

SUNNY ARTICULATION PHONOLOGY TEST

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2011

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Overview

The Sunny Articulation & Phonology Test (SAPT) is an individually administered clinical tool for screening, identification, diagnosis and follow up evaluation of articulation skills in English speaking individuals. The SAPT was developed by Barbara Fernandes and published by Smarty Ears Apps, LLC. The SAPT can be used with individuals of all age groups. The Sunny Articulation & Phonology Test is compatible with the iPad, iPhone & iPod touch running iOS 4.0 or above.

Uses

The Sunny Articulation Phonology Test can be used to:

- Collect information regarding an individual's articulation skills;
- Supplement data of a standardized articulation measure;
- Determine the presence of an articulation disorder;
- Measure treatment efficacy;
- Articulation screening;

Features

- a. Ability to enter students' information and track their progress over time;
- b. Tests all phonemes in the Spanish language including clusters;
- c. Offers two testing options: screening and full assessment.
- d. Ability to record student's production, review them live and even months after the administration;
- e. Ability to e-mail voice recording files;
- f. E-mail test results immediately after its administration;
- g. Automatic analyses of phonemes based on:
 - a. Manner of Articulation
 - b. Phoneme
 - c. Position in the word
 - d. Voicing features
 - e. Error Type

- a. Deletions
- b. Substitutions
- c. Distortions
- d. Consonant Cluster Reductions
- e. Consonant deletions (initial, medial, final)
- f. Fronting
- g. Backing
- h. Gliding
- i. Devoicing

h. Provides automatic positive feedback to student throughout administration;

i. A sample recording of targeted word is available as you touch images;

j. Compatible with iPad running iOS 4.0 or later;

k. Add notes throughout the assessment

l. Hide written words

m. Option between one continuous recording throughout the assessment or multiple recordings.

How to use it



Administration Time

Administration time for the screening is between 4 to 8 minutes. Administration of the full assessment is from 9 to 20 minutes. The administration varies depending on the child's attention span, the use of sample recordings for target words, and the use of the recording feature.

Adding Users

In order to administer the Sunny Articulation Phonology Test, the speech-language pathologist must first enter the name and the date of birth of student being tested. In order to enter a new student click on the "add student" on the main menu (see image 1.0)

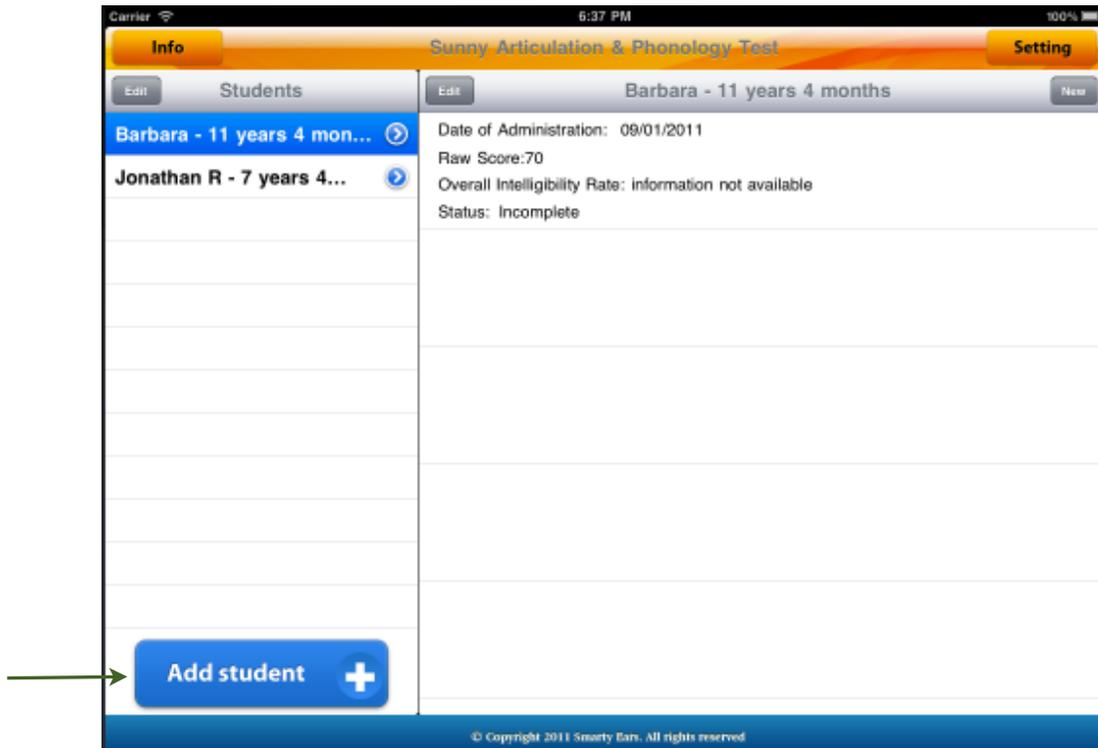
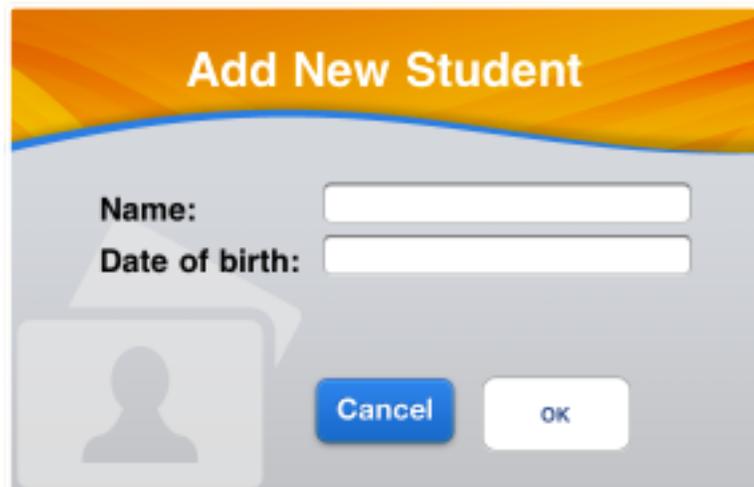


