As universities and colleges across the country are joining local school districts in order to develop teacher training programs in joint college-school ventures, administrative organization is a limiting problem in many quarters. At a time when the concern is for clinical experience in a school setting where teacher excellence is measured in terms of competency, we are faced with the problem of assignment and supervision. The school, with its concern for alternatives to meet individual differences, is seeking a greater role in teacher education. Assignment of student teachers to one class, setting, and teacher often results in prescriptions for teaching rather than decision making. College-school teacher training centers are being formed in many areas to provide a setting where all personnel are studying teaching. Two levels of administrative models are described—a college-school center and the Center for the Educational Professions which can house a number of college-school centers. The experimental model presented in this paper is a micro center providing an administrative structure which will respond to the concern for realistic laboratory settings and coordinated clinical experiences sessions. It is a presentation in secondary science. The Center for the Educational Professions is an administrative model responding as the cement for college-school ventures. (Author/MBM)
SUMMARY

As universities and colleges across the country are joining local school districts in order to develop teacher training programs in joint college-school ventures, a dilemma of administrative organization is in many quarters posing as a limiting problem.

At a time when the concern is for clinical experience in a school setting where teacher excellence is measured in terms of competency, we are faced with the problem of assignment and supervision.

The school, with its concern for alternatives to meet individual differences, is seeking a greater role in teacher education.

Assignment of student teachers to one class, one setting, one teacher, often results in prescriptions for teaching rather than decision making.

College-school teacher training centers are being formed in many areas in order to provide a setting where all personnel are studying teaching.

Two levels of administrative models are described. The first is a College-School Center. The second, the Center for the Educational Professions, can house any number of College-School Centers. The experimental model, as presented in this paper, is a micro center providing an administrative structure which will respond to the concern for realistic laboratory settings and coordinated clinical experiences sessions as presented by the A.T.E. in a recent publication, Clinical Experiences in Teacher Education. It is a presentation in secondary science.
The Center for the Educational Professions is an administrative model responding as the cement for college-school ventures.
The History of Local Plans for Improving the Teacher Education Program.

By the Fall of 1960 an updating and redefining of secondary teacher education had been completed. The major drive was the identification of the junior year as a period of first involvement in actual teaching prior to student teaching. The course utilized was entitled Principles and Practices and follows the first course in education, Introduction to Education, and precedes required special methods courses and student teaching. The other education courses required in Secondary Teacher Education are General Psychology, Philosophy of Education, Measurements, and Audio Visual Education.

Therefore, a model for teacher education existed for early involvement in teaching. Micro-teaching occurred, but peers were utilized as students for the micro-classes and a period of five (5) weeks was identified for participation with classroom teachers at the Campus School.

Figure 1
Figure 1 presents the model of teacher education as it applied to all fields of teaching in the University. The Campus School, a K-9 unit, was used for the pre-student teaching experiences, and area schools within a radius of thirty-five (35) miles were used for student teaching. It is within this framework that teacher education has developed.

Recent Evaluation Procedures

During the 1966 school year, two concerns in relation to the early involvement in teaching were the topics of several department meetings. The first was the concern for evaluation of teacher proficiency or competence during the pre-student teaching experience. The controlled micro-teaching phase was evaluated in terms of one or two areas, but there was no standard. This gave rise to the purchase of video tape equipment in 1967. A 1-inch Ampex recorder, camera, monitor T. V. and microphones comprised the first purchase, an investment of $2,000. During the first year of operation, it was found that the equipment demanded technical support. The system was defined as a successful feedback mechanism.

A well developed A. V. center existed as part of the University, possessing technical support, taping and broadcast facility. The taping deck was transferred to the A. V. center from where cable was run to the education facility wherein were located camera monitor and phone connection. Taping and playback occurred on request. This constituted an institutional expense of $800.

The second concern, that of a written permanent record of the micro-teaching experience, led to a search of the literature for current practice with supportive research. This resulted in gathering information about the Stanford Teacher Competence Appraisal Guide, and Flanders Interaction Analysis.
Stanford Experiments Used

Experiment I

The Effects of Self-Feedback and Reinforcement on the Acquisition of a Teaching Skill

Differential feedback was provided and controlled to students after videotape recording.

The report suggests further research in the analysis of the viewing condition. At La Crosse it was determined that recording by videotape should be done by the A. V. Department. The student can view his teaching at a later time in an individualized instruction area by calling up the tape from A. V.

