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ABSTRACT

Five exemplary university field experience programs for individuals studying to become teachers were identified and examined in order to develop a model field experience program in teacher education. Programs at the following universities were examined: Ball State University (Indiana), Illinois State University, Millersville University (Pennsylvania), the State University of New York at Oswego, and the University of Wisconsin-Stout. The model field experience program called for the following three components: 100 contact hours of early field experience (a program, consisting of highly structured yet varied experiences that are closely coordinated with each of the courses in the professional sequence); a semester-long, full-time student teaching experience (a program involving eight weeks in a junior high school and eight weeks in a senior high school setting under the supervision of full-time faculty members in the university's industrial arts or technology education departments); and a first-year teacher program (a coordinated activity in which a university supervisor and a local mentor provide support to the new teacher). (This report includes a detailed description of the model with information concerning the linkages, objectives, activities, and contact hours involved in each stage in the proposed field experience program. Supportive information includes comments by case study participants.) (MN)

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FIELD EXPERIENCE IN TEACHER EDUCATION: A MODEL FOR INDUSTRIAL ARTS/TECHNOLOGY EDUCATION

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FOREWORD

The preparation of individuals to enter the world of work is a notable endeavor. When the endeavor is to prepare teachers, who in turn prepare others, there is a built-in multiplier effect. The information presented in this publication is offered as a model to enhance the field experience portion of the teacher education program in industrial arts/technology education.

The database for this research was from industrial arts/technology education; however, the model that has been developed has applicability for teacher education programs in other subject areas in both the academic and vocational fields. All individuals who design, conduct, or participate in educational programs that include a field experience component should certainly be able to benefit from this research. Individuals involved in preparing other professionals, in which internship activities are included, may also be able to draw from the database portion of the publication.

The research associated with the model presented in this publication was completed by Dr. Donald L. Clark, one of two 1984-85 Fellows in the Advanced Study Center at the National Center for Research in Vocational Education. Dr. Clark, who is also Professor of Industrial Education at Texas A&M University, has been an active member of the profession for more than 20 years. Following the completion of his baccalaureate and master's degrees at the University of Wisconsin-Stout and experience as an industrial arts teacher, he was a research associate on the Industrial Arts Curriculum Project while pursuing his Ph.D. at The Ohio State University. Since 1967 he has held various teaching and administrative appointments at Texas A&M University including 15 years as Associate Dean for Research and Development in the College of Education. Dr. Clark has also served the profession in various appointed and elected positions, including President of the American Vocational Education Research Association. He has been a member of the Policy Committee of the Industrial Arts Division of the American Vocational Association. He is currently the elected treasurer, and thus is a member of the Executive Committee of the American Council on Industrial Arts Teacher Education.

Dr. Clark combined his appointment as a Fellow in the Advanced Study Center with an administrative sabbatical from Texas A&M University to assist him in his transition from university administration to his professorial role. In his new role, he will also serve as the departmental coordinator of all field experience programs. Building on the extensive background that Dr. Clark has in research and teacher education, it was most appropriate that as a Fellow he identified field experience in industrial arts/technology education teacher education as his topic for independent study.

In the case study research process that was used by Dr. Clark, the researcher must draw upon the knowledge and experience of many people. As identified in appendix A, more than 90 individuals from 5 universities and cooperating school districts contributed to the database used to develop the field experience model. Individuals as identified in appendix B reviewed the model and have indicated it has merit. Sincere appreciation is extended to each of these individuals and to the institutions that they represent.

Appreciation is also extended to members of the prereview panel who provided valuable suggestions regarding the content and format of the report. These reviewers were as follows:

- Dr. Dewey A. Adams, Professor and Chairman
  Comprehensive Vocational Education Program
  College of Education
  The Ohio State University

- Dr. Floyd L. McKinney
  The National Center for Research in Vocational Education

- Dr. John M. Ritz, Professor and Program Leader
  Industrial Arts Education
  Old Dominion University

- Dr. Charles D. Schmitz, Associate Professor and
  Director of Undergraduate Studies and Field Experiences
  College of Education
  University of Missouri

The Fellows join me in extending appreciation to Dr. Arthur Lee, now retired, who served as the Coordinator of the Advanced Study Center during the first month of the Fellowship appointments and thus got the Fellows off to a good start. Appreciation is also extended to Dr. James Hamilton who served as the Coordinator of the Advanced Study Center for the balance of the year and provided valuable guidance and assistance to the Fellows in the pursuit of their professional development and research endeavors. Finally, thanks are also extended to Marilyn Willhoff who served so effectively as program secretary and to Judy Balogh who edited the final publication.

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

EXECUTIVE SUMMARY

For entry into most established professions, in addition to an academic preparation, there is also an experience-based component that must be completed. In teacher education, one part of this experience base is what is commonly referred to as student teaching. Early field experience, new and returning teacher programs and internships in nonschool settings are other elements included in many programs. The experience-based component is a well-established part of the preparation program; however, there is also considerable variance in the magnitude and quality of the field experience program being provided individuals seeking admission to the teaching profession.

In a recent publication dealing with teacher education, Dr. John McIntyre (1983) from Southern Illinois University made a statement that amplifies this field experience problem: "Field experience is probably the most praised, most criticized, most entrenched, most debated but certainly least understood part of preservice teacher education" (p. 1). Dr. Daniel Householder (1984) from Texas A&M University reinforced the need for research in this area in a paper published in the newly established Professional Monograph Series of the National Association of Industrial and Technical Teacher Educators.

In order to address this issue, a qualitative research method, the case study, was used to gather field data from five industrial arts teacher education programs with exemplary field experience components. These programs were identified from a national base through a nomination and ranking process by leaders in industrial arts/technology education. In alphabetical order, the five universities identified and used in this research were as follows:

- Ball State University, Muncie, Indiana
- Illinois State University, Normal, Illinois
- Millersville University, Millersville, Pennsylvania
- State University of New York at Oswego, Oswego, New York
- University of Wisconsin-Stout, Menomonie, Wisconsin

Through an analysis of the transcripts of 77 interview sessions, 13 or more at each of the 5 case study sites, a prototype or model field experience program for industrial arts/technology education teacher education has been developed. Interviews during the case study site visits included each of the players on the teacher education team: the deans of the colleges, both education and technology; the student teachers; first-year teachers; and the six or seven players in between. The information base attained through the case study site visits and interviews was supplemented with written material secured from each participating university and cooperating school district as well as from the literature.

In each of the case study visits, individuals indicated that to have a strong field experience component, strong general education and technical education components were also needed.

There was also indication that the entire program must be fully articulated and that each experience in the field experience component needed to be linked with the theoretical base in a formal class.

The role of the cooperating teacher was identified as one of the factors critical to the success of a quality program. The selection of individuals to serve as cooperating teachers, as identified by the individuals in this study, should be handled by the subject-matter specialists, as should the actual supervision of the students placed in school settings.

The model being proposed reflects the general agreement of the participants. Their indication was that it should be a full semester, two experience program. The model also includes a program for new and returning teachers that would provide a support system as well as additional professional development. The three components are as follows:

- Early field experience—100 contact hours
  - Coordinated with each course in the professional sequence
  - Varied experiences to gain full understanding of the magnitude and complexity of the educational enterprise
  - Highly structured to achieve maximum quality but flexible enough to allow for individual needs
- Student teaching—full semester—full-time (minimum of 16 weeks)
  - Two experiences
    --Eight weeks in a junior high school setting
    —Eight weeks in a senior high school setting
  - Site selection and selection of cooperating teacher
    —Based on the knowledge and recommendation of the industrial arts/technology education departmental coordinator
  - Supervision
    —By full-time members of the faculty in the industrial arts/technology education department or program area
- New and Returning Teacher Program
  - Coordinated activity with local school and university
  - University supervisor provides support at local site
  - Local mentor provides continuing support

This publication provides additional rationale and very candid and insightful comments by various case study participants. Greater detail regarding each of the three components of the model is also provided.

A CASE FOR EXPERIENTIAL LEARNING

> No one who has ever watched a child learn to walk can ever take walking for granted again. It is a skill gained by pain and perseverance. And the same is true of all other skills. The slogan is "No pain, no gain." (Welborn 1985, p. 2)

The challenge for teacher educators is how to reduce the pain of learning to teach to a tolerable level—just enough pain to allow for additional growth—and thus, to facilitate the entry of new personnel into the teaching profession, or the transition from being a student to being an effective, vibrant teacher.

In our university classes we share information. As the students internalize this information, it becomes their base of knowledge. As students apply this knowledge it becomes their foundation of wisdom. As Naisbitt (cited in Bowers 1985) warns in *Megatrends*, "We are drowning in information but starved for knowledge." University of Dayton President Raymond Fritz also warns, "We will need more than technology. We will [also] need wisdom" (p. 3).

In the words of two different Greek philosophers:

- Knowledge must come through action. (Sophocles)
- For the things we have to learn before we can do them, we learn by doing them. (Aristotle)

Finally, just as it would be folly for a surgeon to enter an operating room without having the scientific or theoretical knowledge necessary for effective decision making, as well as the experience that allows for the efficient practice of surgery, this same phenomenon is important in all professions, especially in the profession of teaching.

The literature review confirmed that for entry into and practice in most professions, there is the need for not only the theoretical knowledge base but also the actual experience and a demonstrated ability to perform. In many of the professions, this experience base is, or is becoming, an integral part of the academic studies associated with professional preparation and is emerging to include exploratory or early field experiences (Gehrke 1981; Horton 1971; McCabe 1985; Elliott and Mays 1979; Corrigan cited in Puckett 1985).

From Aristotle to Rousseau, from Dewey to Dale to Lux, the literature confirms that *to do*, one must have practice. Students invariably indicate that the field experience component of their teacher education was the most productive part of the program and accordingly suggest it be expanded. However, as indicated in a publication of the American Association of Colleges of Teacher Education (1983), there may be a danger in the over emphasis on experience. "If the program for the preparation of educators emphasizes an experiential base to an inordinate degree, the field might be viewed as a skilled craft requiring an apprenticeship rather than a full profession built upon a legitimate knowledge base" (p. 7).

In his classic text *Experience and Education*, Dewey (1938) also reminded us that all experience may not be beneficial to positive education.

> The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative. Experience and education cannot be directly equated to each other. For some experiences are miseducative. Any experience is miseducative that has the effect of arresting and distorting the growth of further experience. (p. 25)

These cautions certainly need to be heeded; however, put in proper context, the way we learn best, the way we retain what we learn, the way information we read and lectures that we hear become wisdom is as this information base is applied in a productive setting. As Donald G. Lux (1981), one of the contemporary scholars in industrial arts teacher education, has often reminded the profession, "All actions described by verbs ending in 'ing' are elements of technology . . . one may practice outside a theoretical framework or study without practice, but only an integration of the two may properly be called technological knowledge" (p. 24). Lux would also remind the profession that, yes, there is a technology of teaching just as there is technology of industry—the efficient action of producing in either environment.

Field Experience in the Teacher Education Program for Industrial Arts/Technology Education

The content and quality of the preparation program for industrial arts/technology education teachers has been a major concern of the profession. This is evidenced by a professional organization that carries the title, American Council on Industrial Arts Teacher Education (ACIATE). Through the programs presented at conferences and council publications, the topic of teacher education has been presented and discussed from the vantage points and philosophies of many leaders in the profession. The yearbook series is one notable example, with two separate books being devoted entirely to this topic.

- *Essentials of Preservice Preparation*, 11th Yearbook, edited by Donald G. Lux, 1962.
- *Components of Teacher Education*, 20th Yearbook, edited by Willis E. Ray and Jerry Streichler, 1971.

Reference to needed research on this topic was also included in the professional monograph series recently established by the National Association of Industrial and Technical Teacher Educators (NAITTE).

- *Research Problems Unique to Industrial Education*, Monograph no. 1, edited by Richard A. Swanson, 1984.

In this monograph, Daniel L. Householder identified field experience as a topic in an article titled "Researchable Problems in Industrial Education". McIntyre (1983) also identified the field experience component as an area in which research is needed. In his words, "Field experience is probably the most praised, most criticized, most entrenched, most debated but certainly least understood part of preservice teacher education" (p. 1).

The program for preparing individuals to enter the profession of teaching is generally divided into three discrete components: general education, technical education or teaching field content

courses, and the professional component. The professional component can generally be further divided into university course work and field experience, or theory and application. However, in order to have an effective program, course work and field experience activities must be fully articulated and sequenced so that each part relates to the other, and each is a building block that capitalizes on the synergistic nature of the three components.

Three separate models depicted in the literature reflect the three component concept. The model presented in figure 1 was originally presented to the profession by Nelson (1962) in the 11th ACIATE yearbook. Nelson proposed that the three components and the 4 years of preparation should not be divided with solid lines. He indicated that the program should be a continuum throughout the 4 years with each component drawing from and contributing to the quality of the others. He also indicated that "soon we must give serious consideration to the necessity of planning for the five-year program" (p. 73).

In the 20th ACIATE yearbook, Horton (1971), displayed a model very similar to the Nelson model and added a second model to accommodate students who transfer from a 2-year program. As can be noted in figure 2, Horton also added a block of time that extends beyond the standard 4-year curriculum (p. 49).

A task force associated with the American Association of Colleges for Teacher Education, in looking at the total teacher education program, has developed several models that include 1 or more years beyond the conventional 4-year baccalaureate degree. The model depicted in figure 3 includes a full 5-year program that culminates in a master's degree with a heavy emphasis on a clinical component.