image 1.0

A pop up screen will allow you to enter the student's name and date of birth (image 1.1). After you enter the requested information, click on to save the information.

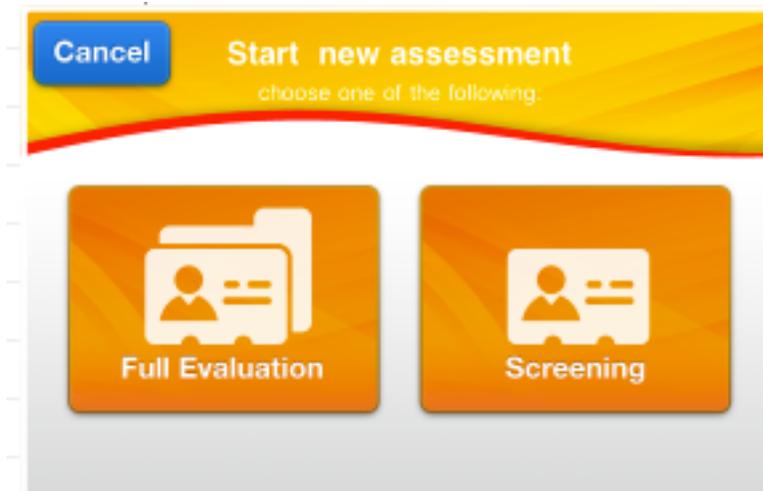


Repeat this process for every student you wish to administer the SAPT App.

Administrating an assessment

The SAPT has two possible assessment options:

- a. Screening
- b. Full Evaluation



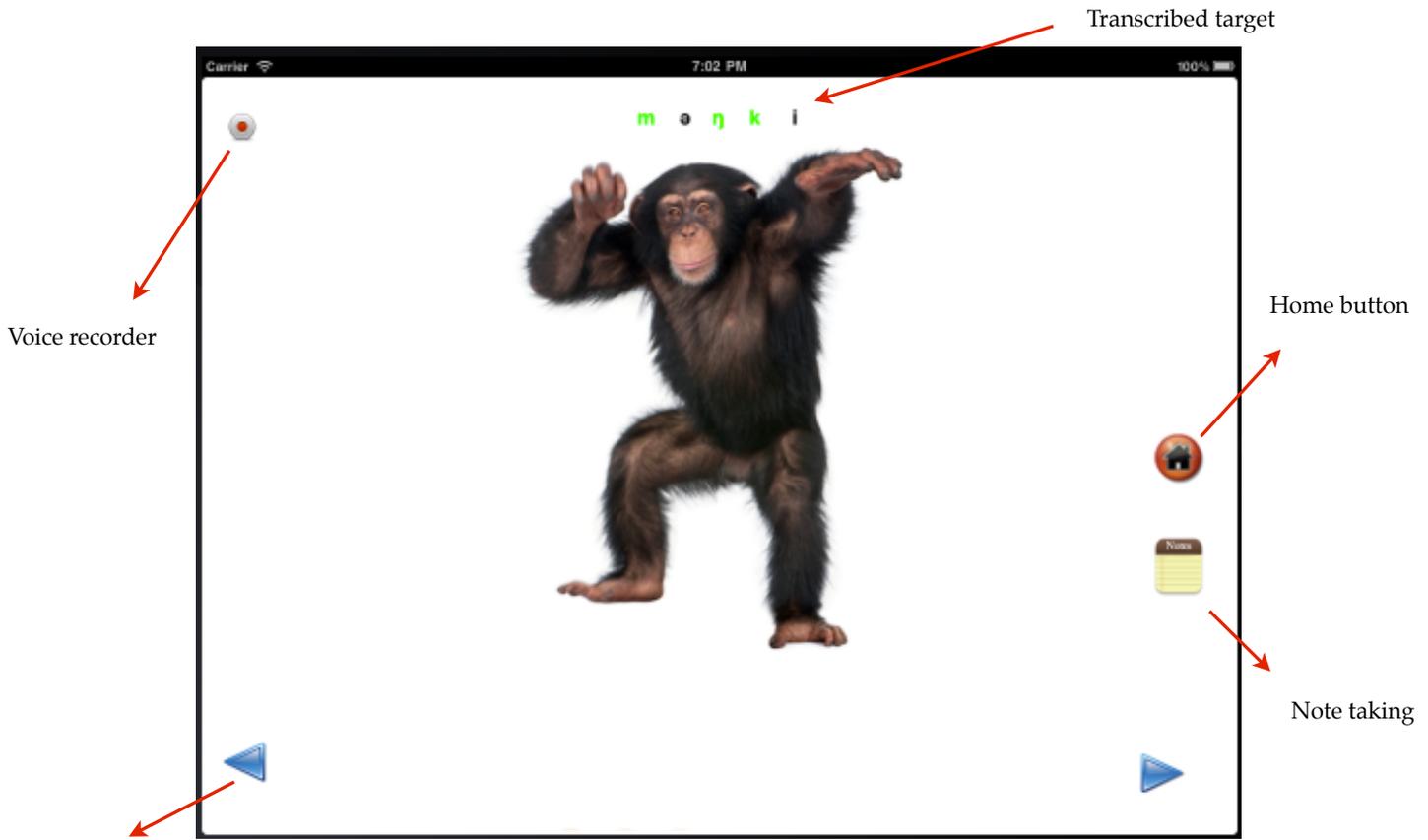
Screening composition information:

TOTAL NUMBER OF WORDS	30
Phonemes	65
Initial	26
Medial	21
Final	18
Fricative	21
Plosive	18
Nasal	8
Liquids	6
Glide	4
Affricate	3
Clusters	5
Voiced	35
Voiceless	26

Full Assessment composition information:

TOTAL NUMBER OF WORDS	46
Phonemes	103
Initial	40
Medial	27
Final	36
Fricative	30
Plosive	30
Nasal	16
Liquids	14
Glide	1
Affricate	4
Clusters	8
Voiced	56
Voiceless	39

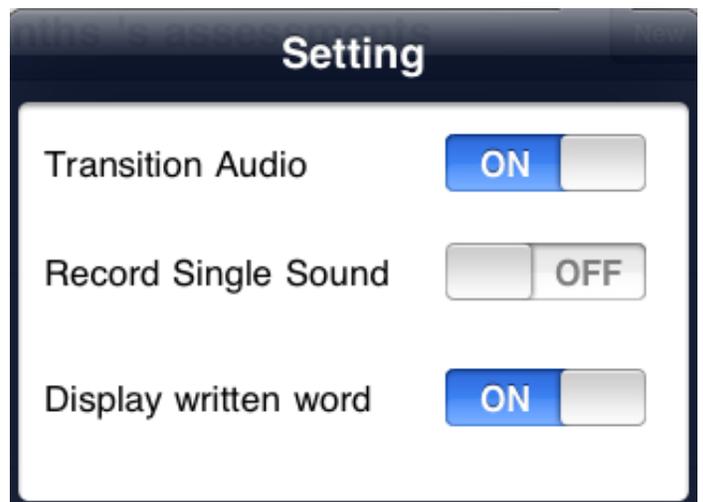
Understanding the testing screen



Previous target

Adjusting Settings

Users can access the settings of the SAPT App on the main menu, by clicking the settings button on the upper right side of the screen.



Transition sounds

Transition sounds refer to the sounds that are played when the user advances to the next image during the assessment. This is a praise audio that can be played or turned off.

Voice Recording Options

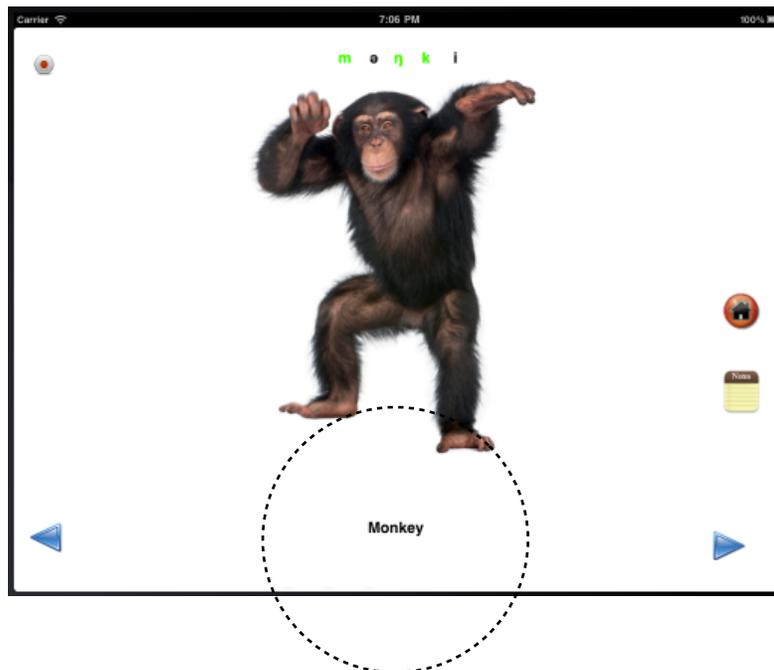
The SAPT App contains two option for voice recording:

Record Single Sound ON: Turning on this function will allow SLPs to record one single voice file throughout the assessment without having to press the microphone button for each production.

