983; Ganske, 1983; Henry, 1984).

Problem Statement

This study examined two different methods of instruction at the preservice level to determine whether one was more effective in terms of achievement in microcomputer literacy. It addressed the following problems:

1. To determine if there is a significant difference in student achievement scores on a microcomputer literacy instrument between students who complete an introductory microcomputer course and students who complete a self-paced individualized program at the secondary preservice level.

2. To determine if there is a relationship between scores on the Computer Anxiety Index and scores on a microcomputer literacy instrument used as a pretest, at the secondary preservice level.

3. To determine if there is a correlation between time on task and student achievement scores on a microcomputer literacy instrument at the secondary preservice level.

Design

This study was experimental in method and the design parallels the nonequivalent control-group quasi-experimental design #10 of Campbell and Stanley (1963).

Procedures

The study sampled 63 secondary education students at Northern Illinois University in the Fall Semester of 1985. Two sections, one in the A.M. and one in the P.M., completed the self-paced individualized instruction known as the Microcomputer Literacy Program: A Series of Six Self-Instructional Modules, as the experimental group. Two sections, one in the A.M. and one in the P.M., received traditional classroom instruction, as the control group.

During the orientation session for each group, the students were pretested using the Computer Anxiety Index, identified as the Computer Opinion Survey. The CAIN is a 26 question scale of Likert-type items with 9 experimentally identified competencies (Maurer & Simonson, 1984). They were also tested using the Microcomputer Literacy Examination "C." This is a 60-item instrument devised by the researcher when it was determined that an appropriate instrument was not available that ade-

quately measured the objectives of the individualized modules.

Students in the experimental group received an orientation to the microcomputer lab and the procedures for completing their self-instruction modules. These modules included: (1) Introduction to Microcomputers: Basic Steps in the Operation of a Computer; (2) Word Processing: Apple Writer or Bank Street Writer; (3) Computer-Assisted Instruction; (4) Software Evaluation and Selection; (5) Computers and the Curriculum: Classroom Uses; and (6) Teacher Utilities. Students in the control group received an orientation to the microcomputer lab and then were instructed in a traditional classroom setting and lab. Both groups had 13 weeks in which to complete their instruction. Students were post-tested at the conclusion of the semester using the Microcomputer Literacy Examination "C." Self-report log sheets were kept documenting total time spent on class and homework assignments.

Findings

Pearson product-moment correlation coefficients were computed among scores on the posttest, pretest, CAIN, and time on task. Analysis of covariance was performed with pretest and time on task as covariates. The level of significance for all statistical tests was the .05 level. Based on the results of this study, the posttest achievement scores of individualized and traditional class students were significantly different from one another. The traditional class students scored significantly higher ($p .048$) than the individualized students. The posttest achievement scores of students who received instruction in the A.M. were significantly higher ($p .048$) than students who received instruction in the P.M. There was an interaction ($p .021$) between time of instruction and gender. Females scored higher than males during A.M. instruction, while males scored higher than females during P.M. instruction. The correlation between pretest and/or posttest

achievement scores and scores on the Computer Anxiety Index was not statistically significant. The correlation between time on task and posttest achievement scores was statistically significant ($p .001$). Those students who spent more total hours on task scored higher on the posttest than those students who spent fewer total hours on task.

Discussion

There are several possible factors that could have contributed to the results in this study whereby traditional classroom students scored higher on posttests than individualized students. The consistency provided by the instructor, regular scheduling of class, and reinforcement received when completing assignments might have contributed to higher scores. Individualized students scheduled themselves for instruction, received help from lab assistants and received less reinforcement when assignments were submitted.

The differences found between students receiving instruction in the A.M. and in the P.M. is an interesting finding. It could pertain to the difference in students who chose an A.M. class compared to those who chose a P.M. class. While the traditional class groups always had their instruction at one specific time, the individualized group chose the time of day that they would work through the modules. Thus the inherent characteristics of an A.M. or P.M. student might be of more consequence than the actual time of day instruction was received.

A consideration in this study was the possible relationship between computer anxiety and microcomputer literacy achievement. After examining the statistical findings, anxiety about computers evidently was not a significant variable when considering the performance of these preservice teachers.

When assessing the impact of time on task on achievement scores, the findings were pronounced. Students in the traditional group spent almost twice as much time on task and

homework as the students in the individualized group. This increased time apparently had a significant impact on their posttest scores.

Implications

Based on the findings and conclusions of this research, the possibility should be investigated for providing class instruction in microcomputer literacy as an alternative to individualized instruction for preservice teachers. It would appear that computer anxiety may not be as crucial a factor in microcomputer literacy instruction as anticipated. Increasing the time on task of students has a significant positive impact on achievement in microcomputer literacy instruction.

This study is considered to be a contribution to the effort to further define the concept of microcomputer literacy and what constitutes effective instruction toward that end.

Susan M. Cooper-Shoup is Assistant Professor and Coordinator of Microcomputer Laboratory for the College of Education and Laboratory School at Southeastern Louisiana University, University Station, Louisiana.

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An Analysis of Advanced Placement Policy Formulation For Degree- Seeking Registered Nurses: A Grounded Theory Approach

Carolyn Fraser

The purpose of the study was to generate a substantive theory of advanced placement policy formulation in baccalaureate nursing degree programs. Advanced placement policy formulation was defined as a complex process by which baccalaureate nursing programs systematically assessed, judged and recommended awarding of credit for prior educational achievements leading to advanced placement for registered nurse students in programs. Impetus for the investigation came from the increased number of registered nurses entering and reentering colleges and universities, the need to identify individual and organizational factors influencing advanced placement policy formulation and on the policy formulation process itself.

A qualitative grounded theory approach was used to collect, analyze and synthesize data. Interviews of 41 administrators, admission personnel, nurse faculty and registered nurse students and documents were used to analyze the processes these respondents encountered when formulating advanced placement policies for students in three baccalaureate nursing degree programs. Each person was interviewed, using an open-ended, in-depth technique. Interviews were tape recorded and transcribed in verbatim manner. Data were analyzed and categories and elements emerged for advanced placement policy formulation process.

The findings dealt with three major areas: (a) identification of conceptual elements related to the for-

mulation of advanced placement policies for registered nurses, (b) identification of conceptual factors related to operational stages within the policy-formulating process, and (c) development of conceptual categories that describe processes operating within policy formulation which influences advanced placement mechanisms and placement of the registered nurse in the program. The conceptual elements were identified as: the participants which included policy formulator, policy implementer, and student recipient. The respondents identified elements of communication linkages occurring between participants and policy dissemination methods including written policy statements and methods used to inform policy recipients. The conceptual elements related to advanced placement mechanisms employed to award credit for advanced placement were also identified. The elements were transfer of credit, credit by examination and experiential learning or life experience credit.

Conceptual factors related to operational stages within the policy formulating process were identified. These stages included an analysis of the academic mission and policy goals of the academic institution as the beginning of the policy process; policy projections and trends which determined possible policy outcomes; discrepancies between policy goals and future policy status; the nursing's program integrity and balance which examined ways in which a program maintains standards and quality while

placing registered nurse students into the curriculum; policy implementation mechanisms determined by policy formulators and influences the way in which policies are formulated; and responsibility of policy formulators for policy maintenance by collecting data on policy effectiveness.

The third major area dealt with the development of conceptual categories that described internal organizational events occurring within policy formulation which influenced advanced placement mechanisms, placement of registered nurses in programs and the policy statement itself. These events were organized into a set of six dichotomies: (a) consensus vs. diversity, (b) flexibility vs. rigidity, (c) specialization vs. generalization, (d) individualism vs. collectivism, (e) recipient focused vs. recipient excluded, and (f) recipient responsiveness vs. recipient unresponsiveness. The policy formulation process was conceptualized as discriminating between each dichotomy set. An advanced placement policy for registered nurses resulted when a balance was achieved from the combined impact of all processes operating within formulation of policy.

The theoretical framework of advanced placement policy formulation for registered nurse students presented in this study has emerged from a grounded theory analysis of policy formulation process and provided a comprehensive and explanatory description by respondents. Further, it has served to describe the meanings the respondents placed on

their experiences when formulating advanced placement policies and as such experiences led to an increased understanding of conceptual ele-

ments, factors, process stages and internal organizational events related to policy formulation.

Carolyn Fraser is Professor of Nursing at Governors State University, University Park, Illinois.



