Research-Based Strategies & Orchard Applications

A Summary of how Orchard Software Implements Marzano's Nine Effective Strategies

In the book, *Classroom Instruction that Works, Research Based Strategies for Increasing Student Achievement*, authors Robert Marzano, Debra Pickering, and Jane Pollock identify nine effective teaching strategies for improving student achievement. This document summarizes how we feel Orchard Software Skill Trees reflect one or more of Marzano's strategies or can be used as tools in conjunction with these strategies. We invite you to read this document and learn how Orchard Software can be used as tool to reinforce effective teaching.

Identifying Similarities & Differences

- **Research Suggests…**
  Student learning is increased through explicit instruction in identifying similarities and differences.

- **Orchard Product**
  Explicit instruction that helps students identify, categorize, and represent similarities and differences is embedded throughout many Orchard Skill Trees. In Math programs like the Data Management and Probability K-3 Skill Tree, students organize data as they learn strategies for collecting, graphically representing, and analyzing the information (such as using a Venn diagram); while in Language Arts Skill Trees, such as Writing and Media Literacy 7, students are guided through the process of creating and using metaphors in writing.

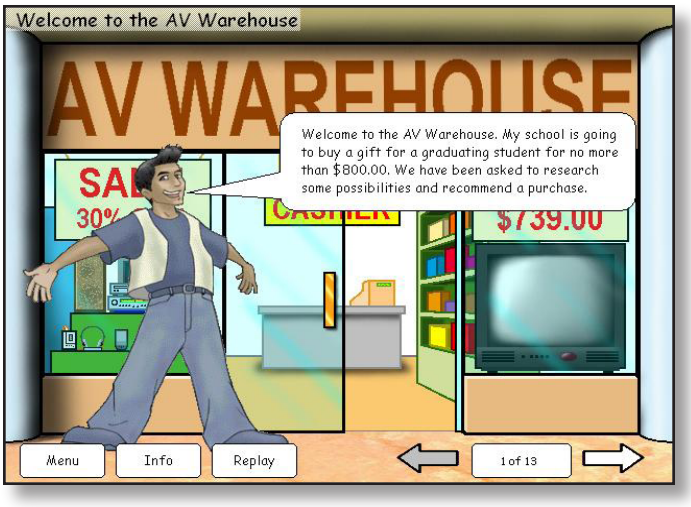
- **Classroom Implementation**
  Teachers can use these Orchard programs in whole-group presentation mode to model processes such as using graphics to represent similarities and differences or incorporating figurative language into writing to illustrate them.

Summarizing & Note Taking

- **Research Suggests…**
  Students should learn how to delete, substitute, and keep information.

- **Orchard Product**
  Throughout Orchard's variety of Language Arts Skill Trees, such as the Reading, Research, and Language Skills or Writing and Media Literacy series, students learn how to use a variety of tools to identify essential information and summarize, analyze, and synthesize what they have read. For instance, in the Reading, Research, and Language Skills 8 Skill Tree, students are presented with details on three different types of media players and are guided through the process of gathering the necessary information for making a purchase recommendation.

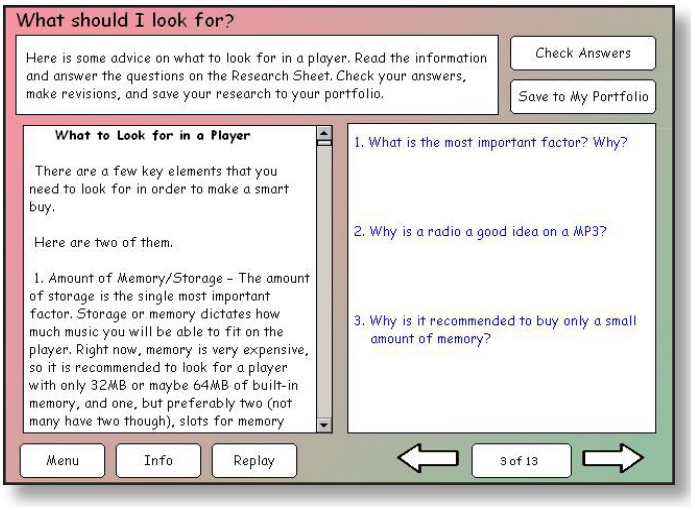
- **Classroom Implementation**
  After students complete an Orchard activity focused on identifying essential information and summarization, teachers can review each student's notes by viewing the Student Portfolio Report and then meet with the student to discuss.



