



Research Criteria for FCRR Reports

Evaluating research studies related to different curricula that are being considered is an important function of the Curriculum and Instruction Team at the Florida Center for Reading Research. Informed team members must have objective criteria to apply in conducting investigations and analyses of the research. At the same time, reviewers must have sufficient knowledge to be able to take subjective considerations into account when presented with unique or unorthodox studies. Nevertheless, there is a framework of factors that are considered by team members when reviewing research.

Experimental Design

True experiments with random assignment of participants are the preferred and strongest research design. This design includes a control group whose members have been randomly assigned along with the participants of the experimental group(s). When random assignment of participants is not possible, as is often the case, for example, for students who have already been distributed to specified classes that are to be used in a study, a quasi-experimental design is acceptable, in which a control group is still used. This quasi-experimental design is stronger if the control group and experimental group(s) are matched on any number of variables, such as age, educational background, SES, etc.

If such matching is not done, one runs the risk of performing the study with two seemingly equivalent groups that may, in fact, have some notable dimension that is significantly different between the groups and therefore is likely to influence experimental results. If a researcher has a suspicion that this is the case, he can allow the uncontrolled variables to serve as covariates and do a statistical analysis called an ANCOVA that corrects for some of the inequality. This, however, is not the preferred approach given the other options listed above.

Finally, a pre-/post-test design with no control group can be used; however, this design is the weakest of all those described because there is no way to know what might have transpired for the group even without the intervention having been implemented. For instance, perhaps growth over the course of the year would have developmentally occurred naturally without the intervention. Or, perhaps the rise in achievement test scores examined could be attributed to a change in the curriculum used, the time of day at which reading was taught, quieter testing situations one year than another, etc.

Sample

The population from which the sample is chosen should meet certain statistical criteria (e.g., a normal distribution), and should be large enough that the statistical analyses performed on it at the end of the study will be valid. Unless the experiment specifically designates otherwise, samples should be heterogeneous. And, although this is not critical, for the purposes of FCRR, the question should be raised as to whether the results obtained from the experimental sample can be generalized to the population of students in Florida's *Reading First* schools. Studies with adults only or non-English speaking students are obviously less desirable unless these factors are considered in the analysis and interpretation.

Investigators

A study conducted by a third-party investigator is preferred over one conducted by the publishing company or the author of the program. This preserves the integrity of the study and assures objectivity in data collection, analysis, and reporting of the results.

Reporting of Results

A study that is reported in a peer-reviewed journal is greatly preferred to one that is reported through another medium. If it is published in a peer-reviewed journal, one can be more certain that the study has been carefully examined by knowledgeable, objective professionals in the field, and that its sampling procedures, methodology, and data analysis have been well done. Reports found in other journals, publishers' materials, etc. are certainly worthy of consideration, yet the question of objectivity is inextricably present.

Statistical Analysis

Examination is given to the statistical procedures employed in analyzing the data to verify that they are appropriate for the research question being asked and the data being analyzed. Foundational assumptions that underlie the use of statistical procedures should be examined as well to be sure that they have been considered and satisfactorily addressed.

Method

The methodology described in the study should be sufficiently detailed that other researchers could replicate the study, and that readers or "consumers" of the research are not left with relevant questions as to how certain dimensions of the study were carried out. The reviewer must apply a critical eye to the methodology and question whether the methodology described is sound, well constructed, and comprehensive.

Performance Measures

Consideration is given to the assessment tools used to evaluate growth or progress in students' performance. All measurement tools must have adequate reliability and validity, and some assessment measures are preferable because they have a long track record across the years as being sturdy and accepted within the field as useful for the role that they perform. Secondly, the question should be raised as to whether or not the evaluation and progress-monitoring tool is appropriate for measuring elements of interest in the study. For example, the Test of Written Spelling would not be an appropriate choice for measuring phonemic awareness when the Test of Phonological Awareness is a standardized tool developed expressly for that purpose.