The Use of Academic Controls In Determining Athletic Eligibility

Rob Gough

The purpose of this study was to examine the utilization of academic controls to determine athletic eligibility in high schools. The study considered state-wide regulations. Hence, an understanding of the autonomy left to local school boards became further, this study reviewed selected court cases to determine the legal precedents related to the use of academic criteria to determine athletic eligibility.

Four research questions were developed to guide the study. Procedures used by the study included the utilization of two questionnaires and selected reviews of legal precedents. Questionnaires were sent to all state departments of education and state athletic associations. Responses were received from the 50 states and the District of Columbia. In the legal review, selected cases after 1976 were reviewed and reported to establish court precedents.

Survey results allowed for a presentation of the state-wide practices throughout the nation. All but four of the states reported some degree of state-wide academic regulations on athletic eligibility. Forty-six states reported requirements related to the successful completion of coursework the previous semester. Further, 24 states reported requirements related to academic work in the current semester. Thirty-nine states reported no legislative or state department of education controls in this area. In the latter 39 cases, the state

athletic associations were the source of state-wide eligibility regulations. Hence, local school boards had some degree of control of association policy through membership in the associations.

A review of selected legal cases since 1976 demonstrated the courts' continued support for the right of those associated with education to set academic standards for athletic eligibility. Athletic participation continued to be seen by the courts as a privilege and not a right. These precedents were found to be confirmed by the courts in recent Texas and West Virginia cases.

The current high degree of interest and activity related to the use of academic standards to determine athletic eligibility was a national phenomenon. Further, 25 states reported increases in standards since 1980, and 14 states indicated consideration of further increases in academic controls.

Implications of this study were related to local school boards as well as to state athletic associations. The autonomy of local boards as well as state athletic associations was viewed as threatened in relation to setting their own standards for academic requirements for athletic eligibility. Both the tendencies discovered in recent acts of state legislatures and the "no interference" posture of the courts in relation to this issue, implied that local autonomy was threatened. A pro-active stance was urged for both

local boards and state athletic associations to vocalize their legitimacy as sources of policy, as well as to communicate their own philosophy regarding the use of academic performance controls to determine athletic eligibility.

Dissertation Director Statement:

Dr. Gough's study was a policy study of academic controls used to determine athletic eligibility. This study was conducted at a time of nation-wide concern over athletics. The study received significant attention from every state. Gough found that 39 states had or were in the process of determining athletic eligibility through academic means. Further, he found that athletic associations have considerable clout in most states with local boards of education somewhat upset. I expect that this policy concern will continue to exist in the future.

Charles A. Sloan

Rob Gough is Principal of Johnsbury High School, McHenry, Illinois.



Cognitive Learning Processes of Successful Adult Learners: A Phenomenological Study

Elissa K. Isaacson

Adult educators have persistently worked toward the development of a knowledge base which is unique to the discipline, provides a basis for generation of theory, and can guide practice. The central question to be answered (and to which there are probably many answers) is that of how adults learn. Various researchers have studied quite extensively the questions of who, what, where and why, but the how of learning has been more elusive. Although considerable attention has been given over the past few years to certain aspects of learning in adults such as learning styles, study skills, mnemonic devices, lateralization of brain functions and development of formal questions, few researchers have focused on the adult learner's own perception and interpretation of conscious learning processes. When an adult is intrinsically motivated to learn something in the cognitive domain, that adult is able to initiate a process expected to ultimately result in the desired learning taking place.

In order to explore the nature of this process, a phenomenological study was conducted in which seven successful adult learners described their perceptions of the strategies and processes used when they engaged in intentional cognitive learning. The study included exploration of strategies the learner uses to obtain and assimilate information, the learner's perceptions and interpretations of the mental operations which occur, contextual preferences, time sequencing, and how the learner knows when learning with understanding has been achieved. The exploration of the meaning of learning and the meaning of the individual learner's cognitive process was integral to the study.

The informants were selected according to attributes identified as belonging to "high learners." These include a high level of schooling (i.e., completion of an advanced degree, either academic or professional, beyond the baccalaureate), satisfaction with self and career, and acknowledgment of self as a successful learner. Each informant was interviewed using open-ended techniques and the interviews were tape recorded. Following transcription, each informant received a copy of the typed transcript for validation, corrections and additions.

Interviews were analyzed for emergent themes within each component of the learning process. All informants made a clear differentiation between memory and learning. They were highly self-directed and had internalized the learning process. Time was pervasive. The time required for any particular learning project ranged from two months to more than five years. The use of time to enhance learning was also important.

Although each informant delineated certain steps in the overall process, it became clear that learning is not a linear process with a set beginning and an end. Instead, it is cyclic in nature. Aspects of the process were labeled as valuing, sorting, alerting, gathering, organizing, and transforming. Any informant might choose at any time to return to an earlier phase and to further build on previous learning.

The Runic Process (a mysterious, subconscious process which apparently encodes, decodes, transfers, and melds new information with old as the learner is occupied with other activities) was developed from this study and should be of particular interest to researchers in the area of cognitive

learning. The seven informants in this study not only rely on the Runic Process for their learning projects but also describe this phenomenon better than is otherwise found in the literature.

Meaning was found to be the controlling force; meaning and the making of meaning undergirds the entire learning structure. Only if it is meaningful will the learner proceed through multiple decision points in the learning process. Learning was seen as an enrichment, a joy, a second heartbeat, usable, and living. It became a motivator in itself leading to a sense of control and, thus, freedom.

Dissertation Director Statement:

In many subfields of education, there is growing interest in understanding learning from the learner's frame of reference and in the related phenomenon of learning-to-learn (metacognition). Isaacson's study represents a pioneering effort for adult education along those lines. She opens an important area for further inquiry; and her creativity and disciplined enthusiasm should help stimulate such inquiry.

Robert M. Smith

Elissa K. Isaacson is Associate Professor and Director of the Department of Graduate Studies, College of Nursing at Lewis University, Romeoville, Illinois.



Modes of Continuing Professional Education: A Test of Houle's Typology with Pastors

James G. Kovalik

Continuing professional education (CPE) is an emerging area of special interest within the field of adult education. In response to the growth of CPE in various professional groups, adult educators are engaged in theory development and basic and applied research to gain a more complete understanding of CPE and of the learners engaged in CPE activities.

Cervero and Dimmock (1985) provide a summary of related CPE investigations and have identified three avenues educational researchers and theorists have taken to examine how professionals learn. The three approaches are: (1) problem solving, (2) organizing learning activities, and (3) patterns of learning. While the first two areas have received considerable attention, comparatively little development had been done in the third area -- an approach based on the work of Houle.

In 1980 Houle suggested a typology of three major ways professionals learn. The three modes of learning he suggested were: inquiry, instruction, and performance (later renamed reinforcement).

The purpose of the present study was to test Houle's typology of how professionals engage in continuing professional education (CPE). The three major modes of learning he suggested were: inquiry, instruction, and reinforcement.

While his typology provided a framework to begin to understand CPE, it has been tested only with nurses in studies done by Cervero, Lebold, and Dimmock (1983) and Cervero and Dimmock (1985). As a result of these studies, refinements to Houle's typology were suggested.

However, to adequately test Houle's typology, additional tests across various professional groups are

necessary. The present investigation explored the CPE learning patterns of full-time ordained Protestant pastors in the central midwest.

The data were collected through an instrument developed and tested for the study. The Pastor Activity Survey (PAS) contained 50 "job-time" activity items that were selected and judged by panels of pastors to have educative value.

The PAS was mailed to a sample of 509 pastors representing seven Protestant denominations. Responses were received from 371, resulting in an overall response rate of 72.9%. Data were analyzed using the principal component extraction technique and an oblique rotation. Relationships between selected demographic variables were analyzed using correlation coefficients and one-way analysis of variance.

A four-factor solution was selected as the best understanding of the data. The four factors represented the four modes of learning which were labeled "self-inquiry," "self-instruction," "reinforcement," and "inquiry/reinforcement."

In addition, significant relationships were found between the four factors and the age of pastors, years of service, size of church, size of community, and denominational affiliation.

The results of this study suggest Houle's major modes are a satisfactory framework to begin to describe the learning modes of Protestant pastors, but that additional refinements are needed to Houle's typology to describe fully the CPE of Protestant pastors. Also, the study provides a model for testing and refining Houle's modes of learning with other professional groups.

