How to Help Students Who Have Difficulty Understanding, Answering, and Asking Questions

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The Problem

★ Mastery of later developing Yes/No- and Wh-Questions is especially problematic for children with language disorders

★ Children who are learning to understand and respond to questions need to learn many semantic (meaning) and syntactic (structure) subtleties

★ Deficits in the ability to answer & ask questions impact classroom performance & reading comprehension as well as communication
How Can Theory & Research Inform Our Educational Practices?

- Current linguistic theory and research provides the bases for improved syntax assessment and intervention to help students build sentence comprehension (oral and written) and use (speaking and writing).

- Applied behavioral analysis principles provide the bases for instructional delivery of linguistic based curricula.

- Software can deliver receptive intervention to help students master syntax.
The language input children receive provides the information they need to develop grammar… vocabulary & syntax (sentence structure)

Social interactions are critical to the development of pragmatics or the use of language in social contexts.

Both acquisition of the formal grammar component of the language & pragmatics are important to the development of communication competence & reading comprehension.
Why Emphasize Receptive Intervention?

☆ Grammar (vocabulary & syntax) is acquired through listening and therefore receptive language intervention should be a central component in programs for children with language disorders.

☆ Structured receptive intervention designed to develop vocabulary & syntax is critical for children with language disorders regardless of etiology.
Because of time constraints, speech-language pathologists and special educators must concentrate on communication even though they recognize the importance of receptive training...time is the problem.

Software can deliver receptive language intervention without requiring the presence of a special educator or speech-language pathologist.
The QuestionQuest Curriculum

- Students learn to answer who, what, with what, where, how, and why questions.
- They learn to answer exhaustively which means identifying all members of a set (e.g. matching three characters with what they are eating and where they are sitting).
- They learn to discriminate between Wh- and Yes/No-Questions.
- They learn to discriminate among Wh-Questions (e.g. How/Why/Where).
The QuestionQuest Curriculum

- The QuestionQuest curriculum has three levels of question comprehension training.
- Each level has seven modules that use multiple exemplars.
- Before looking at the software, we’ll go through examples from each of the three levels.
Level I Module 4: Who/What/Where Introduction

★ Students learn to discriminate among person, object, and place questions
★ To simplify the task, the Who questions are Subject ones (Who is eating an apple?)
★ The What/Where Object questions that entail movement from the end of the simple sentence use contrasting sentence forms (What is the officer eating?/Where is the officer eating an apple?)
★ Module 5 uses all Object contrasts (Who/What/Where is the mother cleaning?)
Who is eating an apple?  What is the officer eating?  Where is the officer eating an apple?
Level I Module 6: Who/What/Where Exhaustive

★ Students must identify all members of the set of people, objects, or locations requested by the target question
★ An exhaustive response is required...all members must be chosen
★ Many students with language disorders do not understand that these Wh-Questions require exhaustive answers
Who is washing the car?
Students are trained to discriminate between *Wh-* and *Yes/No*-Questions

Students choose from a picture array that always includes *Wh-* (both characters in the scene) and *Yes/No* response options (nodding head for yes and shaking head for no)
Who is/is not painting?
or Is the father painting?
Level II Module 7: How Instrument

★ This Module introduces students to the syntax and semantics of How instrument questions
★ How is used to request identification of a tool or object that is being used to accomplish an activity
★ This is the most common How question type
How is the girl breaking the piñata?
Level III Module 1: How Manner

★ Students learn the syntax & semantics of How manner questions in which a character is engaged in an activity involving a distinct posture or body movement.

★ Introductory training is provided for the concept of choosing Zot doing the action the same way.

★ This ensures that students are not simply matching the manner target to the reference scene but rather are abstracting the concept.
How is the monkey hanging from the branch?
Why cause & Why purpose are first trained separately.

Students learn the syntax & semantics of common Why cause questions that request identification of external circumstances motivating an action (Why is the officer chasing the dog? ...because he took her hat).

Subsequently they learn Why purpose questions that require identification of the motivation for performing the action (Why is the boy filling the tub?...to wash the dog).
Level III Module 6: *How/Why*

- After learning to discriminate between different *How* (instrument & manner) and *Why* (cause & purpose) questions, students learn to discriminate among the *How* and *Why* questions.
- Students choose from among pictures that depict the response to *How* instrument or manner and *Why* cause or purpose questions.
- Note this is the first Module where the student learns to discriminate among these four types of *How/Why* questions.
How is the boy leaving the tent?
Why is the boy leaving the tent?
In the final module students learn to discriminate among the various How/Why/Where questions.

