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EDUCATIONAL QUALIFICATIONS OF THE MATHEMATICS TEACHER
IN THE PUBLIC SECONDARY SCHOOLS OF KENTUCKY

BY

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A THESIS
SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

WESTERN KENTUCKY STATE COLLEGE

AUGUST, 1948

Approved:-

Major Professor
and
Department of Education
Graduate Committee

W. Francis Jones
W. Francis Jones

DEDICATION

This thesis is dedicated to my beloved teachers
from whom it has been an honor and a pleasure to re-
ceive instruction.

ACKNOWLEDGMENT

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CHAPTER I
INTRODUCTION

The military and naval authorities requested the secondary schools to teach arithmetic, algebra, geometry, and trigonometry to every student who could master them during World War II. Again these same authorities are calling for the finest young men of America to be prepared in case of any eventuality. The call of these leaders, together with the call of a rapidly developing atomic age, indicates to all thinking Americans that our young people should have only the best instructors to guide them in their preparation for a vocation in the dynamic world of the future.

Purpose of the Study.- The general purpose of this study is to investigate the status of the mathematics teachers in the secondary schools of Kentucky. It is in detail a study to ascertain (1) the educational qualifications of Kentucky mathematics teachers; (2) the salaries of these teachers; (3) the teaching experience and tenure of the mathematics teachers; (4) the number and kind of mathematics courses being offered in our secondary schools.

Scope of the Study.- This study is confined to the following high schools in the state of Kentucky: thirty-four county and independent junior high schools for white children and 461 county and independent four-year high schools for white children. The study includes 47 junior high school mathematics teachers and 606 four-year high school mathematics teachers. This investigation presents the status of the mathematics teachers and the courses in mathematics offered in secondary schools of Kentucky for the school year 1947-48. The information is correct so far as the material included in the superintendents' reports on file in the office of the State High School Supervisor at Frankfort is correct.

Source of Data.-- The data used in this study were obtained from the reports of the superintendents on file in the office of the State High School Supervisor in the State Department of Education at Frankfort.

CHAPTER II

EDUCATIONAL QUALIFICATIONS OF KENTUCKY JUNIOR HIGH SCHOOL ALGEBRA TEACHERS

Algebra is the science of solving mathematical problems by means of symbols and equations. The language of algebra involves the use of letters, exponents, coefficients, and the signs of operations in connection with equations and formulas. Formulas are used all over the world by navigators, mechanics, engineers, scientists, electricians, business men, and many other people. In fact, without the use of formulas the atomic age would not be possible. In order to give their students this essential tool of the modern world, almost all of the junior high schools included in this study taught algebra in the ninth grade during the school year of 1947-48.

This study reveals that 33 of the 34 junior high schools teach a course in algebra. Thirty-one of these schools reported that 1761 of the 2959 pupils enrolled in the ninth grade were taking algebra.

Table I includes 44 of the 47 junior high school algebra teachers. This table shows that 38 of these are college graduates; ten are mathematics majors, but only one of the teachers for 1947-48 majored in this field in the last ten years. Sixteen teachers have a minor in mathematics; eight teachers have ten or more hours in mathematics, but do not meet the requirements for a minor; and ten teachers have less than ten hours in mathematics. In summarizing the previous statements we find that 38 are college graduates, 26 meet the requirements in their teaching field as stated in the accrediting standards of the Kentucky State Board of Education, and 18 teachers, or 40.9 per cent, either have, or should have, a special permit before being allowed to teach algebra in an accredited junior high school.