Recording Single Sound OFF: Turning this function off will allow SLPs to record several voice files and chose which productions they wish to record.

Written cues

It is possible to turn off the written target word below each image by turning the “Written word” button OFF.



Documenting errors

Screening

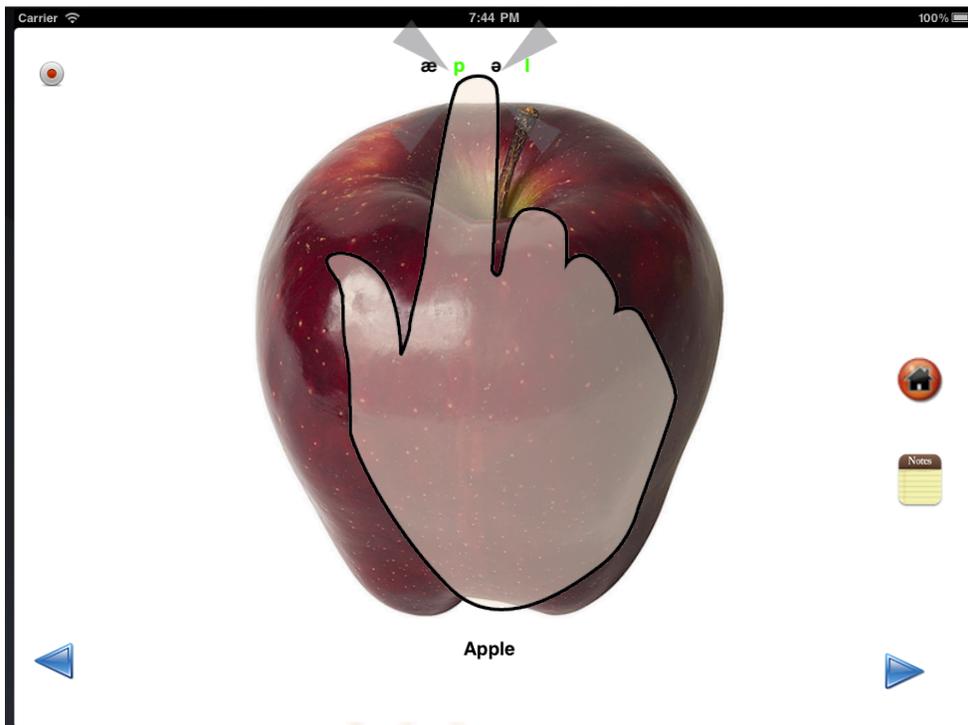
Recording errors on the SAPT is very simple. Each transcribed word is composed of phonemes colored in black and in green (see reference below)