Successful completion of this module means students have a solid mastery of understanding and answering Wh- and Yes/No-Questions.
What Are Sterling Edition™ Programs?

★ QuestionQuest® is a Sterling Edition...Laureate’s new generation of language intervention software
★ Curriculums are based on current linguistic theory and language research
★ All employ instructional strategies that have proven to be effective

Development & field-testing of the Sterling Edition language programs were supported by a series of Small Business Innovation Research (SBIR) grants from the National Institutes of Health (NIH) National Institute on Child Health & Human Development (NICHD) & National Institute of Deafness & Other Communication Disorders (NIDCD)
What Makes Sterling Edition Language Programs Special?

- Curriculums based on current theory & research
- The *Sterling Administration System* provides for extensive data collection, management, and reporting for an unlimited number of students
- The *Optimized Intervention®* expert system automatically tests and trains based on an individual student’s responses
- Accountability is made easy with built-in reports
Delivering the Curriculum with Optimized Intervention®

★ An *Optimized Intervention®* expert system automatically delivers the curriculum, collects data, & has built-in reports

★ It begins with probe testing to determine the appropriate content and level of instructional support needed

★ Once training begins *Optimized Intervention* automatically adjusts instructional support based on student responses

★ As the curriculum is mastered, new content is assessed and enters into training
With Optimized Intervention®, students can use the programs in their classrooms without professional assistance thus expanding the services speech-language pathologists and special educators provide.

Increased services mean students reach their goals more quickly.

1Small Business Innovation Research (SBIR) grants from the National Institutes of Health (NIH) National Institute on Deafness & Other Communication Disorders (NIDCD) and the National Institute of Child Health & Human Development (NICHD) supported the development of the Optimized Intervention® technology.
QuestionQuest Instructional Levels

★ Beginning uses pre-trial instruction, cueing to the correct response, and knowledge of the correct response (KCR) following a response either through reinforcement or corrective feedback

★ Intermediate includes pre-trial instruction & KCR

★ Advanced presents a trial with no antecedent instruction but does provide KCR

★ Each level has different feedback language
Now let's do some exploration of the QuestionQuest software
Children with language disorders, especially those with Autism Spectrum Disorders, need to practice question asking and answering in structured settings.

- As with comprehension training, question asking and answering trials should at first include multiple exemplars of the same question contrasts.

- Only after the child can use questions in a structured setting should s/he be expected to use questions in social settings for communication purposes.
Expressive Asking & Answering

The stimuli used to train question comprehension can also be used to encourage question asking and answering.

By using the same familiar stimuli for question asking and answering as used for question comprehension, students are better able to see the continuities among understanding, answering, and asking questions.
Expressive Asking & Answering

- Modeling can be used as it was in the comprehension training examples just shown
- Within a stimulus set of contrasting forms, take turns asking and answering questions
- Provide prompts and additional models if necessary
- Use text cues if necessary
Using the Test Level for Expressive Intervention

- You can use the Test Level under Program Settings for expressive practice on answering questions.
- Set response time to Infinite & turn text off.
- Choose the form or forms you want to work on.
- The program will ask the question.
- If the student answers correctly choose the correct stimuli, if not choose the incorrect response.
- Put in a comment that the session was expressive & you’ll have a data summary.
Expressive Answering Who Question Example

Model: “Who is eating an apple? …the officer. The officer is eating an apple.” Point to the officer & ask: “Who is eating an apple?”

- Accept responses of either the whole sentence or “…the officer” which is the grammatically correct ellipsis response favored by competent language users
- The Determiner (definite article the) must be present
- Responses without the Determiner the should be correctly modeled
Expressive Asking *Who* Question Example

★ Model: While pointing to the “*Who*” card, say “I can ask (pause) *who is eating an apple*?”

★ Can you ask me about her?

★ Accept any correct “*Who*” question that is appropriate to the reference scene such as:

- “*Who is eating an apple*?”
- “*Who is eating in the kitchen*”
- “*Who is standing in the kitchen*?”
- “*Who is eating an apple in the kitchen*?”
Steps to Developing Our Students’ Communication Competence

1. Provide Receptive Training to Help Them Master Syntax Forms and Structures
2. As Forms are Mastered Provide Supported Expressive Practice in the Use of Forms and Sentences
3. Facilitate Use of Sentences for Communication in Social Settings

Celebrate Success!