Five of the teachers were trained outside the state. The four state

TABLE I
GRAPHIC SURVEY OF KENTUCKY JUNIOR HIGH SCHOOL ALGEBRA TEACHERS

Name of College Attended	Number Attended	Number Graduated	Number of Mathematics Majors	Number of Mathematics Majors Since 1937	Number of Mathematics Minors	Number with 10 Hours or More but No Minor	Number with Less than 10 Hours in Mathematics
Berea	1	1	0	0	0	0	1
Center	0	0	0	0	0	0	0
Eastern Ky.	1	1	0	0	1	0	0
Georgetown	1	0	0	0	0	1	0
Ky. Wesleyan	0	0	0	0	0	0	0
Morehead	2	1	0	0	0	0	2
Murray State	8	6	1	1	3	0	4
Transylvania	0	0	0	0	0	0	0
Union	0	0	0	0	0	0	0
U. of K.	11	9	4	0	5	2	1
U. of L.	9	9	1	0	5	2	1
Western Ky.	6	6	3	0	1	2	0
Out of State	5	5	2	0	1	1	1
TOTALS	44	38	10	1	16	8	10

colleges and the University of Kentucky trained 28 of the teachers who were trained in Kentucky. Of this number only seven are mathematics majors, and only one major was trained in the last ten years. This shows that 63.6+ per cent of the teachers were trained by the four state colleges and the University of Kentucky. Twenty-five per cent of those were mathematics majors, but only 14.2+ per cent of the majors were trained in the last ten years.

TABLE II
ANNUAL SALARY OF JUNIOR HIGH SCHOOL ALGEBRA TEACHERS

Salary	Number of Teachers
\$1000.00 - \$1500.00	5
1500.01 - 2000.00	10
2000.01 - 2500.00	6
2500.01 - 3000.00	4
3000.01 - 3500.00	6
3500.01 - 4000.00	9
4000.01 - 4500.00	5
TOTAL	45

Table II shows five teachers receiving less than \$1500 per year and the same number of teachers receiving over \$4000 per year. Fifteen teachers receive \$2000 or less, while 14 teachers receive more than \$3500 per year. Twenty-one teachers receive \$2500 or less, and 20 teachers receive more than \$3000 per year.

The average salary of the 45 junior high school algebra teachers is \$2685.95+.

TABLE III
TEACHING EXPERIENCE OF JUNIOR HIGH SCHOOL ALGEBRA TEACHERS

Total Years Experience	Number of Teachers
0	0
1 - 5	2
6 - 10	6
11 - 15	8
16 - 20	7
21 - 25	8
26 - 30	8
31 - 35	3
36 - 40	3
over 40	2
TOTAL	47

There are no teachers, as shown by Table III, teaching algebra who have less than one year of teaching experience, and there are only two teachers with five years or less of teaching experience. Two teachers have over 40 years of experience. It may also be seen from Table III that $2\frac{1}{4}$ of the 47 teachers, or 51+ per cent, have more than 20 years of teaching experience.

The average teaching experience of the 47 teachers reported teaching algebra in junior high school is 20.7+ years.

TABLE IV
TEACHING EXPERIENCE IN PRESENT SCHOOL OF JUNIOR HIGH SCHOOL ALGEBRA TEACHERS

Years Teaching	Number of Teachers
0	5
1 - 5	12
6 - 10	7
11 - 15	9
16 - 20	9
21 - 25	5
TOTAL	47

From Table IV it may be seen that there are five teachers teaching in their present school for the first time in 1947-48. Twenty-three, or almost 50 per cent, of the teachers have taught in their present school for 11 years or more.

The average teaching experience in the present school of the junior high school algebra teachers is 10.3+ years.

Summarizing we find that 33 of the 34 junior high schools offer algebra in the ninth grade. Thirty-one of these schools reported 59.5+ per cent of their ninth grade enrollment taking algebra. Over 40 per cent of the 44 teachers included in this study do not meet the minimum requirements in their teaching field as set forth in the accrediting standards of the Kentucky State Board of Education.

If Kentucky is to meet the criticism that is being directed to the schools because of the inability of their products to show proficiency in mathematics, something must be done to improve the qualifications of the algebra teachers in junior high school. As the average of \$2685.95+ is

relatively high for Kentucky salaries, this would appear to be an administrative or organization problem and not a problem of finance.

This study shows that the average teaching experience of the junior high school algebra teachers is 20.7+ years and that the average teaching experience in the present school is 10.3+ years.