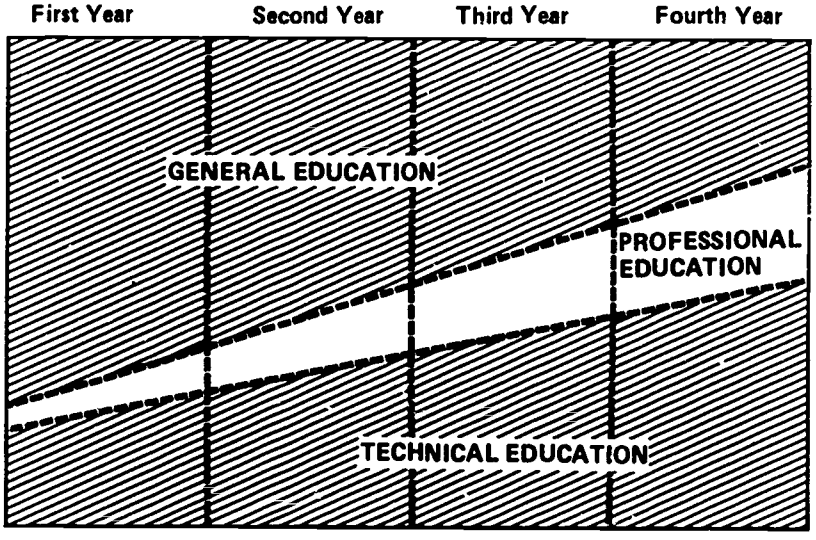

Figure 1. Graphical portrayal of four-year curriculum for industrial arts teacher education

SOURCE: Nelson (1962, p. 173).

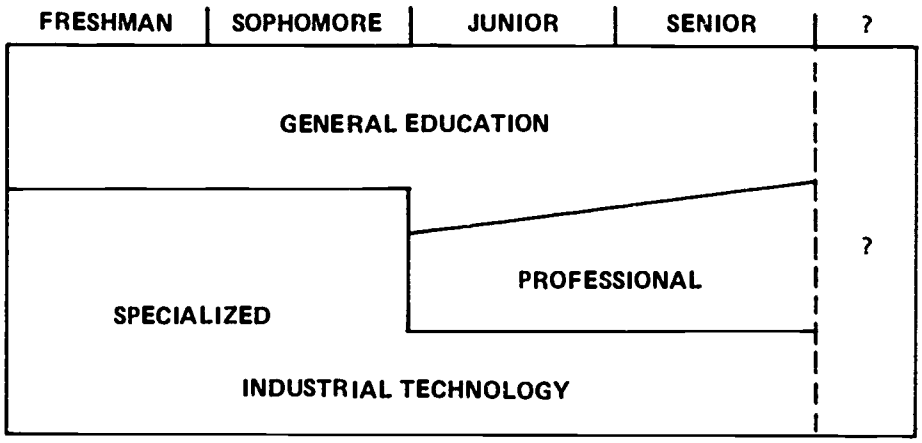

Figure 2. An alternative model to accommodate students who transfer from a two-year program

SOURCE: Horton (1971, p 49).

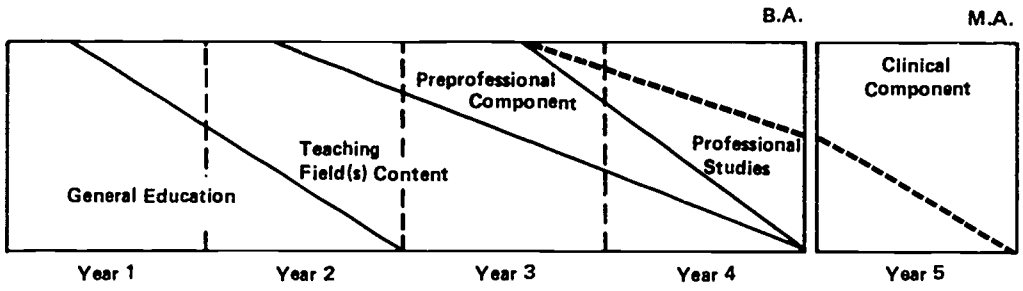

Figure 3. AACTE five-year (B.A. plus Master's) model

SOURCE. American Association of Colleges for Teacher Education (1983, p. 11).

Purpose of the Publication

The primary purpose of the investigation associated with this publication was to develop a model field experience program to be used in teacher preparation programs with an emphasis on industrial arts/technology education. Based upon a qualitative research design, a model has been developed for examination by the profession. Due to the requirements for teachers to be certified in the various states, coupled with the unique program requirements at each of the universities or colleges that have industrial arts or technology education teacher education programs, the model is not likely to be uniformly adopted. However, based upon the method by which it was developed, it should provide a basis for discussion and a foundation from which to continue building effective teacher education programs.

For purposes of this publication, effective general education and teaching field components were assumed to be in place. The theory portion of the professional sequence was also assumed to be in place but with a level of flexibility to allow for full articulation with the field experience portion. Thus, the field experience portion, within the total industrial arts/technology education program, is the emphasis of this publication. Although delimited to the field experience component in the preparation program for industrial arts/technology education teachers, as indicated in figure 4, other teaching fields should also be able to draw from this work.

The teacher preparation program for industrial arts/technology education can be divided into three major divisions:

- General education component
- Technical education component
- Professional sequence

The general and technical education components provide a base for the professional sequence. The three components should be coordinated to provide for a fully articulated program.

The professional sequence can be divided into two major divisions:

- Theory portion—generally done in university setting
- Clinical portion—generally done in one or more cooperating school districts

The clinical portion can be further divided into three segments:

- Early field experience
- Student teaching
- New and returning teacher program

This publication is delimited to include only the three segments of the clinical experience portion component.

Figure 4. Program overview, teacher education program for industrial arts/technology education

METHOD OF INVESTIGATION

To identify the qualitative factors, associated with or needed in a model field experience program in teacher education with an emphasis on industrial arts/technology education, the case study research method was used. This method allowed for a naturalistic inquiry that revealed not only the standard or obvious elements but also those more subtle elements that yield unique learning opportunities. This method also allowed for research questions that were not even known at the beginning of the effort to emerge during the pursuit of the study. Through the process of triangulation (looking at the same phenomenon from different vantage points, in this case through the eyes of individuals with different levels of responsibility and involvement, as well as from written material and direct observation), it was possible to attain a comprehensive description of the various elements (Spirer 1980, p. 36).

Identification of Population and Sample Cases

The population for this study consisted of the 195 approved industrial arts teacher education programs in the United States as listed in the 1983-84 22d edition of the ACIATE/NAITTE *Industrial Teacher Education Directory* (Dennis 1983). From this population, five programs with exemplary field experience components were identified to be used in the case study.

The selection process involved securing two nominations from each state supervisor for industrial arts in each of the 50 states. In states where there was not a state supervisor, another industrial arts leader in that state made the nominations. Since the nominations were made during a telephone interview with each of the 50 contacts, there was a potential of 100 nominations. Due to common nominations, 54 institutions were nominated.

Elected leaders in the American Industrial Arts Association (now the International Technology Education Association) and the American Council on Industrial Arts Teacher Education were then asked by telephone to identify the top five institutions in the United States with respect to the teacher education field experience programs in industrial arts/technology education. It was originally planned to provide these individuals with the names of the top 10 institutions on the state supervisor's nomination list; however, since this was also a telephone inquiry, the request was simply to identify the five institutions considered as having exemplary field experience programs. There was almost complete unaninity between these 2 groups regarding the institutions to be included in the top 10, with clear agreement on the 5 to be used in the study. In alphabetical order, the five universities selected for this qualitative study were as follows:

- Ball State University, Muncie, Indiana
- Illinois State University, Normal, Illinois
- Millersville University, Millersville, Pennsylvania

- State University of New York at Oswego, Oswego, New York
- University of Wisconsin-Stout, Menomonie, Wisconsin

Data Collection and Reduction

Prior to the identification of the case study sites, contact was made with each state supervisor of industrial arts or state department office of certification for information on current certification standards. It was specifically requested that the field experience requirements in industrial arts/technology education be highlighted. A request was also sent to each of the universities or colleges in the United States and Canada that have approved programs in industrial arts teacher education for information concerning the operation of the field experience programs in those institutions.

Following the identification of the case study sites, the information from the five universities and state departments in those states was used to start the initial data file for each case study. Contact was also made with the head of the department of industrial arts education at each institution indicating that the program had been identified as having an exemplary field experience component and a site visit was desired. Each individual responded in the affirmative, and a travel schedule was arranged.

The research design called for an unstructured taped interview with each of the players on the teacher education team. Thus, at each site, a taped interview of between 20 and 60 minutes was conducted with the following players:

- Deans of colleges of education and colleges of technology
- Directors of teacher education
- Coordinators of field experience
- Heads of departments of industrial arts education
- Departmental coordinators of teacher education
- University supervisors
- School principals/vice-principals
- Vocational directors or program administrators
- Cooperating teachers
- Student teachers
- First- or second-year teachers

Due to differences in administrative structure at the institutions, the exact number of interviews per institution varied slightly. However, the data collection involved 77 taped interviews, 13 or more at each of the 5 universities and cooperating school districts. Participants are identified by name and position in appendix A.

A general line of discussion was pursued during each interview in an attempt to identify the unique quality factors of each program. Discussion also included comments from each player as to how others might be successful in a similar professional assignment. Suggested improvements were also noted.

Each tape was transcribed and common concepts were identified. The model presented in this publication has evolved from these common concepts, identified strengths, suggestions for improvements, indications of rewarding experiences as well as frustrations and general comments regarding the field experience program. The model is delimited to include only the field experience component. To be effective this component must be placed in context with the total teacher education program.

Organization of the Balance of the Publication

The field experience model is presented in the next section of this publication under four headings. Each subsection is also coded with a marginal tab. The four subsections are as follows:

- Program overview
- Early field experience
- Student teaching
- New and returning teacher program

Supportive information for each of the items in the model is included in the section following the formal presentation of the model. The candid and insightful comments of the individuals who participated in the case study are quoted at length to provide the reader with not only the content but also the feelings shared by the case study participants regarding this important part of the teacher education program.

FIELD EXPERIENCE IN TEACHER EDUCATION: A MODEL FOR INDUSTRIAL ARTS/TECHNOLOGY EDUCATION

It is not enough to insist upon the necessity of experience, nor even of activity in experience. Everything depends upon the *quality* of the experience which is had. The quality of any experience has two aspects. There is an immediate aspect of agreeableness or disagreeableness, and there is its influence upon later experience . . . every experience lives on in further experiences. (Dewey 1938, p. 27)

Program Overview

Early field experience—100 contact hours:

- Coordinated with each of the courses in the professional sequence.
- Varied experiences to gain full understanding of the magnitude and complexity of the educational enterprise.
- Highly structured to achieve maximum quality but flexible enough to allow for individual needs.

Student teaching—full semester—full-time (minimum of 16 weeks):

- Two experiences.
  - Eight weeks in a junior high school setting.
  - Eight weeks in a senior high school setting.
- Site selection and selection of cooperating teacher.
  - Based on the knowledge and recommendation of the industrial arts/technology education departmental coordinator.
- Supervision.
  - By full-time members of the faculty in the industrial arts/technology education department or program area.

New and returning teacher program:

- Coordinated activity with local school and university.

- University supervisor provides support at local site.
- Local mentor provides continuing support.

A graphic presentation of the model, that includes the relationship with the general and technical education components, is presented in figure 5.

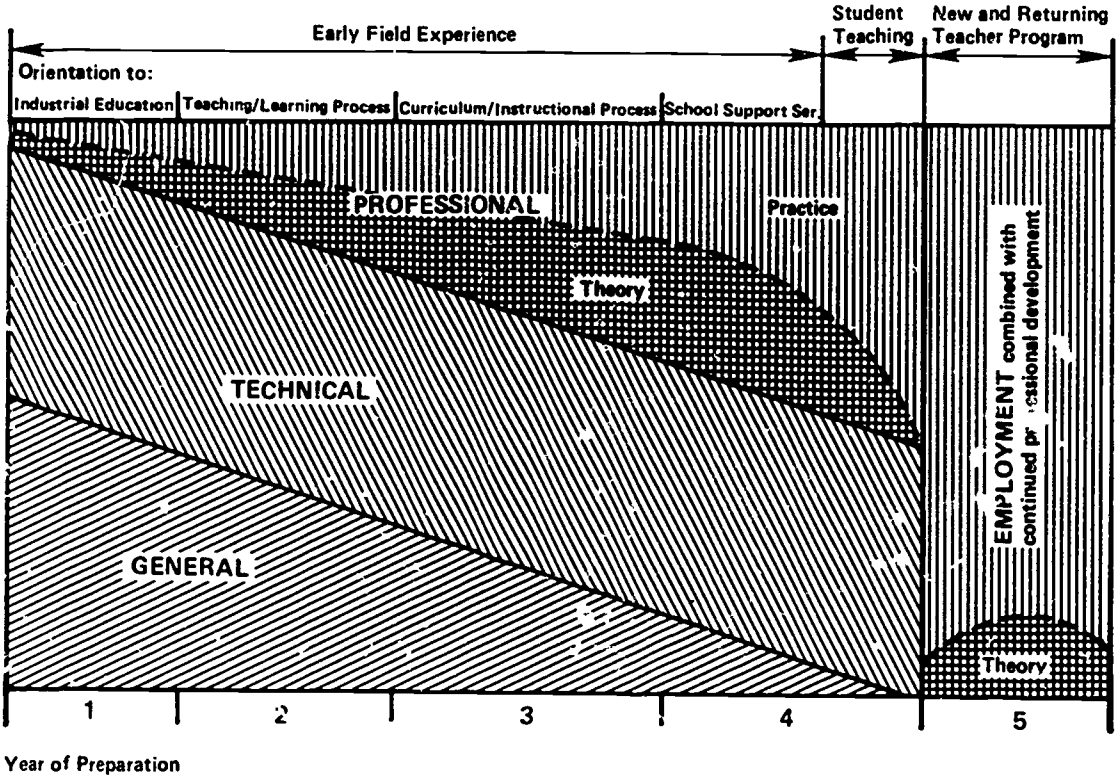

Figure 5. Program model for teacher preparation

Early Field Experience Model
for
Industrial Arts/Technology Education
Teacher Education

Each element in the early field experience program* must be directly linked to the theory that is being discussed in one or more of the courses in either the professional or technical sequences. Articulation between each course and activity is also an important consideration. Four areas are to be considered:

- Orientation to industrial education
- Orientation to the teaching/learning process
- Orientation to the curriculum/instructional process
- Orientation to school support services

*Early field experience is defined by the Association of Teacher Educators Commission on Exploratory Field Experiences as follows:

> Exploratory [early] field experiences are those pre-service education activities, sponsored by the training institution, which occur typically (but not exclusively) in non-university/college environments and which precede student teaching or intern experiences. "Exploratory" [early] includes, but is not limited to, activities relating to career decision making. "Field experiences" include, but are not limited to, activities such as observing, preparing materials, instructing in small groups or large groups, tutoring, and evaluating. Field settings include sites, typically off-campus, for example, in schools, businesses and other settings, approved by the training institution. (Webb et al. 1981, pp. i-ii)

Orientation to Industrial Education

Linkage: To be coordinated with introduction to industrial education course(s).

