

1. Record Nr.	UNINA9910492149503321
Autore	Wess Raphael
Titolo	Measuring Professional Competence for the Teaching of Mathematical Modelling : A Test Instrument // by Raphael Wess, Heiner Klock, Hans-Stefan Siller, Gilbert Greefrath
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	9783030780715 3030780716
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (134 p.)
Collana	International Perspectives on the Teaching and Learning of Mathematical Modelling, , 2211-4939
Altri autori (Persone)	KlockHeiner SillerHans-Stefan GreefrathGilbert
Disciplina	510.71
Soggetti	Mathematics - Study and teaching Teachers - Training of Educational tests and measurements Mathematics Education Teaching and Teacher Education Assessment and Testing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Introduction -- Objectives and application areas -- Test development -- Implementation of the test -- Test quality -- Selected results -- References -- Attachment -- Modelling experiences -- Beliefs about mathematical modelling -- Self-efficacy about assesing mathematical modelling -- Modelling specific pedagogical content knowledge -- Test booklet.
Sommario/riassunto	This open access book presents a structural model and an associated test instrument designed to provide a detailed analysis of professional competences for teaching mathematical modelling. The conceptualisation is based on the COACTIV model, which describes aspects, areas and facets of professional competences of teachers. The manual provides an overview of the essential teaching skills in

application-related contexts and offers the tools needed to capture these aspects. It discusses the objectives and application areas of the instrument, as well as the development of the test. In addition, it describes the implementation and evaluates the quality and results of the structural equation analysis of the model. Teaching mathematical modelling is a cognitively challenging activity for (prospective) teachers. Thus, teacher education requires a detailed analysis of professional competence for teaching mathematical modelling. Measuring this competence requires theoretical models that accurately describe requirements placed upon teachers, as well as appropriate evaluation tools that adequately capture skills and abilities in this field. This book presents an instrument that measures the professional competences in a sample of 349 prospective teachers.

---