- **Research Suggests…**
  Students should learn how to summarize by analyzing information in detail.

- **Orchard Product**
  In Orchard Skill Trees, such as the programs that make up the Reading, Research, and Language Skills series, students are guided through a series of questions and activities that require them to frame information, adding structure and depth to the information-gathering and analysis process.

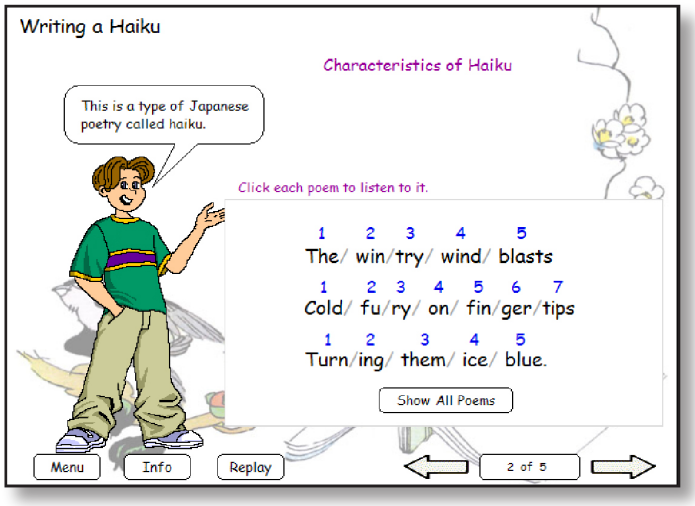
- **Classroom Implementation**
  Orchard activities such as these can be incorporated into reciprocal teaching strategies in which students draft answers to the story frame first and then involve other students in the subsequent summarizing, questioning, clarifying, and predicting activities.



- **Research Suggests…**
  Students should learn how to identify the explicit structure of various written material.

- **Orchard Product**
  Many Language Arts Skill Trees in Orchard, including programs in the Reading, Research, and Language Skills and Writing and Media Literacy series, provide explicit instruction in the structure of various written material such as personal narratives, business writing, and poetry.

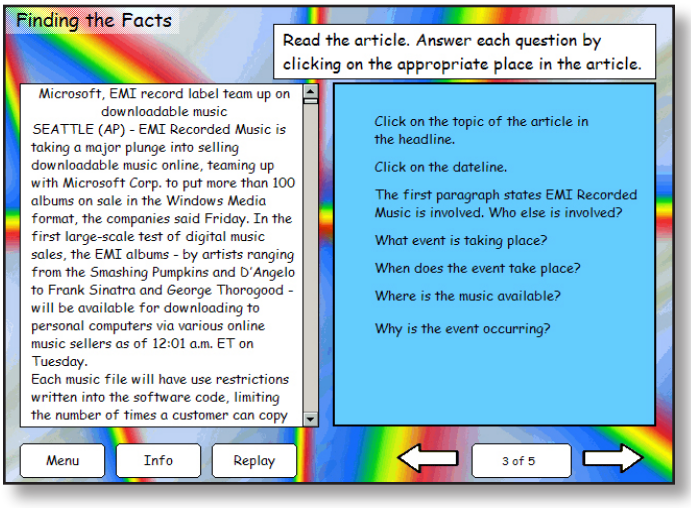
- **Classroom Implementation**
  Student writing samples from many Orchard activities are saved to the Student Portfolio. These can be accessed any time, reproduced, and used for additional practice in identifying types of writing.



- **Research Suggests…**
  Students should learn how to identify the relative importance of information.

- **Orchard Product**
  Many Orchard Skill Trees coach students in identifying and organizing important information. For example, tutorials and activities in the Reading, Research, and Language Skills; Writing and Media Literacy; and Reading Comprehension & Critical Thinking programs help students learn how to sift through information, narrow topics, and focus on key points.