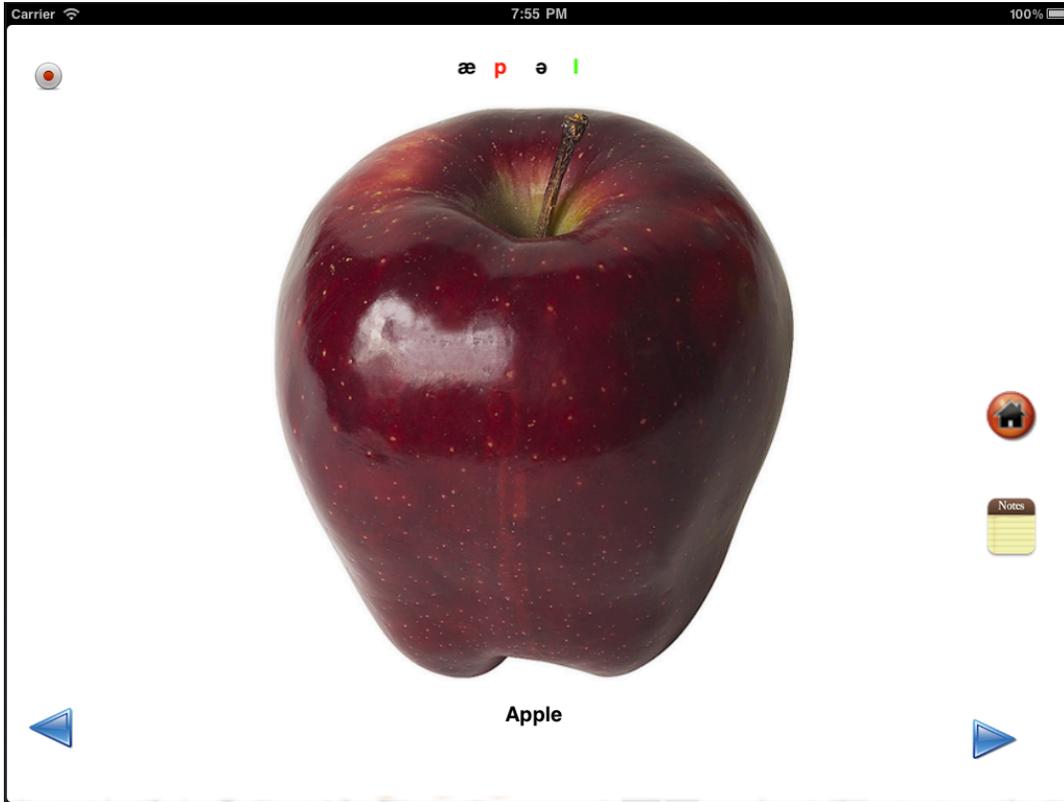
m ε d ə l

The black phonemes on each transcribed word are not targeted and therefore are not touch sensitive. The green phonemes are the targeted phonemes in each word and therefore touch sensitive.

When the student's product was not accurate the speech-language pathologist must tap the phoneme to indicate that the production was not accurate.

The SAPT will respond to this gesture by transforming the tapped phoneme to red (see image below)



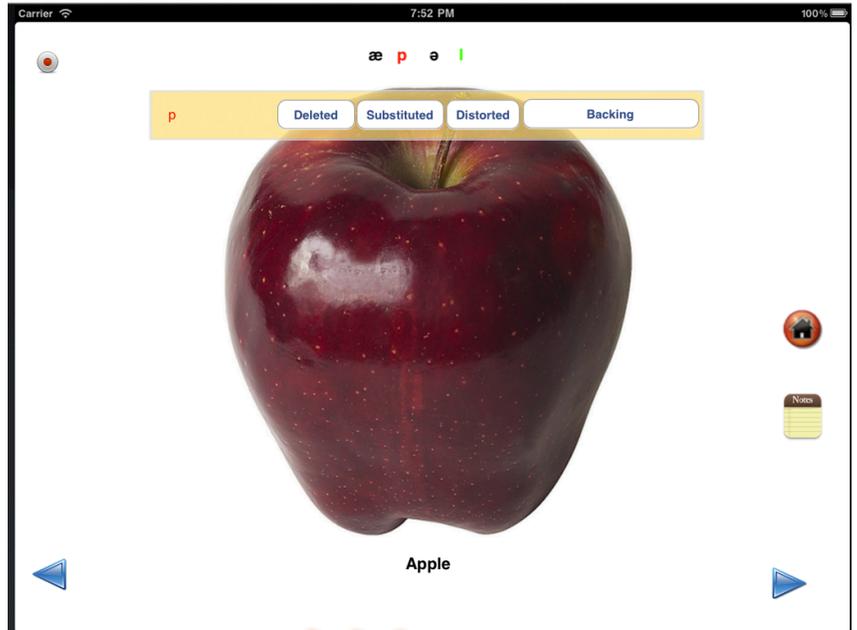


If the production is accurate, do not tap any phoneme, just proceed to the next screen.

Full evaluation

The full assessment option has the same basic concept of the “screening” option for recording errors with the additional feature that you must choose which type of error was made by the student. Once you click on the targeted phoneme; an additional menu option will appear; simply select the appropriate option. See example.

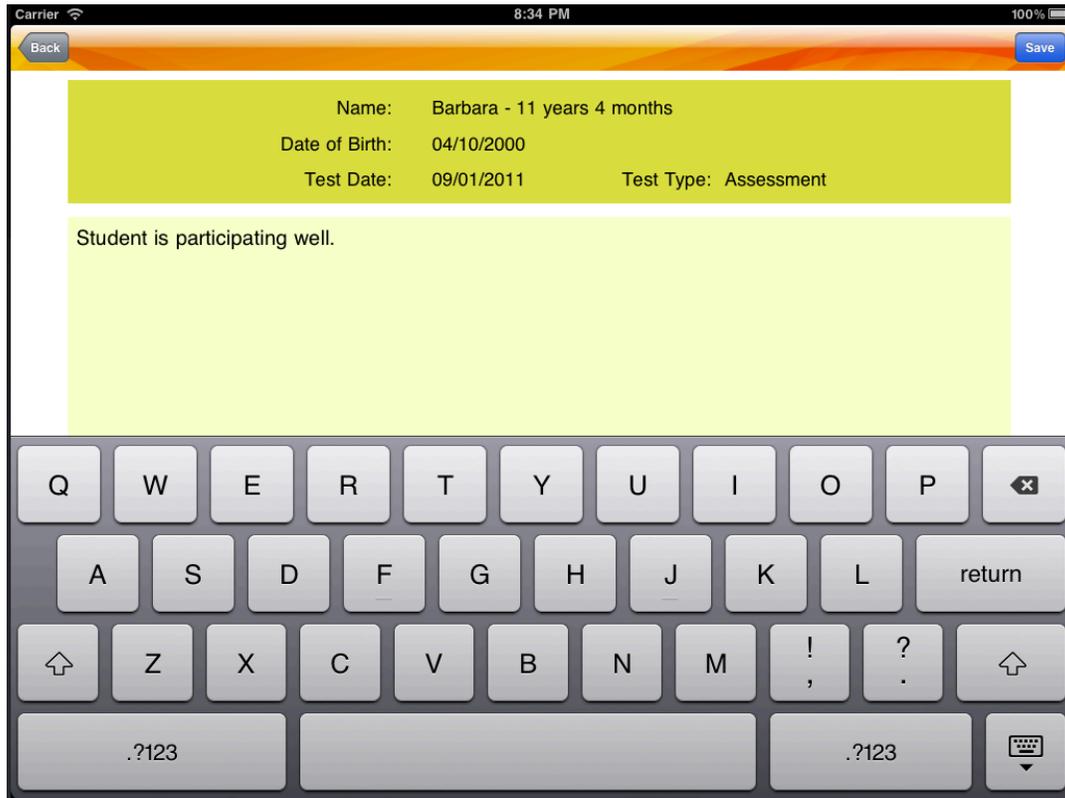
If the student is exhibiting substitution, a new screen pops up and allows you to select which specific phoneme the child uses in place of the target phoneme. The information will be saved and interpreted by SAPT.



