Mindprint Overview

Background

Mindprint Learning is a Princeton, NJ-based educational technology company that enables educators and child development professionals to more effectively personalize learning. The company’s cognitive evaluation and learning platform offers an objective learning profile, and supporting strategies, for each child’s cognitive strengths and needs on 10 core skills in the domains of speed, executive functions, complex reasoning, and long-term memory.

The Mindprint solution includes a one hour scientifically valid, self-administered online assessment developed in the Brain Behavior Lab at Penn Medicine. It can be taken on any computer. Group administration is possible. The profile and personalized recommendations enable educators to effectively differentiate instruction for all learners. In addition, teachers and parents will have free access to the full Mindprint database of over 250+ research-based learning strategies and 1,300 supplemental product reviews to provide ongoing support at school and home. Mindprint enables educators to reap the benefits of the latest research on early intervention, metacognition, and neuroscience to help all students learn more successfully. Mindprint has been effective for a statistically broad and diverse range of learners, including students classified as either gifted or with learning disabilities.

Research Support

Mindprint’s assessment was developed for children between the ages of 8 and 21 by researchers in the Brain Behavior Lab of The University of Pennsylvania’s Perelman School of Medicine. It has been validated and normed in over 10,000 children, published in the most respected academic peer-reviewed journals, cited in over 150 academic papers and used by major research institutions around the world. Educators can be confident that they are receiving accurate and reliable results for every student who participates. Cognitive tests have been shown for over 100 years to be the most reliable and accurate way to understand how a child learns. Bibliography of published research studies is attached at the end of this document.
Program Description

Mindprint Learning offers a comprehensive and easy-to-use solution starting with objective and accurate identification of each student’s unique needs. Our one-hour computerized assessment only requires an adult proctor, as well as a computer with a mouse, keyboard and Internet connection. Headphones are necessary for group administration.

Following the assessment, Mindprint provides a Unique Learning Profile detailing a student’s strengths and needs. This information provides an easy-to-understand explanation of each skill and how a weaker skill could potentially interfere with learning. Mindprint offers teacher training, but the majority of teachers have found the report self-explanatory and requiring only a few minutes for understanding each student after gaining an initial familiarity with the reporting format.

Information revealed in the Unique Learning Profile is the starting point for progress and is accompanied with a personalized Toolbox for each student. The personalized Toolbox includes actionable learning strategies customized to each student’s unique needs to help make learning more efficient. Our research-based learning strategies are written by child psychologists and learning specialists to strengthen and or compensate for weaker cognitive skills. Learning strategies are grouped into five major sub-types: study skills, in-class supports, student primers (individual and group learning), and activities. The techniques in these strategies have proven effectiveness either in the research literature or in practical classroom application. Recommendations are personalized to each student, but teachers have access to the comprehensive database of over 250 strategies searchable by cognitive skill. The Mindprint teacher dashboard can enable teachers to anticipate and plan for classroom needs by academic topic based on classroom students’ Unique Learning Profiles. This dashboard will be available during the 2015-16 school year.

Mindprint also recommends certified teacher-reviewed supplemental education products including games, apps, websites and workbooks. Educators can choose products by academic or cognitive skill depending on their goals and objectives. All of the products have been evaluated using a proprietary rubric based on Universal Design for Learning (UDL) standards. Hence, Mindprint’s reviews reflect the use of multi-modal delivery methods, factors that could cause undesirable difficulties, and potential of stress-inducing features such as timers and negative feedback. Overall, our reviews help teachers select products with the best pedagogy while helping them avoid products that will be unnecessarily challenging based on cognitive needs identified in the Unique Learning Profile. Avoiding undesirable difficulties is shown in research to be critical to engaging and effective learning for all students.

Annual re-assessment is available if desired. It can ensure that students maintain their appropriate cognitive growth. It can also be an early detector of emotional struggles.
Requirements

Mindprint is available for students ages 8-21. Students should be reading English at a second grade level, have the dexterity to use a mouse, and be capable of following simple multi-step directions independently.