Purpose: To assist the industrial arts/technology education teacher education student in:

- Being able to identify the unique characteristics of each of the specific programs that comprise the total industrial education program—especially as related to the nature and source of the curriculum, the students served, and the preparation of the instructors.
- Becoming able to refine career objectives with respect to teaching in an industrial education program.
- Becoming aware of the magnitude and complexity of the role of the instructor in the educational program.
- Becoming aware of the individual differences of students and their unique educational needs.

EARLY EXPERIENCE

Activity: To take part in field trips or observations* that include:

- Training programs in an industrial setting.
- Postsecondary technical programs.
- Secondary trade and industrial education programs.
- Senior high school industrial arts/technology education programs.
- Junior high school industrial arts/technology education programs.
- Programs for students with special needs.
  - Within the regular industrial education classes.
  - In self-contained special needs classes that are involved in industrial arts type activities.
  - In sheltered workshop programs.
- Industrial arts student club programs and related competitive events.

Contact Hours: 12

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*Observation in settings can be accomplished on an individual student basis, in groups of 2-5 students, or as a class field trip. A varied approach is recommended with most of it being in teams of two students each. It is imperative that the students know the purpose of the site visits and that observational and reporting skills have been discussed

Orientation to the Teaching/Learning Process

Linkage: To be coordinated with methods of teaching and classroom/laboratory management courses.

Purpose: To assist the industrial arts/technology education teacher education student in:

- Relating the theory of learning to the actual learning situation.
- Being able to start the transition from being a student to being a professional educator.
- Working with a cooperating teacher.
- Becoming familiar with a variety of teaching styles and methods.
- Being able to see the interaction that takes place between students and instructors and between students in a learning environment.
- Being able to identify various motivational and discipline techniques used in the teaching/learning environment.
- Being able to identify various classroom/laboratory management techniques and how they are used by different instructors with various groups of students.
- Being able to understand the educational benefits of an industrial arts/technology education student club program.

Activity: To be involved in elementary or secondary school settings, preferably in industrial arts/technology education programs.

- Observe* and record specific items relating to:
  - Teaching techniques.
  - Learning situations.
  - Teacher/student relations.
  - Student/student relations.
  - Student motivation and discipline.
  - Classroom/laboratory management and design.

*Observation may be done on an individual basis or in teams of two students each. The majority of the time could be in one setting; however, various settings to include both junior high school and senior high school as well as city, urban, and rural schools will provide a better exposure and opportunity for comparison.

Observational strategies can vary to meet individual needs. Consideration could be given to teacher observation on 1 day—observe the same teacher working with at least 3 separate classes. On another day the observation could be of the student. In this model the teacher in preparation would follow a student, preferably a group of students, for at least three class periods.

- Procurement and management of tools, equipment and materials.
- Functional details of a student club program

- Serve as a tutor for one or more students either on an individual basis or in small group settings.
- Assist one or more certified teachers in operational details, for example, taking class attendance, getting tools and supplies ready for a demonstration, making copies of materials to be distributed to the class, grading papers, and so forth.
- Present a mini-lesson, 4-8 minutes, to a full class of students and receive a critique on the lesson from the regular teacher or the university supervisor.

EARLY EXPERIENCE

Contact Hours: 38

Orientation to the Curriculum/Instructional Process

Linkage: To be coordinated with curriculum development and materials utilization courses.

Purpose: To assist the industrial arts/technology education teacher education student in:

- Becoming familiar with various commercially and teacher-prepared curriculum materials used by teachers.
- Being able to identify a unit of instruction to be presented within a class or program area.
- Being able to develop an instructional unit to fit within a time allocation and the ability levels of the students.
- Working with a cooperating teacher and university supervisor.
- Relating curriculum theory to a specific unit of instruction.
- Being able to participate in the dynamics of the teaching process.
- Becoming familiar with the tools, equipment and materials used in the industrial arts/technology education laboratory and their relationship to the instructional process.
- Relating state curriculum guides to actual classroom practice.

Activity: To develop and teach* a curriculum unit in an elementary or secondary industrial arts/technology education program—4 or 5 days, 1 class period (45-50 minutes) per day:

- Observe in school setting to gain insight as to the course being taught and the ability level(s) of the students.
- Identify the unit to be taught.
- Develop unit of instruction, including related media, activities and handouts.
- Integrate tools, equipment, and materials into the unit of instruction.
- Teach unit** in school setting.
- Critique unit with cooperating teacher or university supervisor.

Contact Hours: 30

*This assignment may be done on an individual basis or in teams of two students each.

**If video equipment is available, at least one lecture and one demonstration session should be taped to be used for self-evaluation. Selected tapes could also be used for class discussion in university classes. If video equipment is not available, then, as a minimum, at least one lecture should be audiotaped.

Orientation to School Support Services

Linkage: To be coordinated with organization and administration courses or seminars.

Purpose: To assist the industrial arts/technology education teacher education student in:

- Becoming aware of the magnitude and complexity of the total educational system. This includes support services both within the formal school setting as well as the local community, state, and nation.
- Becoming aware of the role and scope of professional organizations.

Activity: To participate in various activities* to gain an appreciation for the role, scope, and function of support services in the school that include:

- Student services or guidance office.
- Program supervisor or curriculum coordinator.
- Building principal or vice-principal.
- Business/purchasing office.
- Personnel director.
- Learning resources center (library/audiovisual).
- Classified staff—secretaries, maintenance personnel, and so forth.
- Parent support groups.
- Student club—associated with a curriculum area, preferably an industrial arts club.
- State department of education
  - Industrial arts state supervisor.
  - Industrial arts student club coordinator.
- Professional associations
  - Local, regional, state, and national industrial arts associations.
  - Local chapters of other educationally related organizations.

Contact Hours: 20

*The exact activity used to accomplish the purpose of this orientation will need to be evolved to fit the local institution. It is suggested, however, that much of it would be accomplished through individual interviews (with student service office personnel, building principal, and so forth) or observation (school board meetings, meetings of professional associations, and so forth). Some of the contacts could also be arranged as seminars either on-site or at the university setting

Logistics for Implementation of the Early Field Experience

Articulation:

- Each activity is an integral part of a specific course.
- The early field experience is articulated with other courses in both the professional sequence and technical component in the department.
- The early field experience is articulated with other courses in the professional sequence through education and educational psychology.

Time considerations:

- Experience gained is the primary consideration.
- Suggested minimum contact hours is 100.
- Blocked time or a block of time is recommended.

  Note: At one university three courses in the professional sequence are team taught as a block on a Tuesday and Thursday schedule. The students enroll in only these courses on these days; thus, there is ample time for both full participation and travel.

Site selection: (this is a critical factor)

- Emphasis should be on the quality and interest of the cooperating teacher.
- Strong consideration should be given to the quality and timeliness of the instructional program. Technology education programs should be identified.
- If selection is made through a central office it *must* be in conference with the departmental coordinator or the professor in charge of each course.
- Departmental faculty need to develop a cadre of cooperating teachers who will function as teacher educators and extend the philosophy of the department.
- University and school district policies must be followed in the formal placement process.
- An orientation program for cooperating teachers should be an integral part of the program.

University supervisor:

- The university supervisor or instructor for each course should work with cooperating teachers so that there is a clear understanding of the expectation from the program. The course requirements should be identified and a description of the student outcomes prescribed.

- The university supervisor should observe and critique selected activities for each student involved in an early field experience activity.

Documentation:

- For certification purposes in some states, there must be contact hours or specific activity documentation.
- Experience has shown that an overload of paperwork will most likely be self-defeating; thus, with other demands placed on the cooperating teachers their involvement in this process should be held to a minimum.
- Student logs, papers prepared and class discussions should serve as primary documentation.

Student Teaching Program Model for
Industrial Arts/Technology Education
Teacher Education

Linkage: To be coordinated and articulated with a full professional sequence including an early field experience program and undergirded by effective general education and technical components.

Purpose: To assist the industrial arts/technology education student in the transition from being a student to being an individual ready to enter the teaching profession. Thus, the student teaching experience is designed for the student to demonstrate:

- The ability to utilize effective interpersonal relationships with students.
- The ability to utilize effective interpersonal relationships with teachers.
- A knowledge of the formal organization of the typical school system (i.e., role of principal, school specialist, teacher, and so forth).
- A knowledge of the current innovations, trends, and issues in education.
- A knowledge of the school laws of the state and nation in relationship to the rights of teachers and students.
- A knowledge of the major professional organizations for teachers both general and those relating specifically to industrial arts/technology education.
- The ability to utilize learning theory and styles in the instruction of students in the classroom.
- The ability to utilize appropriate classroom management and discipline techniques to maintain a safe and effective learning environment.
- The ability to utilize a variety of teaching strategies or methods to meet the needs of students.
- The ability to utilize a variety of instructional materials (duplicated materials, visuals, concrete aids, displays, and so forth) in the instruction of individual students.
- The ability to plan and execute instructional lessons that put technical knowledge into classroom practice.
- The ability to integrate curriculum content and instructional activity into an efficient learning situation.
- The ability to construct appropriate classroom tests.

- The ability to interpret standardized tests.
- A knowledge of the various stages of human growth and development.
- The ability to modify instructions and adapt subject matter to meet the needs of all students.
- A knowledge of career information sources/services. Adapted from: Educational Development and Field Services, *A Guide for Student Teaching* (Millersville, PA: Millersville University, 1984).

Activity: To participate during the senior year, not necessarily the last enrollment period, in a full semester (16 weeks minimum) full-time student teaching experience in two separate settings.

- The student teaching assignment should be in 2 separate settings with 8 weeks in a junior high school and 8 weeks in a senior high school with consideration being given to:
  - Geographic, economic, and social/cultural factors with a wide variance in the 2 placements.
  - Equivalent time allocation for colleges and universities that operate on a quarter system to include 2 separate experiences of not less than 8 weeks each.
- Specific activities will vary according to school programs and student teacher abilities; however, in each setting and with each student teacher the activity should be *planned* so that through a phasing-in process the student teacher gains experience in each of the professional functions of the regularly assigned teacher. Suggested items include:
  - Precontact with the cooperating teacher. This should be for at least 1 full day, 3 weeks or more before beginning the student teaching assignment.
  - Orientation to the school—all aspects of both the building and the system.
  - Orientation to the community in which the student teaching assignment is being conducted. This should include the economic, social, and geographic considerations that may impact on the students as well as the expectations of the community for its schools and school personnel.
  - Observations and modeling of the cooperating teacher and other master teachers in the school setting.
  - Develop lesson plans and implement instruction—first in one class and by the midpoint in each experience in all but one class of what would be considered a full teaching load in the school.
  - Participate in *all* professional activities and selected social activities appropriate to the teaching assignment.

- Work actively with the students in the student club program.
- Assist in the preparation of budget and requisition procedures.
- Conduct major maintenance on at least one piece of equipment.
- Welcome constructive suggestions and incorporate them into subsequent planning and teaching.
- Prepare a journal detailing the student teaching experience to be included as one part of a resource file.
- Develop an instructional aid that is left at the student teaching site.

Logistics: To implement the student teaching program as a planned activity that is coordinated with the total teacher education program in the university and the cooperating school districts as well as being fully articulated with the curriculum leading to recommendation for certification in industrial arts/technology education. Items that need to be considered include:

- Site selection.
  - Must have a qualified and interested cooperating teacher (this is a critical factor).
  - Must have administrative support.
  - Must have an innovative curriculum that is technology based.
  - Must have workable facilities.
  - Must have active industrial arts/technology education student club—preferably American Industrial Arts Student Association (AIASA) affiliated.
  - Must have departmental coordinator or university supervisor who knows the sites and can develop a cadre of cooperating teachers.
- Selection of cooperating teacher.
  - Must meet legal requirements for state and policy guidelines of the institution (i.e., master's degree including a course on working with student teachers and at least 3 years of experience including one in the local district).
  - Must have the interest and be able to devote the time needed to be an effective teacher educator.
  - Must have a well-organized and fully documented curriculum.
  - Must exemplify those qualities of teaching that warrant modeling by the student teacher.

- Must be active professionally—at a minimum must be a member of the state industrial arts/technology education association.
- Must be recommended by principal or program director.
- Must be able to effectively evaluate performance and communicate this to the student teacher.
- Must be able to allow the student teacher the freedom to explore teaching strategies appropriate for the lesson being taught and the individual doing the teaching.
- Must possess a philosophy that will extend the preparation program of the university.
- Must have humanistic factors—sensitivity.
- Must be able to realize that the student teacher does not have the background and experience of an experienced teacher but be willing to assist the student in attaining those skills needed to enter and be successful in the teaching profession.
- Must be a master at planning.
- Must be willing to do the necessary paperwork—reports and evaluations needed to document the progress of the student.

- Student teacher placement.
  - Must follow established university and cooperating school district policies.
  - Must match student needs and personality with the skills and personality of the cooperating teacher.
  - If the formal placement is made through a central office it *must* be with departmental input.
  - Should be limited to one student teacher per semester for each cooperating teacher.
- Supervision
  - Cooperating teacher in junior high school setting, 8 weeks.
  - Cooperating teacher in senior high school setting, 8 weeks.
  - University supervisor—full-time faculty, FROM THE INDUSTRIAL ARTS/TECHNOLOGY EDUCATION PROGRAM.*

*This single item drew the most attention during the case study visits. Very strong sentiments were expressed, especially by members of one institution where some of the students were supervised by a generalist. Out of 77 interview sessions, the individuals in 73 of the sessions, including *all* the deans, supported the concept that the subject area specialist should be involved in the supervision of the student teacher.

