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ABSTRACT

Certification candidates from the University of Texas at Austin for the years from 1960-1971 were surveyed in an attempt to evaluate the quality of the mathematics teacher preparation program. A questionnaire was sent to 503 people; 300 replied. Findings showed that continuous teaching since certification was reported by 111 people and another 54 had taught almost continuously. Additional courses in a variety of fields had been taken by 168 respondents; 50 had completed a masters degree, 45 more were actively working toward the completion of a masters degree, 10 had achieved the doctorate, and 8 more were actively involved in a doctoral program. Reasons for leaving the teaching profession, opinions regarding the format for student teaching, present occupations other than teaching, and teaching experience are tabulated. It was noted that 141 teachers began teaching in junior high school assignments. Comments on the teacher preparation program are summarized; there was an expressed need for practical courses in adolescent psychology, help in identifying learning disabilities, and more emphasis on the learning process. The most frequently mentioned request concerning methods courses was for a more practical approach. Earlier involvement in the public schools, more time in the schools, and more variety in the assignments were also requested. (DT)

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Mathematics Education Center
Technical Report No. 2

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CAREER PATTERNS OF SECONDARY SCHOOL MATHEMATICS TEACHERS

A Survey of Certification Candidates from 1960-1971 The University of Texas at Austin

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For several years the College of Education at The University of Texas at Austin has asked students finishing the requirements for certification to evaluate their preparation for teaching. Special emphasis in the questionnaires used has been placed on the evaluation of the student teaching experience. Supervisors of student teachers of mathematics at the secondary level have supplemented the information obtained by requesting written answers to additional questionnaires, or simply questions, particularly suited to the teaching of mathematics at the secondary level. Information gained from this written material and suggestions offered orally in conferences with student teachers and supervising teachers in the secondary schools have greatly influenced the student teaching program.

However, members of the faculty of the Mathematics Education Center have always felt that the quality of the preparation of mathematics teachers can best be evaluated by its products after these teachers have taught in the secondary schools. Many of the changes in the professional training of mathematics teachers have been brought about through informal

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communication with former student teachers after a year or several years of teaching experience. While this information has been very helpful, it has been sporadic, and a more systematic method of obtaining information from the former student teachers would be desirable. Suggestions and information from the entire group of former student teachers could be of great assistance in modifying the professional sequence for mathematics teachers.

Design of the Study

Design of the Instrument

A questionnaire (Appendix A) was designed by the faculty of the Mathematics Education Center for the purpose of obtaining pertinent information from persons who have completed the professional sequence as prospective teachers of mathematics at the secondary level. Specific questions were designed to give an opportunity for suggestions concerning change in the program. In addition, information was requested concerning the past, current and future employment of these persons and the extent, fields, and location of their study at the graduate level. Data obtained from these questions should also be useful in shaping the training of future teachers.

Sample Examined

The questionnaire was mailed to 503 people who were student teachers of mathematics at The University of Texas at Austin during the period from September, 1960 through May, 1971. Names and addresses of students of several part-time supervisors were not on file and these people (fewer than 50) were, of necessity, excluded from the study. Three hundred, or 59.64%, of the instruments reached their destinations, were completed and returned.

Period of Examination

Addresses were obtained from the files of supervisors of student teachers, and the instruments were mailed in the spring, 1972.

Analysis of the Data

The 300 questionnaires returned were tabulated according to The University of Texas at Austin term in which they completed their student teaching. Two questionnaires were returned with the notation by a parent that the former student teacher was deceased. Although information was included which told of the teachers' professional activities before death, these notes were not first-hand information and were omitted from the study.

Returns of the Questionnaire

Table 1 tabulates the numbers of questionnaires returned by term and by sex.

Insert Table 1 about here

Several factors affected the number of returns. Numerous addresses were several years old and the questionnaires were misplaced or lost in the forwarding process. Many of the teachers are women who have married since student teaching, and the change of name made the location of the addressee even more difficult.

The tabulation indicates that in the field of mathematics, the women student teachers outnumbered the men by a little more than 4 to 1. Even in the last years of the study, when the total number of student teachers increased, the number of male student teachers did not increase proportionately.

Experience as A Teacher

Information concerning the teaching experience was compiled from four different aspects: (1) number of years taught, (2) sequence of teaching years, (3) teaching plans for the year 1972-1973, and (4) plans for future teaching.

Insert Table 2 about here

Insert Table 3 about here

Insert Table 4 about here

Insert Table 5 about here

Of the 300 questionnaires returned, 51 former student teachers (or 17%) marked that they have not taught at all and another 53 have taught only one year each. However, 34 of the people who indicated one year of experience completed their student teaching within the last two years of the study. The total number of years taught by these 300 teachers is 884. Since the 300 represent only 59.64% of the former mathematics student teachers, it is obvious that the influence of the teacher training program is far-reaching.

