

*International Study Group
on Ethnomathematics (ISGEM)*

NEWSLETTER

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Formation of ISGEM

At the 1985 NCTM Annual Meeting in San Antonio, a few of us lingered after Jeremy Kilpatrick's talk on "Research in Mathematics Education around the World". Ubiratan D'Ambrosio snagged three of us and asked if we would like to attend a short meeting. Unsure of just what he had in mind, we nevertheless eagerly followed him. We found an unoccupied meeting room and got down to business.

On various occasions we had listened to Prof. D'Ambrosio's talks on Ethnomathematics. We had just heard Professor Kilpatrick emphasize the impor-

ance of Ethnomathematics and been impressed by the keynote address given two nights before at the research pre-session by Alan Bishop of Cambridge University on "The Social Dimensions of Mathematics Education in Research." Prof. D'Ambrosio explained that he felt the concept of Ethnomathematics had generated enough interest that it was time to form a study group. We readily agreed and eagerly began to plan some initial activities.

It was decided we would publish a newsletter to serve as a vehicle for communication of thoughts and projects on Ethnomathematics. Each member of the initial Advisory Board would put together a mailing list of colleagues whom they knew were interested in Ethnomathematics. Plans were made to arrange for special sessions on Ethnomathematics at the Interamerican Mathematics Education Conference in Guadalajara, Mexico, in November and at the next NCTM annual meeting.

Gloria Gilmer of Coppin State College agreed to serve as the first Chair of the newly formed group. Rick Scott of the University of New Mexico took on the responsibility of editing the first Newsletter.

Current plans call for the Newsletter to be published twice a year. You are encouraged to contribute to the Newsletter: concept papers, information on research in Ethnomathematics, particulars on relevant professional meetings, book reviews, annotated bibliographic entries are particularly solicited, and any ideas you have for promoting the study of Ethnomathematics are welcome.

ETHNOMATHEMATICS: WHAT MIGHT IT BE?

The coining of the term "Ethnomathematics" can probably be credited to Ubiratan D'Ambrosio. In recent speaking engagements and writings, Prof. D'Ambrosio has emphasized the influences of sociocultural factors on the teaching and learning of mathematics.

Ethnomathematics lies at the confluence of mathematics and cultural anthropology. At one level, it is what might be called "math in the environment" or "math in the community." At another, related level, Ethnomathematics is the particular (and perhaps peculiar) way that specific cultural groups go about the tasks of classifying, ordering, counting and measuring.

Although Ethnomathematics has only recently received attention from mathematics educators, anthropologists (and before them world travelers) often commented on the peculiar uses of mathematics among indigenous groups. Various other branches of Ethnoscience such as Ethnobiology, Ethnobotany, Ethnochemistry and Ethnoastronomy gained acceptance around the turn of the century and have a history as recognized disciplines. The formal development of Ethnomathematics may have been slowed by the pervasive view that somehow mathematics is universal and culture free. However, recent research is revealing that much of the mathematics used in daily practice, as affected by distinctive modes of cognition, may be quite different from that which is taught in school.

Ethnomathematics suggests a broad conceptualization of mathematics and "ethno-." A broad view of mathematics includes ciphering, arithmetic, mensuration, classifying, ordering, inferring and modeling. "Ethno-" encompasses "identifiable cultural groups, such as national-tribal societies, labor groups, children of a certain

age bracket, professional classes, and so on" and includes "their jargon, codes, symbols, myths, and even specific ways of reasoning and inferring."

Prof. D'Ambrosio has suggested that the basic question concerning Ethnomathematics is: How "theoretical" can it be? Anthropological research has indicated that many culturally differentiated groups "know" mathematics in ways that are quite different from academic mathematics as taught in schools. The tendency has been to consider these "ad hoc" mathematical practices as non-systematic and non-theoretical. In contrast, the study of Ethnomathematics approaches the "underlying structure of inquiry" in ad hoc mathematical practices by considering the following questions:

1. How are ad hoc practices and solution of problems developed into methods?
2. How are methods developed into theories?
3. How are theories developed into scientific invention?

Along with answers to the above questions, examples of Ethnomathematics derived from culturally identifiable groups, and related inferences about patterns of reasoning and modes of thought can lead to curriculum development projects that build on the intuitive understandings and practiced methods students bring with them to school. Perhaps the most striking need for such curriculum development may be in Third World countries, yet there is mounting evidence that schools in general do not take advantage of their students' intuitive mathematical and scientific grasp of the world.

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NCTM Mathematics
Equity Conferences

During the 1982-1983 academic year a series of conferences was sponsored by the National Council of Teachers of Mathematics (NCTM) to help elementary and secondary school educators address the needs of "underrepresented" groups in mathematics education. These groups are composed of students who do not take advanced mathematics courses or fail to enter mathematics related vocations and careers in proportion to their population. The groups include girls, Blacks, Native Americans and language minority students.

These conferences were conducted at five sites throughout the U.S. In addition to the training educators received, these meetings resulted in the development of a network of educators to continue the sharing of information about students and instructional practices, and the publication of Handbook for Conducting Equity Activities in Mathematics Education (available from NCTM, 1906 Association Dr., Reston, VA 22091).

The conferences also sensitized mathematics educators to the need to identify and address a number of sociocultural variables - learning styles, cultural background of students, socioeconomic status, etc. - in the design and implementation of curriculum. An indirect outcome of the Equity conferences was an interest in "Ethnomathematics" (the term later coined by Prof. D'Ambrosio) among mathematics educators in the U.S., and partly as a result of this interest the International Group on Ethnomathematics has received support in the U.S.

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