- The university supervisor should be knowledgeable in the area of supervision and conferencing skills.
- Supervisory visits should be biweekly for a minimum of one-half day per visit for each student teacher.
- Each supervisory visit should include both individual conferences with the student teacher and the cooperating teacher as well as a closing three-party conference.

- Seminars.
  - There should be an orientation seminar for all student teachers from the department and another for all student teachers in a given school—the latter being conducted by the building principal.
  - There should be biweekly seminars held at school sites with several industrial arts/technology education student teachers from the area meeting for an after school session. In addition to discussing topics of immediate concern to the students, there should also be a theme topic for each session (i.e., classroom management, student clubs, and so forth).
  - If biweekly seminars are not possible, then consideration should be given to having one seminar each month at a more central location.

    Note: Students from one of the case study universities participate with students from other universities in a Friday-Saturday conference for all of the industrial arts/technology education student teachers for that semester in the state—excellent feedback.

- Hints to the cooperating teacher regarding the infusion of the student teacher into the program.
  - Treat the student teacher as a fellow professional.
  - Provide tour of building and community and introduce to administrators, other teachers, and staff.
  - Provide student teachers with the same access to keys enjoyed by other members of the faculty.
  - Make certain that there is a clear understanding of expectations.
  - Introduce student teacher to class as an associate teacher.
  - Make certain the students in class understand that the student teacher will be in charge of certain activities—including the grade book.
  - Give student teacher as much responsibility as can be handled as early as possible.

- Allow for decisions and mistakes.
- Open communication is a must.

- Evaluation and grading.
  - Weekly evaluation by the cooperating teacher with a formal midterm (4 weeks) and final (8 weeks).
  - Minimum of two times each 8 weeks by university supervisor.
  - One evaluation is recommended in each setting by building principal or program supervisor.
  - Final grade to be assigned by university supervisor based upon the recommendations of each of the cooperating teachers in conjunction with the level of work the student has done on university assigned activities.
  - Letter grades of A, B, C, D, or F should be used—not a simple Pass/Fail.

- Advisory Committee.
  - Established to provide recommendations to total teacher education program in the department.
  - Membership on the advisory committee should include:

    —School-based representatives—former students who are currently teaching, cooperating teachers, building principals, program directors.

    —University-based representatives—director of teacher education, professors of courses in each of the three components—general education, technical component, and the professional sequence.

    —State department representatives—industrial arts/technology education, and teacher certification.

New and Returning Teacher Program Model
for Industrial Arts/Technology Education

Linkage: To be coordinated with a graduate level course on the implementation of instructional programs in industrial arts/technology education.

Purpose: To assist the industrial arts/technology education beginning teacher in the final transition from being a student to being a full and productive member of the teaching profession through:

- Developing and implementing a local curriculum.
- Continuing the development of instructional strategies.
- Continuing the development of positive motivation and discipline activities.
- Implementing and maintaining an effective industrial arts/technology education student club program.
- Developing self-confidence in being an industrial arts/technology education teacher.
- Establishing communication linkages with local administrators, guidance personnel, other teachers, individuals and groups in the community, state department of education staff, industrial contacts and representatives from professional organizations.
- Developing a program of self-evaluation and improvement.
- Developing a plan of action to work within the educational system in advancing on a career ladder appropriate to that individual.
- Continuing the development of motivational strategies and reinforcing skills.

Activity: To have the new or returning teacher during at least the first year of teaching participate in the new and returning teacher program sponsored by the university-based industrial arts/technology education teacher education program in the area.

- Orientation meeting and curriculum planning workshop (2-3 days at university in late summer).
- Individual school visits by teacher educator.
- Small group meetings in geographic groupings in local schools (three or four each semester).

- Individual sessions with local mentor.
- Observation of master teacher(s) (may be other than industrial arts/technology education).
- Participation in professional organizations at local and state levels.
- Activity needed to complete assignments to meet the needs of the individual.

Logistics: To implement the new and returning teacher program, consideration should be given to:

- The new or returning teacher should be employed on a full-time basis but with 1 less contact hour than an experienced teacher.
- A local mentor should be assigned to each new teacher (this individual may or may not be from industrial arts/technology education).
- The local mentors should have 1 contact hour each week available for each new teacher under their tutelage.
- Through funding from the state, there should be a tuition waiver and travel funds for the new teacher.
- There should be 2 or 3 semester hour credits allowed for each semester of participation.
- The university representative should visit each participant at the local level for a minimum of four 1/2-day sessions each semester.
- The university representative may be able to coordinate travel with supervision of student teachers. Any excess travel should be paid through an additional state allocation of funds.
- An advisory committee should be established to provide suggestions for local adaptation of the new and returning teacher education program.

SUPPORTIVE INFORMATION

The material presented in this section is in essence the database from which the model presented in the previous section evolved. In addition to selected material from the literature regarding field experience in teacher education, comments from the case study interviews are presented. For each element included in the model, there are representative comments from the participants that not only justify the reason for the item being included in the model, but also demonstrate the emotionalism attached to several of the issues. When there were opposing viewpoints, comments are included to present both sides of the issue.

The supportive information is divided into the following subsections:

- Early field experience
- Student teaching
- New and returning teacher program
- Hallmarks of success
- Endorsement of the model

Early Field Experience

> While student teaching is still the most important single aspect of professional laboratory experiences, the scope of the overall program extends far beyond such narrow confines. In a sense, professional laboratory experiences ought to be as broad as the program itself, for every professional course can and ought to have direct contact, in a real-life way, with appropriate situations in classrooms, schools, and communities. (Sherman 1962, p. 86)

This statement appeared in the 11th ACIATE yearbook, at which time discussions of early field experiences were just beginning to enter the literature and very few programs included this activity in teacher education. Sherman (1962) went on to quote other educational leaders of the day and to propose that "professional laboratory experiences ought to begin early" (p. 86). This concept is now written into many certification standards, with the Indiana standard stating, "The professional component shall begin early in the educational career. Laboratory experiences shall be initiated as soon as possible and continue throughout the student's program of preparation" ("Final Rules" 1984, p. 1832).

The operational details for the early field experience program are not generally included in the standards. However, some states have identified the number of contact hours. The Ohio standards call for 300 hours of clinical experience. The standards for Illinois call for 100 hours and the newly established standards for Texas require a minimum of 45 hours in an accredited school setting (State Board 1984, p. 34).

Kuetemeyer and Udofa (1984) conducted a survey of industrial arts teacher education programs, and, based upon a response rate of 70 percent, they reported that 83.6 percent of the institutions participating in the study had some type of early field experience. They apparently did not do a follow-up survey with the nonrespondents to determine if they were different from the 70 percent who responded. The majority of the program respondents (52.4 percent) reported starting the early field experience activity during the sophomore year The time commitment ranged from as low as 2 hours to a high of 300 hours, with a mean of 50 hours. Logged experience of between 20 and 80 hours was reported by 80.4 percent of the participating institutions. It was also reported that only 23.2 percent of those reporting allowed simple observation to meet this requirement. Other activities included participating (not defined), presenting a lesson, and other activities.

In a report by Ishler and Kay (1981) on a national study completed by the Association of Teacher Educators Commission on Exploratory Field Experience, 99 percent of the institutions responding included early field experiences in their teacher education programs. As with the Kuetemeyer and Udofa study, there was no indication to determine the level of early field experience programs in the 310 out of a sample of 550 (57 percent) who did not respond.

"More 'how-to' statements about early field experiences are found in the literature of teacher education than 'why-to' statements" (Webb 1981, p. 7). In a commission report on exploratory (early) field experiences prepared for the Association of Teacher Educators, Gehrke (1981) included information in six categories in developing a rationale for early field experience. These included items related to learning theory, motivation, vocational choice, economics, sociopolitics, and institutional revitalization (p. 1).

In a second paper associated with the commission report, Webb (1981) identified four lines of inquiry about human learning to build a theoretical base for early field experience. Drawing on applied social psychology, including the writings of Dewey, he indicated that contectual experience is necessary for the student to participate in discussions and enter the concept formation stage. Only then can the student proceed through the application and feedback stages to the modified concept and new experience stages. The cyclical pattern is described by Webb in figure 6.

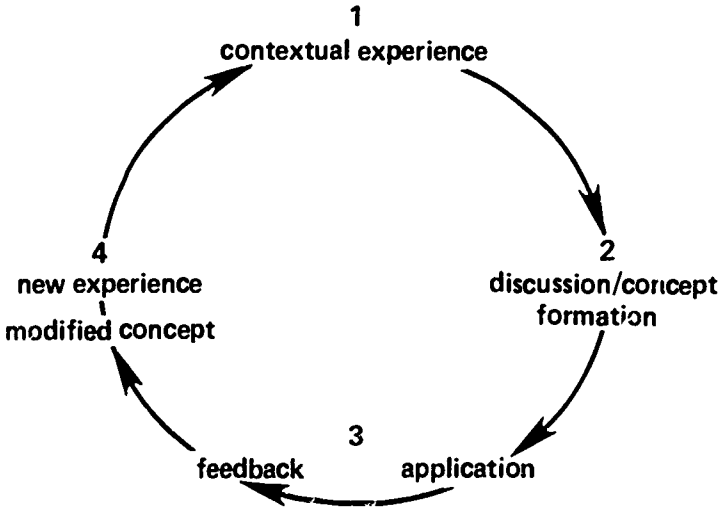

Figure 6. The cyclical pattern of contextual experience

SOURCE: Webb (1981, p 12).

Early field experiences can provide the contextual experience and the opportunity for application and testing of concepts. This model provides concrete meaning to the words we use in teaching theory courses. The late Edgar Dale (1969) put the need for experience in context when he indicated, "If a symbol is to stand for something, it must stand *on* something—a firm foundation of relevant experience" (p. 109).

In a study done at Texas A&M University, Denton (1982) reported improved performance in the methods courses for students who had participated in the early field experience program. This study did not involve students in industrial arts; however, the findings are generalizable to all fields.

Comments by Case Study Participants

In the case study portion of the current study, except for minor problems with logistics, only positive comments were recorded regarding the concept of early field experience. The comments adding the most credence to this component came from those most affected by it: the students, first-year teachers, and cooperating teachers.

Many of the comments from current student teachers indicated that the early field experience had been helpful to them.

- It reinforced my desire to become a teacher.
- The curriculum course on campus certainly had more meaning.
- It made me realize how much time was involved and how long an activity will take; time management and planning concepts were reinforced.
- I got involved in more than just the class. I went back and worked with their club program.
- We need more teaching; we mostly just observed.
- Pre-student teaching—I'm 100 percent sold on that. For me it was the turning point. I was committed to teaching after that experience.
- The experience with the special needs students was good.
- We developed a small lesson in our curriculum class and then were able to teach it in a real setting.
- Very positive experience—just the one-on-one with the kids. It at least gives you the confidence to enter student teaching.
- You can only observe so long; we need to be more involved with the kids. Some of my classmates were able to teach more. It's too much up to the cooperating teacher.
- The experience I had through the department was good.
- The blocking of courses so we can really get out into the schools is good. [By blocking, this student was referring to three methods courses being taught on a Tuesday-Thursday

schedule. Students enroll in only these courses on these days. Then on selected days, the total day could be devoted to field experience.]

Cooperating teachers also indicated that the early field experience program was worthwhile.

- It helps reduce the apprehension and flat-outscared-to-death kind of things that students often have when they first come to student teach.
- It helps in career choices.
- The blocked time model is an improvement.
- We give them the opportunity to present small lessons, something that is really nonthreatening.
- It can be disruptive and bothersome, but I think it is worth it.
- I find that it is really a valuable experience for the students.

University supervisors also indicated a positive response to benefits derived from the early field experience. Many of their comments, however, related to logistics and the importance of the student being prepared to observe or participate; comments also related to the selection and placement processes.

- To be effective there must be a block of time. This can be in a 2 or 3 week block or 2 days each week.
- Activity must be coordinated with other classes.
- The department must be involved in the placement. In some cases ours is almost a "luck of the draw" through our central placement process.
- We want our pre-student teachers to be more than just sitting and observing; we want them to become involved.
- We can get on with the business of student teaching; we don't have to spend the first 2 weeks as an adjustment period.

One dean cautioned that although we so often work in terms of time allocations, what we really needed to be discussing were outcomes. He further indicated that the 300-hour model might be too heavy on the activity side and that the 45-hour model, if properly coordinated, might be sufficient or even better than the 100-hour model. However, based upon the derived database, a 100-hour model with specific objectives and activities that are coordinated with the methods courses is being proposed. The outline of this model is presented in the previous section.

Student Teaching

Student teaching in most states is the culminating clinical experience in undergraduate programs of teacher education and is designed to assist in the continued professional development of individuals to enter the profession of teaching. As defined in one set of state standards, student teaching is:

A form of internship established by [state] statute calling for "close and competent" supervision. It entails preparation for full responsibility in an instructional setting. In the course of the experience, the candidate demonstrates mastery of techniques and skills including, but not limited to, planning, organization, evaluation, parental relations and competence in subject matter areas. The experience is carried out under diligent and systematic supervision by college and local school personnel. (Office of Clinical Experience 1982, p. ii)

Very specific objectives need to be developed for each institutional setting. However they are specified or what is included, the goal, as stated by several of the cooperating teachers interviewed in the case study, is to assist the student teacher in the transition from being a student to becoming a full-fledged teacher—a professional in his or her chosen field.

Comments by Case Study Participants

Individuals participating in the case study at each administrative level extolled the value of the student teaching experience. Based upon the process by which the case study sites and individuals were selected to participate in the study, it would be expected that most of the generalizations would be good. From these positive statements, supplemented by statements of concern or suggestions for improvement, a model student teaching program has been developed. A synthesis of the comments by selected topical areas provides support for the proposed field experience program in student teaching.