Continuous teaching since certification was reported by 111 people. Another 54 have taught almost continuously since certification. The percentage of student teachers in these combined categories is 55.

Forty-eight (or 16%) indicated that they definitely do not plan to teach again, and only 41 said that they plan to teach 20 or more years. However, it can be assumed that many of the 140 who did not know how many years they plan to teach will also be career teachers.

One hundred-fifty persons, or exactly 50% of the 300, planned to teach in 1972-1973 and almost all of these indicated definite teaching assignments. Seven more were uncertain of their plans.

Continuation of Education after Certification

In the 300 questionnaires returned, 168 teachers indicated that they have taken additional courses in a variety of fields and at a number of colleges and universities. Table 6 reports the extent of this continuing education, and Tables 7 and 8 tabulate the fields of study and the institutions attended, respectively.

Insert Table 6 about here

Insert Table 7 about here

Insert Table 8 about here

Fifty-six percent (168) of the former student teachers returning the questionnaire have attended colleges and universities since certification, and others indicated immediate plans for doing so. The percentage seems quite high when the fact is considered that 83 of the 300 received certification during the last two years of the study. While 64 of these teachers have taken various courses with no particular academic goal in mind,

fifty have completed masters degrees and 45 more are actively working toward the completion of this degree. Ten have achieved doctorates and eight more are actively involved in a doctoral program.

Of the masters degrees completed, 21 were in Mathematics and 17 were in Mathematics Education. The other 12 masters degrees were in Educational Psychology, Computer Science, Educational Administration, Botany, and Special Education. Nine of the ten doctorates were evenly divided between Mathematics, Mathematics Education, and Law. The remaining doctorate was in Educational Administration.

The 168 who have completed some post-certification study have attended 45 institutions of higher learning, with 17 of these being located in the State of Texas. Most of the 168 have done at least some of their work at The University of Texas at Austin. Twenty-three have received masters degrees from this university and 15 more are working toward the same goal. Five (one of these in law) of the ten doctorates have been awarded by The University of Texas at Austin and three other former student teachers indicate that a doctorate is in progress at this university.

Aspects of Teaching

Former student teachers who have taught were asked to rank certain aspects of teaching according to the enjoyment involved. Each aspect listed was ranked (1) most enjoyable, (2) pleasant, (3) endurable, or (4) almost intolerable.

Insert Table 9 about here

Of the people answering this item, not everyone ranked each aspect of teaching. Each of the categories received 245 or 246 rankings, with

the exception of Status in the Community, which was ranked by only 234 persons.

When the tabulated results were evaluated by multiplying the number of items ranked fourth on the scale by four, the number ranked third by three, the number ranked second by two, and these products added to the number of items ranked in the first category, a relative order was obtained.

Contact with Children	352
Working with Other Teachers	383
Subject Matter	390
Working Hours and Vacations	397
Status in Community	434
Physical Surroundings	419
Working with Administrative Staff	528
Salary	602

Thus, Contact with Children ranked highest as a source of pleasure to the teachers, with Working with Other Teachers and Subject Matter following. Few teachers (29) indicated that their salaries were a very enjoyable aspect of their teaching, but only 16 said that their pay was almost intolerable.

The former student teachers who had taught in the secondary schools but were not teaching in 1971-1972 were asked to indicate their reasons for leaving the profession. The answers from 111 persons who answered this question are reported in Table 10. For full detail of responses tabulated by year of certification see Appendix B.

Insert Table 10 about here

Again, not all of the 111 people responding to this question marked each category. However, because of the way this question is stated, an omission was scored in the fourth ranking (No Effect).

Twenty-five persons listed the need for a higher salary as most important and important in their reasons for leaving the profession of teaching. According to accompanying letters, industry has started these people at over $2,000 per year above the beginning salary for teachers and the largest yearly increments and promises for promotion were added lures away from teaching. Several teachers said that, because of their teacher training, they were hired by industry to teach others in the use of computers. In other words, they were able to enjoy teaching highly motivated students at a much higher salary than the public schools offer.

Sixteen ranked plans for graduate school as an important reason for leaving the classroom. It is expected that many of these teachers, plus some of the 64 who ranked increase in the size of the family as an important reason for retiring from teaching, will return to the profession at a later date. In addition, many of the former student teachers who have never taught indicated that they plan to return to the classroom after their children are in school.

Only six people indicated that there was no teaching position available. Accompanying letters told of circumstances which compelled these teachers to stay in a particular place in which no position was immediately available. Apparently, teachers who were free to go where a job was available had no difficulty in obtaining positions.

Teaching in Other Fields

In accordance with the certification requirements of the state of Texas, each of the mathematics student teachers was also certified in a

second academic area. Table 11 lists the responses of former student teachers when they were asked whether they have taught in areas other than mathematics at the secondary level.

