THE POTENTIALITIES OF (ETHNO) MATHEMATICS EDUCATION: AN INTERVIEW WITH UBIRATAN D’AMBROSIO

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Abstract: This chapter aims at deepening and founding questions on ethnomathematics in terms of its sociohistorical construction and its influence on the extent of the relation between mathematics education and school knowledge, mathematics education and history of mathematics, education processes and teacher education, pedagogical practice and different sociocultural contexts. The dynamic of the organization of the text, a transforming experience by itself, is a conversation between the authors, beginning with something close to an interview with Professor D’Ambrosio, developing into a teamwork, effectively in the form of a dialogue, even though the authors differ in their history and the knowledge they have amassed in the field of ethnomathematics

Keywords: Ethnomathematics, History of Mathematics Education, Brazil

Domite: I am sure you can imagine how important this conversation is to me, both personally and professionally. I have learned a great deal from you not only about mathematics education, but also about life, so it is with admiration and gratitude that I begin our conversation.

D’Ambrosio: It is a privilege to have this conversation with you. Since the early moments when the ideas behind ethnomathematics were taking shape, the exchanges with you were pleasant and inspiring and I feel now a great identification of viewpoints with you.

Domite: As this interview will be published as a book intended to share mathematics educators’ ideas worldwide, I would like to point out your interest in mathematics and mathematics education and ask you to tell us something about your background.
D’Ambrosio: Let’s talk about my career first and how I got involved with mathematics education. I was born in 1932. In 1949 I was already working as a tutor for people preparing to enter public services in Brazil (mainly teaching Financial Mathematics). I graduated in 1954, with a major in Mathematics (Pure) and taught for some years in high schools. In 1958 I was hired as a full-time instructor and graduate student at the University of São Paulo, USP, Brazil and received my doctorate in 1963, with a dissertation on Calculus of Variations and Measure Theory (very pure!).

Domite: But you also worked in the USA for some years, didn’t you?

D’Ambrosio: In 1964 I went to the USA as a research associate at Brown University for one year, but due to the political events in Brazil, I stayed there and became a tenured professor at the State University of New York at Buffalo where I had my first PhD candidate. He wrote his dissertation on Stability of Differential Equations.

During that time, my interest in education was occasional and superficial. In 1972, I returned to Brazil and became the director of the Institute of Mathematics, Statistics and Computer Science of the State University of Campinas (UNICAMP), which became a few years later a major research institution. My first Brazilian doctoral candidate in Campinas wrote a dissertation on Measure Theory and Minimal Surfaces.

Domite: And when did you realize the potentialities of mathematics education, especially its political and social aspect?

D’Ambrosio: From this period onwards I began to realize that mathematics education should be a priority for Brazil. I was motivated by the cultural and social barriers which were responsible for the failing and dropping out of children coming from marginalized groups. They could not compete with children coming from families with better schooling. At the same time, I developed an interest in the history of mathematics and in broader transcultural and transdisciplinarian theories of knowledge. This is my background.

Domite: You are an acknowledged authority in mathematical education and a philosopher of education. You have been active in furthering different movements in mathematics education, predominantly the cultural history of mathematics, ethnomathematics and curriculum policy making. What have been the goals and the focus of your work in recent years? Did something change?

D’Ambrosio: My current concerns about research and practice in math education fit into my broader interest in the human condition as related to the history of natural evolution – from the cosmos to the future of the human species – and to the history of ideas. Particularly, the history of explanations of creation and natural evolution. In the past years – surely much before the last five – my motivation has been the pursuit of peace in all four dimensions: individual, social, environmental and military. I attribute the violations of peace, in all these four dimensions, to the mistaken course of Western civilization. I try to understand the founding myths of Western civilization, and this links to my research on the history of monotheistic religions (Judaism, Christianity, Islam), of techniques, of arts and of how mathematics permeates all this. A great support is gained by looking into non-Western civilizations. I base my research on established forms of knowledge.