The study identified additional areas for research including: further definition of the major modes of learning, exploring the relationship between modes of learning and learning styles, and investigation of vocational types and learning modes. Other research efforts could be directed at the relationships between modes of learning and learner satisfaction, between change theory and modes of learning, and the relationship of process-oriented factors and content-oriented factors to modes of learning.

The results of such studies would be useful for those responsible for evaluating and developing CPE programs and materials for pastors and other vocational groups.

James G. Kovalik is Director of the Church Resource Center in Elmhurst, Illinois.

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The Status of Procedural Due Process Rights of Illinois Community College Faculty Members

Diane Elaine McNeilly

The purpose of this study was twofold: to investigate, analyze, and interpret the current position of the United States Supreme Court, Court of Appeals for the Seventh Circuit, and the three federal district courts of Illinois with regard to procedural due process rights of community college faculty in Illinois since 1972; and to analyze the application of procedural due process by Illinois community college presidents to scenarios based on current case law. The researcher presented the history and current case law concerning procedural due process in Chapter 2, Review of the Literature and Case Law, data were collected from a questionnaire developed by the researcher. The questionnaire asked for demographic information about the president and the college and contained forty-one due process scenarios reflecting current case law.

A total of 31 out of 52 president/chancellors from the Illinois community college campuses responded to the researcher's questionnaire. It was these respondents who formed the sample group of data analysis reported in Chapter 4.

Findings from research question #1: To what extent do the Illinois community college administrators understand procedural due process rights of the community college faculty as defined by the courts?

- A majority of the respondents answered correctly 24-34 due process scenarios out of a possible 45 scenarios.
- No respondent scored higher than 35 out of 45 on the scenarios.

Findings from research question #2: To what extent do Illinois com-

munity college administrators understand due process procedures as they apply to liberty rights, property rights, first amendment rights, and policy/statutory rights?

- Fifty-three percent of the respondents correctly answered scenarios designed to measure liberty entitlement to due process procedures.
- Fifty-one percent of the respondents correctly answered scenarios designed to measure property entitlement to procedural due process.
- Fifty-five percent of the respondents correctly answered scenarios designed to measure first amendment entitlement to due process procedures.
- Slightly less than half of the respondents correctly answered scenarios designed to measure entitlement to due process procedures through school policies or statutes.

Findings from research question #3: Which procedural requirements of due process are most clearly understood or misunderstood by Illinois community college presidents/chancellors?

- The actual procedures of due process which were most often answered correctly by the respondents were: to be heard in one's own defense, to be made aware of the names of witnesses and nature of evidence, and to be able to cross examine witnesses.

- The actual procedures of due process which were most often answered incorrectly by the respondents were: qualifications for an impartial trier and administrator of oaths at hearings.

Because Illinois community college presidents perform state functions, they must follow due process procedures in a variety of situations and thus a working knowledge of constitutional law, statute requirements, and current court decisions become important if costly litigation and conferencing regarding individual campus policies and practices are to be avoided. This study demonstrated that the working knowledge of the Illinois community college presidents for many situations requiring due process knowledge was inadequate. While the study has primarily treated the legal aspects of due process, misapplication of procedural due process can be costly in other important ways that can impede the day-to-day operations of a college. A misapplication of due process procedures for faculty can affect two additional areas of college operations: faculty relations and public relations.

A good working relationship with faculty can be easily destroyed by misapplication of procedural due process. Faculty can become distrustful of the intent and expertise of administration and this mistrust can manifest itself in a variety of ways. Public relations of the community college can be adversely affected by misapplication of due process in other ways. Disagreement between faculty concerning misapplication of due process procedures provided by statutes and college policies can have a negative effect on the public rela-

tions. The public can lose faith in the administration and board of the college and fail to support it with taxes or by attendance, each of which can have a negative impact on the college. In times of decreased enrollment, stable enrollment and decreased state support to colleges, poor public relations could destroy the financial resources of a college.

In conclusion, Illinois community college president must be able to understand and apply the law correctly as one facet of their position, but equal to or more important is the ability of the president to operate in a fair and reasonable manner which will ensure a good relationship with the faculty and public.

Dissertation Director Statement:

Many studies have tremendous potential for adding to the knowledge base and, at the same time, imparting information that aids practitioners. Dr. McNeilly's study does both. In her study, "The Status of Procedural Due Process Rights of Illinois Community College Faculty Members," she compiled relevant court opinions and then reported, analyzed, and synthesized them with respect to their bearing on her research problem. Next, she polled all presidents/chancellors from the Illinois community college system to ascertain their knowledge of the application of due process to their faculty.

Dr. McNeilly's work is to be valued both for its thorough coverage of case law and for translating that case law into decision making for administrators. It is a study well worth examining for these two contributions to the theory and practice of education.

H. C. Hudgins, Jr.

Diane Elaine McNeilly is Division Chair of Health/Education/Science at Kishwaukee College, Malta, Illinois.



Characteristics of School Superintendents and Administrative Performance

Allan R. Maier

This study provides useful information for school boards in assessing candidates for the superintendency. A relationship between selected characteristics of school superintendents and performance of specific administrative tasks was determined.

The replacement of a school superintendent is a significant event for the district. The superintendent, as the change agent of the board, is responsible for implementing the board's direction in policy and program. The superintendency was the focus as this study observed the characteristics of superintendents and their impact on the job through administrative performance.

For this study, administrative performance was studied through task areas selected from within general responsibilities of the superintendent. Selected administrative areas of responsibility included: curriculum and instruction, finance and business management, legal responsibilities and governance, educational services

and facilities, and staff personnel and development. Specific administrative tasks were selected for study which are representative of these five areas of superintendent responsibility.

Independent variables included the career factors of superintendency, predecessor, career, successor, change expectation and position status. Variables also included the demographic characteristics of superintendent age, degree, years of experience, total staff, community and district type.

The problem for study was to determine the relationship between selected characteristics of school superintendents and their performance of specific administrative tasks. Based upon the problem statement, six research questions were posed for study which considered the administrative tasks as dependent variables.

The research was based on survey information from responding school superintendents in the State of Illinois.

The statistical methodologies used in the analysis of the data were bivariate and log-linear analysis. Null hypotheses were tested against bivariate analysis of the data. Two theoretical models were presented for each of the research questions. Log-linear analysis was used to explain the relationships of these models.

Questionnaires were mailed in January, 1987, to 623 superintendents in Illinois school districts with enrollment of 500 or more. Completed questionnaires were returned by 563 superintendents representing a 90% return. Survey instruments usable for full statistical treatment represented 85% of all questionnaires sent. Through bivariate analysis, significant relationships between multiple superintendent characteristics and administrative performance were demonstrated in five out of six research questions.

Among the superintendent characteristics most frequently demonstrating a significant relation-

ship to the dependent variable through bivariate analysis is position status followed by superintendent degree and change expectation status. Through log-linear analysis, the independent variable most frequently explaining mutual dependence with the dependent variable is position status. This is followed by superintendent degree. In a single model, the independent variable explaining the greatest amount of mutual dependence was years in the superintendency.

When considering all analysis information, characteristics of superintendents according to importance in predicting the implementation of administrative change are:

- position status (superintendent in current position four years or more);
- superintendent degree (superintendent with a doctorate);
- change expectation status (superintendent to whom change expectations were expressed);
- years in the superintendency (superintendent with nine years or more of total experience);
- total certified staff (superintendent with a certified staff of 92 or more);
- successor status and career status (superintendent hired from outside the district and considered career-bound).

A review of the conclusions of this research suggests the following implications for practice.

- This study has shown that specific characteristics predict superintendents who may implement changes within a school district. However, the needs of the district should be determined carefully before selecting a successor superintendent to make changes in the

school system. Change for the purpose of change alone is insufficient cause for organizational modification. In the best interests of the district's students the most qualified successor executive to operate a complex school system may already be employed in the district.

- Preparation, experience and career orientation of the administrator have been demonstrated to predict superintendents likely to implement change. However, current superintendents and potential candidates need to examine their perspectives.
- This study has shown that administrative performance is a function of superintendent maturity, years of experience, and length of service in a position. The veteran and on-going superintendent can sue experience for a broader purpose within the profession by extending their insight to novice executives. New superintendents, first-time school executives, and administrators under 50 years of age can improve their performance by productive conferencing with mentor colleagues about the important decisions of the superintendency.

On the basis of this study, some recommendations can be made to boards of education.

School board members best can serve their communities by viewing the superintendent selection process as an opportunity. A thoughtful determination of district needs should be completed through skilled assistance. From that assessment, qualifications and criteria can be established for the selection of the successor superintendent. When the criteria is met and an appropriate match is determined, district change expectations should be

clearly communicated to the selected candidate.