Adding notes during test administration



Users are able to enter notes throughout the testing session. Each note will be separately saved not only per session, but also per word. For example: If you are targeting the word “magician” and you notice that the student is dentalizing a specific phoneme you may simply write “dentalized” and Sunny will automatically let you know which target word you were referring to.



Interpreting results

The Sunny Articulation Phonology Test presents the results in six different categories:

- a. Position in the word
- b. Manner of Articulation
- c. Voicing features
- d. Words errors
- e. Error type

Once you finish administration of SAPT, you will find a screen indicating that the assessment has been completed. See image below:

Edit **Barbara - 11 years 2 months 's assessments** **New**

Date of Administration: 08/28/2011
Raw Score: 88
Status: Completed

In order to access the result information tap on box associated with the assessment administered.

Raw Score

The raw score is the number of targeted phonemes minus the number of errors.

a. Position in the word

The phonemes are analyzed based on position in the word. The overall accuracy under this tab is organized below:

Position	Manner	Voicing	Words	Error
Initial: 95.1% accuracy				
Medial: 92.6% accuracy				
Final: 97.2% accuracy				

b. Manner of articulation

The manner of articulation tab, analyzes all the manner of articulation in English. The phonemes are also broken down individually which allows for identification of errors being more frequent to one phoneme or word location within the same manner of articulation.

Position	Manner	Voicing	Words	Multisyllabic	Error
----------	--------	---------	-------	---------------	-------

Fricatives: 91.3% accuracy

/ɣ/ -	Initial 0/0	Medial 3/3	Final 0/0
/s/ -	Initial 0/2	Medial 2/2	Final 4/4
/x/ -	Initial 1/1	Medial 1/1	Final 0/0
/ð/ -	Initial 0/0	Medial 2/2	Final 1/1
/f/ -	Initial 2/2	Medial 2/2	Final 0/0
/r/ -	Initial 0/0	Medial 1/1	Final 0/0
/β/ -	Initial 0/0	Medial 2/2	Final 0/0

Voicing features

Phonemes are analyzed according to their voice under the “voicing” tab.

Position	Manner	Voicing	Words	Multisyllabic	Error
----------	--------	---------	-------	---------------	-------

Voiced: 88.9% accuracy

Voiceless: 74.3% accuracy

Words

The words tab provides information regarding the words targeted on the assessment as well as the errors produced by the student. The phonemes are color coded to indicate whether a phoneme was produced correctly or not. The

green phonemes indicate that the phoneme was targeted and the student produced correctly. The red phonemes indicate errors.

Position	Manner	Voicing	Words	Error				
sn	e	k	(Cluster Reduction sn)					
b	a	j	s	ɪ	k	ə	l	
f	ɔ	r	k					
ɛ	l	ə	f	ə	n	t	(Stopping f) (Backing t)	
v	e	s	(Substituted /t/)					
z	i	br	ə	(Devoicing z)				
h	a	w	s					
ð	ɪ	s						
dʒ	ɑ	r						
tʃ	ɛ	r						

green – if production was accurate

red – mispronounced phonemes

black – phoneme not targeted.

Error type

The Sunny Articulation Phonology Test provides automatic analysis of the errors marked by the SLP.

Total percentage of error

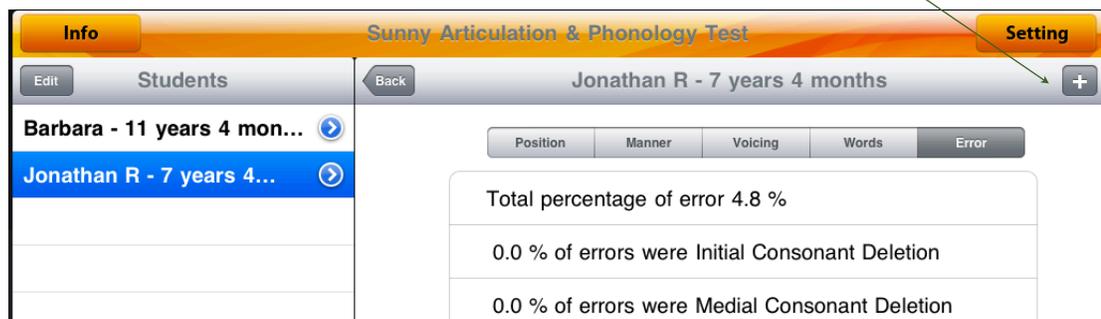
The total percentage of error is the percentage of phonemes marked as misarticulated.

