BASIC CONCEPTS SKILLS SCREENER

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OVERVIEW

The Basic Concepts Skills Screener (BCSS) was developed for the purpose of evaluating and describing the basic concepts skills of children. An understanding of basic concepts is fundamental for students to follow directions and develop reading and math skills. The BCSS is individually administered to establish a baseline of basic concepts that are in error.

The BCSS explores a child’s knowledge of spatial (location), quantitative (number), comparative (description), and temporal (time) concepts. Basic concepts strengthen vocabulary and are critical for understanding early curriculum (Seifert & Schwartz, 1991). By the time a child starts first grade, he or she should have an understanding of the majority of these concepts (McLaughlin, 1998). Children need a thorough understanding of basic concepts to make comparisons, classify, problem solve, and sequence. Children who do not understand basic concepts will most likely struggle not only with day-to-day academic activities such as reading and math, but with extra-curricular activities such as playing sports (Boehm, 2013).

Children who struggle with basic concepts struggle to achieve the skills necessary for complex learning. Because basic concepts are an integral part of language instruction, these children often fall behind those who have mastered the necessary skills (Schlaudecker & Regimbal, 1995). Unfortunately, this often results in the “Mathew Effect” as described by Stanovich (1986) and Walberg & Tsai (1983). In this situation, the child who is already struggling falls farther behind while the child who has mastered the skills continues to make progress. Early recognition and remediation of a child’s struggle with basic concepts may reduce the negative educational impact.

USES

The Basic Concepts Skills Screener can be used to:

- Collect information regarding an individual’s basic concept skills
- Supplement data of a standardized language assessment
- Measure treatment effectiveness and skill growth over time
- Compare a student’s performance to students at same grade level
- Help educators and clinicians choose areas of skill development to target for Response to Intervention
- Aid with determining how a student may perform on classroom assessments and outcomes
- Aid in the determination of a language delay or disorder
- Identify students who may be at risk for a learning disorder
FEATURES

- Ability to enter students' information and track progress over time
- Tests most basic concepts skills needed for school readiness
- Offers two testing options: Full Screening and Quick Screening
- Provides a tally of questions remaining in session
- Add notes throughout the assessment
- Ability to see students' skill levels at a glance with color coded scores
- Ability to import to Therapy Report Center for ease of report writing and progress monitoring
- Provides automatic feedback to student throughout administration
- Provides data collection by type of concept or by age as well as total percent accuracy
- Provides a report with collected data automatically added to narrative
- Ability to e-mail and/or print test results immediately after its administration
The concepts included in BCSS are separated into four basic areas.

**SPATIAL**

Spatial words indicate the location of an item. Spatial words can also relate to simple relationships (e.g., out of the container). Receptive understanding of spatial words typically occurs before the child can use the words expressively. Most spatial words are mastered by the time a child is kindergarten age (McLaughlin, 1998). Many spatial words are prepositions (e.g., above, off); however, some are also considered nouns such as “corner.” Included in this area are the three-dimensional and perspective taking concepts such as “through” and “under.” Spatial words included are above, off, on, bottom, between, etc. (image 1.1)
QUANTITATIVE

Children begin to learn concepts around quantity long before they are able to name numbers. For instance, a child may be able to choose the pile with “more” candy in it, long before he is able to count the pieces (Bracken, 2006). As the child’s number sense grows, it may provide the foundation for a deeper understanding of quantitative concepts. A few of the quantitative concepts could also be listed as comparative (e.g., empty, different). However, because these concepts are an integral part of the Common Core State Standards for math skills K.MD.A1 and K.MD.A2, they have been included here (Common Core State, 2012). Quantitative concepts included are whole, all, empty, most, never, etc.

COMPARATIVE

Comparative concepts are often called relational concepts because they show a relationship between items such as size, color, texture, and weight (McLaughlin, 1998). For BCSS, we have included feelings in this category because the client is asked to compare pictures to choose the correct emotion. Comparative concepts included are tall, dark, cold, thick, sad, etc. (image 1.2)

TEMPORAL
Temporal concepts indicate how events relate to each other in time. Temporal concepts are some of the most difficult concepts to master because time is abstract and relative. Temporal concepts are comprised of three basic elements: duration, order/sequence, and simultaneity. Younger children tend to master order concepts early (e.g., after, before) while concepts dealing with simultaneity (e.g., while, at the same time) are learned by kindergarten age (McLaughlin, 1998). Temporal concepts include are first, next, starting, second, etc.

