This document presents a listing of key problems, usually in the form of questions, encountered in implementing competency-based education, with solutions or ways of finding solutions suggested for some of the identified problems. The problems listed are as follows: a) deciding to decide—the best way is to let interested staff members begin an "experiment," with staff involvement gradually increasing; b) identifying competencies—there are various ways but one is not to adopt skills from another program without allowing your staff to corroborate them; c) instruction—to what extent can/should the system model be an ideal instruction system in a school? d) counseling—the teacher's role will shift to include counseling; e) assessment—the most difficult problem; e) record keeping; f) staff training—staff members can visit ongoing programs to observe, question and learn; g) content—computer efficiency should not blind the staff from ill-defined content; h) mechanization—can it lead to dehumanization? (JA)
A story is often told of the airplane pilot who interrupted his passengers to announce that he had good news and bad. The good news was that they were in a jet stream and were making excellent time, the bad news that they were lost. Today, many teacher education programs are lost - they are not moving their students toward an identified goal. Competency-based teacher education is an attempt to prepare prospective teachers in terms of specified observable goals. It is a significantly different kind of program. Stan Elam has defined it as follows: a program in which "performance goals are specified, and agreed to, in rigorous detail in advance of instruction. The student must either be able to demonstrate his ability to promote desirable learning or exhibit behaviors known to promote it. He is held accountable, not for passing grades, but for attaining a given level of competency in performing the essential tasks of teaching." 

Five elements are now generally agreed to be essential to competency-based programs.

1. Teaching competencies to be demonstrated are role-derived specified in behavioral terms, and made public.

1. Invited address delivered to the Workshop on Problems of Competency-Based Teacher Education, the Teacher Corps, State University of New York at Albany, May 13, 1972.
2. Assessment criteria are competency-based, specify mastery levels, and made public.

3. Assessment requires performance as prime evidence, takes student knowledge into account.

4. Student's progress rate depends on demonstrated competency; and is therefore, self-paced.

5. Instructional program facilitates development and evaluation of specific competencies.

In the writer's experience there are four other critical elements:

1. They must contain worthwhile content.

2. They must be humane. These first two additions will be explained later in the paper.

3. Eventually competency-based teacher education programs must be based on more than assumptions about training experiences and teacher skills and outcomes in children and therefore-

4. The training system must be self-corrective. If it is competency-based it must be able to seek and respond to feedback from the users of the system. This quality of being self-corrective may not be required in competency systems but because as we identify competencies to be attained by trainees we are going to make mistakes. Because the profession does not yet have all the data needed on which to base and establish competencies, we, therefore, need to build a self-corrective system which constantly gets feedback from the society, from the community, from children and parents, from the users of our product, and modify the systems in terms of that feedback.

Competency-based training programs containing the essentials outlined above will operate quite differently from more traditional teacher
training programs. This paper is written to highlight some of the problems which must be solved by institutions which operate competency-based programs. Possible solutions or ways of finding solutions will be suggested for some of the problems identified.

Problems in Getting Started

Deciding to Decide: Must we know all before deciding? Must everyone agree before deciding? Before beginning? Who decides? When?

Innovation is painful and change is risky, and many educators will safely live out their careers merely understanding problems of competency-based teacher education (CBTE) without ever really acting to solve them. Getting a total staff to agree to change its teacher education program is extremely difficult. Without a large grant of money as bait it may be impossible. One strategy is to allow some interested staff members to begin an "experiment" with a small fraction of the students involved at first. Then increase the involvement and the enrollment as problems are solved and acceptance is gained. It will be argued that most problems should be solved before students are enrolled. The more successful CBTE programs today are evidence to the contrary. Simulation of the total system before the students enroll may be possible; the more practical approach is to make some decisions, and then get students enrolled in the program. Refinement and revision of the system will occur as problems arise and as formative data are collected.

Before enrolling students some things should be done:

1. A beginning tentative set of competencies should be listed.
2. Criteria for acceptable performance should have been tentatively identified for each competency.
3. Staff members should be working on collecting or organizing tentative, possible learning activities for each competency.