- **Classroom Implementation**
  After students complete an Orchard activity focused on identifying the relative importance of information, teachers can provide students with an opportunity to review their notes (individually, with peers, or during a teacher/student conference).

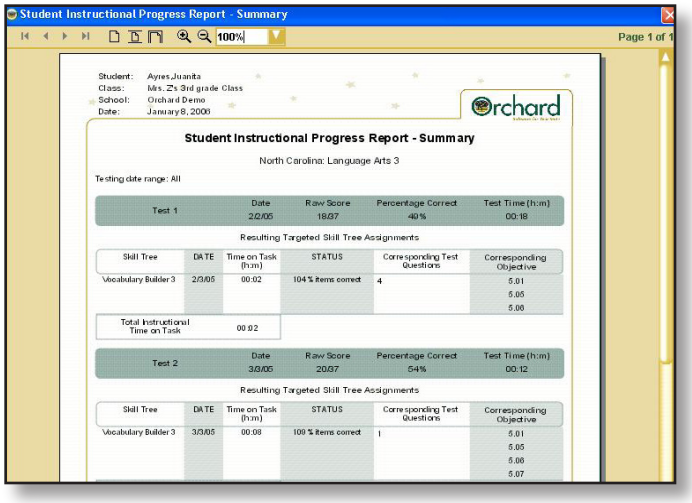


Reinforcing Effort & Providing Recognition

- **Research Suggests…**
  Teachers should reinforce the importance of student effort.

- **Orchard Product**
  Orchard supports teachers in reinforcing the importance of student effort by immediately capturing student assessment and performance data.

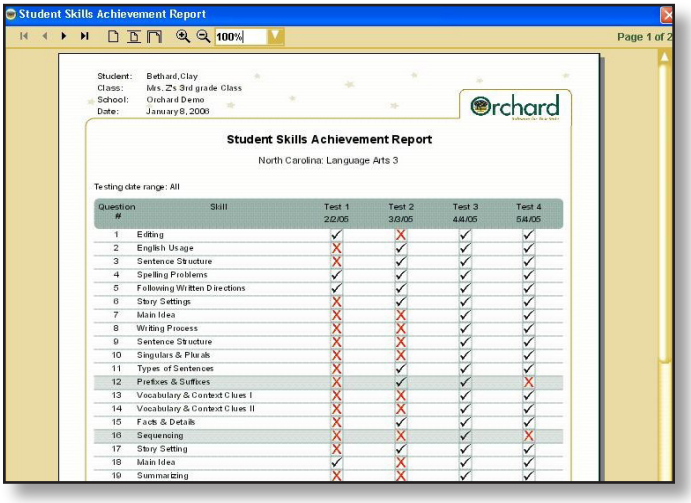
- **Classroom Implementation**
  Teachers can periodically meet with students to review Orchard reports, such as the Orchard Gold Star Student Instructional Progress Report, and discuss the correlation between time spent in a specific program (as one indicator of effort) and their achievement.



- **Research Suggests…**
  Teachers should recognize and reinforce with students their academic achievement.

- **Orchard Product**
  Orchard's powerful reports, such as the Orchard Gold Star Student Skills Achievement Report, track assessment and performance results across a variety of skills and state standards, making them excellent tools for reinforcing student academic achievement. Teachers, like Sally Huber of University Park Elementary in Casper, Wyoming, report that students performing under grade level are motivated by the immediate and constructive feedback they receive from these reports.

- **Classroom Implementation**
  Teachers can meet with students after each Orchard assessment to review key reports and also institute a program that recognizes when students have achieved a new skill or standard.

