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ABSTRACT

The Individualized Secondary Teacher Education Program (I-STEP) is a preservice education program with little formal course work. Students schedule lectures or discussions by request, and behavioral objectives have been written to embrace all of the teaching concepts and skills required for initial certification. These objectives have been subsumed under the categories of "design" and "interaction." Design skills include writing and using behavioral objectives, task analysis, and designing instructional units; interaction skills include individual counseling, interaction analysis, and effective use of questions. The primary vehicle for practicing these skills is the student team teaching experience. Evaluation of the program has been accomplished by soliciting reactions from I-STEP participants and cooperating teachers and also from preservice and public school students who were taught by I-STEP student teacher teams. Response to the program was mostly favorable, and evaluation of the student teachers indicates that team teaching is as good as or better than solo teaching in terms of experience for the student teachers and effectiveness for the students. (RT)

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I-STEP

Individualized Secondary Teacher Education Program

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I-STEP: A PROGRAM WHICH INTEGRATES INTERACTION AND DESIGN

by

J. Hugh Baird

At Brigham Young University we agree with many educators that teacher education programs across the nation are failing to prepare teachers for today's schools. The Individualized Secondary Teacher Education Program (I-STEP) is an attempt to more adequately prepare teachers for today's schools.

I would like to identify four weaknesses common to many programs.

First, psychologists and educators have frequently pointed out that each student has his own rate and style of learning. As obvious as this psychological fact is, there are many educational programs which ignore it. Teacher education programs throughout the country frequently remind their students of these facts and then force all their students through the same mold at the same rate.

Second, teacher education subject matter is not closely enough related to student teaching experience in many programs. The referent, teaching, is not shown to the students until long after they have been asked to philosophize and theorize, and analyze, and evaluate it. Students often study methods three semesters prior to any significant opportunity to apply these methods. This type of program almost guarantees that students will use little of their training when they become teachers.

A third weakness is one common in most teacher training institutions today. For many reasons, none of which are justifiable

to the students, teacher preparation programs are too impersonal. Students have a right to complain about their treatment as numbers on an IBM card rather than as persons. Teacher training programs, buckling under the deluge of students, have chosen to relegate to graduate students and large-group lectures the important task of training teachers. Student dissatisfaction is evidenced in many ways: As they riot they claim that programs have no relevance to the important issues of our day; education majors change their plans and move into other occupations; some who stay complain bitterly and ignore most all elements of the teacher preparation experience thereby cheating themselves of the training they could acquire. Finally some teachers model the impersonalness of their training as they work to educate the next generation--and in so doing perpetuate the vice.

Fourth, in an attempt to train teachers to solve the miriad of problems in our society, eduators have proliferated a program of generalities. Dr. Merrill has identified the jack-of-all-trades--master-of-none characteristic of most programs. Some one else could just as soundly critize the fact that some programs are almost completely composed of foundation courses. In contrast to this attempt by teacher training programs to teach a little bit about everything--a hopeless task considering the knowledge explosion going on about us--elementary and secondary curricula are including new experiences <u>in depth</u>. Notable among these are some of the newer science programs.

The previous paper by Dr. Merrill described four major kinds of teaching activity: instructional design, instructional interaction, interpersonal design and interpersonal interaction. Our program at BYU is an attempt to overcome some of the weak-

nesses identified previously and to give students more extensive experiences in each of these teaching activities. I-STEP is a self-paced program. Students enroll for the total 21 semester hours of professional course work required for certification as secondary teachers and achieve the objectives of the program at their own pace. During Fall '68, 56 students began our program - 76% finished, 24% will continue until each achieves all objectives prescribed for him. There are no lectures or discussions of the traditional kind. Students schedule lectures and demonstrations and discussion groups by requesting them as needed. There are no course boundaries in the traditional sense. Behavioral objectives have been written to embrace all of the teaching concepts and skills required for initial certification. Except for those which have prerequisites, students may accomplish the objectives in whatever order they wish.

I-STEP is becoming increasingly more individualized to the students' abilities, needs, and interest. Pre-testing, liberal use of quest projects and student selection opportunities, and the frequent modification of an objective to accomplish a better fit with the student, all tend to result in an individualized program.

In I-STEP students have many and regular opportunities to observe, test and practice the information and skills they are acquiring. To accomplish this close integration of theory and practice, role playing, classroom observation, micro-teaching with and without a video recorder, and a variety of public school teaching assignments, are all employed throughout the entire training period.

I-STEP is a personalized program where large group instruction

is rare. Students are instructed in groups of all sizes ranging from two to twenty students. In a deliberate attempt to get well acquainted with students and help students get acquainted with themselves and others, each student began the fall program with a three-day camp trip. Next week our spring semester students will spend three days in a concentrated stress and sensitivity experience. I-STEP students are also assigned to trained staff members for individual and group counseling. At least two social activities are held each semester for faculty and students. While this personalizing program serves its own function it also tends to serve as a model for the trainee of ways to conduct interpersonal interaction activities. It also may serve to take the sharp edge off of some major elements of instruction which are rather abstract and theoretical.

