

What Is Proportional Reasoning?

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ABSTRACT

Almost all mathematics educators consider proportional reasoning as one of the most important components of middle school mathematics curriculum. It is a necessity for success not only in further mathematics topics but also in other areas of knowledge. Although its importance is commonly accepted, there is not a consensus on what proportional reasoning is. This study is based on two inspirers; the first one is the need for a crystal clear definition of proportional reasoning and the second one is the necessity for using the same terms by referring the same phenomena in order to make progress in a research area. The aim of this content analysis is to investigate proportional reasoning research articles published in five prominent mathematics education journals between the years 2007-2016. These articles were investigated in two respects; whether a definition of proportional reasoning is given or not and how proportional reasoning is defined. The results indicated that in some research articles no definition of proportional reasoning was given, some of them mentioned about only the importance of it, and others defined it as a skill, knowledge of rate and ratio, or a kind of reasoning.

Keywords: content analysis; middle school mathematics; proportion; ratio; reasoning