CHAPTER III

EDUCATIONAL QUALIFICATIONS OF KENTUCKY ALGEBRA TEACHERS

The use of algebra enables one to express the rules and formulas of arithmetic and certain other sciences more concisely than is otherwise possible. In fact, algebra is the language of science. Algebra is also the language of geometry, trigonometry, and other branches of mathematics. Without a knowledge of algebra one cannot succeed with these studies.

Quantitative relationships confront every citizen daily. Knowledge of algebra may be used to understand these relationships and to effectively solve problems. Algebra may also be used to interpret the many books and periodicals on science, popular mechanics, business mathematics, and the social studies with which one comes in contact and in which facts are frequently stated in algebraic symbols or in graphic form. It is evident that algebra is essential for the citizen of tomorrow.

This study reveals that 444 of the 461 county and independent high schools for white children in Kentucky were teaching one or more courses in algebra during the school year of 1947-48.

Table V shows that 452 of the 513 algebra teachers are college graduates, 197 are mathematics majors, 154 are mathematics minors, 91 have ten hours or more in mathematics with no minor, and 71 have less than ten hours in mathematics. It may also be seen that only 66 of the 197 mathematics majors were trained in the last ten years and that 162 of the 513 algebra teachers do not meet the minimum requirements in their teaching field as prescribed by the Kentucky State Department of Education.

Sixty-two of the 81 algebra teachers trained outside Kentucky have either a major or minor in mathematics. The University of Kentucky, Western Kentucky State College, Murray State College, Eastern Kentucky State College,

and Morehead State College trained 331 of the algebra teachers employed in 1947-48. Of these, only 117 are mathematics majors, and only 44 majored in mathematics in the last ten years.

TABLE V
GRAPHIC SURVEY OF KENTUCKY ALGEBRA TEACHERS

Name of College Attended	Number Attended	Number Graduated	Number of Mathematics Majors	Number of Mathematics Majors Since 1937	Number of Mathematics Minors	Number with 10 Hours or More but No Minor	Number with Less than 10 Hours in Mathematics
Berea	20	17	7	5	4	3	6
Center	8	7	5	2	1	0	2
Eastern Ky.	71	66	36	17	18	10	7
Georgetown	27	24	11	1	8	3	5
Ky. Wesleyan	13	13	8	2	4	1	0
Morehead	21	15	11	3	1	5	4
Murray State	49	43	22	12	14	5	8
Transylvania	15	14	4	1	4	4	3
Union	14	12	3	2	7	4	0
U. of K.	66	57	23	5	22	13	8
U. of L.	4	3	3	0	0	0	1
Western Ky.	124	107	25	7	48	33	18
Out of State	81	74	39	9	23	10	9
TOTALS	513	452	197	66	154	91	71

CHAPTER IV

EDUCATIONAL QUALIFICATIONS OF KENTUCKY GEOMETRY TEACHERS

Geometry is a study of the size, shape, and position of geometric figures. The word "geometry" is derived from two Greek words: "ge" meaning "earth" and "metron" meaning "to measure." It is considered a basic study for people preparing to be artists, architects, landscape gardeners, mechanics, designers, carpenters, biologists, engineers, aviators, physicists, and navigators.

Geometry is both a practical art which serves as the handmaiden to science, engineering, astronomy, and kindred technical fields; and a system of logic which gives the student training in accurate orderly thinking. No other subject has the same value in preparing a student to judge the soundness of a statement or to make correct and convincing arguments. As much as any other school subject, geometry, if taught and studied rightly, gives training in the use of intelligence.

In Kentucky, instruction in geometry was offered in 373 of the 461 independent and county high schools for white children in 1947-48. Plane geometry was taught in 357 of these schools; 15 of them offered instruction in both plane and solid geometry; and one school gave instruction in solid geometry only.

From Table VI it may be seen that 349 of the 398 geometry teachers are college graduates, 168 are mathematics majors, and 122 are mathematics minors. The table also shows that 68 teachers have ten or more hours in mathematics but do not have a minor in the subject and that 40 teachers have less than ten hours in this field.