Board members should consider the importance of administrative experience, a doctoral degree, expressing change expectations, and selecting a superintendent from outside the district if change is to be implemented through administrative performance.

Dissertation Director Statement:

Allan Maier's study represents a significant contribution to the knowledge base regarding selected characteristics of superintendents, board expectations, and administrative tasks. His use of multivariate techniques for the analyses of categorical data enables him to identify significant relationships. A usable response rate of 85% from the 623 superintendents who were sent questionnaires clearly indicates the significance of the study to school superintendents.

John Niemi

Allan R. Maier is Assistant Superintendent of Schools of District #90 in River Forest, Illinois.



Simultaneous and Successive Cognitive Processes: Their Uses with Learner-Assigned, System-Assigned, and Embedded Learning Strategies

Ruth Marshall

This study was designed to tie together research from the cognitive sciences with the information processing model from instructional technology research. The author attempted to demonstrate that the information processing model may be used to train subjects to use various cognitive processes. The study did reach this goal. A significant relationship among knowledge of task, learning strategy, and cognitive ability was observed. The study also attempted to examine the impact of cognitive processes training on low, middle, and upper ability subjects to see if there would be a difference between these groups in their response to the training which was modeled for them. A difference was observed, but not at the .05 level. All subjects benefited from the cognitive processes training.

Specifically, this study used a posttest-only design to examine the relationship among knowledge of task, learning strategy, and cognitive ability. To examine this relationship, a three by three ANOVA for two independent and two dependent variables was used. The independent variables were cuing, (postcuing, precuing, and precuing and modeling) and ability as measured by the subjects' Scholastic Aptitude Test (SAT) scores. The dependent variables were cognitive strategy (simultaneous and successive) and task (draw pattern and write order). Tukey post hoc tests were performed on cuing to measure the difference between treatments.

The sample was drawn from students attending Columbia Bible Col-

lege, Columbia, South Carolina, in January, 1984. The subjects were randomly assigned to one of the three treatment groups. The subjects in the control group received a postcuing treatment which required them to generate their own learner-assigned strategies to accomplish given tasks. The subjects in the first experimental group received a precuing treatment which required them to use a system-assigned strategy to accomplish given tasks. That is, they were told which strategy to use before each item was presented to them. In the second experimental group, the subjects received a precuing and modeling treatment which required them to use embedded strategies which were modeled for them. These subjects were told which strategy to use, were shown how to use it, and then were allowed to practice each strategy prior to taking the test.

The ANOVA found main effects for the cuing treatments and for SAT Total. No significant interaction among these variables was found at the .05 level. Correlation coefficients indicated a significant relationship existed between the embedded strategies which modeled the draw pattern and write order tasks and the Cognitive Processes Test which measured these tasks.

The results suggest that learners can be trained to acquire and use cognitive strategies and that appropriate training may significantly increase the level of learner performance.

Dissertation Director Statement:

This research was designed to address one of the many growing needs in the field of instructional design and technology. Specifically, it links cognitive learning psychology, which includes the information processing model, with instructional design theory to provide a more promising basis for instructional theory development. Based primarily on the research of William Winn and J. P. Das, this research attempts to evaluate the relationship between the necessary characteristics of instructional methods, learning tasks, and learner abilities as sources for understanding achievement increases. This, in turn, should encourage instructional designers and technologists to produce instructional materials which aid learners in their cognitive skills while accomplishing given learning tasks.

Keith M. Collins

Ruth Marshall is Director of Media Resources at Columbia Bible College and Seminary, Columbia, South Carolina.



Verbal Feedback and the Acquisition of Information From Instructional Films

Glenn D. Novak

Research regarding the effect of positive and negative feedback upon learning has had conflicting results. In some contexts, praise has been found to be a facilitator of learning; in other situations, reproof has been equally or more effective. To date, no research has been conducted which studies the relationship between oral feedback from an instructor and the subsequent acquisition of information from instructional films. The research problem in this study was to determine if such a relationship did exist and, secondarily, to determine if subjects differing in anxiety level acquired significantly different amounts of information from films.

The subjects for the study were 290 undergraduate college students from 12 intact classrooms. The students were all enrolled in a basic communication course and represented freshman through senior level. In order to minimize the potential effects of experimental manipulation, the researcher was presented to each class as a guest speaker who would discuss motion pictures as a mode of communication. A short film would be shown in the 50-minute class period, and a test over its contents would be administered.

At the outset of the class period, each subject completed the Anxiety Scale Questionnaire, a 40-item, written, multiple choice device that yielded a numerical index of general anxiety. Subjects were classified as either high-anxious or low-anxious based upon their scores in relation to their respective classroom mean.

Subjects then viewed one of two short instructional films on motion picture aesthetics. Immediately fol-

lowing, a 20-item objective test over the film was given. Two days later, feedback treatment of an artificial nature was administered by the researcher in the form of oral praise, oral reproof, or no feedback. No artificial written scores were distributed to individual subjects. Only oral feedback was used, with bogus class means given and generalized verbal praise or reproof. Praised subjects were told that they had done extremely well on the first test. Reproved subjects were told that they had done quite poorly. Control groups received no feedback. Immediately after the feedback, subjects saw the second film and took another short objective test over it.

Statistical analysis of the data using analysis of covariance revealed a significant difference in the post-test means between the praised and control groups, with the praised group scoring higher. This difference was significant at the .10 level. Reproved subjects scored intermediately between praised and control groups. A repeated measures model of analysis of variance revealed a significant relationship between student anxiety level and post-test scores on the film achievement test. Subjects rated low in anxiety scored higher than those rated high in anxiety. Significance was at the .10 level. No interaction emerged between feedback treatment and anxiety.

Verbal feedback from an instructor has an influence upon learning in the college classroom. This study demonstrates the nature of this influence on the acquisition of specific information from instructional films. Educators who use films in the classroom should be aware of the possible

impact of their comments upon subsequent learning from those films. The conscious application of positive feedback and the reduction of anxiety in the classroom are instructional strategies for enhancing learning from films.

Dissertation Director Statement:

The significance of this study is twofold. First, it addresses the generally accepted precept that rapport in the classroom contributes to learning in a specific and measurable fashion. Second, Glen D. Novak makes use of two elements that have not been generally associated with each other—the use of praise with the medium of film in classroom instruction. His study's conclusion merits attention. As he noted, "The conscious application of positive feedback and the reduction of anxiety in the classroom are instructional strategies for enhancing learning from films."

Jon T. Powell

Glenn D. Novak is Assistant Professor of Mass Communication at West Georgia College, Carrollton, Georgia.



Meta-Analytic Study of the Effectiveness of Pictorial Learning

Olatunde A. Ogunyemi

Pictorial instruction involves a process in which 2-dimensional physical resemblances of objects or concepts (e.g., pictures, photographs, etc.) are used as supplements to verbal instruction. Most studies on pictures have examined their effectiveness when they are used to supplement verbal learning. Most of them found no significant differences between subjects exposed to pictures and the control groups. However, when certain attributes are taken into consideration, use of pictures as supplements to verbal learning could be facilitative.

Several problems in the past attempts to integrate reviews of literature were identified. Because of the lack of integration, clear models for designing instruction to fully utilize the instructional potential of pictures have not been identified. A quantitative method of synthesizing research studies that have been done on pictures was identified as a tool of overcoming the problems identified. This quantitative method is called meta-analysis.

Meta-analysis is a non-experimental technique that uses previously reported research findings as its subjects. It is a statistical review of literature that provides opportunity to make generalizable conclusions on the effects of a particular experimental treatment. The effect size is the magnitude of the experimental treatment. A major criticism of the traditional meta-analysis and its generated effect size is that it gives unreasonably large weights to studies with large sample sizes. As such, the Bayesian method of meta-analysis was suggested.

Bayesian inference is the method used to show how prior beliefs, ex-

pressed as probabilities, are modified in the light of new information.

This study used these two methods to synthesize studies on pictures and learning. Also, the two methods were compared to see if there is a difference between them. Several conditions under which the use of pictorial instruction is more effective, were investigated.

