© 2013 FIZ Karlsruhe

ZMATH 2012f.00867

Tishkovskaya, Svetlana; Lancaster, Gillian A.

Statistical education in the 21st century: a review of challenges, teaching innovations and strategies for reform.

J. Stat. Educ. 20, No. 2, 56 p. (2012).

Summary: Over the past few decades there has been a large amount of research dedicated to the teaching of statistics. The impact of this research has started to change course content and structure, in both introductory and advanced courses for statisticians and those from other disciplines. In the light of these changes future directions in the teaching and learning of statistics must take into account new innovative pedagogical instructions, educational technologies and the abundance of web resources that are now available. This article examines different aspects of currently identified challenges in the teaching and learning of statistics and gives an overview of useful strategies and innovations for developing research-based statistics courses in the context of recommendations for reforms, outlining the place of information technology within this framework. The article presents a review of the literature on the topic of statistics education and gives instructors a set of guidelines for generating new and effective teaching material. The summarised recommendations incorporate many innovations employed in a variety of successful statistics classes today. The review is complemented by a collection of statistics related online resources currently available on the web.

Classification: K40 K70 U70 D30
Keywords: statistics; mathematics instruction; college instruction; educational change; instructional innovation; teaching methods; learning theories; web based instruction; electronic learning; computer uses in education; educational resources; statistics education; statistical literacy
http://www.amstat.org/publications/jse/v20n2/tishkovskaya.pdf