Record Nr. UNINA9910255158003321 Autore Niaz Mansoor Titolo Students' Understanding of Research Methodology in the Context of Dynamics of Scientific Progress / / by Mansoor Niaz, Mayra Rivas Pubbl/distr/stampa Cham: .: Springer International Publishing: .: Imprint: Springer. . 2016 **ISBN** 3-319-32040-8 Edizione [1st ed. 2016.] Descrizione fisica 1 online resource (69 p.) Collana SpringerBriefs in Education, , 2211-193X 507.1 Disciplina Soggetti Science - Study and teaching Learning, Psychology of Science Education Instructional Psychology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Introduction -- Theoretical Framework -- Method -- Results and Nota di contenuto Discussion -- Conclusions and Educational Implications -- Appendix 1 (Study Guide based on the Millikan-Ehrenhaft Controversy) --References... Sommario/riassunto This book discusses how to improve high school students' understanding of research methodology based on alternative interpretations of data, role of controversies, creativity and the scientific method, in the context of the oil drop experiment. These aspects form an important part of the nature of science (NOS). The study reported in this volume is is based on a reflective, explicit and activity-based approach to teaching nature of science (NOS) that can facilitate high school students' understanding of how scientists elaborate theoretical frameworks, design experiments, report data that leads to controversies and finally with the collaboration of the scientific community a consensus is reached. Most students changed their perspective and drew concept maps in which they emphasized the creative, accumulative, controversial nature of science and the scientific

method. .