Primary studies were initially identified through a search in ERIC, Dissertation Abstracts, and several other library data bases. Studies were also identified through secondary sources such as, the reference listings in journal articles. For the purpose of this study, the following criteria were used in selecting samples: (a) Studies must have been done between 1970 and 1985; (b) Studies must experimentally compare the achievements of subjects exposed to pictorial instruction and subjects exposed to verbal instruction alone; (c) Studies must report on quantitatively measured outcomes; (d) The dependent variable must be achievement; and (e) Studies must include information necessary for calculating effect size (this excludes studies that reported only gain scores). A total of 50 studies that met all the above criteria were included as samples in this study.

The results of this study supports the assumption that pictorial instruction (either color or black-and-white), is more effective than verbal instruction alone. Also, it was found that pictorial instruction produce differential effects among different socioeconomic groups, the type of courses taught, the difficulty level of course content, the time the picture is presented (before or after text), the mode of picture used, the level of pictorial detail, the subjects' academic

level, the time of testing (post, delayed post, etc.), and overall objective of the course.

This study has provided evidence as to the magnitude of the differential effects produced when pictorial instruction is utilized under certain conditions. This has shown that designers and teachers have to be very careful when deciding whether to use picture to supplement a particular instruction, and which picture to use, because several other variables interact with the effectiveness of pictorial instruction. This study will help them to identify such variables and, as much as possible, control for the confounding effects they may produce. The study concentrated mostly in the areas related to the normal population. Efforts should be made in the future to incorporate the effectiveness of pictorial instruction for the special populations such as, the deaf, mentally retarded, the gifted, and so on.

Several studies have been done to examine the effectiveness of pictorial instruction. Opinions will always be divided on this issue. As such, researchers, instructional designers, and teachers need to concentrate their efforts on identifying those conditions where pictorial instruction could best be utilized rather than trying to determine if pictorial instruction is effective or not. This study is a step in that direction.

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An Analysis of the Relationship Between the Paradigmatic Assumptions of Positivism, Phenomenology, Ethnomethodology and Critical Theory in Relation to Educational Administration Theory, Research and Practice

Kathleen Peca

The purpose of this study was to analyze the paradigmatic assumptions of positivism, phenomenology, ethnomethodology and critical theory in relation to educational administration theory, research and practice. Impetus for this inquiry was the growing debate in educational administration literature over the premises of research methodologies. The focus of this literature is in direct confrontation with the positivistic assumptions of the currently dominant empirical methodology. Theorists are offering other methodologies as replacements for empiricism or are combining other methodologies with empirical method. These criticisms do not center on methodology alone but also focus on philosophical assumptions which underlie research methodologies. Thus, the debate over methodology encompasses a debate over paradigmatic position.

To clarify issues of this debate and their relationship to educational administration theory, research and practice, this study focused on: (1) explication of positivism and of the three paradigms proposed as alternatives to positivism (phenomenology, ethnomethodology, and critical theory); (2) comparison and contrast of the assumptions of the four paradigms to determine similarities and differences; (3) comparison and contrast of application of the assumptions of the four paradigms to educational administration theory, research and practice; (4) consideration of compatibility of the four paradigms, specifically, collapsing the four paradigms into two paradigms-- objectivism and subjectivism; and (5) in-

vestigation of the assumed relationship between research methodology and paradigmatic assumptions.

Analyses of the debate at the paradigmatic level resulted in the conclusions that: (1) assumptions of positivism, phenomenology, ethnomethodology and critical theory are conceptually consistent and logical and thus, meet the criteria for paradigm definition; (2) assumptions of the four paradigms may have some similarities, but are so conceptually divergent as to preclude paradigmatic synthesis; (3) theorists who accept the same paradigmatic assumptions will engage in the same method of research, while theorists who engage in the same method of research may adhere to differing paradigmatic assumptions; (4) to understand the paradigmatic posture of a researcher, one must look to the goals not to the method of investigation; and (5) assumptions of the three paradigms which posit knowledge as relative (phenomenology, ethnomethodology, critical theory) are too distinct to be subsumed under the heading of subjectivism. This author found no resolution to current debates over the positivistic paradigm at the paradigmatic level because paradigms are consistent belief systems and individuals can change or interpret their personal beliefs, while the logic and consistency of the belief system remain.

Analyses of the debate at the methodological level resulted in the conclusions that: (1) synthesis of methodology is conceptually and logically unsound, because it precludes the relationship of a research

methodology to its paradigmatic assumptions; (2) paradigmatic linkage to research methodology provides the researcher with a conceptual framework in which to conduct research and in which results of research can be meaningfully presented; and (3) to extrapolate a research methodology from a paradigm and utilize it in conceptual isolation is logically unsound. This author found that the debates cannot be resolved at the methodological level. Research methodology is derived from specific philosophical assumptions which provide answers as to why a specific research methodology is to be used, what the focus of the investigation should be, and how the results are to be interpreted.

General analyses indicate that whether the debates will eventually be resolved by replacement of positivism as the primary paradigmatic basis for educational administration or whether alternative paradigms will be accepted as legitimate bases for alternate means of research, the current status of the educational administration field reflects continued dominance of logical positivism and the emergent application of phenomenology, ethnomethodology and critical theory to educational administration theory, research and practice.

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The Resisters: An Analysis of Non-Participation in Adult Basic Education

Benjamin Allan Quigley

Issues and Significance

Estimates are that over 30 million adults in North America are "functionally illiterate" and over one-third are affected by low literacy skills (Hunter & Harman, 1979; Kozol, 1985; Statistics Canada, 1981). The resultant cost to the USA through productivity loss, taxation loss and social program costs is estimated at exceeding 50 billion dollars annually (Kozol, 1985).

The program devoted to this issue, Adult Literacy and Basic Education (ABE), attracts a mere 2% - 10% of the functionally illiterate (Hunter & Harman). As a result, confidence in the ABE profession has been eroding. Funding has decreased dramatically since the mid-1970's, ABE professionals now support literacy volunteers, rather than volunteers supporting professionals, and employment-specific training is replacing generic ABE programs. The ABE profession is widely perceived as failing and is in need of direction.

Literature

Fingeret (1984) found that the theory/philosophy/policy/ research category was by far the smallest in the ABE literature. Recent research in this category may be classified as: 1) research internal to the field, such as O'Brien (1979) and Fingeret (1983, 1984), and 2) that external to the field, as by Thompson (1980). The former argues for internal ABE change centering on increasing understanding of learners; the latter argues that ABE is naive in its liberal efforts without major socio-economic

change. Neither group speaks directly to the non-participation issue, however.

Conceptual Framework

This study took the position that research on non-participants in ABE is frequently generalized from data on the atypical 2% - 10% who have internalized normative values and function relatively well within formal education. If some non-participants are seen as resisting formal ABE, sociological perspective, practitioners and researchers become challenged to see ABE's limits from a new theoretical framework.

Design, Method, Findings

This study first analyzed traditional ABE from a reproduction theory viewpoint using ABE historical research (e.g. Verner, 1967), curriculum research (e.g., Coles, 1977), and ABE survey research (e.g., Mezirow, Darkenwald and Knox, 1975). A resistance-based model adapted from Gramsci was designed. This framework and model was then tested against the experiences of resisters who had deliberately resisted traditional schooling (i.e., public, parochial, college). Resisters' experiences and views were then applied to the ABE system. It was found that traditional ABE must be considered at least as unacceptable to resisters as those systems which they had earlier rejected.

Significantly, resisters never resisted the knowledge-content of schooling. They were capable learners. Instead, they resisted the normative expectation they saw in

their schools and chose alternative lifestyles, values, and morals which they judged as superior.

The resisters studied were the protagonists of ten selected novels and short stories; the methodology used was phenomenology. Other findings included a six-step model of resistance behavior; a "continuum of visibility" of resistance to schooling; and the consistent finding that resisters considered themselves successes rather than "failures" at school.

Applications

Mere "adjustments" to formal ABE were not recommended. Rather, the recommendations included: 1) learner-grounded basic education based on learner values, lifestyles and needs, using value-free numeracy and literacy content, be developed, 2) nonparticipants not be assumed to be the "same" as participants, 3) ABE personnel become involved in re-shaping public and sponsor's opinions through a resistance field model (as developed) and, 4) that resistance theory be the source of further studies on nonparticipation in adult education.

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A Validation Study of the Nursing Diagnosis Anxiety

Georgia Griffith Whitley

The quest to define nursing and its functions began with Florence Nightingale (1859) who described the purpose of nursing as putting the patient in the best condition for nature to act upon him. Nightingale also noted that anxiety was present in patients and spoke of the need for nursing interventions in relation to this problem. Currently, anxiety is a response frequently observed and treated by nurses in a wide variety of settings.