Experiment II

Effects of Feedback and Practice Conditions on the Acquisition of a Teaching Strategy

An interaction analysis was not possible and differences of treatment were not constant so conclusions need to be qualified. The results do, however, indicate that a question must be raised about the immediacy of feedback because as time lapse varied this was uncorrelated with measured changes in behavior. The report suggests that feedback may be most effective when it occurs closest to the time the behavior is to be performed next.

Experiment III

The Effects of Modeling and Feedback Variables on the Acquisition of a Complex Teaching Strategy

Various conditions of modeling and reinforcement are called for. The student learned behavior by viewing and being cued about another teacher's teaching. An example is positive and negative modeling.
Implications

1. Specific skills can be taught; however, the validity of these for producing pupil changes has not been demonstrated.

2. The research does support the general rule that the use of feedback procedures, comprised of self-viewing of one's videotapes teaching performance while being assisted by a supervisor is a highly effective way of modifying teaching behavior.

3. Positive and negative modeling procedures can be given less confidence and until teaching skills which can be taught this way are identified, specific suggestions cannot be made. Data do suggest that however they may be constructed they need to be cued.

The reader can refer to the complete results of these experiments in the publication, Training Effects of Feedback and Modeling Procedures on Teaching Performance, by Frederick J. McDonald and Dwight W. Allen, Stanford University, 1967, 220 p.

A Science Center Concept

During the 1967-68 school year an attempt to bring the classroom teachers who supervise student teaching closer to the campus program resulted in a spring science symposium. Teachers spent a day on campus in a shared program including presentation of recent revisions in the pre-student teaching program and feedback from the classroom teachers. The response from the teachers was in support of future symposia.

During the 1967-68 school year, a science summer institute for elementary teachers was designed, submitted for funding by the State of Wisconsin and approved. The institute was a combined effort of the Education and Biology Departments. It was intended that the institute participants form "pockets of creativity" for their school systems.
It was also during this 1967-68 school year that the concept of a science center for pre-service in-service education of science teachers was given support in a meeting of the president, vice-president, deans, department heads, the science supervisor from the State Department of Public Instruction and the director of the Cooperative Educational Service Agency No. 11 (CESA) for the area twenty-five (25) school districts.

During the next school year 1968-69, three research studies were proposed, a second summer institute was planned, the science center was designed, and a second science symposium was conducted.

Major conclusions of the research are stated below each research title.

**Designing and Implementing a Conceptual-Behavioral Curriculum Structure for Preparing Secondary Teachers**

Donald E. Davis

Milford O. Holt

Justin K. Lemke

**CONCLUSIONS**

1. The teaching-learning activities and materials used in conjunction with the conceptual-behavioral curriculum structure resulted in development of certain specified teaching behaviors.

2. Through an innovative scheduling plan, increased and more intensive personal contact between students and instructors resulted in a more meaningful and productive teaching-learning relationship.
3. The students became more self-analytical with respect to their own teaching performance.

4. An instructional program which has professional skills development as its major objectives must provide appropriate opportunities for the practice and improvement of those skills.

The Study of Student Achievement as a Result of Modification of Certain Identifiable Teacher Behaviors

Waldo R. Widell
William Merwin
Paul Neman

CONCLUSIONS

Although no statistical analysis was made of the microteaching process, it is clear that as in the case of experiments at Stanford University the process of a teacher viewing his teaching while being cued about it is a most effective feedback of the teaching session; teacher behavior is changed.

An interaction analysis was recorded for each teach and reteach session. However, they were not utilized as feedback. The analysis is not present as support of the appraisal guide but yet another way of observing the actual classroom situation.
The total population of students available was utilized and results are confined to this population of students. For this group of students in this teaching situation for the unit of American History used, there was no difference in student achievement as a result of change in teacher behavior as identified.

Several questions can be identified for further research. Among these are: (1) How much change in teacher behavior can result from the micro teaching process; (2) How much change in teacher behavior will result in observable significant student increase in achievement; (3) What are some other student changes as a result of changed teacher behavior, and (4) What is the unit length required for observable change in student achievement.

Because it was observed that teacher reaction to the microteaching process varied, perhaps a level of achievement necessary for advancement in the teacher training program can be identified and the frequency of feedback identified.