Fifty-eight of the 168 mathematics majors received their degree in the

TABLE VI
GRAPHIC SURVEY OF KENTUCKY GEOMETRY TEACHERS

Name of College Attended	Number Attended	Number Graduated	Number of Mathematics Majors	Number of Mathematics Majors Since 1937	Number of Mathematics Minors	Number with 10 Hours or More but No Minor	Number with Less than 10 Hours in Mathematics
Berea	15	13	6	4	3	3	3
Center	3	2	1	1	1	0	1
Eastern Ky.	58	55	33	17	12	9	4
Georgetown	21	19	10	1	5	2	4
Ky. Wesleyan	9	9	4	1	2	2	1
Morehead	18	13	9	3	4	4	1
Murray State	44	38	22	12	12	5	5
Transylvania	14	13	5	2	4	3	2
Union	6	4	0	0	3	3	0
U. of K.	48	40	20	5	15	10	3
U. of L.	5	3	3	0	0	1	1
Western Ky.	92	80	20	5	41	23	8
Out of State	65	60	35	7	20	3	7
TOTALS	398	349	168	58	122	68	40

last ten years, and only 290 of the 398 geometry teachers have either a major or minor in this field. Thus, 108, or more than one-fourth of the teachers of geometry, do not meet the minimum standards in the field of mathematics as stated in the accrediting standards of the Kentucky State Board of Education.

Sixty-five of our Kentucky geometry teachers received their training outside the state. Thirty-five of these are mathematics majors, seven of whom received their training in the last ten years. Of the 260 geometry teachers trained by the University of Kentucky and the four state colleges 104 are mathematics majors and 84 are mathematics minors.

CHAPTER V

EDUCATIONAL QUALIFICATIONS OF KENTUCKY HIGH SCHOOL ARITHMETIC TEACHERS

One of the paramount mathematical needs of the average citizen today is for a greater knowledge of arithmetic. There is need for familiarity with applications of a wide variety of problems on situations that confront people, and ability to understand certain mathematical ideas and procedures that may be encountered in daily living. It is the responsibility of our public schools to prepare our students to solve the problems that will arise later in actual life situations.

This study shows that 245 of the 461 county and independent high schools for white children were teaching one or more classes in arithmetic during the school year of 1947-48.

Table VII shows that 235 of the 268 arithmetic teachers are college graduates, 88 are mathematics majors, and 84 are mathematics minors. Only 38 of the mathematics majors received their training in the last ten years. Ninety-six arithmetic teachers teaching in Kentucky high schools have neither a major nor a minor in mathematics; of these, 51 have ten or more hours in mathematics, and 45 have less than ten hours in this teaching field. Therefore, 96 of our arithmetic teachers do not meet the minimum qualifications to teach mathematics in high school as prescribed by the State Department of Education.

The table also shows that of the 268 arithmetic teachers included in this study 44 were trained outside the state. The four Kentucky state colleges and the University of Kentucky trained 167 of these teachers, 23 of whom majored in mathematics in the last ten years. Of the number trained in the four state colleges and the University of Kentucky, 47 majored in mathematics, 55 minored in mathematics, and 65 have neither a major nor a minor in mathematics.

TABLE VII
 GRAPHIC SURVEY OF KENTUCKY HIGH SCHOOL ARITHMETIC TEACHERS

Name of College Attended	Number Attended	Number Graduated	Number of Mathematics Majors	Number of Mathematics Majors Since 1937	Number of Mathematics Minors	Number with 10 Hours or More but No Minor	Number with Less than 10 Hours in Mathematics
Berea	13	11	4	4	2	3	4
Center	4	4	2	1	1	0	1
Eastern Ky.	31	28	11	6	8	8	4
Georgetown	15	13	7	1	4	2	2
Ky. Wesleyan	10	10	4	0	4	1	1
Morehead	12	11	4	3	4	3	1
Murray State	28	24	11	8	7	3	7
Transylvania	5	4	1	1	2	0	2
Union	8	7	2	1	3	3	0
U. of K.	33	28	8	3	13	6	6
U. of L.	2	2	2	0	0	0	0
Western Ky.	63	53	13	3	23	18	9
Out of State	44	40	19	7	13	4	8
TOTALS	268	235	88	38	84	51	45

