

Increasing the Usability and  
Value of Assessment Results

Perspective™ Product  
Research Methodology

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The reports in .pdf format may be obtained at:

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## Introduction

A critical component of any large-scale assessment program is the reporting of student results. Results can be portrayed in a variety of ways, and accurate interpretation of those results by state education agencies, educators, families, and students is crucial to understanding how to improve student learning. Moreover, the *No Child Left Behind Act of 2001* (NCLB) requires that reports provide recipients clear enough information to understand and address specific academic needs of students.<sup>1</sup>

Beginning in July 2004, the Educational Measurement group of Pearson launched an ongoing research study with the goal of increasing the usability and value of assessment results. Research has been conducted in several states through focus groups, one-on-one interviews, and usability studies.

The research conducted provided foundation and guidance to the development and refinement of Perspective™. Perspective offers families and educators custom state assessment reports that lead to specific resources for remediation and enrichment. A student's assessment performance is encapsulated into a Learning Locator™, linking test results to an array of personalized learning resources, mapped to state standards and designed to improve students' knowledge and skills.

Product usability research is an ongoing process. As NCLB continues to bring increased focus on student achievement, educators and families will become more sophisticated in their analysis of assessment results. Additionally, as more states adopt Perspective as their reporting and remediation tool of choice, their feedback will help ensure that the product's design and features continue to evolve.

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<sup>1</sup> U.S. Department of Education, *No Child Left Behind Act of 2001* (Washington, D.C., 2001) § 1111[b][3][C][xii]

## Initial Research

In July 2004, the product design and usability team at Pearson began research in an effort to improve the usability and value of assessment results. This research was driven by demands of NCLB and recognition that improvements could be made in the way assessment results were presented.

The primary goals of the research were to determine:

- How statewide assessment results are used by administrators, teachers, families, and students, and
- What assessment information adds the most value and supports instructional strategies that improve student achievement.

As a result of this research, Pearson developed Perspective—a product that provides clear, concise information that links assessment results to actionable instructional strategies and student enrichment resources.

### ***Methodology***

Focus groups and one-on-one interviews were conducted both in-person and by telephone with educators and administrators throughout the education community. Participants were shown sample paper reports and web page mock-ups to elicit feedback and encourage discussion. A set of predetermined questions were posed to identify tasks, workflow, and mental models of each user group. Probing and clarifying questions were then asked to gain a comprehensive understanding of each group's domain and needs. In total, 187 participants from five states provided insight about the assessment results information needed to improve student learning.

**Table 1. User Group Distribution**

User Group	Percentage of Total Participants	Participant Count
State Administrators	3 %	6
District Administrators (e.g. district test coordinators)	29 %	55
School Principals	36 %	67
Classroom Teachers	28 %	53
Parents	3 %	6

**Table 2. Research Methods**

Research Method	Percentage of Total Participants	Participant Count
Focus Group (20 Sessions)	78 %	146
One-on-One Interview (In-Person and Telephone)	22 %	41

**Table 3. State Distribution**

State	Percentage of Total Participants	Participant Count
Illinois	4 %	7
Iowa	2 %	3
Minnesota	8 %	14
New Jersey	30 %	57
Texas	57 %	106

Industry whitepapers addressing the use of, and improvements to, assessment results were consulted. These whitepapers include:

- Student Test Score Reports and Interpretive Guides: Review of Current Practices and Suggestions for Future Research, *University of Massachusetts Amherst*
- An Analysis of Item Mapping and Test Reporting Strategies, *Arizona State University West*
- Academic Testing Materials: Market Analysis & Forecast 2004-2005, *Simba Information*

### **Research Results**

Participants provided a wealth of information about their use of assessment results, their current and future challenges, and the additional information needed to

improve student learning. The following four topics were identified as key areas to be addressed in order to aid in improving student learning through assessment results.

**Timeliness of Information:** Score results are needed as early as possible so tutorials, curriculum, class rosters, student activities, and school and district improvement plans can be developed and executed. All score data needs to be easily accessible in a central location for sorting and analysis for action to improve student achievement.

**Need for Specific Reports:** Each user group expects and needs different information related to student score results. Therefore, reports need to be tailored for each group. For example; teachers want a student ranking report to see the degree by which individual students passed/failed and to identify students “on the border” of passing or failing. District test coordinators and principals want trend reports showing student or class scores over time. Principals also want reports that facilitate comparison of classes and teachers. Superintendents want reports that facilitate comparison of schools. Families want to know whether their children passed and how they performed when compared to their peers.

**Credible, Accessible Resources:** Teachers want resources that are credible (from a trusted company, known experts, or from the state), quick and easy-to-use, and which closely align with state standards. A companion website to paper reports that allows easy access to information such as individual and class score results, interpretive information, and recommended interventions or learning activities was also identified as essential.

**Educators Have No Time:** Teachers have little time to organize and interpret data; their primary focus is teaching. Administrators in smaller districts often have several roles and do not have time to organize and disseminate information. Teachers in very large districts can be overwhelmed with the amount of information received and often do not know where to begin. Assessment results must be interpreted quickly and easily and should be presented in an actionable format that will improve student achievement.

**Avoid Jargon:** Technical jargon, such as “scale score,” should be avoided as it is not understood by families and many educators.

## **Report Design and Product Features**

Based on the feedback received from research participants, early report mockups were redesigned to eliminate jargon, address specific needs based on role, and portray information in ways that will quickly elicit action plans. Standard design principles were applied to help guide eye movement and focus attention appropriately. The new report designs were reviewed by the Pearson psychometric team to ensure information was portrayed accurately. These new designs formed the foundation of the Perspective reports.

The Perspective Learning Locator was created to address the need to find targeted learning resources based on specific student achievement. For each subject taken, a Learning Locator is provided on the student assessment results report. When entered in the Perspective web site, the Learning Locator identifies worksheets, study guides, practice questions, interactive activities, and games aligned to state standards.

## **Ongoing Research**

As NCLB expands and as the analysis of assessment results by educators and parents becomes more sophisticated, the design of Perspective reports will continue to evolve. The design of the reports is iterative—each design builds on the last. In-person usability studies are conducted to confirm design decisions, to better understand new and existing processes, and to inform design improvements.

A usability and focus group study was conducted June 2005 in California. Seventy family members and teachers provided feedback about Perspective's latest report and website designs. Content, color, and layout improvements were made to highlight important information, clarify ambiguous data, eliminate unnecessary text, and improve readability.

A usability study in Iowa with teachers, principals, test administrators, and family members was completed in August 2007, and the results are currently being analyzed. The goal of this study is to confirm Perspective design changes made on the basis of the research in California and to understand how to refine elements in the existing design.

Pearson is committed to providing assessment results that improve student achievement. This is accomplished through ongoing research and thoughtful design by usability experts and successful articulation and execution by skilled product developers.

### References

U.S. Department of Education, *No Child Left Behind Act of 2001* (Washington, D.C., 2001)

Goodman and Hambleton, *Student Test Score Reports and Interpretive Guides* (University of Massachusetts Amherst, 2004)

Joseph M. Ryan, *An Analysis of Item Mapping and Test Reporting Strategies* (Arizona State University West, October 2003)

*Academic Testing Materials: Market Analysis & Forecast 2004-2005*, (Simba Information, June 2004)