The comments are arranged under the following topical headings:

- Time allocation
- Site selection
- University supervision
- Student concerns
- Advisory committees
- Improvements

Time allocation. Individuals at each administrative level, including the students participating in the student teaching program, addressed the issue of time. For those students who were in the field for less than a full semester, there was general agreement that more time was needed. For those who were in the field for a full semester, there was general agreement that the time allocation was appropriate. There were mixed signals regarding being in one setting for the entire semester or dividing the time between two settings.

- No question; student teaching should be a full semester with 2 experiences of 8 weeks each. Students need exposure at both the junior and senior high school levels as well as urban and rural. Two separate school districts should be used. This provides an opportunity for a second start. (university supervisor)

- We should move to a full semester, two-level program. The junior high school and senior high school are quite different. (first-year teacher)

- We need to move from 9 weeks to 18 weeks with 2 experiences. (cooperating teacher)

- Two experiences in the fall semester would be my first choice. Have the student teacher participate in the new teacher orientation and be there for the opening of school. (school administrator)

- Professionally, we need to go to the full semester with two experiences. However, these do not necessarily need to be of equal length. The student really needs one main base. (university supervisor)

- The two-experience feature was good. My first assignment was the high school in a very rich district but with students who had poor attitudes. My second assignment was in a junior high school in a very poor district that included many migrant students. It was good for me to get this wide variety of experience. (graduate student)

- The two experiences allow for two good experiences, but this model also allows for one poor experience to be supplemented by a good one. (department head)

- I would lean toward 8 weeks at each level. When I interview teaching candidates, I spend time on how they feel about working with junior high school versus senior high school students, and curriculum and why. They need both experiences. (school administrator)

- People complain that they just get to know what's going on, and it's time to change; however, it's best to have the two experiences. (graduate student)

- It would be good to have a full semester. However, if you split it into two experiences, neither one will be complete. To be able to follow the students through a complete course, the full semester is needed in one setting. (first-year teacher)

- Student teaching needs to be one experience. I would not have gotten to know the students as well or hone out their specific needs if I had only had 8 weeks. A half semester is not enough time to really get the full experience of teaching. (first-year teacher)

- We have done it both ways. My feeling at this point is the students get more out of student teaching being in one place the whole time. We need to use one setting but then supplement that with assignments in other facilities and programs. If you can teach in the middle school you can teach in the high school. I don't think the reverse is true. Thus, I'd have the students do one assignment in the middle school and then do a few days in other settings. (cooperating teacher)

- I really feel that a full semester in student teaching for some students would be too much. They are ready to do their own thing after about 8 or 9 weeks. But if you had them in a dual-level setting, and each setting was long enough to do the job, that would be my choice. Research data show that each setting would need to be 7 or 8 weeks. In our elementary education program, we have two 5 1/2-week settings, and in my judgment the student teachers are not in either setting long enough to get to the level that they should be. It is also a tremendous burden on the schools. (university coordinator)

- From an educational perspective the full semester, dual-level program is the superior model. However, it is more work, especially for the cooperating teachers. We do need to be sensitive to the burden we place on the schools. (department head)

In the 11th ACIATE yearbook entitled *Essentials of Preservice Education* (Nelson 1962), reference is made to "a good current example . . . at Oswego. Under this program each student teacher is on a full-time basis for nine weeks at one school and then shifts to a totally different kind of school for another nine weeks" (p. 88). During the case study interview, the departmental coordinator for student teaching at Oswego indicated that one of the major strengths of the program was the precision of the original model—a model that has been in place since 1934 when they moved from the 2-year certificate program to the 4-year degree program.

As evidenced by the synthesis of the comments from the participants in the case study, there was total agreement regarding the need for a full semester program of student teaching. There was some disagreement regarding the split assignment; however, most of this was based on logistics rather than the best educational program. Thus, for the model being proposed, a full semester, dual assignment is recommended.

Site selection. In addition to the factors that should be considered in the actual selection of the student teaching site, consideration should also be given to the position of the individuals involved in the selection and placement process. Is this a clerical job for an individual in a central office or is the magnitude and importance of the activity such that it demands the time, effort, and knowledge of a professional staff member at the department or program level? In a national study completed in 1981, it was determined that in less than 40 percent of the industrial arts teacher education programs the selection of the student teaching site was made with involvement from industrial education faculty (Parnell 1981).

Comments that are representative of those made by individuals participating in the case study would indicate that the identification, selection, and training of the cooperating teacher are critical factors and should have the full involvement of one or more professionals in the industrial arts/technology education program. In a discussion regarding the professional membership status of the cooperating teacher as a criterion, one local administrator indicated that there was also a need for the student teacher to belong to the appropriate professional organizations.

- Student teachers are assigned to cooperating teachers, not to schools or school districts. (Statement from a student teaching handbook at one case study site)

- The cooperating teachers are very important. They must be truly interested in their field and still excited about it—not a burn-out. They need to be alive and knowledgeable and have new ideas about how to get things across to students. (university coordinator)

- We need to be in contact with teachers in the field and develop a cadre of qualified cooperating teachers. Start with 5 year's experience and a master's degree; however, of greater importance is their interest in our program and their willingness to take the time. It's not a reduction in load but rather an increase in load. (department coordinator)

- Student clubs should be considered very strongly. If possible, they should be American Industrial Arts Student Association (AIASA) affiliated. (department coordinator)

- The cooperating teachers are the key. Enthusiasm, organization, willingness to serve, active in the profession, innovative program, involved with students beyond the classroom, accepted and recommended by peers and administration, and, for new cooperating teachers, willingness to participate in a training program are factors that I consider. (university supervisor)

- You can have a really good student teacher assigned to a poor cooperating teacher and you end up with two poor teachers. (cooperating teacher)

- The cooperating teacher should be a good role model, one who is on the cutting edge not just pulling from the file. The individual must be well organized and able to adapt instruction to meet the needs of kids. There should be a student organization. The principal should also be involved. (first-year teacher)

- How professional is the teacher? How does the teacher dress? How organized is he or she? What is the condition of the lab? How does the teacher manage the class? Is the teacher a member of the state and national industrial education associations? Is there a student club? The club can really tie the program together. (graduate student)

- The cooperating teacher must provide time to assist in planning and guiding the student teacher, must be willing to participate in staff development, should have an active student club, and must be recommended by the building principal. We must know the cooperating teacher and have that individual feel that he or she is a member of our faculty. (department head)

- I look for cooperating teachers who have a humanistic approach to teaching. They must have excellent communications skills and a flexible curriculum as opposed to prescriptive or structured curriculum that does not allow our students to design their own learning experiences. (university supervisor)

- The cooperating teacher should be a good role model—someone who is a good teacher—well organized and knowledgeable in the field. (student teacher)

- The cooperating teacher must be able to provide guidance but also allow the student teacher to try some new ideas without feeling threatened; to extract an appropriate level of responsibility from the student; to look at the student teacher, not in comparison with an experienced teacher, but with an eye to the fact that this is a young professional who is just beginning and does not have prior experience; to be supportive and helpful and willing to devote the needed time to the student and also to do the necessary paperwork, evaluations and reports. (department head)

- There must be a positive climate both in the minds of the administration and the teaching staff toward serving as a student teaching site. The facility has to be adequate, so that the student has a reasonable chance of having a successful experience. This would also require that a respectable curriculum is in place. (department head)

- Is the person a loner or is he or she and the curriculum a part of the fabric of the school? We want the principal, the board of education, and the whole administrative structure to have the philosophy that they are part of the team and that they are welcome. (university supervisor)

- We need to spend more time in selecting and training our cooperating teachers. In fact, this would be a better use of our time than the two or three supervisory visits that we make. (dean)

- We are very selective and want to be fully involved in the selection and placement process. We evaluate and screen each year. As better sites are identified or an individual isn't

producing or the philosophy of the school changes with new administration, we drop them. (department head)

- We are currently doing some reassessment in terms of the types of places we use as cooperating sites. We are now looking at the schools with what we consider contemporary industrial education or technology education programs. (department head)

- Sites are chosen based upon a full knowledge of the individual and the schools. Is the teacher one who is able to get the students excited? Curriculum comes after the excitement factor. The curriculum needs to be well organized and documented, as well as being taught in good facilities, with full administrative support. (university supervisor)

- Student preference regarding geographic location needs to be considered, but first and foremost it must be in a program with a cooperating teacher that fits that student's needs. (university supervisor)

- If the formal placement is through a central office it is imperative that the department coordinator or supervisor be involved in the process. We view it as a team effort. If we have a good placement, good program, good cooperating teacher and school support, 50 percent of the job is done. (university coordinator)

- Our local district membership in the industrial arts/technology education professional organizations is very high—100 percent local, 95.6 percent state, and 93 percent national. We won't even let student teachers in this district unless they are student members of the American Industrial Arts Association. We don't require that they be members of the state association, but I question it if they are not. I just expect them to be members of AIAA for a variety of reasons. I think that they need that tie. It's the best tool you've got when you're out in the field all by yourself to maintain some kind of linkage with the direction your profession is going. I had a student teacher, two of them in fact, who told me they were AIAA members. I did a little check and found out that they were not. I found this out on a Friday. I went over and told them, "Don't come back on Monday unless your dues are paid." They were back and their dues were paid. The university has supported me on this stand all through the years. (school administrator)

University supervision. In discussions with the 90 different individuals at various levels of responsibility and participation in the student teaching program, there was one topic for which there was general agreement that is in conflict with what is or is becoming standard practice in the profession. This topic relates to who should actually serve as the university supervisor. Two of the contacts didn't feel it made a great deal of difference, and 2 felt it should be a specialist in student teaching without regard for subject matter. The large majority, including each of the deans of education, the deans of technology, and most of the university coordinators, indicated that if they were not limited by budget constraints, personnel decisions, teacher load, and so forth, they would use the subject-matter specialist, who of course also had supervisory skills, as the university supervisor. The universities included in the case study, for the most part, used the specialist model; however, two had had experience with the generalist model and a third was currently using both models. Distance from campus is the factor that determines the model to be used by this institution.

The recommendations made by the case study participants are in conflict with the actual practice in many programs in the United States. Parnell (1981) found that only 54 percent of the industrial arts departments have full control of their student teaching programs with another 16 percent having joint supervisory responsibilities.

Two different models were identified in the participating universities regarding the departmental personnel doing the student teacher supervision. Four of the universities allowed, or required, their faculty members involved in supervision to become specialists in this area. This was accomplished by the professional sequence courses and student teacher related activities becoming their primary or only assignments. Thus, their reading, writing, and participation in professional meetings related primarily to this area. There was strong sentiment at the fifth university that all members of the faculty should have the opportunity to get into the public schools in the area and benefit from the contact with the cooperating and student teachers.

- I would put the emphasis on having individuals from the discipline do the supervision. We do this in industrial arts, but I'm sorry to say we aren't able to do the same thing in English. (dean)

- I think because industrial arts is such a highly specialized field that it would detract from the program if we used generalists. I think it is better to have people from that discipline go out to supervise student teachers. If I had my druthers, I'd use a combination of clinical and technical people. (university coordinator)

- I would not want the department to lose the supervision. However, I would add some supervision from the education department. I would not want to consider using graduate students; we need the continued contact of our industrial arts faculty with the schools. (dean)

- We use the professional sequence faculty who have a strong technical background, full-time faculty, not graduate students. I was supervised by a generalist. It would weaken our program to do that here. We need those who understand the field both technically and professionally. (department head)

- I find some extremely bright, professional, committed, and creative people in education, and they are not all industrial arts people by a long shot. But if I had to choose I'd have to opt for industrial education personnel. (department head)

- Clinician supervision is being proposed. I'm opposed to that proposal for this reason. Things are going on in some of our programs that superficially appear to be highly exciting or successful when it is really glorified baby-sitting—summer camp. There is no curriculum on technology. I'm opposed to sending student teachers into that setting and most generalists would not know the difference. In fact, most of them would think it was great. (university supervisor)

- Good people come out of both programs. We feel the strength of our program is that we use technical people who also have the supervisory skills. But this is an area that still needs more research. (university supervisor)

- The key to me is not whether the supervisors are from industrial arts, but it is that they value the student teaching or laboratory field experience as a teaching setting. Many times, when our university person is a specialist, he or she will be able to add an additional dimension that a generalist would not have. If you can't control the selection of the cooperating teachers then you had better have the departmental specialist. It would be real close, but I'd have to take the specialist approach if they are also teacher educators and recognize that they are guests in the school and not there to change the curriculum or to be a threat to the public school teacher. I wish that we had faculty members in other departments—math, English, and so forth, who would take on this responsibility like they do in industrial arts. (university coordinator)

- We have always subscribed to the concept of generic supervision—the generalist. I can supervise anyone! We use the cooperating teacher for the technical expertise. Industrial education fellows could also supervise in other subject areas. Without constraints, within that framework, of course the subject-matter specialist model would be best if the individuals had both the teacher education and academic backgrounds. Certainly use full-time staff, not graduate students. (university coordinator)

- As a cooperating teacher I have had both types. The fellow from education was a super guy, but that's not enough. A generalist without knowledge of our area just doesn't work. (cooperating teacher)

- As a principal, I evaluate the teaching effectiveness of all my teachers. I don't have to have a degree in each area. Thus, a generalist could also supervise student teachers in a number of areas. Of course, it is good to have the subject-matter people work with members of our staff. (school administrator)

- Our preference has always been to have the discipline person provide the supervision, provided that person also has a fairly strong background in the history and theory of the teaching experience—and as you know that is not always the case. (dean)

- An individual outside of industrial education tends to lack the credibility that we must retain with our cooperating teachers. We need to use the best teachers within our discipline. (department head)

- We have had experience with both models. From this experience, it is better not to have that [using a generalist] happen because of the credibility that you have to establish as you deliver your critique. The generalist may have the skill in pedagogy but lacks the insight regarding an appropriate device to use, an appropriate aide, an appropriate teachable moment that occurred. One also needs to know something about the content. (department coordinator)

- We experimented with using clinical supervisors. It was terribly unsuccessful. We tried it—no thanks. These individuals could not make intelligent judgments about whether the content was accurate or presented in the proper sequence. We need industrial arts people who also have clinical skills. (university supervisor)

- The difficulty I find, in many cases, is that the people who are supervising are the weak links or temporaries hired on a 1-year basis. This is not a job for graduate students. [This individual went on to say that this weak link statement did not apply to the industrial arts department in his school.] (university coordinator)

- If a decision had to be made to use faculty across disciplines, I would use them on the generic methods courses and have the field supervision done by subject-matter specialists. This is assuming that they also have supervisory skills. I think not being involved in the student teaching program would deprive the department, very honestly, of the ability to get feedback which is critical to program modification. (dean)

- I would have to see it proven that we can't do those clinical things, or that there is someone who can do them better than we can, especially in our settings. We do have those clinical skills and we also have the technical strength. I think it would definitely detract from our program to have clinical supervisors supervise our industrial arts student teachers. (university supervisor)

- I'd rather have it done the way the industrial arts people do it. We have the other model in other program areas and from other universities. (school administrator)

- To be supervised by someone out of our field—I wouldn't go so far as to say it would be ludicrous, but I certainly would not want any part of it. (student teacher)

- I was supervised by someone from secondary education, but frankly I'd have to say that I would rather have had someone from the department. I have talked to a lot of students and they all feel the same. (graduate student)

- We have used both models. When using the generalists we have had some real problems. The students who are not supervised by specialists in the department seem to encounter all kinds of problems and frustrations; then they come back and counsel with our staff. (department head)

- When I was a classroom teacher, I had student teachers from three different universities. All were good. When one of them changed to the general supervision model, the quality of the experience at that school declined rapidly. Now they don't even have a program. (university supervisor)

- In teacher preparation in general, we have not made much of the role of the clinical professor. The clinical professor is the one who, regardless of content area, does or ought to do the supervision, because after all supervision is a piece or a component of what we keep telling our public is a capstone clinical experience. Now if you had to choose between the clinical skills on the one hand and the content expertise on the other, you better have the clinical expertise. The nice thing about the industrial education group is that they have both. (dean)

The comments from these 24 individuals certainly indicate the fervor with which they addressed this topic. It is evident that in addition to the supervision of student teachers being an educational issue, it is also an emotional one. But undergirding the emotions is an earnest concern for the best quality program for the new and emerging professionals.