Subjective and objective defining characteristics are representative of anxiety as observed in clients by nurses. Retrospective nurse survey methodology as proposed by Gordon and Sweeney (1979) and Fehring (1986) was utilized in the validation study. The respondents ratings of defining characteristics were analyzed in relation to the personal and professional characteristics of the respondents to determine whether there were differences in the definitions of anxiety. The sample (N=312) consisted of registered nurses who attended a national conference on nursing diagnosis. The instrument gathered data regarding the subjective and objective indicators of anxiety and data regarding personal and professional characteristics of respondents.

The data analysis included calculation of frequencies, means, and standard deviations of the defining characteristics. Respondents rated each defining characteristic on a 1-5 Likert-Type scale. Defining characteristics with means greater than 4.0 were labeled critical; defining characteristics with means greater than 3.0 were labeled acceptable; defining characteristics with means less than 3.0 were rejected. Responses to questions regarding personal and professional characteristics were tallied and the following analyses were computed: (a) Pearson Product moment correlation coefficients for variables age, years experience in nursing, knowledge about client anxiety, and knowledge about nursing diagnosis, (b) t- tests for the variables direct patient care or no direct patient care, (c) one-way ANOVA for the variables educational level, clinical speciality, and type of position.

Four defining characteristics of anxiety were labeled critical, twenty-four were labeled acceptable, and one was discarded. Respondents suggested additional defining characteristics and also recommended the differentiation of levels of anxiety. In general, the data analysis of the eight personal and professional charac-

teristics of respondents showed little if any to slight relationships between the definitions of anxiety and these variables (p..05). Recommendations for further research include: (a) study additional indicators of anxiety as suggested by the nurses surveyed; (b) study the issue of differentiation of levels of anxiety versus nondifferentiation; (c) conduct additional studies utilizing nurses who are not selected on the basis of participation in a nursing diagnosis group to further test these findings.

This study of the nursing diagnosis Anxiety is a part of the initial contributions to research on this diagnosis and also relates to the larger body of knowledge about nursing diagnoses. The development of a diagnostic nomenclature makes a clearer definition of nursing's domain of responsibility possible. A taxonomy of validated diagnoses can provide a framework for clinical practice, nursing education, and research in nursing.

Dissertation Director Statement:

The validation of nursing diagnosis has implications for practice, education and research. Agreement on diagnostic

labels would foster better communication among nurses, would help determine skills and theoretical content to be taught in nursing education, and would facilitate the writing of process and outcome standards which would make

possible research into the impact of nursing care upon the consumer.

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Perspective Transformation as an Adult Learning Theory to Explain and Facilitate Change in Male Spouse Abusers

George H. Williams

This study attempted to operationalize and apply an adult learning theory, perspective transformation, to the social problem of spouse abuse. The theory of perspective transformation was developed by Jack Mezirow in 1978 through a national field study of women in re-entry programs in community colleges. Perspective transformation seemed to support the predominant theories on cause of spouse abuse which focused on learned behavior interacting with perceived cultural sanctions. It also helped explain a process of change similar to what men involved in spouse abuse would have to undergo to diminish their abusive behavior. This research was designed to determine how well perspective transformation could explain the process that led to the development of abusive behavior toward one's spouse and assist in understanding and facilitating change in that behavior.

The sample consisted of all males who sought help for spouse abuse from July, 1984 to May, 1985 at the Mental Health Division of the DuPage County Health Department who were screened for conditions hindering group participation and who completed a 12-week men's group treatment program. Of the 46 seeking treatment, 3 were screened for uncontrolled substance abuse, overt psychosis, psychopathology hindering all remorse capacity, and extremely low verbal skills; 18 did not attend or dropped out of the treatment program; and 25 completed the 12-

week program and were included in the study.

The review of the literature on both spouse abuse and perspective transformation suggested that as change in abusive behavior and perspective transformation occurred in this population of male batterers, there most likely would be change in the self-acceptance dimension of self-esteem, self-perception of control, sex role preference in marriage and cohabitation and tactics used when in conflict. Therefore, an intake interview to gather background data and five self-report instruments were chosen to measure these variables and given as pretests -- the Index of Spouse Abuse, Rosenberg's Self-Esteem Scale, Conflict Tactics Scales, Rotter's Locus of Control Scale, and the Index of Role Preferences. After the 12-week treatment program, the same five self-report instruments were again administered with an exit interview. Six subjects and their spouses were followed up 12 weeks after termination of the treatment. The Index of Spouse Abuse was given to the wife of the subject to control for response bias, a problem associated with the study of socially undesirable behavior that was also confirmed to be present in this study.

The findings showed that significant change occurred in the direction of less physical and nonphysical abuse, internal locus of control, higher self esteem greater use of reasoning tactics, less verbal aggression and violence tactics, and egalitarian role

preference. Although perspective transformation was not the most strongly associated variable with change in abusive behavior of all of the variables in the study, it did relate significantly with change in physically abusive behavior. Combined with perspective transformation, physical abuse, childhood exposure to parent-to-parent reasoning and parent-to-parent verbal aggression tactics, total income, and subjects' reasoning and violence tactics together explained 83% of the variance in nonphysical abuse. Combined with perspective transformation, reasoning tactics, age of subject, childhood exposure to parent-to-child verbal aggression and parent-to-parent violence tactics, change in role preference, and educational level together explained 77% of the variance in physical abuse. Change in reasoning tactics, age of subject, and childhood exposure to parent-parent and parent-to-child abuse also related significantly with change in abusive behavior.

It was concluded that perspective transformation offers a viable theory for explaining the processes that led to spouse abuse and in facilitating the process of change from abusive behavior. Since this study was exploratory, further multivariate studies need to be done to substantiate and expand these findings.

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An Examination of Cognitive Restructuring In An Adult Continuing Education Workshop

Jay Young

The need for more research on adult learning theory has changed very little since Mezirow (1971) stressed that additional research concerning a systematic approach to adult learning and its application to practice should be given a major priority in the field. The primary area of investigation of this study, cognitive restructuring, is one approach in attempting to understand and explain adult learning.

Cognitive restructuring essentially is learning which transforms existing knowledge to bring about a new view or perspective. All new learning is not just additive to what is already known, but transforms existing knowledge to bring about a new perspective (Mezirow, 1978).

A review of the literature on cognitive restructuring reveals that relatively little has been done to study the subject with adults in any of the various ways in which it has been conceptualized. The few data based studies that have been done range from Hunter's (1980) exploratory study of perspective transformation, to Even's (1981) research into brain lateralization in the adult. Even less has been done to systematically test for cognitive restructuring in the adult learner. Long, McCrary, and Ackerman (1979) reviewed research on Piaget's stage of cognitive functioning with adults.

This study examined the concept of cognitive changes in adults by determining if a specific educational instructional approach -- Contextual Learning -- could cause cognitive restructuring in adults participating in a Contextual Learning Workshop. The transformation of participants' perspectives from a present to a future time orientation, and from a local to a global world view as determined by Future World Perspective Values

Scale scores were used as indicators of cognitive restructuring. A non-equivalent control group design was utilized in which treatment and control groups comprised of elementary and secondary teachers were administered the scale. Age, gender, subject taught, and number of years in teaching were also studied for their relationship to scale scores.

Results indicated that Contextual Learning did have a significant impact at the .0001 level on the world perspectives of adults participating in the study. The primary hypothesis that there would be no difference between post test Future World Perspective Values Scale scores obtained from adults participating in Contextual Learning Workshops and those not participating was rejected at the .0001 level of significance. More specifically, the Contextual Learning instructional strategy significantly changed the world perspectives of adults participating in the Contextual Learning Workshop of this study from: (a) a present to a future time orientation, and (b) from a local to a global world perspective. These results suggest that cognitive restructuring did occur in adults who participated in the Contextual Learning Workshop of this study. Analysis also indicated no significant relationship of the demographic variables to scale scores.

The results of this study provide several theoretical and practical implications for the field of adult education. The major contribution has been to provide evidence that cognitive restructuring does occur in adults, which supports the concept that adult learning is, at least in part, a function of that restructuring. This gives additional credibility to adult learning theorists such as Freire (1970), Mezirow (1978), and Clark (1979),

who have proposed that adult learning involves cognitive change. Also there may well be stages of adult cognition beyond that of Piaget's formal operations, and the formal operations stage of cognitive development may not be completed by early adolescence.

