Abstract

Discriminating the role that visualization plays in school textbooks is a matter of interest in understanding the phenomena underlying the teaching and learning of mathematics, because, as it is outlined in this document, the type of function privileged in a textbook determines the readers role and assigns different in nature status to the employed representation. In this article we describe, on one hand, a methodology for analyzing textbooks that permits to characterize them using the role of visualization in the understanding or the development of the mathematical notion of area of plane surfaces. On the other hand, the application of the proposed method is illustrated by means of analysis of mathematics textbook designed for the fifth grade. There were three kinds of visual function found in textbooks: heuristic, informative and inductive, in some cases, these functions are interrelated, in others only one of them determines the role played by the visualization.

Keywords

Visual function, textbooks, plane surfaces area.