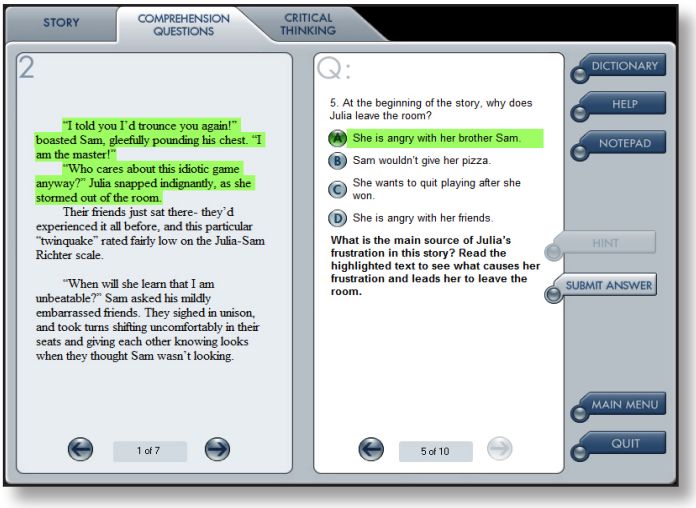


Homework & Practice

- **Research Suggests…**
  Students should learn focusing strategies to improve skill mastery.

- **Orchard Product**
  Many Orchard programs provide practice in how to focus on key components of content or problem-solving in order to improve skills. For example, by using Reading Comprehension & Critical Thinking 2, students can hone focusing skills, such as vocabulary building, visualization, text analysis, and note taking, which improve comprehension. Further, the program is designed to allow repeated practice of the skills and habits that contribute to building stronger readers.

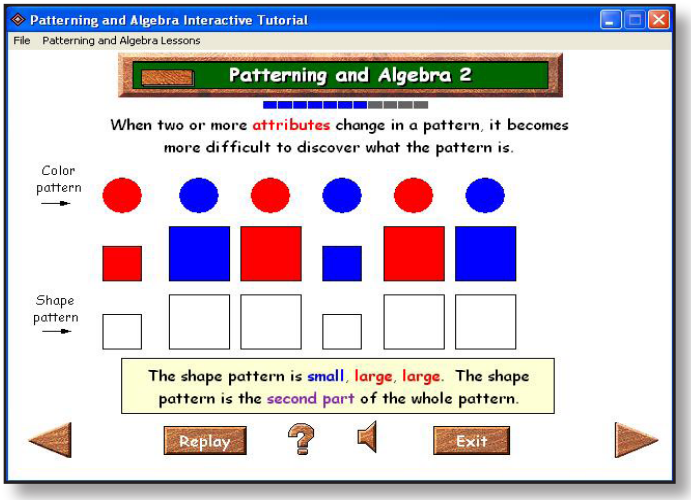
- **Classroom Implementation**
  Teachers can provide students with ample opportunity to learn focusing strategies and improve skill mastery by regularly incorporating the use of Orchard programs, such as Reading Comprehension & Critical Thinking, into the curriculum.



- **Research Suggests…**
  Students should learn how to modify and polish their knowledge while learning new skills.

- **Orchard Product**
  Many Orchard Skill Trees support the shaping of skills through deepening students' understanding of concepts and applying them in real-world situations. For example, Orchard's Math Concepts series of programs utilizes interactive tutorials, guided practice, and assessment activities to extend students' understanding and knowledge level of mathematical concepts.

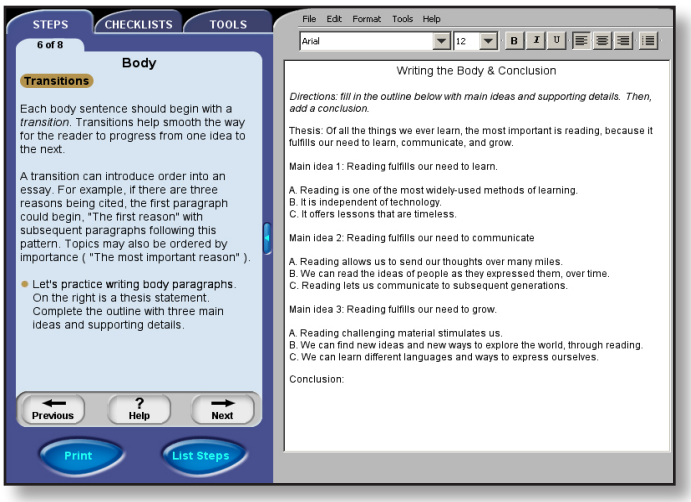
- **Orchard Application**
  After each session using Orchard Software, students can keep a running log of new information or insights learned about a particular concept or skill. Journaling tools, such as the Math Journal integrated throughout the Math Concepts Skill Trees, are ideal instruments for recording this type of information.