4. Tentative adequate facilities should be available.

5. Administrators should have decided to support the program.

6. All agencies involved in the program, public schools, state department, university, professions, should have agreed to begin the "experiment."

7. State Department must have agreed to certify the graduates.

8. A tentative simple record keeping system should have been established.

9. All personnel involved should be brought along regarding competencies and assessment means.

**Identifying Competencies:** Yes but, what is "good teaching?" How are competencies to be written? How can we measure the important ones such as appreciations and attitudes? Are they all to be required? Any? How do we share them with students?

There are a number of recommended strategies for generating a beginning list of competencies. One is to obtain lists from successful programs, combine them in some way and then tease out those competencies which staff members believe should be in the program. Staff members will usually make decisions in terms of their experience and known research findings. An analysis of the teacher's tasks could be made, or obtained, and competencies written for each element in the analysis. Another alternative would be to find and adopt the competencies from some other program without involving the staff in any serious struggle with the list. We believe that this procedure would almost guarantee failure from the beginning because a very
important decision would have been made without staff involvement. The important act is for staff to identify a tentative set of competencies and begin the program, then with formative data on the effectiveness and durability of the program competencies the set can and should be revised. The revision process may continue indefinitely.

Two philosophical problems arise with respect to creating and using a set of competencies. The first, shall the set include knowledge and skills only or shall it also include student outcomes? This question is being debated eloquently, and yet each program staff must eventually make the decision in terms of its values. There is neither a recommended position by the profession nor is there a body of empirical data to support one position over another. The second philosophical problem has to do with whether any competencies should be required or which competencies should be required of trainees. All CBTE programs known to the authors require a core set of competencies to be achieved by the trainee if he is to be certified to teach. Staff values determine which competencies are included in the required set. Some programs offer many elective competencies—not all of which are identified by the program—from which a student's program can be negotiated.

**Program Sub-systems**

**Instruction:** How much self-pacing can be accommodated? Can and should learning experiences be provided for learners' different learning styles? How much learning is to be done independently of teacher? Of other students? What is the staff member's role? How can media

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3. For a summary statement of the problem see Elam, S. "Performance-Based Teacher Education - What is the state of the art?" AACTE, 1972.
be used effectively? Are modules available? Can students work together? Can they teach each other? How can staff help students assume responsibility for their own learning? How much learning should/can take place in school classrooms? Is there a sequence which must be followed in achieving competencies?

The instructional system with a CBTE program should eventually reflect staff members' answers to the above-listed questions. Fortunately, all answers don't need to come before students are enrolled. Some programs have begun with a set of collected modules, frequent seminars, and many lecture demonstrations. The overriding question the answer to which could help answer all others should be, to what extent can/should the system model an ideal instruction system in a school.

Counseling: How much help do students need to adjust to such a new system? How should it be given? Will trainees be allowed/helped to negotiate their programs? How can the procrastinators be helped? Should they? Who helps students who get up tight? How? Are trainees helped to learn about themselves as learners? As teachers? How? What kinds of relationships will exist between staff and students?

Uniqueness is insured as answers are obtained to these questions, and are built into the overall program. Students do need help. Almost none will have had experience learning in such a setting. Many will need help in planning their time and in adjusting to the freedom of the program. As in traditional programs trainees need people and experiences through which they can learn of themselves. Staff members in most CBTE programs find their role shifting to include counseling functions as they move away from being presenters of information.
Assessment: The generation and utilization of information that supports decision making relative to the trainee or program. Are assessments made in terms of student and program goals? Who decides if a trainee has achieved a competency? May he help? May other students? What information is required? What instruments or activities are used? When are assessments made? How many chances does a student get to achieve? Are students allowed to demonstrate competency when they wish? Is the situation in which competency is demonstrated negotiable? Who has access to assessment information? How are decisions and judgments communicated to students? Who collects assessment data about the system? How? Are assessments made in terms of student and program goals?

