The Statistics Teacher Network

THE ASA-NCTM JOINT COMMITTEE ON THE CURRICULUM IN STATISTICS AND PROBABILITY

In this first issue of *The Statistics Teacher Network*, we would like to provide a brief history of the ASA-NCTM Joint Committee and enlist your support of its present and planned activities.

The American Statistical Association and the National Council of Teachers of Mathematics formed the Joint Committee in 1968. There are four members from each organization who are appointed by the respective presidents for three year terms. The impetus for the formation and early success of this Committee was provided by Frederick Mosteller of Harvard University who served as its first chairman. Under the guidance of Professor Mosteller, the Committee published *Statistics: A Guide to the Unknown* and the series *Statistics by Example*.

In 1973, the chairmanship moved to Richard Pieters of NCTM and the work of the Committee focused on in-service training of teachers by using minicourses. These minicourses were funded by a grant from NSF.

The Committee chair alternates between ASA and NCTM, and thus an ASA member, Robert Hogg of the University of Iowa, took over as chairman in 1977. During this period, the Joint Committee concentrated on summer institutes for teachers and local workshops, such as the VAN STAT workshops in British Columbia.

Jim Swift of NCTM assumed the chairmanship in 1980. During the past two years, the Committee has produced an *Annotated Bibliography* (available from NCTM) of books and other materials in statistics and has written and edited materials that can be used in the classroom for the introduction of topics in probability and statistics. These materials were used in a highly successful leadership conference held at Williamsburg, Virginia in December, 1981, with forty-six enthusiastic mathematics teachers and supervisors.

The materials used at Williamsburg are now being edited further for possible publication in 1983. We are planning four booklets: *Exploring Data, Probability, Simulation,* and *Information from Samples*.

Other current activities include promotional and organizational work for the First International Conference on the Teaching of Statistics which was held in Sheffield, England in August 1982. In a related matter, we have established a Subcommittee on Meetings which would be happy to receive information from readers on meetings for which we might provide a speaker. Further, our Subcommittee on State Curricula will gather information on curriculum guidelines and would be happy to hear from readers on the pros and cons of such guidelines.

Finally, as you see, we have established *The Statistics Teacher Network* as a newsletter and vehicle for information exchange among those interested in the teaching of pre-college statistics. We want to emphasize the network responsibility of each person receiving this

publication. Send us news items, information on new products, information on meetings, questions, comments on ideas that have worked (or not worked) for you, etc. It is the responsibility of the readers to provide enough information to keep the network going! We think there is considerable interest in this project, and we are counting on you to help.

In summary, all of us on the Joint Committee believe that probability and statistics should be taught at the elementary and secondary level. This is important not only to introduce simple statistics concepts in order that the students might become useful citizens, but also to examine and solidify number concepts through interesting and practical applications. We are working, but we need your help!

— Dick Scheaffer, Chairman
University of Florida

NEW PROGRAMS

The New York State recommended mathematics program for grades K-6 was published in 1980 and is now being used by schools throughout the state. The curriculum is organized into five major strands: Number and Numeration, Operations with Whole Numbers, Operations with Fractions, Probability and Statistics, and Geometry and Measurement.

Chance events are explored as early as kindergarten when the syllabus suggests the use of colored spinners for decision making and the use of such language as "more likely" and "less likely." Children begin to gather, tally, record, and graph data in first grade. In third grade, children use concrete objects to make arrangements, use tree diagrams to count outcomes, and use fractions to express probabilities. Finally, in the fifth and sixth grades, the syllabus suggests that children experiment with random samples and make predictions based on sample data.

The seventh and eight grade curriculum, now being revised, will continue the probability and statistics strand.

The New York State publication, *Mathematics K-6: A Recommended Program for Elementary Schools*, is available from the Bureau of General Education Curriculum Development, The State Education Department, The University of the State of New York, Albany, New York 12234.

—Claire M. Newman
Queens College of the
City of New York

LETTERS

Please write to the editor if you would like to share books, articles, ideas, or lessons that have worked for you.

An Interest Raisin Project

How many raisins are in a slice of raisin bread? Does the number vary from brand to brand? You will need two loaves of raisin bread, of different brands. Each child is given a slice and told to count the number of raisins in the slice. Data is collected for each loaf separately and a bar graph is constructed for each loaf. The median is found and discussed. How do the two loaves compare? What is the cost of each loaf? Which one is a better buy if you want more raisins? In the 6th grade, we found the mean and mode of the number of raisins in a slice and discussed the significance of those terms.

—Miriam R. Revkin
Brooklyn, NY

NEW PUBLICATIONS AND PRODUCTS

As this is the first issue of the newsletter, we will review several oldies-but-goodies just in case you have missed them.

Hoffer, et al.
Statistics and Information Organization
Creative Publications, 1977,
881 loose-leaf pages, $43.50

This excellent set of materials has four sections: classroom materials, content for teachers, didactics, and teaching emphases, plus an annotated bibliography. It is the largest single source of reproducible classroom materials (over 500 pages) for the junior high school. The materials for students introduce topics from many disciplines and are activity oriented. This one is a must, in spite of its price.

