Chapter 7
Prospect and Challenges of Mathematics Education in the Modern Globalized Curriculum

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ABSTRACT

The pursuit of mathematics for the achievement of prosperity and advancement is very conspicuous in many national developmental plans both in developed and underdeveloped countries. In this chapter, an attempt was made to examine some of the major challenges facing mathematics education in the modern globalized curriculum and its prospect. It was argued that the success of the teaching and learning of mathematics could only be achieved when the subject is given its rightful place. The chapter highlighted the characteristics and usefulness of mathematics, aims and values of mathematics education in the society. Finally, meaningful suggestions were proffered that if adopted will induce a positive change into the teaching and learning of mathematics.

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INTRODUCTION

School mathematics is traditionally perceived as an elitist subject for more academically oriented learners. In most countries, especially Southern countries, mathematics is a criterion for admission to universities and colleges and it is associated with most of the developments of the technological, information age. Some scholars are concerned that heightened description, prescription, and prediction of the physical and social sciences boosts the utilitarian thrust towards mathematics.

The International Mathematics Study, for example, administers a standard mathematics examination to 13-year-old children from various parts of the world. This examination is aimed at studying teaching and learning, but at the same time it also points to some of the challenges of school mathematics in the era of globalization. In what ways should a uniform mathematics curriculum be taught to 13-year-olds around the world? Critical mathematics scholars voice the need to reflect on the value and the benefits of an excellent performance in an international mathematics examination. Assuming that the standard examination is methodologically accurate and not culturally biased (as mathematics itself is), what does it measure? Despite the possible contributions to mathematics teaching (such as enhancing international collaborations), participation in such international studies are likely to promote international curriculum standards that might negatively influence mathematics teaching.

The last two decades have brought an increased interest in issues of race, gender, and political democracy in mathematics education. Critical theorists criticize school mathematics for its lingering colonial mentality that continues to consider anything different from it as inferior, requiring the work of civilization (Walkerdine, 1990). Given its Eurocentric nature, Wright (1988) maintains, modern mathematics has tended to underplay the contributions of other cultures, and students are rarely informed about such contributions. Mainstream mathematics continues to mistakenly trace its origin solely to Greece, ignoring its historical bases in Egypt, Babylonia, India, and the Middle East, and the parallel mathematical pursuits of the Chinese, the Japanese, Hindus, and Inca-Aztec cultures (P. Davis & Hersh, 1981; Ghever Ghese, 1991). If students want to know the resemblances (probable sources or variations) of Western mathematics to mathematical enterprises in nonwestern traditions and their different tracks of inquiry to what resources can they turn? It seems crucial