



Date \_\_\_\_\_

EXCELLENCE IN TEACHING AWARD  
Science and Mathematics

State Director:

Dr. Paul W. Tweeten  
Consultant, Science Education  
Department of Public  
Instruction  
Grimes State Office Building  
Des Moines, Iowa 50319

Candidate in the Area of:  
(Check Only One)

Biology \_\_\_\_\_  
Chemistry \_\_\_\_\_  
Physics \_\_\_\_\_  
Earth Science \_\_\_\_\_  
Mathematics  X

Candidate's Record Form

The candidate should complete this form with complete information for the items requested. Use additional sheets if necessary.

Name Frank G. Flickinger Date of birth August 3, 1923

School in which you teach Waverly-Shell Rock Community Schools

Address of school Waverly, Iowa

School telephone number 352-3630 Home telephone number 352-3196

Residential address 307 11th Street, SW

City Waverly, Iowa Zip code 50677

Publications in professional or scientific journals.

None

What professional journals and scientific journals do you read regularly?

- Mathematics Teacher
- Education Today
- Midland Schools
- Phi Delta Kappan
- Scientific American (Mathematics Section)

List the professional, scientific, or educational organizations (local, state, and national) in which you are a member.

- Phi Delta Kappa (Delta Beta Chapter)
- National Council of Teachers of Mathematics
- Iowa Council of Teachers of Mathematics
- National Education Association
- Iowa State Education Association
- Waverly-Shell Rock Education Association

What offices, committee assignments, or program duties have you held in the aforementioned organizations? 1) I am presently serving a second 3 year term as treasurer of the Iowa Council of Teachers of Mathematics. 2) Chairman of the Committee for Resale of NCTM Materials at the name of site meeting in Cedar Rapids for the NCTM. 3) Have served as president, twice as vice-president, and treasurer of the Waverly-Shell Rock Education Association. Also chairman of the Salary Committee and chairman of the Pre-school Workshop Committee.

In what other pertinent school or community activities have you been engaged?

- 1) Chairman of the Mathematics Department.
- 2) Chairman of the Steering Committee of the N.C.A. Evaluation Committee for our high school.
- 3) Member of St. Paul's Lutheran Church Council and Chairman of the Board of Trustees.

During my term of office a new K-8 parochial grade school was built by the congregation. What Science Fair, Science Talent Search, Science Achievement Award, Student Institute, etc., winners have you sponsored?

I have worked with two students but have not had direct sponsorship.

List activities or accomplishments of former students in science/mathematics.

Last year one of my mathematics students was a National Merit Scholarship finalist. A number have been on the Honorable Mention list. Many have gone on to advanced placement or honors programs. Some have tested out of mathematics on a college level, based on their high school training. Doctorates, Masters, Phi Beta Kappa awards have been earned by former students.

What scholarships, awards, honors have you received?

Selected to be a charter member of the Delta Beta Chapter of Phi Delta Kappa. Graduated Magna cum laude from Wartburg College in 1953.

Education record (Include Institute, special program, etc., attendance)

<u>College or University</u>	<u>Attendance dates</u>	<u>Years</u>	<u>Degree</u>	<u>Field</u>
1) Muscatine Jr. College	1948-1950	2	A.A.	Mathematics
2) Wartburg College	1951-1953	2	B.A.	Mathematics
3) Iowa State Teachers College (Now U.N.I.) (Summers)	1954-1959	1	M.A. Ed.	Mathematics

Note: N.S.F. Institute in summer of 1956 as a part of 3) above.

Positions held (professional, teaching, administrative) in chronological order.

Name of organization or school	Position	Years	Number of classes per day
New Hartford Cons. School	Classroom Teacher	2	5
Waverly High School	" "	4	5 to 6
Waverly-Shell Rock Junior and Senior High School	" "	10	5 to 6

What types of teacher certification do you have?

Permanent Professional

What other pertinent information (programs, courses initiated, unusual teaching procedures, etc.) can you list to assist the selection committee?

- 1) From 1958-1960 I served as a member of a five man committee to write a course of study for the tenth and eleventh grades for the Iowa Department of Public Instruction. The work of our committee was completed but the final course of study for K-12 was not published due to lack of funds.
- 2) I helped establish an accelerated mathematics program in our school and have taught segments of this course for the last twelve years. As a result of this program I designed courses of study called Math IV and Math V, which continue beyond the Algebra, Advanced Algebra and Geometry sequence. The Math IV course, for its first three years was taught without a text and I included the topics of Solid Geometry, Analytic Geometry, Trigonometry and Statistics.
- 3) As a part of our adult education program, I have designed and taught a ten session course on the new concepts of mathematics for parents. This has been offered each fall for the last three years.
- 4) I have taught a four week arithmetic course for slow learners in grades 6-8 for the last two summers. This course stressed basic fundamentals.