Position	Manner	Voicing	Words	Error
Total percentage of error 4.8 %				
0.0 % of errors were Initial Consonant Deletion				
0.0 % of errors were Medial Consonant Deletion				
0.0 % of errors were Final Consonant Deletion				
20.0 % of errors were Consonant Cluster Reduction				
20.0 % of errors were Substitution				
0.0 % of errors were Distortion				
20.0 % of errors were Stopping				
20.0 % of errors were Devoicing				
0.0 % of errors were Gliding				

Sharing results

E-mailing Results

Speech-Language Pathologists can e-mail the results of the assessment immediately after the assessment. In order to e-mail the results, click on the “plus” button and a pop up screen will display with options for sharing the results by e-mail.

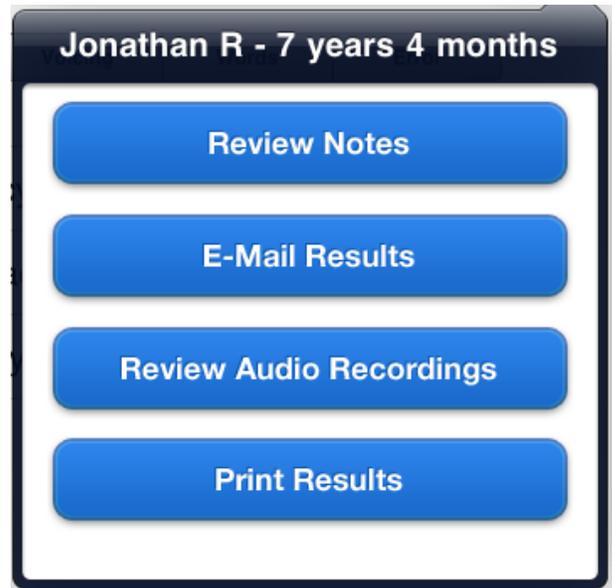


Users can e-mail the results to themselves in order to save for their records and keep a backup of the student’s assessment, or to send to the parents.

The e-mail is set up as a simple report. See sample below:

Sunny Articulation & Phonology Test Results
Developed by Smarty Ears

Student’s name: Barbara Fernandes
Student’s date of birth: 04/10/2000
Student’s age: 11 years 4 months
Date of Administration: 09/01/2011
Type of testing: Assessment
Raw score: 93



Barbara Fernandes’s articulation skills were evaluated on 09/01/2011 utilizing the Sunny Articulation & Phonology Test. The Sunny Articulation & Phonology Test (SAPT) is an individually administered qualitative clinical tool for screening, identification, diagnosis and follow-up evaluation of articulation skills in English speaking individuals. The Sunny Articulation & Phonology Test can be used with individuals of all age groups; it provides qualitative information regarding a student’s articulation skills. Barbara’s articulation assessment yields a raw score of 93. The raw score of the Sunny Articulation and Phonology Test indicates the total number of phonemes targeted minus number of errors. The higher the raw score, the less errors were found. It is important to take into consideration that the SAPT does not take into consideration developmental norms; therefore, despite the presence of errors student’s articulation errors may be developmentally appropriate.

Results obtained on this session are presented and explained bellow:

1. Manner of Articulation:

Manner of articulation is a parameter used to describe how the structures involved in producing speech operate to produce a consonant. The SAT analyses the overall accuracy of each manner of articulation, as well as in relation to the position of the consonant in the word.

Fricatives: 89.7% accuracy

Phonemes	Initial	Medial	Final
/s/ -	Initial 1/1	Medial 1/1	Final 2/2

/f/ -	Initial 2/4	Medial 1/1	Final 1/1
/v/ -	Initial 1/1	Medial 1/1	Final 2/2
/z/ -	Initial 0/1	Medial 1/1	Final 3/3
/h/ -	Initial 2/2	Medial 0/0	Final 0/0
/ð/ -	Initial 1/1	Medial 1/1	Final 0/0
/ʃ/ -	Initial 2/2	Medial 1/1	Final 1/1
/θ/ -	Initial 1/1	Medial 0/0	Final 1/1

Liquids: 100.0% accuracy

Phonemes	Initial	Medial	Final
/l/ -	Initial 1/1	Medial 2/2	Final 4/4
/r/ -	Initial 1/1	Medial 2/2	Final 5/5