- **Research Suggests…**
  Students should learn focused practice strategies to prepare for complex, multi-step processes.

- **Orchard Product**
  Focused practice in discrete portions of complex tasks is supported throughout the Orchard experience. This is evident in Orchard Skill Trees such as the Writing Process Workshop series, in which students are first introduced to the entire writing process and then immersed into specific activities to support all the aspects of writing.

- **Classroom Implementation**
  Orchard can be used in whole-group presentation mode to review steps for various complex processes as a class.

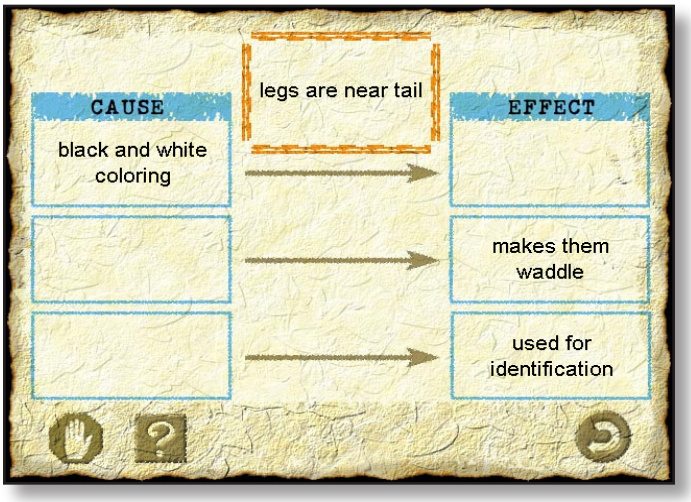


Nonlinguistic Representations

- **Research Suggests…**
  Students should learn how to create nonlinguistic representations to spur increased brain activity.

- **Orchard Product**
  In a variety of Orchard Skill Trees, students progress through lessons that help them learn how to use graphic organizer tools to represent relationships such as descriptive patterns, time/sequence patterns, process/cause and effect patterns, episode patterns, generalization/principle patterns, and concept patterns.

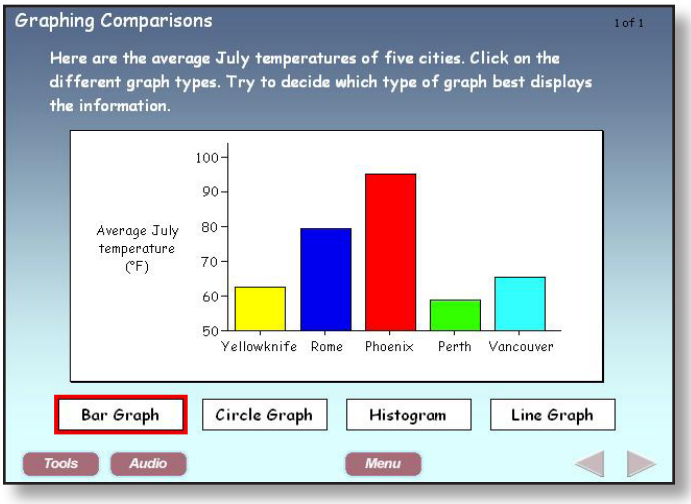
- **Classroom Implementation**
  Teachers can have students compare and contrast nonlinguistic representations, such as graphic organizers, completed during Orchard activities.



- **Research Suggests…**
  Students' nonlinguistic representations should broaden their knowledge.

- **Orchard Product**
  Orchard's Math Concepts Skill Trees, such as Data Management and Probability Concepts 7-8, often utilize non-linguistic representations such as charts, graphs, and symbols to help students learn problem-solving skills and apply the best tool to analyze specific data.

- **Classroom Implementation**
  Teachers can ensure that students have significant experience with nonlinguistic representations that will broaden their knowledge by regularly incorporating Orchard programs, such as the Math Concepts series, into their curriculum.