This study also suggests that a holistic approach, such as Contextual Learning, to structuring knowledge and developing curricula in adult education would provide an adult cognitive structure more adequate for increasing information processing capability. This has major implications for adult educators for both classroom instructional approaches and curricula design. The study also provides a start in bridging the gap between conceptualizations of cognitive restructuring and testing of the concept with adult learners.

Dissertation Director Statement:

This study sought to determine whether an adult's cognitive structure could be changed through a specific instructional approach called Contextual Learning. The major contribution of the study has been to provide evidence that cognitive restructuring does occur in adults, which supports the concept that adult learning, at least in part, involves cognitive change. The study also suggests that a holistic approach to learning may be necessary to bring about cognitive restructuring. The results of this study are especially significant in that they provide empirical support for Mezirow's theory of perspective transformation which he has proposed to ex-

plain adult learning as a phenomenon different from pre-adult learning.

Sharon Merriam

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An Analysis of Perceptions Toward Obstacles to School District Reorganization and Consolidation in Illinois

Gary J. Yudewitz

At the time the study was conducted, Illinois ranked third in the nation in the number of operating school districts, with over 1000 districts. Currently, this number is slightly below 1000. This is a significant reduction from over 10,000 school districts in 1945. Many of these school districts have been impacted by declining enrollments and dwindling financial resources. Despite suggestions for reducing the number of school districts further, limited consolidation has taken place.

The study was designed to analyze the perceptions of superintendents and school board presidents regarding various obstacles to school reorganization under the process of combination or unification in Illinois. The study was descriptive and was based upon seven research questions. The data were obtained by the use of a survey instrument.

This study concerned the perceptions of superintendents and school board presidents as to changes in local control, educational quality and financial condition of a district resulting

from combination or unification of school districts in Illinois. The study further examined the assessments of superintendents and school board presidents of the community attitudes regarding changes resulting from combination or unification. In addition, the study identified the respective roles of individual and various agencies in the combination or unification process and the adequacy of available information about district potentially involved in a combination or unification process. The study reported on the ranking by superintendents and school board presidents of obstacles to combination or unification. Finally, several constructs were analyzed by selected demographic variables.

The findings of the study show that generally, superintendents and school board presidents are in agreement on their perceptions towards obstacles to school district combination or unification. The most significant obstacle was loss of local control. Other potential obstacles were ranked in various positions of impor-

tance. The order of the rankings for all respondents was: (1) loss of local control, (2) changes in financial condition, (3) changes in educational quality, (4) lack of incentives for combination or unification, (5) lack of a state mandate for combination or unification, (6) inadequacy of information to the public about the district(s) involved, and (7) the availability of information about combination or unification was found to be the least important obstacle. Further, it was demonstrated that the demographic variable most impacting perceptions was the size of the school district, followed by the type of district and least influential was the location of the district. In addition, the findings reveal that available information on reorganization was deemed inadequate.

Members of boards of education were regarded as the individuals who should assume much of the work involved in the combination or unification process. The second level of importance was the superintendent, followed by citizens, regional superinten-

dents, and the Illinois State Board of Education. Consultants were regarded as least important in the process.

While the literature generally indicates significant educational advantages are gained through school district combination or unification, as well as financial benefits, the question remains is the loss of local control an appropriate price to pay?

Dissertation Director Statement:

Dr. Yudewitz studied school consolidation at a time when statewide attention was given to this policy matter. This study possesses an excellent review of the literature about school consolidation and a very thorough recitation of the important events in Illinois school consolidation efforts. Dr. Yudewitz found that both superintendents and

Board of Education presidents viewed this issue similarly. Moreover, the primary issue was loss of control and local identity.

Charles A. Sloan

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A Study of Factors That Influence Decision Making For First Time Special Education Placements In Multidisciplinary Teams as Perceived by Principal and Regular and Special Education Teachers In Chicago Public Elementary Schools

Patricia Zemba

The purposes of the study were to increase the knowledge of decision making for first-time special education placements of students and to analyze selected factors that affect such placement decisions in regular Chicago public elementary schools. More specifically, this study investigated influences on decision making for first-time, high-incidence special education placements in multidisciplinary teams. The factors used for the analysis were gender, highest degree attained, number of years in current position, number of staffings, climate, degree of controversy, decision modes, appropriateness of decisions, satisfaction with decisions, power as good, as political, as resource dependency, as instinctive drive, as charisma, and as control and autonomy. Four null hypotheses were developed and tested for statistical significance.

A survey instrument containing 53 items was developed and validated. Reliability was established by means of a test-retest pilot study. Twenty subdistricts in the Chicago Public School System were asked to participate in the study, and 17 agreed to be involved. A total of 137 principals, 89 regular education teachers, and 138

special education teachers provided the data for the present study.

The chi square test was used to analyze the frequency distribution and percentage of responses to each item on the questionnaire. In addition, the data for each part of the hypothesis were submitted to chi square analysis via the CROSSTABS subprogram of SPSS. Each null hypothesis was tested at the .05 level of significance.

The findings of this study indicated that: The Principals and regular education teachers did not perceive any person as typically exerting the most influence on final decisions in first-time special education placement staffings. The special education teachers perceived the psychologist as the most influential person in relation to the variables of gender and climate.

Of the seven methods used to influence final decisions for first-time placements in special education, using emotionally charged words was perceived as most influential by the principals and special education teachers and a little less influential by the regular education teachers. The variables that were related to the principals' perceptions of using emotionally charged words to influence

final decisions for first-time placements in special education included climate, decisions modes, appropriateness of decisions, and power as resource dependency. The variables that were related to the special education teachers' perceptions were years of experience, climate, satisfaction with decisions, and power as political. The variables that were related to the regular education teachers' perceptions were number of staffings, power as good, and power as control and autonomy.

Seven of the 15 variables were related to the principals' perceptions of the most influential methods affecting team members' final decisions in first-time special education placements. They included gender, years of experience, number of staffings, climate, degree of controversy, decision modes and appropriateness of decisions. Three of the variables were related to the regular education teachers' perceptions of the most influential methods affecting team members' final decisions in first-time special education placements. They were climate, decision modes, and power as instinctive drive. The three variables that were related to the special educa-

tion teachers' perceptions of most influential methods included years of experience, climate, and power as charisma. Climate was the only variable that related to all three respondent groups perceptions of the most influential methods. The data suggest that the respondents had very definite and strong views concerning the climate at placement staffings.

The findings of this study suggest that principals and regular education teachers do not feel the impact of the

psychologists' influences on decision making in first-time special education placements as do the special education teachers. The variable that seems to have the greatest explanatory impact relative to influences on final decision in first-time special education placements was climate surrounding the staffing. The variable, highest degree attained, seemed to have no impact whatsoever on decision making in first-time special education placements and using emo-

tionally charged words seemed to be perceived as the most influential method by principals and special education teachers.

Patricia Zemba is Principal of Courtenay Special Education Facility of the Chicago Public Schools, Chicago, Illinois.



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Dissertation Director: F. P. Frank

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Dissertation Title:

Illinois School Administrators' Knowledge of Special Education Laws and Regulations

Dissertation Director: Charles A.Sloan

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Dissertation Title:

The Clearing: The Growth and Survival of an American Adult Education Institution in the Danish Folk School Tradition

Dissertation Director: John Niemi

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Dissertation Title:

Successful Faculty Career Change: A Phenomenological Study of Essential Structures of Transitional Processes

Dissertation Director: Edwin Simpson

A LISTING OF FUNDED FACULTY RESEARCH AND PROJECTS

COLLEGE OF EDUCATION

Northern Illinois University, 1985-1987

1986 Department of Curriculum and Instruction

Thomas, Billie

Screening and Educational Program for Children Ages 4-5 Who Are at Risk of Academic Failure

Funding Agency: Woodstock Community School District 200

Whealon, Terry

Extended Campus Dissemination

Funding Agency: Will County Educational Service Region

1987 Department of Curriculum and Instruction

Green, Herman

The Effects of Culture on Perceptual Task Performance

Funding Agency: College of Education Education Research Stipend

Funding Agency: College of Education Education Research Stipend

Thomas, Billie

Collaboration Among Early Childhood/Child Care Training Programs

Funding Agency: Illinois Board of Higher Education (HECA)

Johns, Jerry

Preparing and Fieldtesting Revisions for the Basic Reading Inventory

1985 Department of Leadership and Educational Policy Studies

Cervero, Ronald M.

