

ELEVATING  
EVIDENCE



# EMPOWERED BY EVIDENCE

*Reviewing Evidence under ESSA*



Office of Continuous Improvement and Support

## Introduction

In 2015, the U.S. Congress reauthorized the Elementary and Secondary Education Act through a bill known as the Every Student Succeeds Act (ESSA). One of the requirements of ESSA is that school improvement initiatives be rooted in “evidence-based activities, strategies, or interventions.” While many clearinghouses and databases exist to assist schools in identifying and selecting appropriate evidence-based practices, it is important that education leaders and shareholders have the skills necessary to evaluate evidence on their own allowing for more informed decisions. This instrument provides a framework to guide education leaders and shareholders through the process of evaluating evidence.

While completing this instrument, consider the following:

- Examples are provided throughout the instrument; however, these are not comprehensive. There are other possible answers to a question outside of those that have been included. For consistency, each set of examples is limited to only three choices. The Kentucky Department of Education (KDE) encourages shareholders to fully examine a piece of evidence and answer the questions to the best of their abilities, even if the answer is not provided in the exemplar.
- This instrument is for individual use. No two evaluations will look exactly the same. While it is not required, if this instrument will be used as supporting documentation for a grant application or school improvement plan, please be as specific as possible by including exact quotations and American Psychological Association (APA) citations from the source.
- KDE recommends reading and annotating a study in its entirety before attempting to complete this instrument.
- Responses must be typed in the grey boxes, which will expand as information is entered.
- While completing the instrument, a district/school may find it beneficial to consult other resources. Relevant resources may include:
  - [Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments](#)
  - [ESSA Evidence Levels](#)
  - [Evidence-based Practices Glossary of Terms](#)
  - Webinar: [Evidence-based Interventions: An Overview](#)
  - Webinar: [Evidence for ESSA – An Introduction to Study Design](#)

## Study Overview

Reason for Evaluation: TSI School Improvement Plan

If other, describe: [Click here to enter text.](#)

Study Citation (APA preferred): Ferretti, R. P., Lewis, W. E., & Andrews-Weckerly, S. (2009). Do goals affect the structure of students' argumentative writing strategies? *Journal of Educational Psychology*, 101(3), 577–589. <https://doi.org/10.1037/a0014702>

Hattie, John. (2008). *Visible Learning*. Abingdon, Oxon: Routledge.

Fendick, F. (1990). The correlation between teacher clarity of communication and student achievement gain: A meta-analysis (Order No. 9115979). Available from ProQuest Dissertations & Theses Global. (303902268). Retrieved from <https://www.proquest.com/dissertations-theses/correlation-between-teacher-clarity-communication/docview/303902268/se-2>

Identify the Intervention Studied: Teacher Clarity/Using goals and learning outcomes

Identify the relevant outcome(s) of the study. A relevant outcome is the student outcome(s) (or the ultimate outcome if not related to students) that the proposed process, product, strategy or practice is designed to improve, consistent with the specific goals of a program (i.e., reading comprehension).

Teacher clarity, according to John Hattie, whose meta-research has found it to be one of the most important learning interventions available to educators. Teacher clarity has been found to have an effect size of  $d= 0.75$ . Specifically, by engaging in work around teacher clarity will lead to the ability of students to self-manage their learning. While the goal is to improve universal instruction or Tier 1 for all students, it will also strengthen student achievement for our most at-risk and vulnerable populations. Tier 1 instruction through increased teacher clarity will focus on five practices: creating learning intentions and success criteria, co-construction learning intentions and success criteria with learners, creating opportunities for students to respond (formative assessment (specifically in writing), providing effective feedback on and for learning, and sharing learning and progress between students and teachers. In addition to the meta analysis by John Hattie studied, a specific study was reviewed to determine the effects of utilizing learning goals on students with learning disabilities in the area of writing.

## Study Design

The study design provides a framework for the development and implementation of a study. A study is a detailed investigation and analysis of a subject or situation. The study design framework guides researchers as they collect and analyze data to test solutions and solve problems. Different study designs provide different levels of rigor and reliability. Education leaders and shareholders should carefully consider the study design used to evaluate an intervention.

In this section, you will evaluate the key features of study design. If you are unsure how to identify a study design, KDE encourages you to reference either the [Evidence-based Practices Glossary of Terms](#) or the [Evidence for ESSA: An Introduction to Study Design](#) webinar.