HOW TO USE IT

ADMINISTRATION TIME

Administration time for the full screening is between 10-15 minutes. Administration time for the quick screening is approximately 5 minutes. Administration time will vary depending on the child’s attention span and the amount of notes taken by the professional (image 1.3).
ADDING USERS

In order to administer the BCSS, the speech-language pathologist must first enter the student into the app. To enter names manually, click on “add student.” (Image 1.4)

A pop-up screen will allow you to type in the student's name and birthdate. After you enter the requested information, tap “add” to save the information (image 1.5).
Once the student has been selected, the BCSS has two possible assessment options (image 1.6).

![Image 1.6]

a. The Full Screening consists of 79 questions and takes approximately 10-15 minutes to administer. Within the full screening each of the 79 questions are divided by approximate age of acquisition. There are 14 concepts which should be mastered by the time a child is between 3-4 years old. There are 17 concepts expected to be mastered by the time a child is between 4-5 years old. By the time a child is between 5-6 years old, there are 31 concepts. The final 17 concepts may not be completely mastered until a child is between 6-7 years old.

b. The Quick Screening consists of 30 questions and takes approximately 5 minutes to administer. There are seven (7) concepts to be mastered between age 3-4; eight (8) between age 4-5; eight (8) between age 5-6; with the final seven (7) to be mastered between age 6-7.
It should be noted there is a wide range of acceptable age ranges for mastering basic concepts. The ranges used for BCSS are based on a median of resources available. In addition, for some children, certain types of concepts may be mastered before others. For instance, a child may successfully answer spatial concepts through age six and yet struggle with early temporal concepts. Because of the wide variety of acceptable ages for mastery and the variability in learning, it is strongly suggested the entire screener be administered. However, in the event it is necessary to end the screener early, a tap on the done button will end the screener and bring up the results section. Any concepts not assessed will be noted in the purple “not tested” area of the report.

UNDERSTANDING THE TESTING SCREEN
TRANSITION SOUNDS
With every answer selection an animated swirl and transition sound will occur.

ANSWER SELECTION
During the screening, the child will tap on the screen which best depicts the answer to the target request. A square will surround the picture selected as the answer. The authors recognize many children may experience a “happy tapping” phase where a picture is randomly tapped before the child has heard the entire question. To eliminate incorrect scores due to this behavior, scoring will not occur until the “next” button is tapped.

As with any assessment, the professional must refrain from leading the child to an answer. If the child is tapping randomly on pictures, the professional may prompt, “What is the answer?” If the child is able to answer correctly, the correct picture may be selected. If the student chooses an incorrect answer, the answer should not be changed and the professional simply chooses “next” to move to the next target. To ensure accuracy in scoring, the professional should allow answers to be changed only when an accidental tap occurs.

NO ANSWER SELECTED
An answer must be provided for every screen. If no answer is selected, a pop-up message will display (image 1.8).
ADDING NOTES DURING ADMINISTRATION

Users are able to enter notes throughout the assessment. Each note will be added to the report at the end of the session. For example: If the student is discussing the picture and shows an understanding of the concept but selects the wrong answer, a note can be added to show an emerging understanding, or to note difficulty in visual discrimination between pictures (image 1.9).

ENDING THE ASSESSMENT

When the assessment is completed, a tap on the “done” button ends the assessment. If all questions have been answered, a screen displaying a visual reward is displayed. If all the questions have not been answered, a pop-up message displays to confirm ending the assessment.
The BCSS presents the results in a report format. Combining narrative and table type information, the report provides a breakdown of the results by both concept type and age of acquisition.

Once the assessment is ended, the report screen will come be displayed (image 1.10). Select the desired report to view the results.
UNGERSTANDING THE REPORT

Once the report has displayed, the following information is available (image 1.1).

_IMAGE 1.1

HEADER

The information within the header includes the child’s name and age, total number of correct answers, total number of questions attempted and not attempted, and the total percent accuracy.

BODY

The body of the report provides a narrative explaining the child's raw score and a breakdown of the results. Including a list of the concepts answered correctly, incorrectly, and not attempted. The body of the report also includes a table giving a breakdown of results by concept type as well as by...
age of mastery. Finally, a graph is displayed to show a visual image of the results at a glance (image 1.12, 1.13).
SHARING RESULTS

E-MAILING RESULTS

Speech-language pathologists and other professionals can e-mail the results of the assessment immediately after the assessment. In order to email the results, click on the "share" button and a pop-up screen will display with options for sharing results by email (image 1.14).

Professionals can e-mail the results to themselves, parents, or other professionals in order to save the information for their records. The e-mailed report comes as a PDF file and displays exactly as on the report screen.