Insert Table 11 about here

Seventy-eight teachers marked that they have taught subjects other than mathematics, but most of these other subjects were taught only briefly and almost always along with mathematics. Only one person wrote that he has taught continuously since graduation, but has never taught mathematics. All of his teaching has been in high school chemistry--his second teaching field.

Opinions Regarding Format for Student Teaching

Opinions were requested regarding the time and placement for the course in student teaching. The former student teachers were asked to make a choice among four options: (1) all day teaching for 1/2 semester, (2) all day teaching for one full semester at one school, (3) all day teaching for 1/2 semester at each of two schools, and (4) left as it is with 1/2 day teaching for one semester.

Insert Table 12 about here

One hundred one teachers preferred that student teaching continue being offered for 1/2 day for a full semester. Several reasons were given for this choice: opportunity for the student teacher to take other courses simultaneously, work part-time, and devote more time to preparing for the courses they are teaching.

Seventy-seven voted to change to all day student teaching for 1/2 semester at each of two different schools. The emphasis here was on a wider experience. These teachers wanted the two schools to differ in grade level and socio-economic composition of the student body. Even those who expressed a preference for student teaching as it now is expressed a greatly felt need for exposure to a variety of classroom situations.

Thirty-four teachers voted to have student teaching all day for 1/2 semester. Replies from students and cooperating teachers who have tried this schedule were almost unanimous in their opposition to this plan. They felt that the student teacher did not get to know the children, the cooperating teacher, or the school in such a short time.

Occupations of Former Student Teachers

There were a number of former student teachers who indicated that they are employed in occupations other than teaching in the secondary schools. Table 13 lists these occupations and the numbers of former student teachers employed. These numbers do not include the 64 persons who list an increase in the size of the family as a principal reason for not teaching (Table 10) and others who would list their current occupation as housewife.

Insert Table 13 about here

Of the 71 persons listing occupations other than teaching, 36 (50.70%) were employed in some aspect of computer science and eleven others were working in other fields of business. The student teachers' knowledge of mathematics is attractive to industry, and industry, in turn, offers many advantages to the teachers.

Twenty teachers have stayed in the profession, but have moved to college teaching or public school administration. Several of these people said that they would have preferred to stay in the classroom, but they felt the need for the higher salary these positions usually offer.

Teaching Experience

Teachers were asked to list their teaching experience by dates, schools, location of schools, and grade level. From this information it was possible to determine the grade levels taught by beginning teachers, the levels taught since certification, and the locations in which former student teachers have been employed.

Insert Table 14 about here

Administrators have complained for years that too few student teachers are assigned to junior high schools (or middle schools), since beginning teachers are assigned to this level. The results of the questionnaire clearly verify the latter part of this statement. One hundred forty-one teachers began teaching in junior high school assignments, while only 93 had all of their teaching experience at the junior high level. It must be added in defense of the supervisors that the more rapid turn-over in junior high school teachers makes it very difficult to place student teachers at this level. Student teachers cannot be placed with beginning teachers.

Two hundred thirty-six of the 246 persons who gave information on this question have done all of their teaching in the continental United States and one hundred ninety have taught only in Texas. Seventy-four (30.08%) of the two hundred forty-six have taught in the Austin Independent School District, and 35 of these have done all of their teaching in

Austin. Many of these teachers have an added interest in the teacher preparation program because they have also served as excellent cooperating teachers.

The Teacher Preparation Program

The comments on the preparation of mathematics teachers at The University of Texas at Austin were difficult, if not impossible, to tabulate. The sequence and content of the professional courses have changed so much over the eleven year period that any comparison would be pointless. However, many former student teachers made comments which should be considered in future modifications of the professional program.

Although most of the students said that their mathematics background was adequate (Table 10), several made suggestions for change. The earlier graduates (through Spring, 1963) complained of inadequate preparation in theory for the teaching of "modern" mathematics. After this time the comments began to emphasize a need for courses in applied mathematics which could be of help at all levels, but primarily in teaching the non-college bound student. Several teachers commented that the mathematics courses were more related to teaching in senior high school than in junior high school, and requested help with theory at a more elementary level. Many answers were highly complimentary of the required mathematics background. One teacher said that she would not have wanted less in her mathematics courses and the courses she had whetted her appetite for more. Another reported happily that the experienced mathematics teachers in her beginning assignment received her as an equal because of her strong mathematics background.

Teachers were much more critical of their education courses. Many of the statements were contradictory from student to student. This was

probably a result of having had different teachers and a wide diversity in first teaching assignments. Differing attitudes toward the subject matter probably affected the degree of criticism, also. Mathematics students generally tend to want exact answers to all problems, and they are critical because the ones in education just do not always have unique or complete solutions. Several teachers commented that the education courses proved to be more valuable after they were in the classroom than they had expected.