CHAPTER VI

EDUCATIONAL QUALIFICATIONS OF KENTUCKY TRIGONOMETRY AND SURVEYING TEACHERS

Trigonometry is that branch of mathematics dealing with the relationships among the sides and angles of triangles and among closely related magnitudes. It also deals with the methods of deducting from given parts other required parts. For those students who expect to pursue their study of mathematics beyond high school, trigonometry is a valuable course.

This study discloses that only 27 of the 461 county and independent four-year high schools for white children in Kentucky offered a course in this subject during the school year of 1947-48.

By observing Table VIII one may see that 24 of the 27 teachers teaching trigonometry in the state are college graduates. Sixteen are mathematics majors, but only two of the trigonometry teachers for 1947-48 majored in mathematics in the last ten years. Eight teachers minored in mathematics, and three teachers have ten or more hours in mathematics but do not meet the requirements for a minor. Only one-ninth, or three trigonometry teachers, do not meet the minimum requirements in a teaching field as prescribed by the Kentucky State Department of Education.

Table VIII also shows that all six of the trigonometry teachers who were trained outside the state are mathematics majors or minors. Eleven of the 14 trigonometry teachers who were trained in the four state colleges and the University of Kentucky are college graduates, seven are mathematics majors, four are mathematics minors, and three do not have either a major or minor in mathematics.

This study shows that two of the 461 high schools teach a course in surveying. The two schools have a total of 51 pupils enrolled in this course. The two teachers of surveying are college graduates and both have a major in mathematics.

TABLE VIII
GRAPHIC SURVEY OF KENTUCKY TRIGONOMETRY TEACHERS

Name of Colleges Attended	Number Attended	Number Graduated	Number of Mathematics Majors	Number of Mathematics Majors Since 1937	Number of Mathematics Minors	Number with 10 Hours or More but No Minor	Number with Less than 10 Hours in Mathematics
Berea	0	0	0	0	0	0	0
Center	0	0	0	0	0	0	0
Eastern Ky.	3	3	3	2	0	0	0
Georgetown	2	2	2	0	0	0	0
Ky. Wesleyan	1	1	1	0	0	0	0
Morehead	2	1	0	0	1	1	0
Murray State	3	3	2	0	1	0	0
Transylvania	2	2	1	0	1	0	0
Union	1	1	1	0	0	0	0
U. of K.	3	2	2	0	0	1	0
U. of L.	1	1	1	0	0	0	0
Western Ky.	3	2	0	0	2	1	0
Out of State	6	6	3	0	3	0	0
TOTALS	27	24	16	2	8	3	0

CHAPTER VII

THE EDUCATIONAL QUALIFICATIONS OF THE MATHEMATICS TEACHERS IN THE WHITE PUBLIC SECONDARY SCHOOLS OF KENTUCKY

The administrators of our secondary schools should see that capable students have those fundamental mathematical experiences which will enable them to engage in the occupations and pursuits best suited to their talents. The success of our students in the fields of physical science, engineering, economics, and finance depends to a large extent upon the number and kind of mathematics courses offered and upon the ability and success of the mathematics teachers in our secondary schools.

This study includes 606 mathematics teachers employed in 461 white county and independent secondary schools of Kentucky. Table IX shows that 535 of the 606 mathematics teachers are college graduates; 216 are mathematics majors, but only 74 of the mathematics majors have majored in this field in the last ten years. One hundred seventy-seven teachers have a minor in mathematics; 115 teachers have ten or more hours in mathematics, but do not meet the requirements for a minor; and 98 teachers have less than ten hours in mathematics.

Ninety-nine of the Kentucky mathematics teachers in our secondary schools received their training in institutions located outside the state. The four teacher training institutions and the University of Kentucky trained 384 of the 606 mathematics teachers employed in 1947-48.

