RESOLUTION OF THE TEXAS ACADEMY OF SCIENCE
SUPPORTING MODIFICATION OF THE SCIENCE ESSENTIAL KNOWLEDGE AND SKILLS TO INCLUDE ALL FOUR SCIENTIFIC RESEARCH DESIGNS

WHEREAS, the Texas Academy of Science is the original and longest standing organization of scientists and science educators in the State of Texas, with over 400 members, and
WHEREAS, the Texas State Board of Education is proposing to adopt the Science Texas Essential Knowledge and Skills that includes Science and Engineering Practices, and
WHEREAS, scientific research designs are used to answer scientific research questions, and
WHEREAS, the current Science Texas Essential Knowledge and Skills recognizes Descriptive, Comparative, and Experimental Research Designs as representative of all the types of scientific research designs, and
WHEREAS, Correlative Research Design is also recognized as an appropriate research design by the scientific community that measures the association between continuous variables, rather than compare discrete group means as in Comparative designs, and
WHEREAS, the failure to recognize Correlative Research Design unduly inhibits and confines student research and related textbooks and teaching strategies, and
WHEREAS, the State’s curricula should be modified to include the use of Correlative Research Design.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE TEXAS ACADEMY OF SCIENCE, that the Academy supports modification of the Science Texas Essential Knowledge and Skills to include all four scientific research designs for student investigations: Descriptive, Correlative, Comparative and Experimental Research Designs. The Academy suggests the following wording:

Students should experience identifying a research question and designing and conducting scientific investigations, as follows:

1. Identify the research question and objective of the scientific investigation
2. Identify if there is a hypothesis that tentatively answers the research question
3. If there is no hypothesis, use a Descriptive Research Design for the investigation
4. If the hypothesis predicts a relationship between continuous variables, use a Correlative Research Design
5. If the hypothesis predicts a relationship between group means, use a Comparative Research Design
6. If the hypothesis can be tested by comparing a treatment with a control, use an Experimental Research Design

PASSED AND APPROVED THE 5th of November, 2021.
Kathleen Wood, PhD, President
Francisco Gonzalez-Lima, PhD, President Elect
Matthew A. Barnes, PhD, Vice President