There was an expressed need for practical courses in adolescent psychology, help in identifying learning disabilities, and more emphasis on the learning process. One teacher commented that she considered the education psychology course worthless at the time she took it, "but ever so often something hits me, and I realize that I learned much more than I was aware of."

Many teachers sharply critized the (then) required course in history and philosophy of education or cultural foundations of education. Such words and phrases as "dull," "a waste of time," "worthless," "busywork," and "not helpful at all" were interspersed with an occasional "enjoyable," "interesting professor," and "tremendously stimulating."

While a large number of teachers said that the methods courses and student teaching were the only worthwhile courses in the professional sequence, there were suggestions for improving these courses, too. Most people felt that the methods courses could be more beneficial than they were when they took them. The most frequently mentioned request involved a more practical approach to the courses. There were pleas for earlier involvement in the public schools, for more time in the schools, and for more variety in the assignments. One teacher said that since 99% of what

she used came from observation and student teaching, the methods courses should involve more observing and participation in the schools. Several teachers expressed need for more practical applications--visual aides, mathematics games and puzzles, and other interesting ways to present materials. One suggestion was made that the mathematics methods course be organized around the topics taught in the secondary schools and that different methods of presenting these topics should be offered. Many requests came for help with motivation and discipline. Suggestions were made for correlating the mathematics methods course with student teaching.

Student teaching was almost universally accepted as being a worthwhile culminating experience to the professional sequence, but there were suggestions for improvement. The most frequent pleas were for more time in the schools and for a variety of teaching assignments, with different teachers, varied grade levels, and students with varying levels of ability. Many felt that, if variety were impractical, the student teachers should be assigned to "lower level" classes. One teacher commented, "Everyone knows that no one gets advanced, highly motivated students until he is 80, so why not prepare us for the low level classes which we will teach?"

Repeated pleas were made for continued care in the selection of cooperating teachers in the public schools, as so much of the enjoyment and benefits of the student teaching experience depend on the welcoming, enthusiastic, dedicated attitude of the professional selected to work with each student teacher. The suggestion was made that the cooperating teachers participate more in the student teaching seminars, and perhaps in the methods courses, too.

Although many ideas for improvement were offered, most teachers seemed to think that student teaching had provided on a relatively realistic scale

most of the experience one would encounter as a teacher. One former student teacher typified this sentiment, "I cannot imagine walking into a teaching position with the responsibility of all those young people's minds and personalities in development without having 'been there before' in a supportive, carefully supervised situation."

Conclusion

The teachers who replied to the questionnaire seemed to appreciate this opportunity for offering suggestions, and many wrote chatty, lengthy letters describing their teaching situations and offering both reinforcement for current practices in the teacher preparation sequence and suggestions for change. One teacher expressed her gratitude for an "opportunity to unload some of my ideas on teacher training in a spot where it may actually do some good." Another suggested that all former mathematics student teachers be contacted within two years of certification as a routine procedure, so that the professors who teach the courses in the professional sequence could have continuous, up-to-date feedback from graduates. These teachers apparently feel a responsibility to the professors who taught them, to the student teachers who follow them, and to the teaching profession.

TABLE 1

Distribution of Returned Questionnaires

By Term and Sex

	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Distributed To:												
Men	6	11	9	1	7	13	13	9	12	9	10	100
Women	19	27	24	25	37	40	37	34	52	49	59	403
Total	25	38	33	26	44	53	50	43	64	58	69	503
Returned:												
Men	5	6	5	1	1	9	7	8	5	3	6	56
Women	12	11	21	15	23	18	17	25	28	35	39	244
Total	17	17	36	16	24	27	24	33	33	38	45	300

TABLE 2

Number of Years Taught

Years Taught*	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
0	3		3	2	3	2	2	5	8	8	15	51
1	1	2	3	2		1		6	4	6	28	53
2	1	1	3	1	3	7	1	2	7	22	2	50
3	2	3	3	2	5	5	6	6	11	2		45
4	2		3	1	5	4	7	11	3			36
5	1	2	1	3	2	3	6	3				21
6	1		2		1	5	2					11
7			2	1	5							8
8	2	3	2	4								11
9	1	2	3									6
10		4	1									5
11	3											3

* 1/2 year of teaching recorded as 1 year.