1. Identify the study design: Experimental (RCT)
2. If participants were assigned to groups, describe the method used to assign them to groups. Common group assignment methods include, but are not limited to, random assignment, matched pairs or class assignment. If participants were not assigned to groups, record N/A.

Students in the study were randomly assigned to either the general goal condition or the elaborated goal condition within their grade span. Half of the students at each grade level were learning disabled and the other half were students without disabilities.

3. Describe any statistical controls used to control for study bias. Statistical controls are more common in correlational studies than experimental/quasi-experimental studies, but they can be found in both. Common statistical controls include, but are not limited to, analysis of covariance, difference-in-difference adjustments and correlation. If no statistical controls were used, record N/A.

N/A

## Analytic Sample

The analytic sample is the sample on which an analysis is based. It is important for education leaders and shareholders to take time to review the analytic sample used in a study. The [Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments](#) describes the importance of aligning the analytic sample with the population of your school. The highest quality evidence will align to a school in both setting and population and will include a large and multi-site sample.

1. Briefly describe the demographics of the analytic sample. Be sure to include any relevant information, including, but not limited to, grade levels, race/ethnicity, gender, socio-economic status, special education status or English language status.

A total of 96 students participated in the study. Typically achieving students and those with learning disabilities were randomly assigned within grades to either the general goal condition or the elaborated goal condition. Forty-eight 4th and 6th grade students were equally divided between the elaborated and general goal conditions. Half of the students at each grade were students with disabilities and the other half were students

without disabilities. The students came from four schools in a suburban school district in the mid-Atlantic region. The school district implements a model of inclusion for servicing students with disabilities.

2. How many people or groups of people participated in this study? 96 – 4th and 6th grade students
3. How many study participants were assigned to the intervention group? If the study design did not include an intervention group, record N/A. 48 students were assigned to the intervention group (elaborated goal condition)
4. How many study participants were assigned to the control group? If the study design did not include a control group, record N/A. 48 students were assigned to the control group (general goal condition)
5. Were any additional comparison groups used in this study? If so, describe the demographic makeup of the groups.

No

6. Describe the method used to select study participants.

The school district worked with the researchers to select classrooms that were co-taught by both a general education teacher and a special education teacher to participate in the study. The general education students were selected to represent the school population. Students with learning disabilities demographic make up was 52% were Caucasian, 40% were African American, and 8% were Hispanic. Of the typically achieving students, 35% were Caucasian, 44% were African American, 13% were Hispanic, and 8 % were Asian.

For the review of the meta-analysis on Hattie's study:

According to the meta-analysis (Fendick, 1990) that Hattie based his meta-analyses on, the studies for analysis were selected in the following manner: The criteria for the inclusion of an effect size (correlation) from a study were (a) the unit of analysis was the class size rather than the individual student, (b) a common achievement measure (that covered the content taught) was used across all classes, and (c) data were available to calculate the correlation between the rating of the teacher on at least one dimension of teacher clarity and the class mean achievement gain. The methods used to find the studies for this analysis were (a) tracing back from the references in the studies already located, especially review studies; (b) conducting computer searches of indexes such as ERIC, Dissertation abstracts, psychological abstracts, and NTIS; (c) supplying a bibliography to researchers in the field and asking them to share if there were any studies that had been missed; and (d) manually searching recent editions of likely journals that have not yet been added to the indexes.

7. How many sites were included in this study? multiple
8. Which descriptor best describes the setting of the study? Suburban

9. Are there any special circumstances for the sample? Special circumstances may include, but are not limited to, the reporting of additional subgroups, alignment with common academic labels (such as “at risk” or “gifted”) or the exclusion of certain groups from the analytic sample.

This study specifically examined students with learning disabilities compared to typically performing students.

## Intervention Delivery

When evaluating evidence, it is important for education leaders and shareholders to consider the specific methods used by the researchers to implement an intervention. Schools should seek to replicate the conditions used in a study in order to achieve similar results. If an evidence-based practice is not implemented in a way that accurately replicates the conditions used in a study, the intervention may not work as reported.

1. Describe the way the intervention was implemented in this study. Be sure to include relevant details you may need to replicate the results, such as the intervention delivery method, materials used and other protocols unique to this study.

Students in the general goal condition group were asked to complete a written assignment and were given only the general prompt. Students in the elaborated goal condition group were given the general prompt plus explicit subgoals in which the teacher reviewed with the students before beginning their assignment.

## Results

The [Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments](#) suggests that quality evidence “shows a statistically significant and positive (i.e. favorable) effect of the intervention on a student outcome or other relevant outcome.” Education leaders should pay careful attention to the results of a study and how those results were collected.

