
Editorial

Research in Educational Sciences: Its Importance and Quality Standards for Evidence Based Educational Practice

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Education is a widely extended social practice with a long history around the world. Educational thoughts have been developed and put into practice already in the early civilizations. At the same time, the history of universal education is much shorter than the history of education as a social practice. Although universal access to education that provides equal opportunities for all is crucial for the progress of individuals and societies, many countries still struggle to implement it and it is far from perfect in those geographic areas that already claim to have it. On the one hand, there is an important progress in the field. On the other hand, it is still crucial to advance educational research, theory, and practice to promote the best education for all.

Educational thought has a long history, but educational research has a much shorter tradition. Educational thought has contributed greatly to educational practice. Nevertheless, thought alone is not enough for the 21st century. The development of scientific methods and sophisticated strategies for the data analysis make it possible to move from thoughts only to practice based on empirical findings and tested theories. Evidence-based practice is the one that is based on well-designed research studies which results guide actions and decisions. This is opposed to practice based mostly on tradition or intuition.

Although educational practice based on tradition or intuition is still very common, there are rigorous methodologies and research strategies that can verify its effectiveness. Nowadays, no good excuse exists for using intuition or tradition only in education. Many types of observer bias have been described in scientific literature and unless scientifically tested, it can even be true that an educational practice that seems to be effective is actually ineffective or even harmful. Thus, the 21st century education must be based on research and adapted to each context, group and individual. For me as the journal's Editor, publishing articles with the results of rigorous research studies in the field is, therefore, the most important mission of Educational Sciences: Theory and Practice.

Our Editorial Team including Associate Editors Vicente J. Llorent and Eva Romera, the Editorial Assistant Elena Nasaescu and myself as Editor in Chief is committed to publishing maximum quality research in educational sciences. All the articles submitted to the journal undergo a rigorous peer review and only articles that follow the highest scientific standards are accepted. For this reason, our acceptance rate is below 20%. Therefore, articles published in Educational Sciences: Theory and Practice are well written, include a thorough literature review, have high methodological standards, high level of data analysis, well elaborated and meaningful results and discussion. Our journal welcomes submissions reporting results of empirical studies with large samples and generalizable results. It also welcomes

submissions including systematic reviews and meta-analyses on different topics related to educational sciences. The following sections present some quality standards used during the peer review of the articles submitted to our journal

Empirical Studies

Empirical studies are especially useful to discover new relations among variables and effectiveness of interventions. They are based on primary data collected by the researchers. Any empirical study needs to be well justified including a theoretical framework with a thorough review of the previous studies on the same and similar topics. Besides the literature review, it is crucial to present a theory to be tested through the empirical study. It is not enough to state what is already known; it is also important to explain possible mechanisms behind the phenomena that are studied. Moreover, gaps in knowledge need to be identified and authors should explain why the study is important. Research questions, objectives and hypotheses should be clearly stated.

Methodology section needs to be detailed enough to be able to replicate the study. It is important that the number of participants is large enough to generalize the results. Ideally, samples are representative or resemble the population as much as possible. Participants are described including their number, age (mean and standard deviation), gender, ethnic-cultural characteristics and other relevant information. Instruments have good psychometric properties. They need to be described including a citation to the original version, number of items, number of factors, the type of the response scale (e.g., dichotomous, Likert), reliability of each factor used in the study (e.g., Cronbach's alpha, McDonald's omega), and other psychometric properties including the results of an exploratory factor analysis (for newly designed instruments) and/or a confirmatory factor analysis (for newly designed instruments and for established instruments). Ideally, design and procedure follow the highest standards and describe each step taken in the study, preferably in a chronological order. A data analysis section describes the statistical tests used in the study, includes details of different procedures (especially if they are not well known), and a citation to the statistical software used. Data analyses should be coherent and appropriate to test the hypotheses of the study.

Although different ways can be used to analyze the data, and procedures need to be adapted to each study design, hypotheses and research questions, there are some general standards that can be followed regarding the results section. In general, the reliability of single-item measures is much lower than the reliability of multiple-item scales. Thus, results should be presented for summative scales, not for items. Results of bivariate analyses (e.g., correlations, mean comparisons) are expected to be presented first, results of multivariate analyses (e.g., regression) are expected to be presented afterwards. It is desirable to present most of the results in tables (that are self-explanatory), and not to repeat information from tables in the text. Coefficients (e.g., r , F , t -test, β) should be included in the tables together with other results, not in separate tables (e.g., means and standard deviations for each group, accompanied by an F value with its degrees of freedom). Results are suggested to be ordered according to research questions, objectives and hypotheses.

Finally, results are expected to be discussed in relation to the previous studies, research questions, objectives and hypotheses. Findings reviewed in the theoretical framework should be compared to the results of the current study, and possible explanations of similarities and differences can be suggested. Strengths and limitations of the study should be highlighted. Implications for educational research, theory and practice are especially important and should be clearly stated in the discussion section. A summary of some quality standards for empirical research studies in educational sciences is included in table 1.

