

The 11th International Congress On Mathematical Education

, Monterrey, Mexico

July 6 - 13, 2008

The Role of Ethnomathematics in Mathematics Education

Session Name: TEch/thNOMATH

Addressing questions:

1. What is ethnomathematics?
2. How is ethnomathematics related to mathematics, anthropology, or the politics of mathematics education?

Session Length: Regular, 60 minutes

Speaker:

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Title of Session (140 Characters):

TEch/thNOMATH: The Pedagogy and Practice of Hidden Mathematics

Description of Session (350 Characters):

“Ethnomath” is understood by the community at large – if at all – as the overlooked mathematics of “othered” cultures. This dichotomy between Western mathematics and everything else makes it difficult for students and teachers to recognize the hidden mathematics of technology. I argue that technomath *is* ethnomath and explore school and technological uses of mathematics.

Detailed Description of Session (1500 Characters, 200-250 words):

Students’ unawareness of how which mathematics is contextualized within their own cultures’ makes it difficult for them to correlate their abstract teachings from school mathematics with the sophisticated, creative mathematics that fire technology.

In some ways, as society becomes more technologically reliant, Mathematics theory and practice move away from being abstract and decontextualized, becoming more embedded, more implicit, and more domain-specific, thus more ethnomathematical in nature. Teachers have not been trained to mine mathematically driven contemporary opportunities in film, music, and computerized automation for mathematical ideas, and so are less likely to recognize their implicit use. They are also less able and less likely to make connections between these real world applications and mathematical theory.

Semantically and practically, school and professional mathematics are often at odds with each other. School mathematics is characterized by its use of strict algorithms or student-developed strategies to solve rigidly defined problems that have a single correct answer, while relying on a limited mathematical vocabulary. Professional uses of mathematics are embedded in aspects of practice, contextualized by flexible expectations that allow for several possible solutions to a problem.

This presentation will explore the edges between school and professional technological uses of mathematics and suggest ways in which K-8 teachers might negotiate the border lines, providing students with greater opportunities to recognize embedded mathematics –*tech/technomath* – and explore for themselves how school mathematics is integrated into professional and technological practices.

Presentation Needs:

Special Requests: None

Date/Time:

Reason:

Equipment:

LCD projector or direct connection from laptop to display monitor. Note: Large screen TVs are being used for this more and more these days.