PRINTING

To print the report, users must own a printer with air printing capabilities.
EXPORTING TO THE THERAPY REPORT CENTER

The Therapy Report Center (TRC) is a free app by Smarty Ears. TRC is designed to keep students data from all Smarty Ears apps in one easy-to-access location. Using TRC allows the busy professional to have data for all goals in one location for ease in writing progress reports.

The BCSS will export results into TRC for those students who have profiles. Simply tap on the “share” button and select Open in TRC (image 1.15).

A pop-up window will display requesting further information (image 1.16). Select Therapy Center and follow the instructions.
FREQUENTLY ASKED QUESTIONS

1. I cannot hear any sound on this application.

   The iPad has a volume button that allows the user to turn the volume of the app up and down as well as a mute button. Make sure you check both buttons.
MARY HUSTON, MS, CCC-SLP

Mary Huston, MS, CCC-SLP is a school based SLP with James River Multidistrict Special Education Cooperative based in North Dakota. Mary has been using technology in therapy for years and has presented on the use of iPads in speech-language therapy for multiple organizations including the ND Council for Exceptional Children, and the New Mexico Speech Hearing Association.

Recognizing a need for specific apps to use in schools, Mary worked with Smarty Ears applications and authored the iPad apps *Phono Learning Center* and *Categories Learning Center*. In addition to co-authoring the BCSS, she co-authored the iPad app *SLP Goal Bank*, and currently has other apps in production. Mary is an active user of social media and collaborates with SLPs internationally on a variety of subjects via twitter (@mtmarySLP) and on her website at [www.speechadventures.com](http://www.speechadventures.com). In addition to her own app work, Mary is on the Smarty Ears advisory board and routinely consults with CEO and Founder Barbara Fernandes.

DARLENE NETHING, MS, CCC-SLP

Darlene Nething earned her BS degree in Communication disorders from Moorhead State University (Moorhead, MN) in 1980 and her MS degree from the University of North Dakota (Grand Forks, ND) in 1993. She earned her certification in Autism Spectrum Disorders from the University of North Dakota in 2005. She has served school districts in North Dakota and Wyoming.

Currently, she is an SLP Coordinator for the James River Special Education Unit in Jamestown, North Dakota. The Unit serves ten school districts in central North Dakota. Her responsibilities include: recruiting new SLPs, mentoring current SLPs, supervising an SLP-A, monitoring IEP paperwork, providing in-service/training to all staff and assistive technology. In addition, she continues to serve a full caseload at an elementary school in Jamestown.

She has participated on two committees with the North Dakota Department of Public Instruction. The first was State Personnel Development which focused on personnel needs across the state and how best to foster growth. The second was the NDSLP Public School Guidelines which focused on a total revision of the State’s document. This included training SLPs across the state in the use of the new document.

In the Spring of 2011, she was chosen to participate in the ASHA Leadership Development Program. This program began on July 7, 2011 in Washington, DC. It was a rewarding growth experience with SLPs from across the nation. She graduated from this program on June 26, 2012.
REFERENCES


Concepts by Age of Acquisition

For scoring purposes, the following ages of acquisition were used:

Age 3: Above, Big, down, little, off, on, over, short, tall, top, under, up, whole

Age 4: All, away, behind, below, between, bottom, center, different, empty, front, happy, high, match, none, sad, smooth, soft

Age 5: always, beginning, cold, dark, end, every, few, first, hard, heavy, hot, last, light, long, most, never, next, old, pair, part, rough, row, side, some, starting, thick, thin, third, through, widest, young

Age 6: Alike, corner, equal, farthest, fewest, full, half, least, left, loud, low, medium, quiet, right, second, separated, skip

Concepts by Category

Comparative: big, little, short, tall, happy, match, sad, smooth, soft, cold, dark, hard, heavy, hot, light, long, rough, thick, thin, widest, loud, medium, quiet.

Quantitative: whole, all, different, empty, none, always, every, few, most, never, pair, part, some, alike, equal, fewest, full, half

Spatial: least, above, down, off, on, over, top, under, up, away, behind, below, between, bottom, center, front, high, row, side, through, corner, farthest, left, low, right, separated, skip

Temporal: beginning, end, first, last, next, old, starting, third, young, second

It should be noted there is a wide range of acceptable age ranges for mastering basic concepts. The ranges used for BCSS are based on a median of resources available. In addition, for some children, certain types of concepts may be mastered before others. For instance, a child may successfully answer spatial concepts through age six and yet struggle with early temporal concepts.