Student concerns. Comments that surfaced in talking about the student teaching program with students who were currently in or who had recently completed student teaching can be grouped under five major headings:

- Infusion into the school and community
- Planning
- Communications
- Motivation and discipline
- Grades for student teaching

Selected comments from students as well as other case study participants support the need to address these issues in the model.

Infusion into the School and Community.

- What orientation did I have? I really didn't have any orientation except what I learned as general rules in my methods courses. The specific rules I didn't find out about until someone did something. I didn't even get a student handbook. I did, however, get the safety rules right away. (first-year teacher)

- I did my student teaching near where I lived, but even so, I didn't really know how rural these people were. Everyone had a tractor and I was from the suburbs. They brought things in from the farm that I didn't know anything about. They wanted to make a tractor pin or a chicken coop. What does a tractor pin look like? What is a chicken coop? (first-year teacher)

- With me the transition from student to teacher has really gone smoothly. My cooperating teacher welcomed me and introduced me to the students as a teacher, not as a student teacher. He really treats me like one of the teachers. The principal makes me feel like I'm part of the faculty. (student teacher)

- I really felt welcomed in the school. My cooperating teacher helped me a lot. He gave me the impression that he really cared. He introduced me to everyone around school. He would give me ideas for my lectures—but not just surface stuff. He would always give me good background information. (graduate assistant)

- I was given a lot of responsibility. That made me feel needed. I was there a couple of days before school started. That helped a lot. I was able to set up some new equipment. Because of the time we had to get acquainted, I felt I could go to him about lesson preparation and other problems. (graduate assistant)

- I visited my student teaching site at least three times before I started student teaching. I had lunch with my cooperating teacher. He really trusted me. He gave me his keys at night. He gave me the grade book. He let me make mistakes—but then he was always there to pick me up. (graduate assistant)

- My cooperating teacher had prepared a little introductory packet on the community. It included a map—the different kinds of businesses and industries in the area where most of the people made their living—just all kinds of things to help me get acquainted with the community. There should be one of these on file at the university for each site. (graduate student)

- The precontact policy, 1 or 2 months prior to coming out to student teach is a really good one. (cooperating teacher)

- I try to take them under my wing and show them what's happening. I have found that it takes a lot more time when they start in the middle of the semester. The students are already six jumps ahead of them. It would be good if they could be here to open school in the fall. (cooperating teacher)

- The use of the checklist is good, especially for the weaker students. They need to meet the administrators, the guidance personnel, and other support staff. They need to go to the library and have a full tour of the building and so forth. (cooperating teacher)

- I call it crossing the desk. They have been students for almost 17 years. I tell them—now you are a teacher. I take the faculty handbook and go through it with them; this is what we, you and I, have to do as teachers. I give them a student handbook; these are the rules for the student—you need to know where the student is coming from. I give them a place to hang their hats—a home base. Every teacher has to have a place to work. I get them a desk. If school policy would allow I'd give them keys. I just wish the principal would check a key out to each of our student teachers—we want to treat them as members of our faculty. (cooperating teacher)

On the key issue there was almost an even division with respect to the students who had keys and those who didn't. Those who had keys had a very positive attitude about it—possibly even toward the total student teaching experience.

- I didn't have keys. It would have been a very positive thing if I had. (first-year teacher)

- Keys to the lab were no problem. All student teachers were issued keys. It really assisted me in establishing myself with the students. I'd walk up to the door and open it. That made you feel like you belonged. The kids noticed that and, thus, in a way it opened other doors for me. It gave me authority. (first-year teacher)

- I have a special student teacher ring with all the keys on it. I think the student teacher is more of a teacher when he or she has a set of keys. It gives the student teacher a little bit of ownership to the lab, and of course there is some responsibility in having a bunch of keys—you better not lose them or you'll "flunk student teaching." I have found them to be very reliable. I have never had a student teacher lose a set of keys. The student teacher can come in after school, nights, weekends or during the day, when I'm in another part of the building. We have cooperating teachers who won't share keys. The student teacher has to keep borrowing. Well, I think that is ridiculous; plus, what do the kids think every time the student teacher needs to get into a cabinet if he or she has to run to the cooperating teacher for a key? I treat the student teacher like another teacher. (cooperating teacher)

- District policy does not allow us to give student teachers keys. We don't give outside door keys to our full-time faculty. That's all tied up in security. (school administrator)

- They don't have keys for the office or lab, but I let them use mine. If they got here before I did in the morning, they would just have to cool their heels. (cooperating teacher)

- They should have keys—no question. But, school policy will not allow for this to happen. (cooperating teacher)

- Need to make the student teacher to feel as much like a full member of the staff as possible: desk, mailbox, keys—must have access to keys. (university coordinator)

- The student teachers have the same keys that I do. I think it gives them a feeling of self-worth. It also cuts down on them having to come to me for everything. I think that would be foolish. I entrust them with my classroom and my curriculum and my program, all of which I'm very protective—but they can handle it. It's part of being professional and helping them gain a professional image. (cooperating teacher)

- It would be no problem for the student teacher to have keys. To be honest with you, I have never even thought about it. That would be a very good idea, and I think it may be something we will want to pursue. (cooperating teacher)

Planning.

- Planning and preparation. In addition to becoming a morning person these two are a must. (student teacher)

- A student teacher needs to be prepared not for just the day, but for the week. There should be planning cues in the guidebook. (student teacher)

- The cooperating teacher needs to allow the student teacher some flexibility. The student teachers need to have the opportunity to do their own planning. This, of course, should be under the guidance of the cooperating teacher. (student teacher)

- Before the student teacher arrives the schedule needs to be outlined. Do some pre-planning and then let the student teacher work with you in the final plan. Allow the student teacher an extra planning period up to the last 2 weeks or so. But make certain that the student teacher plans for and has the full load for at least a week. (cooperating teacher)

- Here's little bit of homey advice that I give my student teachers. When you get on the job befriend three people: the cook, the custodian, and the secretary. This is the second most important piece of advice you'll ever get. The first relates to planning, lesson planning. We use a chart system to make certain that the lesson gets planned and that it gets taught. The student teacher must know what goes on behind the scenes. The planning phase is an all important one. (cooperating teacher)

- I review the teaching outline before they teach. We sit down and go through the long-range plan. They know what has to be covered in the 8 weeks. I let them plan how and when. Then we review it. The student teacher has to be involved in the planning. (cooperating teacher)

- We teach planning in all our methods courses. We have them plan mini-, and many, lessons. In the planning of a lesson, we place an emphasis on behavioral objectives and student activities, including student participation during the lesson. (university supervisor)

- Facilitate planning—the student should be required to plan a lesson. The cooperating teacher or university supervisor should never allow the student to come in and just "give" a lesson. Planning and sharing of the plan with the cooperating teacher before teaching it should be required. Critique after a lesson is needed; however, it is not a substitute for preplanning. (university supervisor)

- Planning is more than just filling out the forms to submit to the office. The student teacher should know what and why, not just for a lesson but for the entire program. (department coordinator)

Communications.

- There are four major concepts: preparation, dedication and commitment, discipline, and communications. Open communications with students, parents, administration, counselors, and other faculty are a must. I had the most difficulty communicating with parents. I learned it was easier to make a positive call than the negative. Thus, my suggestion would be to place a few positive calls early in student teaching; get the feel for talking to parents. (first-year teacher)

- We spend many hours sitting around the office talking about students and the program. We sometimes stop for coffee after school. The cooperating teacher always makes me feel what I have to say is important. I'd like to have the midterm and final evaluations be a three-way conference that includes the university supervisor. (student teacher)

- My cooperating teacher was very quiet. He didn't say much and there came times when I needed to know, "Am I doing the job you want me to do?" I'd have to ask him. If things were done right, he didn't say anything. If I didn't do it right, then he let me know. (first-year teacher)

- Establish a time for formal sessions, but don't limit discussions to only the formal setting. Keep a steady informal flow. (cooperating teacher)

- Get the student teachers to ask questions and share their expectations. Communication is a two-way process. (cooperating teacher)

- There needs to be time to share—perhaps over lunch. The cooperating teacher needs to be willing to give what ever time the student needs. (cooperating teacher)

- It is necessary to have daily discussions, both formal and informal. We sit down at the end of each week for a formal discussion and use the same form each week. We have notes and evaluation forms to review. We review the goals of the week—what's good, what needs improving. I try to be positive—upbeat, but on the level—be truthful; if the student teacher needs a kick, say so. All discussions don't have to be limited to the specifics of student teaching. I let the student teachers know that I am interested in them as individuals. (cooperating teacher)

- There needs to be a lot of positive feedback. Be very careful how you give critical feedback, but don't shun it. We meet often—daily or maybe a few minutes after a lesson. We meet at least weekly for an hour or more to plan out the next week and talk about the previous week. There just must be a lot of communication. The cooperating teacher needs to be there to give some strokes. Use the handbook as an aid to communication. (cooperating teacher)

- I tend to be hyperactive, enthusiastic. I never let the student teacher go so far as to not establish communication with me. Communication lines have to be open. I make sure that the first thing in the morning we get some time to discuss what's going to happen that day. (cooperating teacher)

- Communication is an all important item. It is important to have a lot of dialogue. It is necessary to get into the nitty-gritty of what really happened in the lesson. Too often we don't spend sufficient time on what really counts. (school administrator)

- Communication is the key. That is, of course, built on the assumption that you already have a model teacher, a quality program, and a workable facility. (university supervisor)

- I have had cooperating teachers say to me, "I really wish you would tell the student teacher this or that, because I don't want him angry with me." The cooperating teachers need to realize that they are in a dual role of teacher and teacher educator. Each involves communication. (university coordinator)

- The most successful cooperating teachers that we have are those who develop an open communication with their student teachers. (department coordinator)

Motivation and Discipline.

- My cooperating teacher told me, "If you tell the students something, have enough confidence in your voice to mean it." Another tactic was, "If the students are making too much noise when you are talking, just be quiet until they all quiet down." This advice worked. I really had good support from my cooperating teacher. He was always there to back me up. (graduate student)

- I didn't know if I was too strict or too lax. We should have had more discussions on this topic. (graduate student)

- Teachers, in this case student teachers, need to operate on the rule of three Fs—firm, friendly, and fair. I was firm at first and I needed to be more friendly. (graduate student)

- I had direct access to the principal for discipline. However, after a time or two I got the message that I should go through my cooperating teacher. It was implied to the cooperating teacher, "Why didn't you handle this yourself." Don't make your cooperating teacher look bad! (graduate assistant)

- Discipline is important. You need to establish right away who is in authority in the classroom. You do that by being prepared, being assertive, and developing good rapport with the students—coming on firm but fair. (first-year teacher)

- If the students know that the student teacher is assigning grades, it gives the student teacher both a feeling of belonging and assists in discipline. If I sent a student to the office, my cooperating teacher backed me 100 percent. So did the counselors and, if needed, the principal. (first-year teacher)

- You don't teach discipline but rather an awareness of it. (cooperating teacher)

- We don't teach woods or metals. We teach kids. We just happen to like woods or metals and they are excellent motivators and tools for teaching. With this philosophy we use motivation—not discipline. (cooperating teacher)

- Discipline—try to do it by example. Discuss problem areas, ask for the student teachers' suggestions and share yours. (cooperating teacher)

- We normally don't have discipline problems. Many of our lectures are on videocassette tapes. We keep them busy—challenged. We make our students think and do; thus, there are no discipline problems. (cooperating teacher)

- I use an assertive discipline approach. I ask the student teachers to use my plan on one class and any effective plan that works for them in the other classes. (cooperating teacher)

- When I first begin my classes at the beginning of the year, I share a copy of the classroom rules with each student—a set of guidelines to help the class run smooth. I show this to the student teacher and explain why I have written each item as I have. I think if the students know the reason for certain regulations or guidelines and understand them, they will abide by them. If a major problem comes up, the student teacher can send a student to the office just the same as I can. It probably should come through me but it doesn't have to. The student teachers know that I will back them. (cooperating teacher)

- I tend to take them through our "military code of justice." I take them through the steps or procedures that we follow. I introduce my student teachers as an equal to me and my students treat them as such. I go through all the procedures of what to do if there is a problem. I introduce them to our dean of students, all the forms, and how we process things. Though we generally don't have problems, the student teachers know the support system is there. (cooperating teacher)

- Don't make the student teacher feel that the only way to maintain good classroom management or discipline is through techniques that work for the cooperating teacher. Allow them to experiment with methods that may work for them. I had a case this last year when this person had great potential of being a good teacher, but she was trying so hard to emulate the cooperating teacher that things were not going very well. My advice to her was to be herself, to do what was comfortable for her. Student teachers should learn from the successful cooperating teacher and get ideas, but then be themselves. (school administrator)

- Discipline is reactionary. In this model, we are on the defensive. We should be on the offensive. To me, motivation is the process of being on the offensive. There is a book on assertive discipline. I think we need one on assertive motivation. Motivation is planning ahead. We need to manage motivation; then we don't have problems with discipline. (university supervisor)

- I believe that if you're a good teacher, well-organized, and up-to-date, discipline problems disappear. I'm not talking about busy work. I'm talking about the preparation for teaching that calls for interesting and lively things happening in the classroom. If discipline problems do develop, don't handle them in front of other members of the class unless there is no other way. If you are going to discipline a person, always leave an escape route for the person being disciplined. Always leave room for them to save face, even if at times it may require a little loss of your face in the process. Get to know the students and the environment from which they come. (university supervisor)

- The student teacher needs to find out what is expected in that setting. This is especially critical when moving from experience one to experience two. What is the first action teachers are expected to take with a student when they perceive that there is a deviant problem? The student teacher should ask the cooperating teacher for advice and get all the information that is needed regarding school district expectations. They need to know the education law in that state. In our state a student teacher has the same rights and responsibilities as a regular teacher. Be very careful about accusations. Don't dive into a student's locker. Understand that harrassment is not allowed. (department coordinator)

Grades for Student Teaching.