TABLE 3

Sequence of Teaching Years

Teaching Experience	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Taught Continuously	4	4	5	4	6	5	9	14	14	22	24	111
Almost Continuously	2	5	4	3	3	5	9	6	7	5	5	54
Intermittently	8	8	14	7	12	15	3	8	4	3	21	84
Not At All	3		3	2	3	2	3	5	8	8	14	51

TABLE 4

Teaching Plans for 1972-1973

	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Teaching 1972-1973:												
Yes	4	9	8	6	5	11	12	17	17	25	36	150
No	13	7	18	9	19	16	12	17	14	12	6	143
Perhaps		1		1					1	1	3	7

TABLE 5

Plans For Future Teaching

Years Planned To Teach	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
0	7		5	2	6	10	3	4	3	6	2	48
1-3				1		3	2	2	7	6	7	28
3-5									1	2	7	10
5-10			1	2	1		2	1	3	5	2	17
10-20		1	4		1	1	1	1	1	1	5	16
20+	2	4	2	1		4	7	6	4	6	5	41
Undecided	8	12	14	10	16	9	9	19	14	12	17	140

TABLE 6

Post-Certification Education

	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
None	4	4	13	6	14	10	0	0	19	20	34	142
Courses-No Degree Planned	8	6	6	4	6	5	5	6	3	0	6	64
Masters Program		1	3		2	6	7	11	5	6	4	45
Doctoral Program		3	1		1	1			2			8
Masters Degree	5	8	5	5	3	6	4	5	6	1	2	50
Doctorate	3	2		1		3	1					10
Bachelors Degree After Certification												
B.J.				1								1
B.A. (English)						1						1
Additional Certification												
Administration				1	1							2
Librarian			1									1
Counselor-(In Progress)	1											1
Counselor (Completed)								1			2	3

TABLE 7

Fields of Post-Certification Study

Field	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Mathematics												
Courses *	2	4	1	1	2	1	3	3	1			18
Masters in Progress			2		1	3	?		2	1	2	13
Masters Completed	2	4	2	2		2	2	4	3			21
Doctorate In Progress			1			1						2
Doctorate Completed	1 2											3
Mathematics Education												
Courses		1				2						3
Masters In Progress			1			1	4	7		1		14
Masters Completed		4	2	2	2	3	1		3			17
Doctorate In Progress			2				1					3
Doctorate Completed						2	1					3
Curriculum and Instruction												
Courses					1		1	1	1	2	1	7
Masters In Progress								1	2	1	1	5
Masters Completed	1											1
Doctorate In Progress										2		2

* No Degree Planned

TABLE 7 (Continued)

Field	Academic Year of Student Teaching										
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Computer Science												
Courses	3			2	1	2		1		2	4	15
Masters In Progress						1		1				2
Masters Completed			1			1						2
Education Administration												
Courses	1											1
Administration Certificate					1	1						2
Masters In Progress						1		1		1		3
Masters Completed	1			1								2
Doctorate In Progress				1								1
Doctorate Completed	1											1
Educational Psychology												
Counseling Cert. In Progress	1											1
Counseling Certificate								1			2	3
Masters In Progress		1			1		1	1		1		5
Masters Completed					1			1		1	2	5
Law												
LLB or J.D.	1			1		1						3

TABLE 7 (Continued)

Field	Academic Year of Student Teaching										
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Business												
Courses					1			1		4		6
Masters In Progress										1	1	2
Other												
Librarian Certificate				1								1
Baccalaureate Degree												
Journalism				1								1
English					1							1
Masters Degree												
Botany						1						1
Special Ed.	1											1
Urban Geography (In Progress)									1			1
General Courses	2	1	5	1	1		1		1	1	1	14

TABLE 8

Location of Post-Certification Study

Institution	Courses - No Planned Degree	Masters Degree In Progress	Doctorate In Progress	Masters Degree	Doctorate	B. J.	B.A. English	Counseling Cert. In Progress	Administration Cert. in Progress	Counseling Certificate	Administration Certificate	Librarian
U. Texas at Austin	x	15	3	23	5	1				1	1	
Bowling Green S. U.		1										
Cal. S. Poly U		1										
Central Mo. St. C.		1										
Colorado St. U.		1										
Columbia U.				1								
East Tex. St. U.		3	1	1								
Johns Hopkins U.				1							1	
La. St. U.		1										
New York U.		1										
North Tex. St. U.	x	2		2						1		
Our Lady of the Lake										1		
St. Mary's U.		1										
Sam Houston St. U.	x	1		2								1
Southern Meth. U.	x			2	1							
Southwest Tex. St. U.	x	2						1				
Stanford U.				3	1							
Texas A & I U.	x	1		1								

TABLE 8 (Continued)

Institution	Courses - No Planned Degree	Masters Degree In Progress	Doctorate In Progress	Masters Degree	Doctorate	B.J.	B.A. English	Counseling Cert. In Progress	Administration Cert. In Progress	Counseling Certificate	Administration Certificate	Librarian
Texas A & M U.		1		1								
Texas Christian U.				1	1							
Tex. Tech. U.	x				1							
U. of Hawaii		1										
U. of Houston	x	9	2	4								
U. of Illinois				1								
U. of Kansas			1									
U. of Md.				1								
U. of Montana				1								
U. of New Mex.		2										
U. of Northern Colo				1								
U. Southwestern La.			1									
U. of Syracuse				2	1							
U.T. Arlington		1		2			1					
Angelo St. U.	x											
Lamar U.	x											
North Ga. College	x											
Pan American U.	x											