The assessment can be administered individually or in groups, in any location. The assessment takes approximately one hour to administer and requires a computer with a keyboard and mouse and any Internet connection. Group administration will require participants to use headphones. The Unique Learning Profile and Toolbox can be viewed on any computer or device.

Pricing

Individual users can purchase Mindprint online at $199 per student. Volume discounts are available with a minimum commitment of 5 students.

Important Disclaimer

Mindprint does not, under any circumstances, practice medicine, provide specific medical advice, or make a diagnosis of any types of emotional or learning disabilities. Mindprint does provide information that licensed support professionals would find helpful; in combination with their own clinical observations and other diagnostic tools, these professionals can then offer diagnoses or suggest educational accommodations. As appropriate, Mindprint often recommends that parents share the Mindprint report or consult with a pediatrician, school counselor, psychologist or other licensed professional for appropriate medical advice.

Conclusion

Mindprint believes its services can meet the varied objectives of schools and educators across a diverse student body. We are happy to present more formally to explore how we can best meet individual needs.

If you have any questions about our services or would like to set up an in-person appointment, please email Nancy Weinstein, Mindprint CEO, nancy@mindprintlearning.com
Sample Screen Shots

Summary Profile

- Welcome
- Summary Results
- Performance by Skill
  - Visual Motor Speed
  - Processing Speed
  - Attention
  - Working Memory
  - Flexible Thinking
  - Verbal Reasoning
  - Abstract Reasoning
  - Spatial Perception
  - Verbal Memory
  - Visual Memory
- Next Steps
  - Translating the Results into Successful Learning: The Mindprint Toolbox
  - Sharing Results with Your Child

EXPECTED RANGE

<table>
<thead>
<tr>
<th></th>
<th>Visual Motor Speed</th>
<th>Verbal Reasoning</th>
<th>Processing Speed</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>HIGH</td>
<td>MEDIUM</td>
<td>LOW</td>
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<tr>
<td>Visual Memory</td>
<td></td>
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<tr>
<td>Spatial Perception</td>
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STRENGTHS

Flexible Thinking

WEAKNESSES

Attention

Based on standardized, normative data

- Ahead of peers, top 10% of peer group
- Developing appropriately for peer group

- High: 70th - 94th percentile
- Medium: 22nd - 69th percentile
- Low: 17th - 31st percentile

- Developing behind peer group, may require outside support, bottom 10% of peer group
**Sample Text Sections**

**Processing Speed**

*Processing speed* is the rate at which a student takes in and analyzes information. Speed is a global process impacting all other learning. Students with efficient processing speed work quickly and accurately. Working quickly is not the same as working efficiently, however, as a fast pace but scattered errors can indicate that a student is processing information with insufficient depth. Students who work too quickly often have grades that do not reflect the student's best ability.

Conversely, students with slower *processing speed* take longer to read with full comprehension, finish assignments, or respond thoughtfully to questions. Sometimes a slower, more deliberative approach can be beneficial, especially for complex tasks. Other times, slower pace can be inefficient and interfere with the student’s ability to keep up with the class or finish in an appropriate amount of time.

All of the tests in the Mindprint battery assess both accuracy and speed. One of the advantages of computerized testing is that it provides precise measurements of the child’s working speed. We compare speed on fast-thinking tasks such as attention and memory to more deliberative tasks such as complex reasoning. This comparison enables us to assess if the student is efficiently working at an appropriate pace for the type of task.

[Box: performed below the expected range on our measure of processing speed. ____’s slower speed on this measure tells us that she might absorb, interpret, and respond to information more slowly than her peers.]

If you find that ____ is not consistently able to perform to her expected potential, her slower processing speed might be the cause. ____ might be unable to finish tasks in the allotted time, she might rush through assignments to finish along with her peers, or she might not stop to ask questions about information she missed while taking time to absorb what was previously discussed.