To date, the most difficult problems to solve lie in the area of assessment. Most programs in operation began by attending to assessment problems regarding trainee performance. Many have yet to begin to look at program assessment. Activities and instruments designed to provide information about the extent to which trainees have acquired competencies need to actually measure the behavior of the competency. Many of a university's present tests and tools and evaluation methods could be used - depending on the competencies in the program. A case can probably be made for continuous evaluation of trainees. Certainly part of the assessment data should be collected as trainees work with pupils. The specific procedures of assessment will be designed to fit the CBTE program situation.

Record Keeping: What kind of record will indicate precisely where each trainee is in his program at any given time? How/where is each student's program recorded? By whom? What information is needed to be obtained/kept on students' programs, progress, choices, opinions, successes,
failures? What information is needed on facility use; staff functions, effectiveness of instruction, etc.? How can information be recorded for easy retrieval?

A system to answer most of these questions will be slow in coming, but must come if the overall program is to be self corrective. The beginning can be simply a sheet for each student located in a file drawer or in a note book and carefully prepared to allow quick recording of essential data. Also needed will be a simple system to communicate to pupil, university and state department the progress and eventual completion of each student. It may be possible to use the system already employed in the university.

**Staff Training:** How can a staff learn of ongoing programs? How much skill is needed to begin a program? What skills, or competencies do staff members need? Are there workshops or institutions available? How does a staff take on and train new members? Who should train public school teachers with whom trainees work? How? How much staff is necessary to begin? Can all faculty members and school teachers be retrained? How are teachable, willing school teachers identified? What must the CBTE program do to be non-threatening to staff members not involved? How should local and state teacher organizations be informed and involved?

Answers to some of the questions above are found in organizational behavior and human relations, concepts and practices. An institution beginning a CBTE program needs to be extremely sensitive to the public relations aspects of its effort. Value judgements will be made. No program can please everyone, however.

There are resources presently available to assist in staff training. As a staff begins to develop its program, members may
wish to visit ongoing programs to observe and question and learn. Staff members of such programs can, of course, be employed as consultants to help solve specific problems as they arise. The AACTE provides lists of persons and recommendations as to who can be of help. Federal and professional organizations such as ATT, Teachers Corps, AACTE, and ASCD offer workshops and conferences in which staff members can be trained. The ultimate set of competencies required of members of CBTE staffs does not yet exist. They probably vary from program to program.

**Other Problems**

**Content:** The content of competency-based systems must be sound. This is a critical element in any teacher training system, of course. Technology can now help us develop marvelous systems for training teachers. Some existing programs employ computers to produce a printout of each trainee's standing in the program as often as it is needed. It tells exactly which competency students have demonstrated and which ones they still have to do. The programs use media and various kinds of group meetings to teach. Even their assessment procedures are working quite well. The systems are designed and polished. The concern is that if the right competencies don't get taught, then the system gets in the way. It lulls us to sleep and deludes us into thinking we have an excellent educational program when all we have, is a shiny new vehicle to carry garbage. And so those who would develop competency-based programs must look carefully at what the "vehicle" is carrying; look past the system, past the gadgetry, to the outcomes which the program -- if translated into competencies -- will be worse than useless, it will be dangerous.
Each program should be involved in both formative and summative research to improve the content of the program -- the competencies which graduates are required to possess.

Mechanization: Programs which become competency-based and in so doing become self-paced for trainees are presently using instructional materials such as modules, audio tapes, slide shows, worksheets, etc. These are all devices which may tend to mechanize the process, to dehumanize the program. This is not inevitable but will surely happen if a deliberate effort is not made to prevent it. Staff members must be trained to be more humane; the systems must allow and encourage extensive staff-student interaction; must build opportunity for students to establish rapport with faculty. Presently, various means are being employed in many CBTE programs to help insure humanity.

Finally: The young people of today have a riddle, "How do you eat an elephant?" Their answer is significant for those who would begin a competency-based teacher education program -- "a bite at a time!"