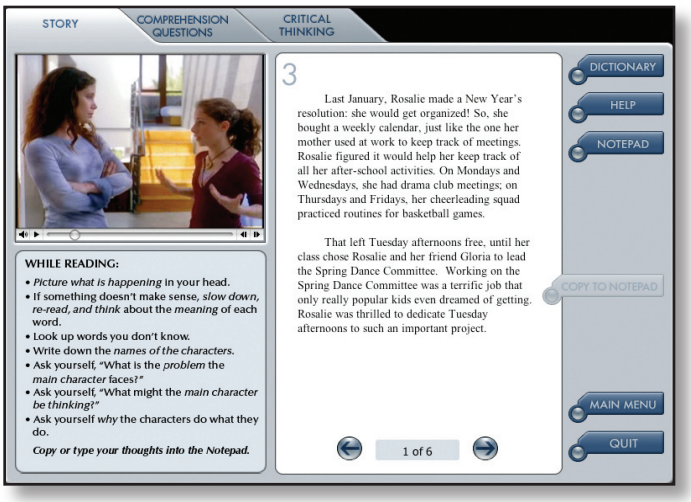


Cooperative Learning

- **Research Suggests…**
  Teachers should take advantage of the flexibility and effectiveness of cooperative learning.

- **Orchard Product**
  Programs like Orchard's Writing and Media Literacy Skill Trees, Writing Process Series Skill Trees, and Reading Comprehension & Critical Thinking Skill Trees provide multiple opportunities for cooperative learning in the classroom. From peer reviews of writing to group writing and discussion activities, students are given tools to learn from structured activities in which they all play critical knowledge-building and critical thinking roles.

- **Classroom Implementation**
  Teachers can monitor students' participation in Orchard activities involving cooperative learning, such as peer reviews of writing, by reviewing written responses recorded in the Student Portfolio Report. Based on this review, teachers can also provide ideas to students for improving the effectiveness of this type of cooperative learning experience.

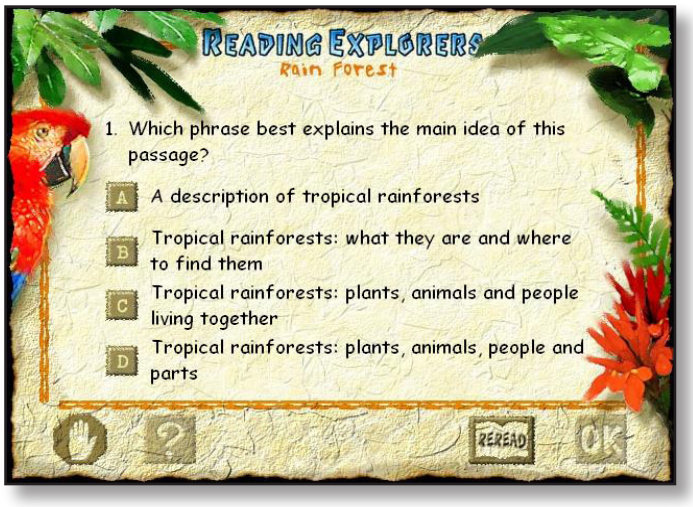


Setting Objectives & Providing Feedback

- **Research Suggests…**
  Instructional and assessment feedback should be timely and corrective.

- **Orchard Product**
  Timely and corrective feedback is an integral part of many Orchard Skill Trees including Guided Comprehension, Reading Comprehension & Critical Thinking, and Algebra programs. These Skill Trees provide instructional feedback that coaches students through thought processes necessary to interpret texts and solve problems. For example, the Guided Comprehension Skill Trees include an auditory coach that explains the purpose of each question, reinforces the correct answer with an explanation, or explains why the answer selected may not be the best choice. It then guides the student to the passage within the reading where the correct answer can be found or inferred.