The Next Steps sections at the end of the report will provide you with links to read more about the role processing speed plays in learning as well as some suggestions on how you might help ____ with processing speed.
Visual memory is the ability to acquire information through images. In school, visual learning can include looking at demonstrations, diagrams, and illustrations. Books, posters, charts, and computers in the classroom all offer an abundance of visual information.

On a test of visual memory, was shown 20 target complex geometric shapes. Those shapes were then mixed with 20 similar but different shapes. was asked to indicate whether a shape presented was included in the original target list. Unlike many of the other tasks, there was little opportunity to use verbal mediation to talk through a solution. Visual memory is a strictly visual task.

The Next Steps provides explicit follow-on for every skill category in an easily accessible format.
Sample Toolbox Screenshots

Choose from one of the search options below

🎓 Search by Academic Topic

Language Arts

☐ Select All  ☐ Deselect All

☐ ESL   ☐ Handwriting   ☐ Listening Comprehension   ☐ Parts of Speech   ☐ Reading (Decoding)

☐ Reading Comprehension  ☐ Spelling  ☐ Vocabulary  ☐ Writing

save & add additional topics  search

🔍 Search by Cognitive Skill

🔧 Search by Product Type and Interests
Psychologist Recommendation

You might be surprised to learn how many different types of memory there are. You are probably most familiar with long-term memory which you use to memorize history facts, vocabulary definitions, or spelling words. You might not realize that you can have strong long-term memory and still struggle with working memory. Working memory holds multiple bits of information in your head at once so you can use them all—sort of like a juggler who can handle three balls in the air at once. For example, when you are baking a cake, you might need to remember to get the baking soda from the cabinet while you are busy searching for the sugar. When doing long division, working memory helps you keep track of the process steps while recalling your multiplication facts.

It is very important for students who struggle with working memory to realize they have the knowledge and understanding, it’s just not always on the tip of the tongue when they need it.
### Mindprint Overview

<table>
<thead>
<tr>
<th>Mindprint Rating</th>
<th>Academic Benefits</th>
<th>Cognitive Benefits</th>
<th>Fun</th>
<th>Easy to Use</th>
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<tr>
<td>🌟🌟🌟🌟🌟 6</td>
<td>✔️</td>
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### Product Features

- 🎓 Academic Benefits
- 🧠 Cognitive Benefits
- 🎈 Fun
- 😊 Easy to Use

### Mindprint Expert Review

This game provides a relatively fun way to reinforce math facts in addition and subtraction. Players start with three cards in their hands. They add or subtract them to match the value shown on the center card before another player makes the match and takes the card. The first player to make three matches wins the game. There are two different levels of difficulty, so students can use the leveled cards to match their abilities. The pace of the game is entirely up to the players, so it can be a good choice for an adult to play slowly with a struggling learner, or for students with

**PROS**

- The game can be good for struggling learners as well as strong math students who want to improve their pace.
- Even though winning is based on the speed of completion, the game’s pace can be modified with a patient adult.

**CONS**

- Students with weaker processing or visual motor speed might be uncomfortable with the pace unless playing with an understanding adult.
Sample Assessment Screenshots: Students have described the assessment as a series of games.
Psychometric Properties of the Penn Computerized Neurocognitive Battery


Neurocognitive growth charting in psychosis spectrum youths.

Neuroimaging predictors of cognitive performance across a standardized neurocognitive battery.

Contribution of congenital heart disease to neuropsychiatric outcome in school-age children with 22q11.2 deletion syndrome.

Age group and sex differences in performance on a computerized neurocognitive battery in children age 8-21.

A cognitive neuroscience-based computerized battery for efficient measurement of individual differences: standardization and initial construct validation.

The Penn conditional Exclusion Test: a new measure of executive-function with alternate forms for repeat administration.

Computerized neurocognitive scanning: I. Methodology and validation in healthy people.