TABLE 8 (Continued)

Institution	Courses - No Planned Degree	Masters Degree In Progress	Doctorate In Progress	Masters Degree	Doctorate	B. J.	B.A. English	Counseling Cert. In Progress	Administration Cert. In Progress	Counseling Certificate	Administration Certificate	Librarian
Peabody U.	x											
Pepperdine U.	x											
Long Beach St. U.	x											
Trinity U.	x											
Southern Ill. U.	x											
U. Cal. L.A.	x											
U. of New Haven	x											
U. of Nebraska	x											
U. of Virginia	x											

TABLE 9

Evaluation of Aspects of Teaching

	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Contact with Children												
Most Enjoyable	6	13	15	8	14	15	15	12	15	18	17	148
Pleasant	4	2	6	4	7	8	4	11	9	12	12	79
Endurable	2	2	1	2		1	2	2	1		1	14
Almost Intolerable	1							1		1	1	4
Subject Matter												
Most Enjoyable	10	13	17	5	10	8	17	15	17	12	10	134
Pleasant	2	3	5	8	11	16	4	7	3	13	14	86
Endurable		1	1					3	4	4	7	20
Almost Intolerable	1			1				1	1	1	1	6
Working with Other Teachers												
Most Enjoyable	2	7	15	5	10	13	10	14	11	16	17	120
Pleasant	10	10	8	8	9	10	11	11	10	14	13	114
Endurable	1			1	2				3		2	9
Almost Intolerable								1	1			2
Status in Community												
Most Enjoyable		5	6	3	4	4	6	11	8	7	7	61
Pleasant	9	8	16	10	16	16	12	11	11	19	19	147
Endurable	3	1	1	1		3	3	3	4	3	3	25
Almost Intolerable	1											1

TABLE 9 (Continued)

	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Working with Administrative Staff												
Most Enjoyable	2	2	4	3	4	5	9	2	5	7	7	50
Pleasant	6	7	10	6	14	16	10	15	9	19	17	129
Endurable	4	4	6	5	2	3	2	5	9	2	6	48
Almost Intolerable	1	3	3		1			4	2	3	2	19
Working Hours and Vacation												
Most Enjoyable	5	11	16	8	10	8	13	11	9	21	14	126
Pleasant	5	5	6	4	9	14	8	10	11	8	12	92
Endurable	3	1	1	1	1	2	1	3	5	2	5	25
Almost Intolerable				1				2				3
Salary												
Most Enjoyable				3	3	3	2	1	8	4	5	29
Pleasant	5	8	9	3	11	3	8	10	7	15	15	94
Endurable	6	8	13	8	6	11	9	13	0	12	12	107
Almost Intolerable	2	1	1		1	6	2	2	1			16
Physical Surroundings												
Most Enjoyable	1	5	5	4	8	4	6	7	6	6	7	59
Pleasant	6	9	11	7	7	9	7	12	10	16	16	110
Endurable	6	2	6	3	6	7	7	6	5	7	9	64
Almost Intolerable		1	1			3		1	4	2		12

TABLE 10

Reasons for Not Continuing to Teach at the Secondary Level

Reason	Level of Influence			
	Most Important	Important	Affect Slightly	No Effect
Need for Higher Salary	14	11	9	77
Plans for Graduate School	14	2	4	91
Increase in Size of Family	59	5	4	43
Income No Longer Necessary	5	16	9	81
Transfer into School Admin	3	0	2	106
Difficulty with Discipline	8	14	18	71
Unpleasant Association with Other Teachers	0	1	6	104
Socio-Economic Problems in Community	1	7	9	94
No Teaching Positions Available	5	1	1	104
Boredom	4	3	8	96
Working Hours	3	9	7	92
Extra Curricular Duties	3	6	11	91
Excess Clerical Duties	6	8	9	88
Inadequate Preparation in Mathematics	2	0	2	107
Unpleasant Association with Administration	5	3	11	92
Change in Marital Status	3	1	3	104
Illness	2	1	0	108
Military Service	3	2	0	106

TABLE 11

Teachers Who Have Taught Subjects Other Than Mathematics

	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Yes	6	5	10	4	9	6	8	8	6	10	6	78
No	7	10	15	10	11	17	12	18	19	21	26	165