Moore, David S.
*Statistics: Concepts and
Controversies*
Freeman, 1979, 313 pages,
paperback, $9.50

This book has statistical literacy rather than computation as its goal. The author's aim is to make statistics accessible by teaching verbally rather than symbolically and by discussing applications and issues of broad public concern. A wide range of examples, using real data, is discussed. The issues considered are far too rarely covered in statistics courses. The exercises require understanding of concepts rather than formula manipulation. While this book is not organized as a high school text, it makes an admirable resource book for students and teachers.

Teaching Statistics
Department of Probability
and Statistics
The University
Sheffield, United Kingdom
S102TN
Published three times a year.
$11.50

This welcome new journal for secondary classroom teachers emphasizes the teaching of statistics. Most articles translate directly into a classroom lesson. The articles are similar in style and readability to those in the *Mathematics Teacher*.

Tanur, Judith, et al.
*Statistics: A Guide to the
Unknown. Second Edition.*
Holden Day, 1978, 496 pages,
paperback, $12.50

This very popular book describes important applications of probability and statistics in many fields. Since the publication of the first edition in 1972, it has had a strong impact on the teaching of statistics. The book contains 46 essays by practicing statisticians that can be read without any special training in mathematics, statistics, or probability. The principal purpose of this book is to make clearer to students the contributions statisticians make to society. It should be required reading for every teacher, and for all high school statistics classes.

Mosteller, Frederick, et al.
Statistics by Example
Addison Wesley, 1972,
four paperback booklets, $7.20 each

This companion series to *Statistics: A Guide to the Unknown* has also had a strong impact on the teaching of statistics. The strength of this series lies in its interdisciplinary nature and its selection of appealing problems with real data. The four volumes *(Exploring Data, Weighing Chances, Detecting Patterns,* and *Finding Models)* each contain a discussion of twelve to fourteen problems along with exercises based on the problems.

HELP!

This section of the newsletter is for your questions and requests. Please write to the editor if you have any questions of your own. If you help anyone solve a problem, please send a copy of your letter to the editor as there are others who will want the information.

I need a sequence for statistics and probability concepts in K-3 and 4-6. I'd be glad to work with others on this.

   —Jacelyn Marie Rees
     Southern Station Box 9224
     Hattiesburg, MS 39406

I need materials for preservice and inservice elementary teachers (K-6) to teach and reinforce basic concepts of probability and statistics for use in a course for elementary education majors and for in-service training.

   —Sister M. Geralda Schaefer
     1400 N. 16th Street #111
     McAllen, TX 78501

Does anyone have the data bank for the *STATLAB* textbook on a floppy disk for a micro-computer?

   —Jim Swift
     RR #3, Site E
     Nanaimo, BC V9R 5K3

Several members of ASA and NCTM are writing materials on Exploratory Data Analysis for junior high school students. We would like to receive sets of raw data that have been of interest to students of this age.

—Jim Landwehr
Bell Laboratories — 2C-471
600 Mountain Ave.,
Murray Hill, NJ 07974

CALENDAR

Please write if you know of meetings coming up that will be of special interest to teachers of statistics.

The California Mathematics Council, Southern Section annual meeting to be held at the Long Beach Convention Center on November 12-13, 1982 will have a probability and statistics strand.

The Illinois Mathematics Council will hold a meeting in Urbana on November 12 and 13. There will be several talks on statistics, including workshops by Jim Swift on statistics projects for students and on information from samples.

The NCTM meeting in Charlotte, NC on November 11-13 will include talks on statistics.

The VANSTAT workshop will be held in February, 1983 and will concentrate on developing a scope and sequence for statistics in grades 1-12 in British Columbia. If you are interested in attending, contact Jim Swift RR #3, Site E, Nanaimo, B.C. V9R5K3.

PRECOLLEGE EDUCATION IN MATHEMATICS AND SCIENCE

The National Academy of Sciences and National Academy of Engineering held a convocation on precollege education in mathematics and science on May 12-13, 1982. The general theme of the many speakers was that mathematics and science education in the U.S. is in deep trouble. We are in the midst of a sharp decline in the quality as well as quantity of such education. The supply of experienced teachers is decreasing and replacement teachers

are inadequately trained. Students seem to be taking fewer and fewer science and math courses, even when they are available. This state of affairs has serious consequences for our nation as it affects the quality of individual lives, the economic vitality of the country, and the national security.

Those interested in education must realize that this is not a problem that the federal government will solve on its own. Rather, federal, state and local governments, along with business and industry, must work on a team approach if any real progress toward quality education in the sciences is to be forthcoming.

As more attention is focused on this problem all of us should keep up with local and state efforts at curriculum changes, teacher certification changes, etc. The time is ripe for introducing more statistics into the curriculum!

WHERE TO WRITE

Address all letters, announcements, questions, and requests to get on (or off?) the mailing list for the newsletter to the editor,

Ann Watkins
22660 Hatteras Street
Woodland Hills, CA 91367

Please share this newsletter with other teachers interested in statistics. You may photocopy anything in it you wish.