The Study of Student Behavior in Science
As a Result of Modification of Certain Identifiable Teacher Behaviors

Waldo R. Widell
Bobby Gowlland
Norman Schein

CONCLUSIONS

Science student teachers when exposed to laboratory situations as a model were able through feedback which consisted of an analysis of these
laboratory situations by the small group interaction system to not only
duplicate the model but to improve upon it significantly at the .05 level.

The analysis of the amount of teacher behavior in each of the 21
V.I.C.S. areas before and after small group interaction feedback and
analysis shows an improvement which was significant at the .05 level in
areas D, E, G, J, M, Q and T.

Therefore, the small group interaction system was an effective means
of feedback when viewing taped laboratory situations.

Flanders and Amidon have been consistent in their appeal that their
system of recording teacher behavior and the resulting matrix not be used
to identify good or bad teaching examples. The present experimentors are
not necessarily promoting this idea, however, it was believed that in fact
judgments of this nature are made at the conference with the supervisor
and teacher.

In this research judgments were made indicating that teacher
behavior in certain areas was desirable and that teacher behavior in
certain other areas was less desirable. Feedback was geared to this
idea. Further research in the area of identifying desirable teacher
behavior and strategies as shown by the matrixies is needed.

The research was funded by the United States Office of Education through
the Consortium of Research Development of the Wisconsin State Universities
(CORD).

A second summer institute for elementary teachers was planned and
funded by the Board of Regents for the summer of 1969. The summer institute
was intended to increase the number of teachers in the field using newer
concepts in teaching science.
The science center composed of a large room to become the laboratory and a smaller room to become the discussion center was designed for use by elementary children, secondary students, college students and for in-service training. I.P.S. equipment had been purchased for use by the summer institutes, the junior high students and in special methods. The institutional expense for the equipment was $750.

The 1969 Science Symposium was used to present the results of the above mentioned research, present science center plans and to present Guidelines for Content of Pre-service Professional Education for Secondary School Science Teachers (NSTA). Laboratory planning and management was identified as an emphasis in the training of teachers by area teachers.

The 1-inch Ampex video system was augmented by 1/2-inch Sony decks to allow all subject areas to tape. The institutional cost of these systems was $9,700.

During the school year 1969-70, the science center was completed, additional newer programs were adopted, a third institute was planned, the pre-student teaching experience was revised, and the spring symposium planned.

Adoption of E.S.C.P and B.S.C.S. blue version involved an institutional expense of about $2,250. The research proposed resulted in adoption of the small group analysis for science laboratory analysis and a decision to use Flanders Interaction Analysis in preference to V.I.C.S. The science center involved an institutional cost of $15,895.

A 1970 summer institute funded by the State of Wisconsin presented the modern junior high science program.
During the 1969-70 school year, micro-teaching occurred in the classrooms of Campus Laboratory School, thus presenting a more realistic teaching situation in this early contact in teaching.

An Education Center for Science

The overall objective of the center is to bring about an impact on the teaching community in defined areas. The key word is flexibility. The center needs to serve the needs of both inservice and preservice training. Teachers in all stages of growth will utilize the center for experience in use of materials, in design of materials and in the selection of materials from the multitude of things available. Teachers will have experience with state and national curriculum and with curriculum design. Teachers will have the experience with the individual student, elementary and secondary, in observing large groups, small groups and individual activity. The preservice experience will vary from the inservice experience in depth.

The center will be a demonstration center for curriculum. The faculty members will provide leadership for pre-school workshops, inservice training sessions and can act as resource speakers.

It is felt that the center provides a new approach to these kinds of experiences in a school setting with children.

The model has been field tested in the campus school science center in the following areas which can be implemented in the administrative organization for college-school centers.

1. Assignment: A team leader was designated as the one to whom student teachers, pre-student teaching students, and in-service training teachers were to be assigned.
College-school centers should have one person to whom all students in a clinical experience during pre-student teaching, student teaching, and in-service teachers, are assigned. Each school system should be free to define who this person should be; he may very likely be the science consultant, supervisor, or advisor.

2. Staff differentiation: Teachers of all stages of growth, pre-student teaching, student teaching and in-service teaching levels, can operate within one center in a continuous sequential program.

3. K-12 Programs: College students were assigned at different educational levels during the pre-student teaching experience. It is suggested that this can carry over to all assignments so that the college student is exposed to several settings and is exposed to a K-12 view of pre-college education.