TABLE 12

Views Regarding Time and Placement for Student Teaching

View	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-11967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Change to All Day Teaching for:												
1/2 Semester	3	1	2	2	2	2	3	5	4	4	6	34
1 Semester at 1 School	1		2	2	3	3	3	2	7	5	5	33
1/2 Semester at Each of Two Schools	3	7	10	3	7	6	4	11	6	12	8	77
Left As Is:												
1/2 Day Teach-in for One Semester	7	6	9	7	9	13	11	8	8	10	13	101

TABLE 13

Occupations

(Other Than Teaching In Secondary Schools)

Occupation	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Computer Service	3	3	5	3	4	3	2	7	3	3		36
College Teaching	2	3		2		3	3	1				14
Law	2											2
Public School: Administration, Counseling	1			1	1		1	1		1		6
Military		1							1			2
Business: Actuary, Salesman, Banker, Clerk-Typist	1					3			2	3	2	11

TABLE 14

Levels and Locations of Teaching

	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
First Teaching Experience												
College	1	1				3				1		6
Senior High	5	6	6	3	8	15	9	11	8	9	13	93
Junior High	7	10	17	11	12	7	12	13	15	20	17	141
Elementary	1				1			1	2	1		6
All Teaching Experience												
College		1				2				1		4
Senior High	4	4	3	2	6	8	2	8	8	9	12	66
Junior High	4	5	8	5	5	1	4	10	7	18	16	83
Elementary	1							1	1			3
Combinations of Levels												
Senior High and College	2	2	3	1	2	3	1				1	15
Junior and Senior High	3	5	8	6	7	11	13	6	7	2	1	69
Elementary & Secondary			1		1		1		3			6
Teaching in Continental United States												
All Teaching Experience	12	17	21	14	21	23	20	24	25	29	30	236
Some, but not All	1		2			1	1	1				6
All outside Continental United States	1					1			1	1		4
Teaching in Texas												
All Teaching Experience	12	12	17	10	14	15	15	19	22	25	29	190
Some, but not All teaching Experience		2	3	4	5	5	5	2	2			28

TABLE 14 (Continued)

	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Teaching in Austin												
All Teaching Experience	4	2	2	2	2	2	4	2	4	5	6	35
Some, but not All Teaching Experience	2	3	4	5	7	7	4	3	2	1	1	39

APPENDIX A

QUESTIONNAIRE

Name _____ Date _____
Last First Middle (Maiden)

Present Address _____ Phone _____
Street

_____
City State Zip

A. How many years have you taught? 0 1 2 3 4 5 6 7 8 9 10 ____

Date of Certification _____

Have you taught ( ) continuously since graduation
( ) almost continuously since graduation
( ) intermittently since graduation
( ) not at all

Do you plan to teach in 1972-1973? _____ Where _____

How many more years do you plan to teach?

0 ___, 1-3 ___, 3-5 ___, 5-10 ___, 10-20___, 20 + ___, (?) ___

ADDITIONAL STUDY SINCE CERTIFICATION:

( ) None
( ) Master's degree program (state specialization and university)

_____

( ) Doctor's degree program (state specialization and university)

_____

( ) Other (comment on purpose)

_____

Degree(s) Awarded	Institution	Date
_____	_____	_____
_____	_____	_____

IF YOU HAVE NOT TAUGHT OMIT SECTION B AND GO ON TO SECTION C

B. Evaluate the following aspects of your teaching as
(1) most enjoyable (2) pleasant (3) endurable (4) almost intolerable

PLEASE CIRCLE ONE

1 2 3 4	contact with children	1 2 3 4	working hours and vacations
1 2 3 4	subject matter	1 2 3 4	salary
1 2 3 4	working with other teachers	1 2 3 4	physical surroundings
1 2 3 4	status in community		
1 2 3 4	working with administrative staff		

If you are not now teaching or do not plan to teach next year, which of the following reasons affected your decision to discontinue?

(1) most important (2) important (3) affect slightly (4) no effect

PLEASE CIRCLE ONE

1 2 3 4	need for higher salary	1 2 3 4	boredom
1 2 3 4	plans for graduate school	1 2 3 4	working hours
1 2 3 4	increase in size of family	1 2 3 4	"extracurricular" duties
1 2 3 4	income no longer necessary	1 2 3 4	excessive clerical duties
1 2 3 4	transfer into school administration	1 2 3 4	inadequate preparation in mathematics courses
1 2 3 4	difficulty with discipline in classroom	1 2 3 4	unpleasant association with administrators
1 2 3 4	unpleasant association with other teachers	1 2 3 4	unpleasant physical working conditions
1 2 3 4	socio-economic problems of community	1 2 3 4	change in marital status
		1 2 3 4	illness
1 2 3 4	no teaching position available	1 2 3 4	military service

Do you feel that student teaching should be

( ) changed to provide <u>all day</u> teaching for:

( ) 1/2 semester
( ) one full semester at one school
( ) 1/2 semester at each of two schools

( ) left as it is with <u>1/2 day</u> teaching for one semester

Have you taught or are you now teaching in subjects other than mathematics?