Academic preparation (Show courses studied in college in the fields below, including Institutes, course number, title of course, year taken, number of semester hours earned, and grades received.)

Mathematics (cont'd)

Biology Iowa State Teachers College

- 693 Problem Teaching Senior High School  
Math 1954 - 2 - A  
506 Statistical Measurements - 1954-2 2/3-A  
603 Theory of Numbers - 1954 - 2 - B  
665 Mathematical Statistics - 1955 - 3 1/3-B  
695 Mathematics Institute - 1956 - 6-B  
290 Problem Teaching Junior High Math  
1959 - 2 - A  
272 Mathematical Statistics II - 1959 -3-B  
250 Modern Geometry 1959 -3-B  
133 Elementary School Math Workshop  
1968-3-A

Physics

Wartburg College

- 101 College Physics 1951 - 4 - A  
102 College Physics 1952 - 4 - A  
201 Electricity and Magnetism 1952 - 4 - A  
202 Light and Optics 1953 - 4 - A

Iowa State Teachers College (U.N.I.)

- 652 Analytical Mechanics 1955 - 2 - A  
138 (NBC-TV) Modern Physics 1959 - 4 - A

Mathematics

Muscatine Junior College

- IA College Algebra, Trigonometry -1948 - 5 -A  
Analytic Geometry  
IIA College Algebra, Trigonometry -1949 - 4 -A  
III Calculus - 1949 - 5 B  
IV Calculus - 1950 - 5 B

Wartburg College

- 303 Theory of Equations - 1951 - 2 - A  
304 College Geometry - 1951 - 2 - A  
403 Complex Variables - 1952 - 4 - B  
315 Teaching Methods (Math) - 1952 - 2 - A-  
302 Advanced Calculus - 1952 - 4 - B  
401 Differential Equations - 1953 - 4 - B<sup>+</sup>  
409 Survey of Mathematics - 1952 - 1 - A  
410 Survey of Mathematics - 1953 - 1 - A-

(Continued above)

Chemistry

Muscatine Junior College

- 1 B College Chemistry 1948 - 4 - B  
IIA College Chemistry 1949 - 4 - B

Earth Science

Education

Muscatine Junior College

- III Educational Psychology - 1949 - 3 - A

Wartburg College

- 101 Introduction to Education - 1951 - 3-B<sup>+</sup>  
316 Secondary School Methods - 1952 - 3 - A-  
412 Tests and Measurements - 1952 - 3 - A  
420 Observation and Practice  
Teaching 1953 - 3 - A

Iowa State Teachers College (U.N.I.)

- 604 Educational Research - 1954 - 2 2/3 - A  
684 Philosophy of Education - 1954 - 2 - B  
631 Curriculum Development Secondary  
School 1955 - 3 1/3 - B  
533 Secondary Education Workshop - 1955-2-B  
133g Programed Instruction Workshop - 1963-A

Write a brief essay about your teaching. This should include a short discussion of your teaching philosophy and the role of science/mathematics in general education. You might describe any of your activities not covered in the above items.

I enjoy teaching, especially on the junior and senior high school level. I enjoy teaching even more since the subject I teach is mathematics. Contrary to some beliefs, mathematics is not a "dead" subject, but it is very much alive and adaptable to the changes in education. I am also one of the advocates for the teaching of what is commonly called "new or modern mathematics." This belief I try to make real in the courses I teach by trying to make the material fit the mathematical model -- the vertices of an equilateral triangle. Each vertex is to represent 1) the needs of the child, 2) the needs of mathematics and 3) the needs of the community.

Mathematics can be made an enjoyable subject to learn even if it is a necessary subject. Each child regardless of his capabilities has a need for mathematics. However the degree of need is not the same for all children. Herein I believe lies the greatest challenge, the challenge of adapting to the needs of the individual. Schools are not built to give my colleagues and I employment, but to provide the best in education for that one child.

Eric Temple Bell wrote a book whose title Mathematics, Queen and Servant of Science does a very good job of describing the unique role played by this subject. What other subject can stand so supreme and yet bend to the service of mankind.