TABLE IX
GRAPHIC SURVEY OF KENTUCKY MATHEMATICS TEACHERS

Name of College Attended	Number Attended	Number Graduated	Number of Mathematics Majors	Number of Mathematics Majors Since 1937	Number of Mathematics Minors	Number with 10 Hours or More but No Minor	Number with Less than 10 Hours in Mathematics
Berea	21	18	7	5	4	4	6
Carter	10	9	6	3	2	0	2
Eastern Ky.	81	75	39	20	20	13	9
Georgetown	35	32	14	2	10	3	8
Ky. Wesleyan	16	16	9	2	4	2	1
Morehead	24	18	11	3	3	5	5
Murray State	56	47	23	12	14	8	11
Transylvania	19	17	5	2	6	5	3
Union	17	15	3	2	8	6	0
U. of K.	76	65	24	5	24	15	13
U. of L.	5	3	3	0	0	0	2
Western Ky.	147	128	29	8	54	42	22
Out of State	99	92	43	10	28	12	16
TOTALS	606	535	216	74	177	115	98

TABLE X
NUMBER OF SECONDARY SCHOOL MATHEMATICS TEACHERS AND TYPES OF DEGREES THEY HOLD

Degree	Number of Teachers
None	71
Bachelor's	449
Master's	86
TOTAL	606

Table X shows that 71 Kentucky mathematics teachers are not college graduates, 449 teachers hold a Bachelor's degree, and 86 teachers have a Master's degree.

TABLE XI
ANNUAL SALARY OF KENTUCKY HIGH SCHOOL MATHEMATICS TEACHERS

Salary	Number of Teachers
\$ 500.00 - \$1000.00	6
1000.01 - 1500.00	133
1500.01 - 2000.00	239
2000.01 - 2500.00	127
2500.01 - 3000.00	62
3000.01 - 3500.00	17
3500.01 - 4000.00	5
4000.01 - 4500.00	9
TOTAL	598

In referring to Table XI one may see that six teachers receive \$1000 or less per year; 133 teachers receive between \$1000.01 and \$1500.00; and 239 teachers receive between \$1500.01 and \$2000.00. In fact, there are 378 Kentucky mathematics teachers who receive \$2000.00 or less per year, and

there are only 93 teachers who receive more than \$2500.00 per year.

The average annual salary of the 598 mathematics teachers included in the preceding table is \$1948.70+.

TABLE XII
TEACHING EXPERIENCE OF KENTUCKY HIGH SCHOOL MATHEMATICS TEACHERS

Total Years Teaching	Number of Teachers
0	23
1 - 5	93
6 - 10	86
11 - 15	117
16 - 20	97
21 - 25	76
26 - 30	59
31 - 35	22
36 - 40	10
Over 40	11
TOTAL	594

Table XII shows that there are 23 mathematics teachers teaching for the first time in 1947-48. Ninety-three teachers have from one to five years' experience, and 86 teachers have from six to ten years' experience. One hundred seventeen teachers have from eleven to fifteen years' experience, and 21 teachers have been teaching for more than 35 years. The table also shows that less than four per cent of the mathematics teachers entered the teaching profession for the first time in 1947-48.

The average teaching experience of the 594 mathematics teachers included in Table XII is 15.4+ years.

TABLE XIII
TEACHING EXPERIENCE IN PRESENT SCHOOL OF HIGH SCHOOL MATHEMATICS TEACHERS

Years Teaching	Number of Teachers
0	107
1 - 5	279
6 - 10	102
11 - 15	44
16 - 20	30
21 - 25	18
26 - 30	10
31 - 35	1
36 - 40	2
over 40	1
TOTAL	594

From Table XIII it may be seen that there are 107 teachers teaching in their present school for the first time in 1947-48. Three hundred eighty-six, or over 64 per cent, of the 594 mathematics teachers have five years or less of experience in their present school.

The average teaching experience, in their present school, of the 594 mathematics teachers included in Table XIII is 5.8+years.