( ) YES ( ) NO

Year(s)	Subject	Grade Level	Number of Classes
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

APPENDIX A (Continued)

C. Work Experience:

Dates	School or Firm	Location	Description of activity (Grade level if applicable)

D. The reflections of experienced teachers on their own University preparation are extremely valuable for the improvement of teacher education. Please comment on the following aspects of your own University preparation.

(1) Methods Courses

(2) Mathematics Content Courses

(3) Other Education Courses

(4) Student Teaching

APPENDIX B

Reasons for not Continuing to Teach at the Secondary Level

Reason	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Need for Higher Salary												
Most Important	3	1	2	1	1	2	1	2	1			14
Important			2			2	2	2	2	1		11
Affect Slightly					1	3	1	2	1		1	9
No Effect	7	6	13	7	13	7	5	8	5	5	1	77
Plans for Graduate School												
Most Important	3				1	1	3	4	2			14
Important	1								1			2
Affect Slightly	1								1		2	4
No Effect	5	7	17	8	14	13	6	10	5	6		91
Increase in Size of Family												
Most Important	4	6	10	5	12	6	6	3	5	2		59
Important	2		2			1						5
Affect Slightly						1		2		1		4
No Effect	11	1	5	3	3	6	3	9	4	3	2	43
Income No Longer Necessary												
Most Important	1			1	2	1						5
Important	2	4	1	1	3		2	2		1		16
Affect Slightly	1	1	1	1	2	1		1	1			9
No Effect	6	2	15	5	8	12	7	11	8	4	2	81
Transfer Into School Administration												
Most Important	1				2							3
Important												0
Affect Slightly								2				2
No Effect	9	7	17	8	13	14	9	12	9	6	2	106

APPENDIX B (Continued)

Reason	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Difficulty with Discipline												
Most Important	1		2	2	1					2		8
Important		3	2			2		3	1	2	1	14
Affect Slightly	2		1	1	4	3	2	3	1		1	18
No Effect	7	4	12	5	10	9	7	8	7	2		71
Unpleasant Association with Other Teachers												
Most Important												0
Important	1											1
Affect Slightly				1	1			1	1	2		6
No Effect	9	7	17	7	14	14	9	13	8	4	2	104
Socio-Economic Problems in Community												
Most Important			1									1
Important		2	1	1				1		1	1	7
Affect Slightly	1					2		4		2		9
No Effect	9	5	15	7	15	12	9	9	9	3	1	94
No Teaching Positions Available												
Most Important		1				1		1		1	1	5
Important						1						1
Affect Slightly	1											1
No Effect	9	6	17	8	15	12	9	13	9	5	1	104
Boredom												
Most Important	1				1	1		1				4
Important						1		1		1		3
Affect Slightly	1			2	1	1		1	1		1	8
No Effect	8	7	17	6	13	11	9	11	8	5	1	96

APPENDIX B (Continued)

Reason	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Working Hours												
Most Important							1	1	1			3
Important			1	1	1	2		1	2	1		9
Affect Slightly	1			1				3	1	1		7
No Effect	9	7	16	6	14	12	8	9	5	4	2	92
Extra Curricular Duties												
Most Important					1			1	1			3
Important		1	1		1			1	2			6
Affect Slightly	1			1		3		2	1	3		11
No Effect	9	6	16	7	13	11	9	9	7	2	2	91
Excess Clerical Duties												
Most Important			1		1	2		1	1			6
Important		1		1	1	2		1	2			8
Affect Slightly	1			3	1					4		9
No Effect	9	6	16	4	12	10	9	12	6	3	2	88
Inadequate Preparation in Mathematics												
Most Important										1	1	2
Important												0
Affect Slightly						1				1		2
No Effect	10	7	17	8	15	13	9	14	9	4	1	107
Unpleasant Association with Administration												
Most Important						1		2		1	1	5
Important	1					1		1				3
Affect Slightly	1		3	2	1		1		2	1		11
No Affect	8	7	14	6	14	12	8	11	7	4	1	92

APPENDIX B (Continued)

Reason	Academic Year of Student Teaching											
	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	1970-1971	Total
Change in Marital Status												
Most Important			1		1		1					3
Important		1										1
Affect Slightly					1		1	1				3
No Effect	10	6	16	8	13	14	7	13	9	6	2	104
Illness												
Most Important					1				1			2
Important			1									1
Affect Slightly												0
No Effect	10	7	16	8	14	14	9	14	8	6	2	108
Military Service												
Most Important						1	1	1				3
Important							1	1				2
Affect Slightly												0
No Effect	10	7	17	8	15	13	7	12	9	6	2	106