I-STEP attempts to give students depth experiences in both design and interaction areas. Some interaction skills which are observed, learned and applied in the public schools are:

a. Individual Counseling - teacher-pupil planning skills; the process of showing a student that one cares, helping him identify his misbehavior, make value judgments about it, and make plans to correct it.

b. Group Counseling.

c. Interaction Analysis - the ability to analyze classroom interaction and teach so as to accomplish certain patterns of interaction.

Some of the instructional interaction skills included in the training program include:

a. Inquiry Teaching.

b. Effective use of questions to help learners perceive and conceptualize.

c. Skill in reinforcing student learning behavior, and giving appropriate feedback.

d. Effective use of role playing, dramatization, debate, committee work, etc.

e. Teaching in Teams - for student teaching activities each student is assigned to a team consisting of two or three students, the public school teacher to whom the students are assigned and the university supervisor. This team plans for teaching and conducts instruction. This progress is described in a technical report available on request.

Design skills which are observed, learned and applied in public school teaching include those mentioned by Dave Merrill.

a. Writing and using Behavioral Objectives:

b. Classifying Objectives.

c. Using selection, comparison and modification procedures for each class of behavioral outcome sought.

d. Task analysis.

e. Designing instructional units.

f. Programming units of instruction. Many of these are done by the student as he works as a member of a team.

In addition to design and interaction training, students are introduced to situational analysis -- the process of studying a learning situation to determine which types of interaction are most appropriate to implement a given instructional design for a particular class of individual students.

Some Research on I-STEP

I-STEP is an experimental program. As such it is constantly changing. Part of the change occurs as a result of the research done, and some changes are made to allow us to test additional ideas. We are training approximately 75 students each semester. The application of our ideas and practices to a total teacher education program will probably be left to others.

Here will be presented research findings under the following

headings. To date we have begun research in five areas:

I. Reaction of students -- Data indicate a strong positive reaction of I-STEP students to the following four elements of the program.

1. Interaction objectives
2. Design objectives
3. Team teaching - through which design and interaction are practiced.
4. Personalizing elements of the program.

Using the Q-sort technique each student was asked to group the objectives which he thought most essential, very important, moderately important, not very important, least essential. Of the 65 objectives sorted, 6/10 of the most essential and none of the least essential were design objectives. The ten most essential were: (1) discipline, (2) student teaching, (3) teaching methods, (4) involving interests, (5) inquiry, (6) behavioral objectives, (7) teaching methods (individual difference), (8) teaching methods (inductive and deductive teaching), (9) lesson with questions, (10) administrative aspects of teaching (contractual agreements). The nine least essential were (1) use of material and methods (charts) (2) line and staff authority (3) objective analysis-psychomotor, (4) human development (abnormal) (5) supervision, (6) significant events, persons, effects, (7) bulletin board, (8) educational agencies and officers, (9) use of materials and methods (audio tapes).

In a recent survey I-STEP students felt more able to prepare effective lesson materials than did conventional student teachers. The design training seems to give our students a feeling of confidence as they compare their skills with those of their co-

operating teacher.

With respect to team teaching: Last spring semester I-STEP students were asked about their assignment to student teaching in teams. (See Figure 1.)

At the end of the fall semester the same questionnaire was given to all of the students then in the program. There were fifty-six enrolled. The righthand columns contain data from the fall students. It will be noted that all responses with the exception of numbers 9 and 11 indisputably favor team student teaching. The split voting on numbers 9 and 11 allow no conclusions.

A comparison of the figures for the two years show that there are some significant difference of opinions. The most important changes in opinions are in questions 4, 5, 9, 10, 11, and 16. On question 4, 20% reported that they found team teaching not much more than a novel experience, whereas only 5% reported this spring semester. Of real significance is the fact that 34% felt team teaching should be replaced by solo teaching (question 5), whereas only 11% made this suggestion previously. On question 10, there is a 7% increase in those who reported they feel that they would have done better alone. The responses to question 12 indicate that there are serious problems among the teams, but there is no real significant difference between the two semesters. On question 16, last year, 90% reported that their team teaching was approved by their cooperating teachers, and 5% reported this definitely untrue. This semester only 50% reported this true and 28% untrue.

Student teachers were asked to list the advantages and disadvantages of team student teaching. Figure 2 shows the most common listings placed in rank order.

