

Abstracts

G. Bonaiuti, R. Cardarello, F. Passalacqua, G.G.E. Pastori, A. Pintus, M. Schenetti, *Evaluating the impact(s) of teachers' professional development: a review*

The effectiveness of in-service training and professional development interventions for teachers is a crucial topic within the field of education and educational research. This study examines the concept of “impact” and how it is understood and assessed in the literature. As part of a systematic review currently being conducted across academic databases, preliminary syntheses (meta-analyses and systematic reviews) have been extracted to determine the constructs and methodological tools used to measure impact in research on teacher training. The findings highlight a focus on assessing outcomes across a variety of levels, supporting the discussion of “impacts” of in-service training, observable through diverse methods and tools, and targeting at least three areas: teachers, students, and the broader educational context. This study thus provides a comprehensive synthesis that may inform educational policies, continuous training practices, and educational research in the field.

Keywords: teachers, in-service training, professional development, impact, systematic review.

A. Oro, I. Vannini, *Understanding the ESCS Factor Through Nuanced Perspectives: The Impact of School Contexts on INVALSI Mathematics Outcomes in an Exploratory Analysis of Six Lower Secondary Schools*

This study examines the interplay between students' socioeconomic and cultural status (ESCS) and their performance in mathematics, focusing on disadvantaged school contexts in Italy. Despite the democratic ideal of edu-

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cation as a tool for equitable intellectual and economic emancipation, numerous studies highlight persistent disparities tied to socioeconomic background. These disparities are particularly pronounced in Italy, where ESCS remains the most significant predictor of performance variability in national (INVALSI) and international assessments (OECD, IEA), with a marked North-South divide. The research explores the evolution of students' mathematics scores in schools situated in socioeconomically disadvantaged areas, focusing on changes observed diachronically before and after the Covid-19 pandemic. It also examines the relationship between individual ESCS and academic performance over time across different school contexts. To address these questions, the study analyzed mathematics INVALSI data from 2019, 2021, 2022, and 2023 for eighth-grade students from six lower secondary schools in economically disadvantaged areas spanning North to South Italy. Using descriptive analyses and moderated linear regression models, the study explored interactions between students' ESCS and school affiliation. Results revealed a notable trend in one specific school: by 2023, individual ESCS no longer significantly influenced mathematics performance. This finding suggests potential shifts in school practices or external factors mitigating the impact of socioeconomic background on academic achievement. The implications of these results, particularly in light of the broader educational equity discourse, are discussed in detail in the full article.

Keywords: educational equity, disadvantaged school contexts, socioeconomic disparities, mathematics achievement, INVALSI assessments.

A. Fornasari, *Gamification and School Inclusion: The PYRAMID Project to Foster Transversal Skills and Active Participation in Students*

This study focuses on the implementation of gamification within educational contexts, with particular emphasis on school inclusion. The PYRAMID project (an acronym for Promoting cooperative game-based learning in Young students: unRaveling Active Methodologies for Inclusion and Disabilities) aims to evaluate the effectiveness of game-based teaching methodologies in promoting the acquisition of transversal skills and fostering the active engagement of all students, including those with special educational needs. Through an experimental approach, the study seeks to analyze the impact of game elements on intrinsic motivation, active participation, and learning outcomes. It is hypothesized that gamification, by creating immersive and interactive learning environments, can stimulate greater student engagement and facilitate the acquisition of knowledge and skills. Data regarding the effectiveness of game-based methodologies are not included in the present contribution, as the project is still in

its experimental phase. However, these results will be presented in a subsequent publication. It is hoped that the collected evidence will demonstrate the effectiveness of gamification in promoting personalized and inclusive learning, offering practical guidance for the design of innovative educational interventions.

Keywords: gamification, active learning, school inclusion, special educational needs, formative assessment, instructional design.

C. Kavrayici, V. Shikhkamalova, A. Tamdogan Evliyaoglu, *Psychological Capital as a Predictor of Professional Resilience Capacities of Teachers in Public Schools*

This study examined the relationship between psychological capital and professional resilience among public school teachers. It aimed to determine the extent to which psychological capital predicts professional resilience. The quantitative study used a correlational survey model, with a sample of 410 teachers from Bursa Province, Turkey, during the 2022-2023 academic year. Data were collected using a Personal Information Form, the “Psychological Capital Perception Scale”, and the “Teacher Professional Resilience Scale”, and analyzed using SPSS 22. Descriptive statistics, Pearson’s correlation, and regression analysis were conducted. Results showed positive, significant relationships between psychological capital and professional resilience. Teachers rated their professional resilience as “moderate.” While hope, efficacy, and resilience (but not optimism) were predictors of professional resilience, overall perceptions of both psychological capital and professional resilience were not particularly high. The study suggests a need to strengthen teachers’ psychological capital and enhance their professional resilience.

Keywords: psychological capital, professional resilience, public schools, teachers.

B. Scoppola, F. Tovenà, C.M. Scoppola, *Appropriateness evaluation: the presentation of geometry in 3-6 school using structured materials*

We discuss the possibility to use structured materials in order to present the plane geometry to the children in 3-6 school. We comment on two texts in which this possibility is drastically excluded, and we discuss some more recent neurophysiological results that clarify the features that such early presentation of the plane geometry should have. We compare such features with the Montessori proposal.

Keywords: 3-6 school, plane geometry, structured materials, neuroscience, teacher’s training.