1. Describe the procedures used to collect data for this study. This information may be found in the Methods or Results section of the study. Be sure to include all relevant information such as the names of any standardized assessments, the conditions under which an assessment was given or archival data sets used.

Students’ writing assignments were typed and corrected for spelling prior to scoring and analysis. Students’ papers were blindly scored by undergraduate students who were unfamiliar with study utilizing a primary trait scoring guide. Raters received extensive training in the scoring guide and marker papers. In addition, data was collected from the prior year based on each student’s performance on the state written assessment.

2. Describe the findings of this study. Be sure to include the findings for any reported subgroups and relevant outcomes and a discussion of the statistical significance of the results. It is generally accepted that study findings are statistically significant when  $p$  is less than 0.05 ( $p < .05$ ). APA standards state that studies should include the  $p$  value when reporting on statistical significance either within the text or in a parenthetical. For example, the results of the statistical test Analysis of Variance should be reported [ $F(2, 145) = 3.24, p = .04$ ]. In this example,  $p$  equals 0.04, which is less than 0.05. This would indicate that the results of this statistical test are significant.

The students' writing performance was reported through an analysis of how goal condition, disability status and grade impacted the overall persuasiveness of students' argumentative essays. The team computed a 2 x 2 x 2 ANOVA to compare the persuasiveness of students' essays by goal condition and disability status. The following main effects were statistically significant: goal, [ $F(1,88) = 5.51, p = .021$ ] and disability status, [ $F(1,88) = 20.64, p < .001$ ]. Students in the elaborated goal condition wrote more persuasively than those in the general condition goal condition. Student without disabilities wrote more persuasively than those with learning disabilities. While students with disabilities scored lower than their typically performing peers, the study did show that students with learning disabilities who were given an elaborated goal's writing performance ( $M = 3.25$ ) was higher than students with learning disabilities who were in the control group with the general goal ( $M = 2.50$ ).

## Implication

Once a piece of evidence has been evaluated, education leaders and shareholders should consider the implications of the study on their school's potential implementation of an evidence-based practice. In this section, you are encouraged to look beyond the items discussed in the study to consider your local context and school's capacity to implement an intervention with fidelity.

1. Describe the implications of this study for your school. Does the study support the use of this intervention in your building? What special considerations are necessary for implementing this intervention? Be sure to examine all relevant factors, including cost, time and manpower.

This specific study and the meta-analysis completed by Hattie (2009) based on Fendick's meta-analysis (1990) has implications for both TSI identified schools and the district as a whole. All of the research and evidence clearly shows the importance of teacher clarity and using specific and measureable learning intentions and goals with students. According to Kentucky's Model Curriculum Framework (2022), "In defining teacher clarity, Fendick (1990) states that it is a combination of clarity in regards to (1) organization, (2) explanation, (3) examples and guided practice, and (4) assessment of student learning that are all aligned to clear learning expectations. Teacher clarity requires that teachers have a deep understanding of what students must know and be able to do to reach the grade-level expectations outlined in the Kentucky Academic Standards (KAS) and then use that clarity to plan meaningful lessons designed to help students reach those expectations. However, in order to improve student outcomes, the teacher needs to ensure that students also have clarity in what they

are learning. Research shows that when teachers help students understand what they are learning, why they are learning it and how they will know if they have learned, student achievement increases (Fisher, Frey, Amador, & Assof, 2019). Teachers help students gain this clarity by consistently clarifying and sharing the learning goals, relevance and success criteria as a part of ongoing instruction each day. • Learning goals clearly describes what students need to know, understand and be able to do by the end of the lesson or a series of lessons. • Relevance helps the students understand the purpose or the “why” behind the learning. • Success criteria describe the evidence students must produce to show they have achieved the learning goals.” As demonstrated in the experimental study reviewed, having teacher clarity and providing students with the learning criteria and specific goals provides better outcomes for all students and specifically students with disabilities.

2. Identify any additional pieces of evidence referenced in this study that you may want to review before implementing the intervention.

The study was reviewed along with Hattie’s Meta-Analyses and Fendick’s Meta-Analysis. In addition, Kentucky’s Model Curriculum Framework was utilized and referenced for determining evidence-based practices.

3. Using the [ESSA Evidence Levels](#) one-pager, consider all of the information collected here and provide an estimate of the level of evidence provided in this study. Strong Evidence (Level I)