Table 1. *A summary of some quality standards for empirical articles in educational sciences*

<i>Sections</i>	<i>Some quality standards</i>
Introduction	Includes a justification of the study (why is it important?) and a thorough literature review of the previous studies on the topic (with all the important details including authors, study design and findings). Presents a theory that explains the mechanisms of the studied phenomena. Identifies gaps in knowledge. States research questions, objectives and hypotheses.
Methods	Sample is large enough to generalize the results and it is not biased. Details regarding study participants are described (number, age, gender, ethnic-cultural characteristics and other relevant details). Instruments have good psychometric properties and they are described including the authors (citation), number of items, the response scale and psychometric properties. Design and procedure follow high standards and describe all the steps taken by the researchers during the study in a chronological order. Data analyses are coherent and appropriate to test the hypotheses. The section includes all the statistical tests and descriptions of the procedures, and a citation to the software used for the data analysis.
Results	Obtained with an adequate statistical procedure (e.g., taking into account hypotheses tested, number of participants per group, normality of the data, linear vs. nonlinear relations among variables, assumptions) using scales rather than single items. Well presented, generally using self-explanatory tables and figures. Bivariate analyses results should be generally presented before multivariate analyses results. Coefficients should be included in tables with other results.
Discussion	Includes a discussion of the current findings in relation to the previous literature, research questions, objectives and hypotheses. Describes strengths and limitations of the study. Highlights implications for educational research, theory, and practice, together with future directions.
References	Mostly to scientific papers, including empirical studies and especially systematic reviews and meta-analyses. References are up to date (include the recent findings) and follow the APA style.
General	The article is generally well-written. Paragraphs start with a general idea, present evidence to support it and include a closing sentence (e.g., Findings on the topics are inconsistent. On the one hand, previous studies found... On the other hand, it was found that.... Thus, it is still necessary to clarify...). The discourse is "lineal" and not "circular" (e.g., (i) the article starts with an attractive idea presenting the study and briefly explaining why it is important, (ii) main concepts are explained, (iii) the theory is described, (iv) empirical studies that tested the theory or relations among the study variables are described including who studied what, general features of the study including participants' age and sample size, and findings, (v) gaps in knowledge are identified, (vi) a short paragraph or subsection presenting the current study is included). There are no repetitions. APA style is followed throughout.

Theoretical Studies

Educational Sciences: Theory and Practice also accepts theoretical studies that follow high methodological standards. There are different types of theoretical studies that include a literature review on a specific topic related to educational sciences. Traditionally, narrative reviews were the most popular. Narrative reviews include different studies on a topic according to the criteria of the reviewer who is usually an expert in the field. Thus, they are based on personal expertise, they are considered subjective and although they can provide some useful information, they also have a high risk of bias.

Systematic reviews, on the other hand, are conducted to include all the studies published on a particular topic. They are based on systematic searches, with comprehensive keywords, established inclusion and exclusion criteria, and coding schemes. They are therefore much more objective and replicable. Based on the studies included in a systematic review, a meta-analysis can be performed to calculate an overall effect size. Meta-analyses are especially useful because, unlike the “vote-counting” (i.e., counting the number of significant versus non-significant findings), can take into account the study size (studies with larger samples have higher weights) and its quality. Thus, meta-analyses based on systematic reviews can be especially useful to gain a global vision of a field, test the effectiveness of educational interventions, and relations among variables focused on educational sciences.

Regarding the quality standards, systematic reviews and meta-analyses are similar to empirical studies and most of the standards described in Table 1 also apply to these theoretical studies. Thus, systematic reviews and meta-analyses need to include a well-written introduction (usually shorter than the empirical studies, but with a similar structure), a methodology section with a rigorous description of search strategies, inclusion and exclusion criteria and data analyses. If a meta-analysis is performed, a table with a detailed description of the included studies is needed, together with forest plots including effect sizes of each included study, and an overall effect size, and ideally a table with an analysis of moderators. The discussion section should also be similar to what is expected in an empirical study.

Final Thoughts About Our Editorial Policy

Educational Sciences: Theory and Practice is committed to publishing maximum quality educational research including empirical studies, systematic reviews and meta-analyses. Our highly international and highly distinguished Editorial Board performs peer review of the submitted articles taking into account the standards included in Table 1, together with other quality criteria. Thanks to this commitment, in the past year, we managed to publish some maximum quality papers authored by the leading researchers in the field worldwide.

Besides the maximum quality of the published articles, our team is committed to producing a maximum quality journal as a whole. Thus, the journal has become highly international and inclusive, publishing articles from around the world. Although the journal welcomes submissions on any topic related to educational sciences, we do prioritize frontier research in the field. This includes topics such as inclusive education, promotion of prosocial behaviors, and prevention of antisocial behaviors. They also include studies focused on the use of information and communication technologies to improve education. Thus, we welcome international and multidisciplinary submissions that follow the highest scientific standards and fill important gaps in knowledge in educational sciences.