TABLE XIV
NUMBER OF HIGH SCHOOLS AND COURSES IN MATHEMATICS OFFERED

Courses Offered	Number of Teachers
Alg., Arith., Geom., Trig.	13
Alg., Geom., Surv., Trig.	1
Alg., Arith., Geom.	166
Alg., Arith., Trig.	2
Alg., Geom., Trig.	10
Alg., Arith.	47
Alg., Geom.	178
Alg., Trig.	1
Arith., Geom.	5
Arith., Surv.	1
Alg.	26
Arith.	11
TOTAL	461

Table XIV shows that only 14 schools offered four different courses in mathematics; 178 schools offered three courses; and 232 schools offered two courses. The table also shows that 26 schools offered only algebra and that 11 schools taught only arithmetic during the school year of 1947-48.

CHAPTER VIII
SUMMARY AND CONCLUSIONS

This study indicates that 33 of the county and independent junior high schools for white children in Kentucky offered algebra in the ninth grade. Thirty-one of these schools reported over 59 per cent of their ninth grade enrollment taking algebra.

Twenty-six of the 44 junior high school algebra teachers included in Table I have either a major or a minor in mathematics. However, over 40 per cent of the same 44 teachers do not meet the minimum requirements in their teaching field as set forth in the accrediting standards of the Kentucky State Board of Education. As the average salary of the junior high school mathematics teachers is \$2685.55+, this situation is especially alarming. The above facts indicate that money alone is not the solution to all our educational ills.

Over ten per cent of the junior high school mathematics teachers have changed schools since the close of the 1946-47 school year. The average teaching experience of the junior high school algebra teacher is 20.7+ years, and the average teaching experience in the present school is 10.3+ years.

Of the 606 mathematics teachers employed in the 461 county and independent four-year high schools of Kentucky, 535 are college graduates, 216 are mathematics majors, and 177 are mathematics minors. Over 35 per cent of the mathematics teachers do not meet the minimum standards in a teaching field as prescribed by the State Department of Education.

Western Kentucky State College trained more mathematics teachers than any other institution. Ninety-nine mathematics teachers received their training outside the state, 81 received their training at Eastern State College,

76 were trained by the University of Kentucky, and Murray State College trained 56.

Eighty-six of the mathematics teachers hold a Master's degree, 449 hold a Bachelor's degree, and 71 do not have any degree.

Over 23 per cent of the mathematics teachers receive \$1500 or less per year, and more than 36 per cent receive over \$2000 per year. The average annual salary of the mathematics teachers in Kentucky in 1947-48 was \$1948.70+.

Less than four per cent of the mathematics teachers in 1947-48 were beginning teachers. There was more than 18 per cent turnover in mathematics teachers in the last year in Kentucky. The average teaching experience of the 594 mathematics teachers was 15.4+ years, and the average teaching experience in the present school was 5.8+ years.

In 1947-48 only 14 schools offered four courses in mathematics; 178 schools offered three courses; and 232 schools offered two courses. Twenty-six of the 37 schools that offered only one course in mathematics taught algebra, and 21 taught arithmetic.

This study indicates the need for better qualified teachers in the field of mathematics. If Kentucky is to meet the mathematics needs of its public school children, a solution to the problems of unpreparedness and maladjustment must be found.

The writer is offering the following suggestions, which he believes, if carried into effect would at least in part correct some of the deficiencies of our students in the field of mathematics:

1. Consolidation of the smaller schools in order to offer a more varied program of mathematics. Such a consolidation program would also decrease the number of fields in which a teacher is required to teach.

2. A teacher should be certified in prepared subjects only.
3. Standardization of salaries upon the basis of living costs and not upon the basis of the ability and willingness of the community to support the schools.
4. The State Board of Education and the teacher training institutions should call the attention of all employing agencies repeatedly to the importance of selecting teachers who are definitely prepared to teach the subjects for which they are employed.
5. A more detailed study should be made in connection with the shortage of mathematics teachers. If no more teachers are entering the field than this study indicates, the teacher training institutions should take immediate steps to encourage more students who are preparing to teach to enter this field.

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