In the universities included in the case study, grades were assigned by the university, generally based upon the recommendation of the cooperating teacher. In some instances, there was more than one grade with the university personnel controlling one of the grades. The actual grade assigned varied from Pass/Fail to Outstanding/Satisfactory/Unsatisfactory to A, B, C, D, F. There was no agreement on what should be; however, if a method were selected based upon a majority vote of the participants, it would be A, B, C.

- No question—A, B, C, D, F—I don't think it would work. (cooperating teacher)
- A, B, C would be superior [this university uses P/F]. An A is not or may not be the same from me as from someone else. The experience may not be the same either. What we need is a valid/reliable way to measure the experience. (cooperating teacher)
- A, B, C—I'd love it. We need more perks. We are talking about 8-12 credits and no grade points. (student teacher)
- I like some aspects of the P/F, but I'd rather have the A, B, C. (university supervisor)
- I wish I had a letter grade. However, because of the potential conflict that some students have with their cooperating teachers, the uneveness of the evaluation and the possibility of doing things just for a grade rather than taking a stand on an issue, I think it should be P/F. (student teacher)
- I think student teaching should be graded A, B, C. I would think the students would want this. If the students had an A they would know it. They would also know if they had a C. I would think that the employer would want to see a grade. (cooperating teacher)
- We used to have A, B, C, then P/F, and now O/S/U [Outstanding/Satisfactory/Unsatisfactory]. I'd like to go back to A, B, C. People want grades even though it doesn't fit the mastery system. We are getting pressure from the students to go to A, B, C. (department head)
- I don't think it is fair to the students for student teaching, a large block of credit in the major, not to count toward grade point average. (university supervisor)
- Before I came to this university, we had A, B, C. I hated it. I thought how luxurious it would be to just have a Pass/Fail. But now that we have Pass/Fail, I'd rather have the grade. It tells you a lot more. (university coordinator)
- We need to stay with Pass/Fail. (first-year teacher)

Advisory Committees. The use of program advisory committees has a long tradition in the technical program area of industrial education; however, the use of an advisory committee for the professional sequence of the industrial arts teacher education program is more of an exception than the rule. Participants in the case study indicated that consideration should be given to having such a committee. Those who had functional committees indicated that the committee added to the strength of the program.

- We used to have an advisory committee, and we really need to reestablish it. We are in a position where we need some upgrading and an advisory committee would certainly help.

We had both internal and external members—principals, teachers, supervisors, students, and members of the faculty and the administration. We had individuals from across campus. (university supervisor)

- On our advisory council, 50 percent of the group is made up of on-campus people in faculty positions. The balance are from state department personnel, school administrators, classroom teachers, and students—10-12 people. We meet at least once each semester and more when needed. We don't pay travel but most school districts do as they like to have their people serve. The advisory committee is for the total program, although we do spend a lot of time on the clinical part of the program. (department head)

- The advisory committee has really benefitted our program. It provides us with input on what is needed and wanted in the field in our field experience program: how to maintain quality, what to change, what to improve, and what to throw away. (department coordinator)

- One of the strengths of the industrial education program is that it has an advisory committee. This affords the program a liaison with other people on campus and in the schools. They review curriculum and assist in establishing policy. The people in the field can participate in a tangible way. (university coordinator)

Improvements. Comments from 30 of the case study participants regarding "improvements to the system" have been selected as being representative of the discussions held with each participant. The comments come from each level with general agreement across both levels and universities. The topics tend to fall into the following categories:

- Length of program
- Site selection
- Staff development
- Supervision
- Isolationism
- Seminars
- Early field experience
- Research
- Other concerns

There was general agreement that there should be a full semester, two-experience program. There was also concensus that there should be an improved method developed for selection of field sites and the placement of student teachers. Staff development for both the cooperating teachers and university supervisors appears to be an element that needs attention at each of the universities. There was an indication that in order to have a quality program not only should consideration be given to seminars during the field experience, but that a postseminar was also needed. Individuals also indicated that there should be a strong pre-student teaching program that would provide a foundation for the formal student teaching component.

Additional research is needed to perfect the system. Top level administrators have indicated that they recognize this need and have provided a list that almost parallels the outline of this improvement section.

Length of Program.

- We need to move back to what we had 10 years ago—2 experiences in the semester of student teaching, one in the junior high school and 1 in the senior high school. We dropped it for paper work reasons; we did not drop it with the interest of the students in mind. Our students didn't like it when they went through it. It was more work for the administrators. But, when the student teachers finished that student teaching experience, they were better prepared. (university supervisor)

- We need to have a split assignment—one-half in the junior high school and one-half in the senior high school. If possible, there should also be two areas in the technologies. (department coordinator)

- We currently have a 10-week assignment. We need to move to a full semester. (student teacher)

- The current length of student teaching—10 weeks—is about right. After that they need a class of their own. If there were 2 experiences, it would be good to extend student teaching to a full semester. Student teachers really need the beginning and ending of a semester. (department coordinator)

- The split assignment that some students have, and that is being considered for all, should be eliminated. We should have a better orientation to the community. There should also be more information and activity during the student teaching program regarding budget, ordering of supplies and materials, and curriculum. (first-year teacher)

- We need to have a double experience—one-half junior high and one-half senior high. (student teacher)

Site Selection.

- We need to improve our site selection. Maybe it's a need to "select-out" those places that don't meet our expectations. (program coordinator)

- We need to build a better information base on each center and teacher so that proper matches can be made. There is a need for research in the whole realm of student teaching especially in the match between the student teacher and the cooperating teacher. (department head)

- We need a way to get objective, reliable data from our students, supervisors, and other field sources regarding the effectiveness of our cooperating centers and cooperating teachers. Essentially, we need an evaluation of our centers built into the system so as to be nonthreatening; the cooperating teachers should feel comfortable using a feedback device to change behavior if there was a perceived need for change. That is one of the hottest issues that I would have us address. (department coordinator)

- There needs to be more consideration given to the quality of the placement. I'm afraid too many of our placements are on simple geographic considerations of "where I have an

aunt that I can live with." The department people must have more to say about the placement of all student teachers. (dean)

- The student teachers need to be encouraged to develop better resource files. However, these need to be for contemporary programs. They should stop sending student teachers to certain schools with outdated programs. If student teachers develop outdated resource files, then they will most likely teach "outdated" programs when they graduate. (first-year teacher)

Staff Development.

- Staff development for the cooperating teachers is weak in everybody's program and is probably one of our weakest. At least 90 percent of ours occurs one-on-one with the university supervisor. Of course, that's only part of the problem; we also need inservice for our university supervisors. (university coordinator)

- There is inconsistency among the student teaching sites. The major reason for the inconsistency is because they don't know what we expect. We need to take the time to go to the centers and conduct inservice for our cooperating teachers. That is my number one concern. (university supervisor)

- My pitch is to work with the cooperating teachers. That is where I would put my money. They make a far greater impact on the program than the university supervisor. We need to develop ways to make them a part of the team. They are teacher educators. The university supervisor is more of a public relations person for the university. Thus, I would put the major portion of my money and effort in the preparation of the cooperating teachers. We also need some inservice for the university supervisors. (director of teacher education)

Supervision.

- It is extremely important for the departmental faculty to get out into the schools. It would be detrimental if we moved to a generalist model as have some of our colleagues around the state. They may be doing a good job in the supervision aspect, but the folks on campus don't get that contact, and this in the long range is very detrimental. (university coordinator)

- The visitation schedule from the university supervisor needs to be increased—more visits, even if they are for less than the current one-half day model. The student teachers are too nervous when the supervisor comes. They need more contact to get over this. (cooperating teacher)

- There needs to be more consistency between the university supervisors. They each have a different philosophy of what needs to be emphasized. The industrial arts students also need the opportunity to interact with other subject-matter people. They need to get the total picture of the school. (school administrator)

- We have both models of supervision—by the department and through education. If we look at the feedback from our students, which is based upon a follow-up study we did last year of our graduates, there is strong indication that the supervision of student teachers should be by faculty from industrial education. This would be a major improvement for our program. (department head; department coordinator; university supervisor)

Isolationism.

- Industrial arts majors need to take some courses with other secondary education majors. The students are too segregated. Industrial education students need to have the opportunity to interact with math and science students and likewise math and science students with industrial education majors. (university coordinator)

- People in industrial arts see themselves as industrial arts. I have had some interesting conversations with them about the fact that first they are teacher educators. They need to be familiar with the literature in teacher education not just industrial arts. One of the problems is isolation. The students completing the program need to feel that they are a part of the system. (dean)

Seminars.

- We need to have more seminars during the teaching block. We only had one before we went out and one in the middle. We should have one at least every other week. The one we had was during the day. This cut into our time at school. Why don't they schedule the seminars late in the afternoon or at night? (graduate student)

- The university should conduct more field seminars at the teaching centers and involve all the student teachers, industrial arts as well as others. University supervisors, local teachers, and local administrators should be involved also. This should not be a gripe session and not always on student teaching. There just needs to be more time for good professional rap sessions. (school administrator)

- We need to be able to bring the students back to campus for a 2-or 3-week seminar session following the student teaching experience. They need to draw from their total experience and develop a paper on their own philosophy of education and how they plan to implement it. (department head)

Early Field Experience.

- Student teachers need to have more early field experience. The current activity doesn't really cut it. It needs to start early with *real* school experiences. There needs to be some controlled shadowing programs *prior* to student teaching. (school administrator)

- I don't feel we get enough school experience prior to our senior year. We need more than the sophomore block. We also need a junior experience. (student teacher)

- In every industrial arts course that students take, they should be required to make a presentation. This should start with something minor, even in the freshman year. They should also get out into the public schools more often. I would welcome that because I think that it is important. (cooperating teacher)

- During the curriculum course, the students should visit a school and determine what might be an appropriate lesson. Then they need to develop the lesson and teach it. I think that this would add a great deal to most curriculum courses. (cooperating teacher)

- We need to have more involvement in the selection of the sites for the preclinical experience. These selections are too often determined more for the convenience of the person

teaching the course than they are on quality programs. There are a few programs in which we should not be placing students, and the university supervisor who is a generalist gets the idea that this is what industrial arts is. They don't realize that it may be a very poor example. (department coordinator)

Research.

- The most important thing we could be doing now in the preparation of teachers of any sort is to assess performance according to the maximum, not basic or minimum, skills. We need to develop an assessment technique that does that. (dean)

- We need more research on the benefits and timing of the clinical experiences. We need research on the role of the clinical professor. In medicine, the clinical professors are held in the highest stature. In education, we tend to make them the lowest. Maybe we ought to assign a clinical professor to a student when the student is first admitted to teacher education. The clinical professor would then follow the student all the way through his or her program. I would like to identify someone who is very knowledgeable in the field and very knowledgeable in teacher education who would be willing to study what's going on in our program and do a complete diagnosis and some direct research of what's happening to our people as a result of the experiences that they are having. (dean)

Other Concerns.

- We need to debureaucratize the state's mentality and to some extent our own with respect to paper work associated with field experiences. Almost out of necessity we have had to establish a number of procedures and management rules. I would like to get rid of that bureaucratic approach and have a more flexible approach that would allow the departments to tailor field experiences or clinical experiences based upon the strengths and weaknesses of a particular student. (dean)

- We need greater involvement of teacher educators in decisions being made in the state department. (dean)

- We ought to give very careful consideration to the selection process for industrial arts teachers—all teachers for that matter—and their ability to communicate. How they can read, write, speak, and listen are important. The current emphasis seems to be on writing. We need to consider the entire communications process. (dean)

- Consideration should be given to reducing the paper work for the student teacher. They are doing things during student teaching that they should have done during an orientation to the teaching program. This is cutting into the time they have for lesson preparation. (cooperating teacher)

- There needs to be a review of the teachers, especially in education, who are teaching teachers to be teachers. I know that tenure is a problem but in most of our professional courses we are not getting what we are paying for. I have also had a couple of good experiences there, and the interaction with students from other subject areas is good. (student teacher)

- A couple of the methods courses need to be combined to reduce the repetition. Some of the jargon also needs to be cut. There is also a need for more rigor in some of the

methods courses. I'm not a strong academic, but those courses were the least challenging of any that I've had. (student)

- We need to reestablish the advisory committee. (university supervisor)

New and Returning Teacher Program

Officials from the National Council for Accreditation of Teacher Education (NCATE) have been working on a revised set of accreditation standards that are expected to receive full council approval and be in use prior to the 1985-86 school year. Approximately 50 percent of the teacher education programs, enrolling 80 percent of the teacher education students from all subject areas, are accredited by NCATE. One of the new standards will "require colleges to maintain a relationship with their students after graduation, including assistance to first-year teachers and others beginning new professional roles" (Currence 1985, p. 16).

