

EMPOWERING MATHEMATICS IN THE ARAB WORLD: EDUCATORS' RESPONSIBILITY

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This presentation highlights an issue, which could negatively affect the power, and status of mathematics, unless we, as a mathematical community, face it seriously, persistently, and quickly. The crucial role of raising the appreciation of the power of the 21-century mathematics as a tool of thinking is addressed. The issue is dealt with three parts; a clarification of the 21st century mathematics education vision, the traditional vision, and our responsibility to empower mathematics by enhancing the role of mathematical concepts as tools for thinking.

An argument is put forward that, in the past, the vision of mathematics as a formal system, a collection of facts, rules, and principles, had no real harm on the standing of mathematics. On the contrary, this vision was reflecting mathematics as a very respectable discipline with special halo, and as a subject that is studied and practiced by the elite. Today, with all the technology and cheap calculators, the matter has changed. Within the traditional vision, the respectable view of mathematics and its power is at risk.

As a mathematical community, we should empower mathematics by adequately exploiting the implicit power of mathematics in school. This can happen when our emphasis shifts –in a real active way- from seeing mathematics as a calculating tool to a vision based on the perception of mathematics as a conceptual engine for cognitive activities.

We have to act as a pressure group to publicize the idea that technology did not limit the usefulness of mathematics. On the contrary, it has made mathematics more alive, more growing, and more thoughtful.

We should empower mathematics by teaching it in such a way that it creates a deep impact on the learners' thinking. This can be achieved through solid mathematics curricula, capable and knowledgeable teachers, rich classrooms environment, and a supportive educational policy.