4. The study of teaching: All levels of individuals in the center administrative organization will systematically study teaching and learning theory with opportunity for research.

Partnership in Teacher Education

This paper is based on the assumption that clinical experiences, particularly pre-student teaching, are essential to the training of teachers. Fred T. Wilhelms, presenting the 11th Charles Hunt lecture, makes a strong point for continuous experiential activities when he says:

"Any professional program which depends on a sequence leading from abstract, theoretical, academic study of education to a final massive dose of experience is unsound and likely to be ineffective."
The Recommended Standards for Teacher Education also stress clinical pre-student teaching experiences as well as a practicum (student teaching), Standard 1.3.3. Teaching and Learning Theory with Laboratory and Clinical Experience:

"The professional studies component of each curriculum includes the systematic study of teaching and learning theory with appropriate laboratory and clinical experiences."

Standard 2.2 deals with Faculty Involvement with Schools:

"Members of the teacher education faculty have continuing association and involvement with elementary and secondary schools."

A valid program of clinical experiences would appear to rest upon the basic principle of joint responsibility and accountability. Collier, et al, expanded this concept by identifying characteristics of a viable partnership. Selected excerpts follow from the publication Clinical Experiences in Teacher Education.

A viable structure:

"Provides for joint planning and decision-making, with school and college as equal partners and with appropriate participation by related organizations and agencies."

"Recognizes that schools and colleges, with related organizations and agencies, share responsibilities within the teacher education program and that each has its unique contributions to make to the partnership."

"Delineates responsibilities among school, college, related agencies, and organizations."

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"Supplies means for injecting new ideas, experimental procedures, and revised relationships."

"Furnishes means for regular and objective evaluation of the partnership structure, procedures, and administration."

"Includes within the communication system all institutions, organizations, agencies, and individuals in the partnership structure."

"Determines the appropriate share of financial support to be provided by each institution, organization, and agency involved."

"Establishes commitments of institutional resources -- personnel, facilities, materials, etc. -- to the partnership."

**Center for Educational Professions**

One solution appears to be the development of a Center for the **Educational Professions** within the College of Education. This unit would be responsible for:

(a) evaluation of teacher education activities

(b) support to education professors interested in research

(c) dissemination of new ideas in education related to improving instruction

(d) developing and evaluating field experiences for teacher candidates

(e) organizing inservice activities for teachers and administrators in the field

(f) design experiments and test new instructional techniques

(g) attracting Federal Funds to the college of education

(h) cooperate with multi-media producers and field test hardware and software materials

(i) designing and implementing instruments to follow-up education graduates
(j) develop clinical professional arrangements
(k) organize and field simulated experiences representing recurring types of classroom situations.

The following diagram characterizes the relationship between the C.E.P., public schools, and University Department of Education emphasizing a common concern for clinical experiences.

ORGANIZATIONAL RELATIONSHIPS

The area of common concern and the cement holding the operation together is that of clinical experiences. Therefore, the initial efforts of the center would be devoted to attacking the problem of clinical experiences. Relationships of responsibility for the C.E.P. is as follows:
RELATIONSHIP OF FUNCTIONS C.E.P.

This model offers an organizational framework to develop solutions to the problem of clinical experiences, (research and development, inservice education) as well as adding a much needed dimension to the College of Education.

Role of Education Departments

With the increased dependence on the public schools one might question the role of the education department. This essential component may choose to assume a new approach to their responsibility. Wilhelms made the following suggestion:
"An instructional laboratory, richly equipped and manned by a variety of specialists, to be used by each student when he needs it and in his own way. It might well be called a skills center, for its purpose is to build specific proficiencies. The faculty in charge will not have primary responsibility for the more personal guidance of a student's development. I am thinking here of the learning of specific methodologies, of the appropriate use of educational technology, perhaps the mastery of one or more forms of interaction analysis, probably the utilization of microteaching and guided analysis of the resulting videotapes."

"There are many persons in this audience who have been in on the development of such laboratories and who are far more sophisticated in using them than I shall ever be. Therefore, I shall not elaborate on the laboratories any further, except to insist that they deserve a truly massive investment and such staffing as will permit their flexible use by individuals as needed."

Wilhelms' comments tend to support the center approach as has been promulgated.

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