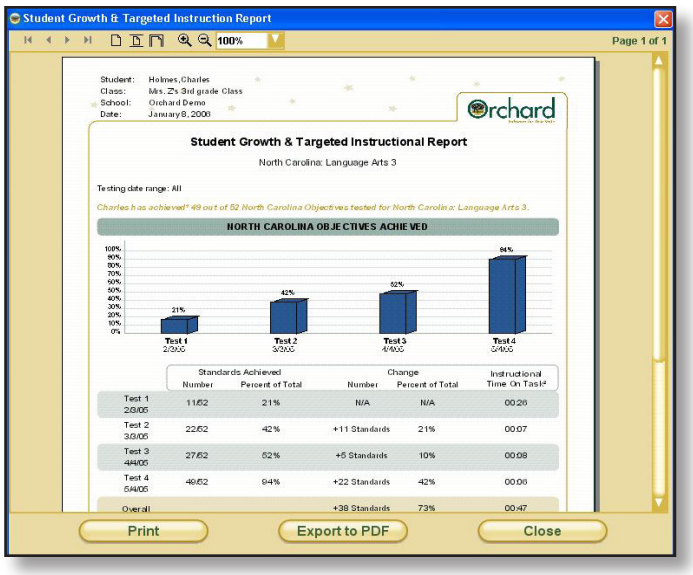
- **Classroom Implementation**
  Teachers can assign Skill Trees that incorporate instructional feedback to ensure students are receiving the coaching they need to master specific skills and concepts.



- **Research Suggests…**
  Instructional and assessment feedback should adhere to specific benchmarks.

- **Orchard Product**
  Orchard Gold Star Reports include state-specific, standards-based data on Orchard Gold Star Assessment results as well as Skill Tree performance. Further, Orchard Gold Star Assessments, which can be taken more than once to chart growth and identify needs by state standards, assign instructional content based on student performance. This powerful link between assessment data and the Orchard Skill Trees provides answers to the question: "Now that I know what a child needs, how can I help?"

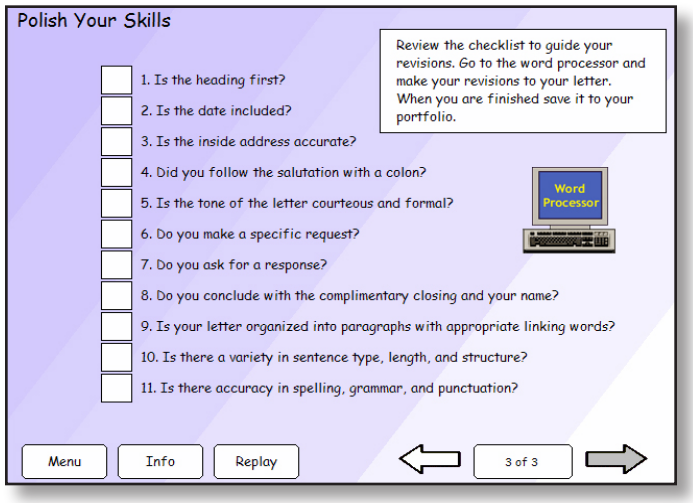
- **Classroom Implementation**
  By using Orchard Gold Star reports during teacher/student conferencing, teachers can show at-risk students the value of working on their individualized learning plan, which will help them focus on the specific skills they need to master to see growth and become motivated to improve.



- **Research Suggests…**
  Students' personal feedback can enhance the learning process.

- **Orchard Product**
  Checklists integrated throughout Orchard Skill Trees provide ample opportunity for students to enhance their learning process by constantly checking their own progress. For example, the Writing and Media Literacy 5 Skill Tree includes a checklist students can use to verify that essential information has been included in the business letter they composed.

- **Classroom Implementation**
  Teachers can randomly meet with students who are using Orchard programs with checklists to have them defend their responses.

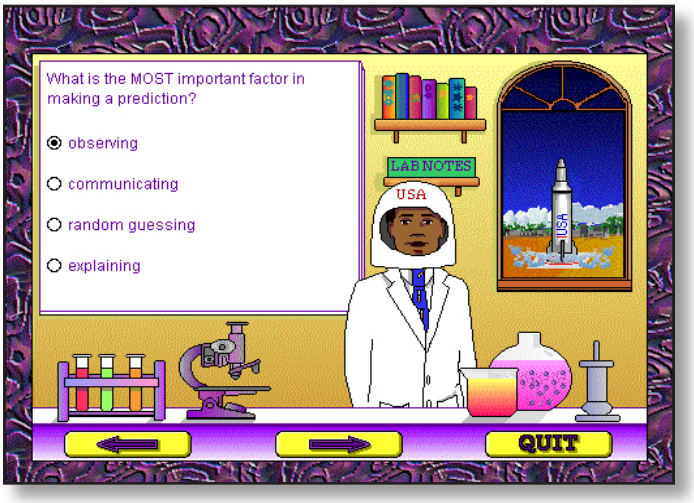


Generating & Testing Hypotheses

- **Research Suggests…**
  Students should learn how to apply knowledge to the process of creating and analyzing hypotheses.