FIGURE 1

Team Student Teaching Questionnaire

The experience of student teaching in teams:
n=18

		June 1968					January 1969				
		Very true	Somewhat true	Somewhat untrue	Untrue	No response	Very true	Somewhat true	Somewhat untrue	Untrue	No response
1.	Change my self-image as a teacher in a positive direction	56%	39%	5%			6%	54%	14%	20%	6%
2.	Has given me a feeling of competence as a teacher	44%	56%				26%	46%	6%	6%	16%
3.	Raised doubts within me that I can become a successful teacher				95%	5%		20%	6%	52%	12%
4.	Is not much more than just a novel experience		5%	5%	90%		6%	14%	14%	60%	
5.	Should be replaced by solo teaching		11%	11%	78%		14%	20%	26%	40%	
6.	Aids in self-evaluation	61%	33%	6%			14%	46%	6%	14%	20%
7.	Is embarrassing and discomforting		11%	22%	67%			20%	14%	66%	
8.	Has little application to actual teaching on the job		5%	22%	73%		6%	6%	26%	54%	8%
9.	Would have been better if I could have taught alone for part of the time	17%	34%	5%	39%		32%	26%	6%	14%	20%
10.	Is a nuisance; I could have done it better alone		5%	5%	90%		6%	14%		60%	20%
11.	Was not difficult because of problems working with my team		40%	5%	50%	5%	20%	14%		66%	
12.	Helped my teaching by allowing me to watch my team members	78%	22%				32%	40%	6%	14%	8%
13.	Didn't enable me to work enough with my cooperating teacher		5%	28%	67%		6%	20%	14%	54%	6%
14.	Was helpful because team members gave me suggestions that enable me to improve my teaching	73%	22%	5%			20%	46%	20%	14%	
15.	Seemed to give my cooperating teacher new ideas for his other classes	61%	39%				26%	40%		20%	14%
16.	Was approved of by my cooperating teacher	50%	40%	5%		5%	20%	32%	20%	26%	2%

FIGURE 2

Advantages and Disadvantages of Student Teaching in Teams

Advantages	Number Who Listed the Idea
1. It enables individualization of teaching and student learning.	12
2. Better preparation of units and curricula.	9
3. Utilization of the many talents of the teachers.	8
4. Provides constructive criticism from peers.	6
5. Enables one to work with people and with a team.	5
6. Provides many models.	5
7. Provides for different points of view.	4
8. Provides a wider variety of experiences for future teachers	4
9. Establishes a better self concept because of team interaction.	3
Disadvantages	
1. It is hard to work together as a team.	10
2. It is hard to decide between different methods.	7
3. Sometimes one pulls too much of the load and another not enough.	4
4. It involves extra time.	4
5. A teacher can hide a weakness by having team members do it.	2
6. It confuses students in the classroom.	2
7. Student teachers don't get a realistic picture of traditional public school.	2

During the 1969-70 school year we are planning to compare the classroom performance of secondary students who practice teaching in teams with those who teach singly.

II. Reaction of cooperating teachers in the public schools was also positive as the teachers responded to questions regarding design, interaction, and team teaching elements. There was some resistance to team student teaching this past semester. Even so, most cooperating teachers expressed their belief that team student teaching was as effective as a solo experience. The cooperating teachers felt that the team student teaching experience would be of minimal benefit to future teaching situations.

One of the most interesting responses by cooperating teachers, comparing I-STEP teams to traditional solo student teachers, was that the team teachers were reported as continually trying new methods of teaching but they were not seen as more interested in experimentation than they were in teaching the students.

Cooperating teachers have not been asked to react to the specific design and interaction objectives in our program.

III. Pre-service students were asked to compare their experience with a team of student teachers with one directed by the classroom teacher.

Discipline: Opinion seems to be well divided on discipline, however, most seem to agree a student team can maintain the standard of the regular teacher. It is apparent that students often feel that one team member is more strict than another. Most students did not find that two or more teachers in the class affected their inclination to "goof off."

Learning: Most students found that team teaching did not make learning any harder--on the contrary they found team teachers to be more helpful and interesting. They also agreed team teachers made learning more fun and tried more unusual things in class.

Grading: Most students felt that team teachers were not consistent in their grading, but they did not feel they were graded unfairly. They also felt that team teacher's tests were no harder than usual.

III. Public high school students were asked to compare being taught by a team of student teachers with the usual experience of being taught by one certified high school teacher.

Discipline: Most students agreed that a student team can maintain the standard of the regular teacher. (Student teachers in a solo assignment were seen to be less effective.) Most students believed that two or three student teachers in the class did not affect their inclination to misbehave. Students reported that one team member is often more strict than another.

Learning: Most students found that team teaching did not make learning any harder--on the contrary they reported team teachers to offer more help and be more interesting. They also agreed student teaching teams tried more unusual, and a greater variety of approaches in the classroom.

Grading: Most students believed that student teaching teams were not consistent in their grading, but they did not report being graded unfairly.