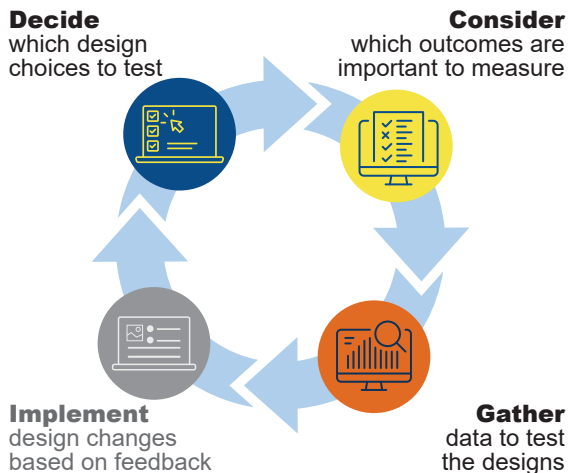


# Using experiments to design report cards on school performance



The Every Student Succeeds Act requires school report cards to be “presented in an understandable format...developed in consultation with parents” (§1111(h)(1)). More generally, by designing report cards that effectively communicate information about school characteristics and performance, school administrators can support parents in engaging with their children’s schools. Experiments are one way to gather feedback on report card designs. Here we highlight some considerations for those interested in this approach. The information draws on a recent [REL Mid-Atlantic study](#) conducted in partnership with the District of Columbia Office of the State Superintendent of Education (OSSE).

## Overview of the design testing process



## Decide which design choices to test

- **Experiments can help you test designs** that change the information reported, where it is placed in the report card or how it is displayed.
- **Designers can prioritize changes** to more important measures (like those required by ESSA), more prominent measures (like those on the landing page), or changes to problems identified through user or expert feedback.
- **You can compare the performance of a new design to the current design** or compare new designs to each other. You can test many alternatives simultaneously through a factorial study design.

## Factorial study designs

- A factorial study tests many design choices at the same time. Each factor consists of two or more design choices that can be compared to each other.
- Each user sees one report card with a combination of design choices.
- You can test the impact of each design choice by comparing the outcomes for all report cards that share a design choice with all those that do not.
- For example, the figure depicts a study that compares two alternatives for each of three design factors, leading to eight ( $2 \times 2 \times 2$ ) possible report card designs.
- All users’ responses contribute to the estimates for all the design factors they saw. This makes factorial designs much more efficient than testing each design choice individually. For an overview, see <https://www.methodology.psu.edu/ra/most/factorial/>.



In this example, to evaluate the effect of the placement of the blue bar at the top or bottom, you would compare outcomes for the report card designs in the left column with the outcomes for the designs in the right column.



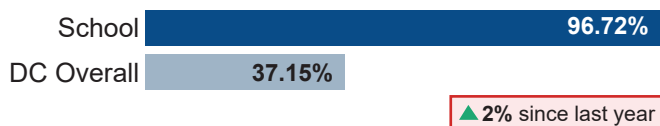
## Consider which outcomes are important to measure

- **Define which outcomes matter to decision makers** and measure each of them. The OSSE study tested the impact of design choices on subjective ratings of usability and an objective measure of content comprehension.

### Findings from our study

- Illustrating the **importance of measuring more than one outcome**, we found that by reporting the change over time in a measure of school performance (red box), users were better able to identify schools that have improved even though users disliked this design.

### 2019 Meeting or Exceeding Expectations



This study focused on self-report measures, but you can also measure other outcomes such as evaluations of different schools, measures of engagement such as time spent viewing report cards, or behavioral measures like requesting more information about a school.



## Gather data to test the designs and to understand how the school report card works overall, and for different user groups

- **Compare the designs on each of the outcome variables to determine which one performs the best.**
- **Compare the experiences of different groups of users** to understand whether they have different experiences or respond differently to design changes. User groups might be defined by parent or child characteristics (such as language spoken at home) or by how users access the site.

### Findings from our study

- We found that **users responded the same way to the design changes regardless of educational background, language spoken at home, or the device used to access the site.** The impacts of these changes were similar.
- However, we also found that **mobile users expressed difficulty with the test site**, finding it harder to use, liking it less, and answering fewer comprehension questions correctly.



### Further reading

Chandler, J., Hartog, J., Lipman, E., & Gellar, J. (2021). The impact of school report card design on usability, understanding and satisfaction (REL2021-101). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Mid-Atlantic. <https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4632>

Glazerman, S., Nichols-Barrer, I., Valant, J., Chandler, J., & Burnett, A. (2018). Nudging parents to choose better schools: The importance of school choice architecture (Working Paper 65). Mathematica Policy Research. <https://www.mathematica.org/publications/nudging-parents-to-choose-better-schools-the-importance-of-school-choice-architecture>

U.S. Department of Education, Office of Elementary and Secondary Education. (2019). Opportunities and Responsibilities for State and Local Report Cards Under the Elementary and Secondary Education Act of 1965, As Amended by the Every Student Succeeds Act. <https://go.panoramaed.com/hubfs/Validity-Report-Student-Topics-2020.pdf>