In a position paper published by the American Association of Colleges of Teacher Education (1983), seven alternative models for the preparation of teachers were presented. They ranged from a 5-year baccalaureate program to a 7-year program that culminated in a doctorate. Though the universal adoption of the 7-year model is not likely in the foreseeable future, with the current national emphasis on the improvement of education, there will likely be some expansion of the program to prepare teachers.

Agriculture education has been a leader in the development and implementation of the New and Returning Teacher Program. In addition to being aware of the need for such a program, as have other teaching fields, the agriculture education community has generally been able to combine state department funding with university support, including graduate credit and field supervision, in the implementation and maintenance of this effort. During the February 1984 Central States Seminar in Agriculture Education held in Chicago, an entire seminar session was devoted to the New and Returning Teacher Program. According to the departmental coordinator of student teaching at Illinois State University, through state department funding, a similar program is currently being planned for the first year teachers of industrial arts in Illinois for 1985-86.

Through a project funded by a private foundation, Texas A&M University has implemented a scholar/loan program in the area of math and science education. In the design and implementation of this program, the developers gave serious consideration to the research that indicates the frustration level and drop out rate of first- and second-year teachers. Thus, a modified support program for the participants in this program was developed. But again, it has required additional or catalytic funding (Cole and Clark 1983).

There has been considerable discussion in the teaching profession at large, including a reference to an extended program in the 11th ACIATE yearbook: "The facts seem clear that we are moving inevitably in that direction and soon we must give serious consideration to the necessity of planning for the five-year program" (Nelson 1962, p. 173). Although the new and returning teacher program that is evolving is not the full 5-year program that is being implemented in selected teacher education programs, nor the one that is being recommended by members of the National Commission for Excellence in Teacher Education (1985) in their recent report, *A Call for Change in Teacher Education*, it appears to be a program of merit and one that warrants consideration.

None of the industrial arts/technology teacher education programs identified as cases for this study currently have a New and Returning Teacher Program, and only one university is proposing one for next year. However, this was an area in which there was almost full agreement among the

interviewees with a parallel concern that if teacher education didn't implement a quality program in this area, it would be implemented without them, and they would be on the outside wondering what happened. Based upon the identified need and apparent benefits to the students being served, it is proposed that the industrial arts/technology education field experience model include a fully articulated new and returning teacher program.

Comments by Case Study Participants

The comments regarding the induction year came primarily from the more experienced individuals. Except for the concern of cost and who would be involved in the implementation of the effort, there was a general consensus that there was a need for such a program and that in one form or another it would most likely be implemented.

- If you went to work in industry you would get a 6-month training program and you would not be expected to produce right away; but as a beginning teacher you get the full responsibility of five sections the very first day. The induction phase is currently the missing link in public school education. (dean)

- I have been a strong proponent of it for a long time; the follow-up in that first year of teaching is essential—absolutely essential. (dean)

- We know that more learning takes place out there in the first year of teaching. It needs to be a guided experience where the school district and the university share in the responsibility. (dean)

- Maybe a good method of teaching swimming is to throw a person into the pool. But here we are not talking just about the swimmer; we are also talking about the kids—it can be detrimental to the learning of youngsters to have an inexperienced/unqualified teacher. For the kids' sake I'd like to see a new and returning teacher support system. (dean)

- The first year of teaching is awfully tough mentally. It's a tremendous mental adjustment to become accustomed to dealing with over 100 students each day and all the various and sundry problems that they bring to class. The beginning teacher needs a good support system, support group, some place to go after school once a week to share and get some suggestions from experienced teachers. The university personnel could help. They would also learn things that would help them in teaching their classes. (cooperating teacher)

- It needs to be part of the master's degree program—not just 90 percent of the professional courses on campus, but credit for some good clinical experience while employed full-time as a teacher. The methodology, organization, planning, and technical skills all need to be carefully scrutinized and a plan for working toward improvement devised. (school administrator)

- It's coming. It's going to be mandated by the states. Thus, we should include it in our planning. What worries me are the political decisions that are being made. We need to be more politically astute. (university coordinator)

- It is being proposed that there should be supervisors hired at the state department to create a state supervised internship. That role rightfully belongs to teacher education. (dean)

- There needs to be a group of 4 or 5 new teachers. Have them involved with each other and a master teacher to establish a life support system to each other. (dean)

- This will become part of the administrative code in Wisconsin. It needs to be part of higher education and be discipline based. I do have a concern of over involvement of the state department. (dean)

- I think it would be tremendously helpful. We need to extend our team relationship with the schools to allow us to continue our support of these people—but in a supportive role, NOT in an evaluative one. (university coordinator)

- Our new teachers need additional training after they have experienced the classroom, not so much in the subject areas but toward the teaching/learning process. I would like to see an induction year, a 1 or 2 year program. (school administrator)

- Number one, the first-year teacher must not have the toughest classes in the school; they must not have the heaviest teaching load in the school. They should be full-time, not a part-time intern. They should have released time to do some observation. They need to be placed with a real pro and let the modeling idea of student teaching continue—but now as a full professional. Higher education needs to assist in providing the support system. (university coordinator)

- It's not needed for just the first year, but there is an ongoing need for inservice education. I would hope that teacher education would have an important role not only because I believe that we have something to offer but selfishly because I think that having such a role would be the kind of motivation and opportunity that we need for our own continuing development. (department head)

Hallmarks of Success

The Industrial Arts/Technology Education teacher education programs in the five universities and cooperating school districts used as the case study sites for this study were identified through a process that would ensure that the field experience programs would be of superior quality. In an attempt to identify the specific hallmarks of success, each individual who participated in the case study interview process was asked to identify one or more major strengths. In tabular form, the strengths can be identified by 14 variables and 8 administrative levels. By limiting an entry to only one response per administrative level per institution, to equalize for the difference in number of individuals interviewed at each level in the different schools, a ranking of factors has been established (see table 1). One dean of education summarized much of the information displayed in this table when he stated:

> There are a variety of institutional circumstances that create a fertile context or environment for success. There are key actors who must be in the mix. In other words, there is a chemistry if you want to look at it in those terms. Part of the equation is the institution, but key actors are also part of the equation.

TABLE 1

STRENGTH OF PROGRAMS BY ELEMENT AND ADMINISTRATIVE LEVEL

Element of Quality	Administrative Level									
	Deans (n = 5)	University Coordinators (n = 5)	Department Heads (n = 5)	University Supervisors (n = 5)	School Administrators (n = 4)*	Cooperating Teachers (n = 5)	First Year Teachers (n = 5)	Students (n = 5)	Number of Responses (n = 39)	Rank Order
Program	4	2	4	3	1	4	4	3	25	1
Institution	5	5	3	4	5	0	1	2	24	2
Site/cooperating teacher	4	2	3	5	1	3	2	1	21	3
Faculty	4	3	5	3	0	3	1	1	20	4
Administration/logistics	4	4	2	0	1	0	0	0	11	5
Early field experience	2	1	2	2	0	2	1	0	10	6.5
Students	2	1	1	1	2	3	0	0	10	6.5
Supervised by	2	1	2	0	1	3	0	0	9	8
Public relations	0	2	1	1	1	2	0	1	8	9.5
Size of program	1	0	1	2	0	1	1	2	8	9.5
Philosophy	1	0	2	0	0	1	0	1	5	11
Advisory Committee	0	1	0	0	1	1	0	0	3	12.5
State department	1	1	1	0	0	0	0	0	3	12.5
Handbook	0	0	0	0	1	1	0	0	2	14
Totals	30	23	27	21	14	24	10	10	159	

*At one institution there was not an interview at this level.

Endorsement of the Model

An overview of the proposed field experience model was presented to the profession at one of the special interest sessions of the American Council on Industrial Arts Teacher Education during the March 1985 meeting of the International Technology Education Association (former American Industrial Arts Association). The model was well received with very strong words of encouragement being received from a number of individuals in attendance.

The model was shared with representatives of selected universities during the final developmental process. This included 3 of the institutions where, in the process of identifying the case study sites for this investigation, the field experience segment of the industrial arts teacher education program was ranked in the top 10. Representatives from each of the universities indicated that the model would be one that they would like to implement. However, with the personnel, budget, and political factors within which each program operates, in selected cases the model would need to serve as a goal to be achieved and, thus, serve as a base from which to build.

In one of the universities a calendar change is being considered in which there will be a move from a quarter system to a semester system. Representatives from this university indicated that the model would be especially helpful to them in expanding their field experience program to a full semester. Another reviewer indicated that in addition to the elements included in the model, most of which they had already implemented, there should also be an experience involving the elementary school.

The individuals who have reviewed the model and have endorsed the concepts presented are identified in appendix B.

APPENDIX A

CASE STUDY PARTICIPANTS

Ball State University

Teachers College

Theodore Kowalski, Dean

George Swafford, Director
Office of Laboratory Experiences

Dennis Redburn, Coordinator of Student Teaching

College of Applied Sciences and Technology

Lloyd P. Nelson, Dean

Department of Industry and Technology

Donald P. Smith, Chairman

Richard Henak, Coordinator of the Profession Sequence

Richard V. Barrella, Coordinator of Student Teaching and University Supervisor

Brad Balch, Graduate Assistant
Recently completed student teaching

Marion Townsend, Graduate Assistant
Recently completed student teaching

Class of 15 students
Pre-student teaching level

Area Schools

Len Bairwalter
Cooperating Teacher

Jay Nolley
Cooperating Teacher

Doug Hawkins
Student Teacher

Illinois State University

College of Education

William Dunifon, Dean

Robert Fisher, Director
Clinical Experience and Certification

William Zeller, Director
Profession Sequence

Marygrace Surma, Coordinator
Pre-student Teaching Clinical Experiences

Janet Hildreth, Coordinator
Student Teaching Placement

College of Applied Science and Technology

Elizabeth Chapman, Dean

Department of Industrial Technology

Everett Israel, Chairman

Franzie Loepp, Coordinator of Teacher Education Program and University Supervisor

Dean Blomgren, Professor and University Supervisor

Gene Gloeckner, Asst. Prof. and University Supervisor

Steve Remmert, Student

Steve Skorup, Student

Randy Olson, Graduate Assistant
Recently completed student teaching

Area Schools

Ron Patterson, Principal

Gene Strunk, Program Chairman and Cooperating Teacher

Bill Dunn
Cooperating Teacher

Marve Hodel
Cooperating Teacher

Bruce Ewen
Student Teacher

Robert Anliker
First-Year Teacher

Millersville University

School of Education

James E. Maurey, Dean

Department of Teacher Education

Robert J. Labriola, Chairman

Department of Industrial Arts

Philip D. Wynn, Chairman

William H. Skelly, Assistant Chairman and Coordination of Teacher Education

Joseph J. Abromaitis, Professor and University Supervisor

Dalton E. Smart, Professor and University Supervisor

Paul M. Wighaman, Assistant Professor and University Supervisor

James McCann, Student

Area Schools

Larry Large, Principal

Charles Graby
Cooperating Teacher

Gary Ebersole
Student Teacher

Mark Zitto
Student Teacher

Tom Hevner
First-Year Teacher

State University of New York at Oswego

University

Ralph L. Spencer, Provost and Executive Vice-President

Division of Professional Studies

Barbara Gerber, Dean

Betty Moody, Associate Dean

Willard C. Schum, Associate Dean and Director of Teacher Education

Department of Industrial Arts and Technology

Vernon A. Tryon, Chairman

John R. Boronkay, Asst. Chairman and Coordinator of Field Services

David N. Kelsey, Asst. Professor and Coordinator of Pre-Student Teaching

Richard J. Pfund, Professor and University Supervisor

John R. Boronkay II, Graduate Assistant
Recently completed student teaching

Jeff Green, Graduate Assistant
Recently completed student teaching

Group of four students currently in pre-student teaching

Area Schools

James E. Good
Vocational Supervisor

Dan Doran, Principal

John Duggan, Vice-Principal

Bob Finegan
Cooperating Teacher

Earl Gates
Cooperating Teacher

Don Jambro
Cooperating Teacher

Glenn Listar
Cooperating Teacher

University of Wisconsin-Stout

School of Education

Don Stephenson, Associate Dean

Harlyn Misfeldt, Director of Teacher Education

School of Industry and Technology

James M. Bensen, Dean

Leonard F. Sterry, Program Director
Technology Education

Richard H. Gebhart, Chairman
Industrial and Marketing Education

Richard F. Peter, Professor and University Supervisor

Lee H. Smalley, Professor and University Supervisor

Michel Eide, Graduate Assistant
Recently completed student teaching

Area Schools

Robert Fisher, Vice-Principal and Local Vocational Education Coordinator

Michael Jensen
Cooperating Teacher

Eldon Vrieze
Cooperating Teacher

David Rasmussen
Student Teacher

Robert Biddick
First-Year Teacher

Steve Brady
Second-Year Teacher

APPENDIX B

ENDORSEMENTS

Endorsements

- Dr. E. Keith Blankenbaker,* Associate Professor and Program Area Coordinator
  Industrial Technology Education
  The Ohio State University

- Dr. Joseph J. Carrel, Professor and Head
  Department of Industrial Technology
  Purdue University

- Dr. William E. Dugger,* Professor and Chairman
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- Participants in the ACIATE Special Interest Session on Field Experience in Industrial Arts Teacher Education held during the annual meeting of the International Technology Education Association, San Diego, California, March 1985.

*Representative from a university having a field experience program in industrial arts teacher education that was ranked in the 6 through 10 grouping in the process used to identify the case study sites for this study.

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