Plosives: 89.3% accuracy

Phonemes	Initial	Medial	Final
/k/ -	Initial 4/4	Medial 1/2	Final 2/2
/b/ -	Initial 2/2	Medial 1/1	Final 1/1
/t/ -	Initial 1/1	Medial 1/1	Final 4/5
/d/ -	Initial 1/1	Medial 2/2	Final 1/1
/g/ -	Initial 1/1	Medial 1/1	Final 1/1
/p/ -	Initial 0/0	Medial 0/1	Final 1/1

Nasals: 93.3% accuracy

Phonemes	Initial	Medial	Final
/n/ -	Initial 0/1	Medial 1/1	Final 3/3
/ŋ/ -	Initial 0/0	Medial 2/2	Final 1/1
/m/ -	Initial 5/5	Medial 1/1	Final 1/1

Affricate: 100.0% accuracy

Phonemes	Initial	Medial	Final
/dʒ/ -	Initial 1/1	Medial 1/1	Final 1/1
/tʃ/ -	Initial 1/1	Medial 1/1	Final 0/0

Glide: 100.0% accuracy

Phonemes	Initial	Medial	Final
/w/ -	Initial 0/0	Medial 1/1	Final 0/0

Clusters: 87.5% accuracy

Phonemes	Initial	Medial	Final
/sn/ -	Initial 0/0	Medial 1/1	Final 0/0
/br/ -	Initial 1/1	Medial 1/1	Final 0/0
/kr/ -	Initial 1/1	Medial 0/0	Final 0/0
/fl/ -	Initial 1/1	Medial 0/0	Final 0/0

/fr/ -	Initial 0/1	Medial 0/0	Final 0/0
/kl/ -	Initial 1/1	Medial 0/0	Final 0/0
/st/ -	Initial 1/1	Medial 0/0	Final 0/0

2. Position of Phoneme in the Word:

Initial: 86.8% accuracy

Medial: 92.6% accuracy

Final: 97.2% accuracy

3. Voicing Feature:

Voiced: 96.4% accuracy

Voiceless: 86.5% accuracy

4. Words:

See below all words administered on the Sunny Articulation & Phonology Test, their respective standard phonetic transcriptions and the errors marked by the test administrator.

Phonemes marked in **green** identify targeted phonemes.

Phonemes marked in **red** identify errors identified by test administrator.

Word	Transcriptions/ errors	Comments
Snake	snek	
Bicycle	bajskəl	(Distorted)
Fork	fɔrk	(Deleted)
Elephant	ɛləfənt	(Distorted)
Vase	ves	
Zebra	zibrə	(Deleted)
House	haws	
This	ðis	
Jar	dʒɑr	
Chair	tʃɛr	
Shovel	ʃəvəl	
Knife	najf	(Deleted)
Dove	dəv	
Thumb	θəm	
Fishing	fɪʃɪŋ	
Fish	fɪʃ	
Scissors	sɪzərz	
Olive	əlɪv	
Mouth	mawθ	
Mother	məðər	

Magician	mədʒɪʃən	
Cage	keɪdʒ	
Hatchet	hætʃət	
Camel	kæməl	
Candle	kændəl	
Finger	fɪŋgər	(Deleted)
Arm	ɑːrm	
Lion	laɪən	
Goat	ɡoʊt	
Tiger	taɪgər	
Monkey	məŋki	
Butterfly	bʌtərflaɪ	
Medal	mɛdəl	
Apple	æpəl	(Deleted)
Rabbit	ræbɪt	
Bread	brɛd	
Ship	ʃɪp	
Crab	kræb	
Carrot	kærət	
Flowers	flaʊərz	
Frog	frɑːg	(Deleted)
Clown	klaʊn	
Stars	stɑːrz	
Tree	tri	
Snail	sneɪl	
Swan	swɑːn	

5. Error Type:

This information pertains to the types of articulation errors and phonological processes exhibited by Barbara Fernandes at the word level. Total percentage of error 7.9 %

62.5 % of errors were Initial Consonant Deletion

12.5 % of errors were Medial Consonant Deletion

0.0 % of errors were Final Consonant Deletion

0.0 % of errors were Consonant Cluster Reduction

0.0 % of errors were Substitution

25.0 % of errors were Distortion

0.0 % of errors were Stopping

0.0 % of errors were Devoicing

0.0 % of errors were Gliding

0.0 % of errors were Fronting

0.0 % of errors were Backing
0.0 % of errors were Deafraction

Reviewing notes



Speech-Language Pathologists can review the notes taken during the assessment by clicking on the “plus” button and the review notes button.



Preview Audio Files

If you recorded the voice of the child during the assessment, it is possible to access those recordings by accessing the “Review audio recordings” button.



Printing results

Users must own a printer with air printing capabilities in order to print from the iPad. Click here to learn more about [Air Printing](#) from Apple.



Frequently asked questions

1. I cannot hear the any sound on this application

The iPad has a volume button that allows you to turn the volume of the app up and down and a silent button. Make sure you check both buttons. Both the volume and he silent buttons must be turned up.



Support

E-mail: contact@smartyearsapps.com

Twitter @smartyears

Website: <http://www smartyearsapps.com>

Facebook: <http://www.facebook.com/smartyears>