- **Orchard Product**
  Orchard's Scientific Thinking Skill Trees help students create and analyze hypotheses by providing students with background knowledge and practice with the scientific method and experimental inquiry.

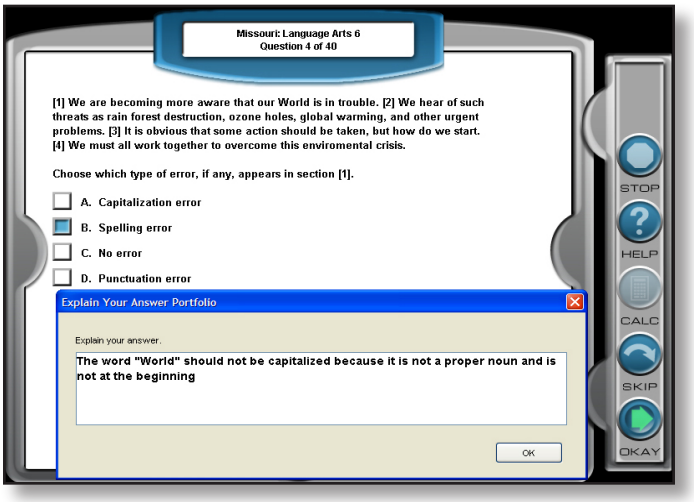
- **Classroom Implementation**
  Teachers can use Orchard's science programs in whole-group presentation mode to reinforce the skills involved in generating and testing hypotheses.



- **Research Suggests…**
  Students should have the opportunity to explain their thoughts, which enhances the understanding of formulas, foundations, and standards.

- **Orchard Product**
  Several Orchard components, including the assessments, the critical thinking aspects of Reading Comprehension & Critical Thinking, and the "Let's Talk About It" feature in the Guided Comprehension Skill Trees, allow students opportunities to explain their thinking.

- **Classroom Implementation**
  By reviewing students' responses, recorded in the Student Portfolio Report, a teacher may gain insight into students' understandings, misunderstandings, and theories about the specific topics tested or taught.



- **Research Suggests…**
  Tools such as sentence stems may be especially helpful with young children in reading comprehension. Frequent monitoring of fluency promotes student growth.

- **Orchard Product**
  In Reading Links, students learn and practice active reading strategies by identifying key information in text. Highlighted phrases, the ability to record a student's own reading, and requiring students to locate answers within passages help develop fluency, identify context clues for meaning, and improve comprehension.

- **Classroom Implementation**
  Teachers can work with one group in Guided Reading, while another group of students can be on task in the Reading Links program practicing fluency skills. Student recordings are saved within the Orchard Manager, so the teacher can easily review students' oral reading later to obtain an oral reading fluency rate or score on fluency assessment such as DIBELS or DRA.

Cues, Questions, and Advance Organizers

- **Research Suggests…**
  Teachers should incorporate cues, questions, and advance organizers to stimulate what students have already learned.

- **Orchard Product**
  Reading Comprehension & Critical Thinking, Reading Links, and Guided Comprehension Skill Trees all employ techniques such as cues, questions, and advance organizers to activate a student's prior knowledge to increase involvement with the text and comprehension.

- **Classroom Implementation**
  Teachers can begin activities that incorporate cues, questions, and advance organizers with the whole class, such as answering a prediction question in Guided Comprehension. Students can then complete the lesson on their own.

Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). Classroom instruction that works: Research-based strategies for increasing student achievement. Alexandria, VA: Association for Supervision and Curriculum Development.

For more information on how Orchard Software's instructional approaches compare to current educational research, contact:

www.OrchardED.com

Orchard
Software for Your State

Orchard Software is a part of BrainstormUSA, a dynamic publisher, integrator, and provider of comprehensive and motivational educational software. We are passionate about the success of children and adult learners, and are committed to playing a leading role in their education by providing high-quality software at an affordable price.

032406