



Maestría en Ciencias, Especialidad en Matemática Educativa

Área de los Niveles Básico y Medio Básico

Departamento de Matemática Educativa, Cinvestav

Examen de admisión 2016

Lectura en el idioma Inglés - Comprensión, análisis y síntesis -

Nombre: _____

Fecha: _____

Texto para analizar extraído de:

Stanic, G. M. A., & Kilpatrick, J. (1992). Chapter 1 Mathematics curriculum reform in the United States:

A historical perspective. *International Journal of Educational Research*, 17(5), 407–417.

Responda las siguientes preguntas, considerando un máximo de 200 palabras para cada respuesta.

1. ¿Qué evento determinó que las reformas curriculares fueran incluidas en la agenda pública de EU?
2. ¿Qué momentos destacan en la historia de las reformas al currículum de matemáticas en EU?
3. ¿Qué es lo que se afirma en el artículo acerca de la incorporación de la aritmética, el álgebra, la geometría y la trigonometría al currículum de matemáticas en los Estados Unidos?
4. ¿Qué es lo que señalan Wheeler y Wojciechowska acerca del papel que jugó la visión de los matemáticos profesionales en las reformas del currículum de los años 50s y 60s?
5. De acuerdo a la lectura, ¿qué puedes concluir acerca de las reformas hechas al currículum de matemáticas en EU?
6. En tu opinión, ¿cuál debiera ser el rol de los matemáticos profesionales en los cambios y ajustes al currículum de matemáticas de la educación básica?

CHAPTER 1

MATHEMATICS CURRICULUM REFORM IN THE UNITED STATES: A HISTORICAL PERSPECTIVE

GEORGE M.A. STANIC and JEREMY KILPATRICK

College of Education, University of Georgia, Athens, GA 30602, U.S.A.

Abstract

In the United States by the turn of the 20th century, the basic precollege mathematics curriculum of arithmetic, algebra, and geometry was firmly in place. Since then, there have been changes but no substantial reform. The two most significant reform efforts during this century have been the move toward unified and applied mathematics as the century began and the modern mathematics movement of the 1950s and 1960s. Neither of these efforts had its intended effect on the school curriculum, though both left residues. In each case, however, the movement had a profound effect on the mathematics education community, particularly at the post-secondary level. Viewing curriculum reform as a technical rather than a moral and ethical process has led reformers to neglect the basic issues of curriculum discourse.

Introduction

There has been constant reform rhetoric but little actual reform of the school mathematics curriculum since the establishment of mathematics education as a professional field of study in the United States at the turn of the 20th century. Before that time, there clearly were significant changes in school mathematics as, for example, arithmetic and then successively algebra, geometry, trigonometry, and even, in a few schools, calculus became part of the curriculum. These subjects did not so much reform the mathematics curriculum as provide the original curriculum form which was to become the topic of much discussion and a source of frustration for reformers. Furthermore, despite concerns about school mathematics expressed by educators such as Warren Colburn during the early 19th century, curriculum reform was not a crucial issue as long as very few school-age children actually went to school. As the fraction of the school-age population attending school rose dramatically beginning in the middle of the 19th century, curriculum reform became an important part of the professional and public agendas. These new students were more a source of fear than excitement for most educators, who, in the words of Granville Stanley Hall (1904), saw them as a “great army of incapables.” It was in this context that attempts to reform the mathematics curriculum took on more urgency, especially since mathematics had become one of the greatest sources of failure in schools. And

it was in this context that our professional forebears set the standard for failure of curriculum reform that is our legacy.

Among the constant calls for mathematics curriculum reform, two historical moments stand out—the first at the turn of the century when a curriculum of unified and applied mathematics was the focus, the other coming during the 1950s and 1960s when modern mathematics was at the core of reform efforts. Others citing these same moments (Wheeler, 1989; Wojciechowska, 1989) have suggested that they occurred when the gap between the mathematics taught in schools and mathematics as a scientific discipline seemed particularly large and when the views of mathematicians on how to close the gap seemed to set the terms of debate. Mathematicians did indeed play a central role during each reform effort. That role, however, was not the same, and in both cases mathematicians were only part of a constellation of forces. The two eras represent “fault lines” in the field of mathematics education—not because of the changes they wrought in the school curriculum, but because of the consequences they had for the community of professional mathematics educators. Both reform efforts left certain residues in the curriculum, but it was not fundamentally reformed. In fact, both efforts perpetuated the elite status of those who already benefited from the school experience and had their most distorted effects on low-achieving students. In the end, the story of mathematics curriculum reform is not the story of a continual progression toward a curriculum that is best for students, teachers, and society nor even the story of different ideologies cyclically replacing each other’s influence on school mathematics; instead, it is the story of a developing community preoccupied with a limited and ill-defined agenda.