Analyzing Continuing Professional Education at the Workplace

Funding Agency: Graduate School Summer Research Grant

Merriam, Sharon B.

The Interpretation of a Life Event as a Function of Life Stage

Funding Agency: Graduate School Summer Research Grant

Cunningham, Phyllis

Coordination of Title XX Program

Funding Agency: Illinois State Board of Education

Mirel, Jeffrey

McCarthyism and the Detroit Public Schools, 1950-55

Funding Agency: Graduate School Summer Research Grant

1986 Department of Leadership and Educational Policy Studies

Cunningham, Phyllis

Literacy Hotline

Funding Agency: Illinois State Library

Mirel, Jeffrey

The Detroit Federation of Teachers 1939-1954: The Role in the Union in Shaping Educational Policies

Funding Agency: Rockefeller Foundation

Farnum, Mary/Minor, Carole

Non-traditional Occupations

Funding Agency: Illinois State Board of Education

Mirel, Jeffrey

The Development of an Urban Teachers' Union: Detroit 1939-1954

Funding Agency: Graduate School Summer Research Grant

1987 Department of Leadership and Educational Policy Studies

Cunningham, Phyllis

Literacy Hotline

Funding Agency: Illinois State Library

First, Patricia/Nowakowski, Jeri

To study the degree to which Senate Bill 730 is being implemented at the local school district level as measured by the number of reform-related board motions, etc.

Funding Agency: College of Education Research Stipend

Gooler, Dennis

Completion of a Study on the Loss of Professorial Vitality

Funding Agency: College of Education Research Stipend

Gooler, Dennis

Research and Planning Related to Learning Technology

Funding Agency: National Information Utilities Corporation

Mason, Robert

Research and Development for Area Planning Councils

Funding Agency: Illinois State Board of Education

Minor, Carole/Farnum, Mary

Non-Traditional Occupations Dissemination of "New Faces at Work"

Funding Agency: Illinois State Board of Education

Nowakowski, Jeri/First, Patricia

A Study of the Implementation of Senate Bill 730 in a Sample of Local School Board Minutes

Funding Agency: Graduate School Summer Research Grant

Robinson, Rhonda

Naturalistic Inquiry and Instructional Technology

Funding Agency: College of Education Research Stipend

Wilson, Brent

Development of an Intelligent Job Aid Using Expert Systems Technology

Funding Agency: College of Education Research Stipend

1985 Department of Educational Psychology and Special Education

Bursuck, William D.

A Comparison of Learning Disabilities, Low-Achieving and Non-Handicapped Students on Several Measures of Social Competence

Funding Agency: Graduate School Summer Research Grant

Epstein, Michael

Training Personnel for Education of the Handicapped Cross-Categorical

Funding Agency: U.S. Department of Education

Freagon, Sharon

Independent Living Skills Training for Severely Handicapped Youth

Funding Agency: U.S. Department of Education

Leyser, Yona

Miriam Perrone

Funding Agency: Illinois Arts Council

Luetke-Stahlman, Barbara

The Effect of Input Factors and Child Variables on Reading Achievement in H.I. Subjects

Funding Agency: Graduate School Summer Research Grant

Matsuoka, Judy

Training in Rehabilitation Teaching for the Adult Blind

Funding Agency: U.S. Department of Education

Pierce, Jean

Microcomputers in the Learning Process:
Metacognition

Funding Agency: Commodore Business Machines Corporation

Switzky, Harvey

Self-instruction Training with the Mildly Mentally Retarded as a Function of Motivational Orientation: Generalization of Proximal and Distal Problem-Solving Tasks

Funding Agency: Graduate School Summer Research Grant

1986 Department of Educational Psychology and Special Education

Cullinan, Douglas

Influence of Hyperactivity and Handicap Upon Social-emotional Functioning of Students

Funding Agency: Graduate School Summer Research Grant

Deitz, Diane

The Facilitation of Mainstreaming Through a Systematic Analysis of Classroom Variables

Funding Agency: Graduate School Summer Research Grant

Epstein, Michael/Bursuck, William

Teaching Adolescents in Cross-Categorical Settings (Project TACCS)

Funding Agency: U.S. Department of Education

Epstein, Michael/Cullinan, Douglas

Training Personnel for Education of the Handicapped of Education

Funding Agency: U.S. Department of Education

Epstein, Michael/Cumblad, Carla

Project TESTED (Training Elementary School Teachers for the Emotionally Disturbed)

Funding Agency: U.S. Department of Education

Freagon, Sharon

Independent Living Skills Training for Severely Handicapped Youth

Funding Agency: U.S. Department of Education

Freagon, Sharon

Training Personnel for Education of the Handicapped of Education

Funding Agency: U.S. Department of Education

Heinze, Antoinette

Project Vitra (Vision Teachers for Rural Areas)

Funding Agency: U.S. Department of Education

Kapperman, Gaylen

Preparation of Special Educators - Visually Handicapped Program

Funding Agency: U.S. Department of Education

Luetke-Stahlman, Barbara

Comparing Parental Questions to Hearing and Hearing Impaired Children

Funding Agency: Graduate School Summer Research Grant

Matsuoka, Judy

Training in Rehabilitation Teaching for the Adult Blind

Funding Agency: U.S. Department of Education

Repp, Alan

Training Doctoral Students to Conduct Research Through Field Experiences

Funding Agency: U.S. Department of Education

Rose, Ernest

Validating Transition Program Components for Training High School Special Educators Grant

Funding Agency: Graduate School Summer Research Grant

1987 Department of Educational Psychology and Special Education

Ary, Donald

Developing a New Index for Assessing Reliability of Behavioral Observation Frequency Data

Funding Agency: Graduate School Summer Research Grant

Dembinski, Raymond/Freagon, Sharon

Proposal to Prepare Teachers for Students with Severe/Profound Handicaps and Autism

Funding Agency: U.S. Department of Education

Ellis, Joseph

Differences in Teacher Performance by Kind of Certification

Funding Agency: University Council for Vocational Education in Illinois

Epstein, Michael

Project TASED (Training Personnel for Education of the Handicapped Seriously Emotionally Disturbed)

Funding Agency: U.S. Department of Education

Friend, Marilyn

Preparation of Related Services Personnel: Training of Secondary Counselors for Transition (TROSCOT)

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Project ViTRA (Vision for Rural Areas)

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Ramifications of Using Various Communication Inputs to Hearing Impaired Students

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Mardell-Czudnowski, Carol

Establishment of Predictive Validity of a Preschool Screening Test

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Mardell-Czudnowski, Carol

Project LINKS

Funding Agency: U.S. Department of Education

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Orientation and Mobility/Independent Living Skills
Teachers for Visually Handicapped Children

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Project WORLD TALK Material Development

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An Investigation of General Case Instruction for
Teaching Written Language Skills to College Students
with Learning Disabilities

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The Statistical Analysis of Learning Potential
Assessment Data in a Standardization Sample of
Elementary-School Children

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Project REST (Regular Educators--Special Teacher)

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Intergovernmental Personnel Act Contract

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Plowman, Sharon/Bischoff, Judith

The Relationship Between Teacher Fitness and
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Cardiovascular Fitness Levels of Trainable Mentally
Retarded Adults: A Comparison of Laboratory and
Field Tests

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Fernhall, Bo

EEG Alpha Activity During Incremental Exercise

*Funding Agency: Graduate School Summer Research
Grant*

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Employee Health and Benefits Communication
Project

Funding Agency: IC Industries

Plowman, Sharon

A Biological Comparison of Premenarcheal Athletes and Non-athletes

Funding Agency: Graduate School Summer Research Grant

Tymeson, Garth

Interdisciplinary Preservice Preparation of Preschool Adapted Physical Education Itinerant Resource Teachers

Funding Agency: U.S. Department of Education

1987 Department of Physical Education

Fernhall, Bot

Developing of an Exercise Test for Screening of Cerebrovascular Disease

Funding Agency: Graduate School Summer Research Grant

Looney, Marilyn

Reliability of Total Body Center of Gravity Values Using Univariate and Multivariate Generalizability Studies

Funding Agency: Graduate School Summer Research Grant

Floyd, Jerald

Policy Studies Related to the Implementation and Assessment of Health and Benefit Programs

Funding Agency: IC Industries

Takei, Yoshi

Study Gymnastic Vaults at the 1987 Pan American Games

Funding Agency: College of Education Research Stipend

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Breast Cancer Prevention and Control Program

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