

The Basic Foundation Approach For Decreasing Aphasia and Verbal Apraxia in Adults (BFA)

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During eight years of work as a clinical speech pathologist - researcher, I have reached the following conclusions:

First, that I share the feelings of Dr. Holland (1975) when she said, "I am interested in aphasia because I see it as a way to study the way the human brain works, the relationship between language and thought, the problem of human interaction."

Second, that as the personal patient-pathologist interaction begins, I feel released from the traditional aphasia therapy bondage. This allows me to design a more flexible, creative and effective therapy program when I conduct therapy with patients, not with clinical labels. I feel free to borrow from fields such as remedial reading, English, psychology, etc. Most of all, I get involved in mental role playing with my thoughts and language in order to relate to the patient.

Third, that after deciding whether the patient's communication skills require habilitation, rehabilitation, or both, I am ready to do as Dr. Darley (1972) suggests, "that the aphasia specialists more clearly define the language disorder they work with, control the efforts of spontaneous recovery, and specify progress more exactly."

Fourth, that I am concerned about the lack of consistent effectiveness, the duration of the program, the limited degree of immediate, short and long term carry-over, and the limited amount of functional use derived from many of the "traditional" aphasia therapy techniques. My main concern lies in the pathologists's ability to measure and account for progress.

The above observations and concerns led to research of the technique called the Basic Foundation Approach for Decreasing Aphasia and Verbal Apraxia in Adults, which will be referred to in the remainder of this paper as BFA.

Goals of the BFA:

- 1) To review and improve receptive language skills. (Visual, auditory and tactile processing, discrimination, comprehension and retention.)
- 2) To review and improve expressive language skills of sentences and individual parts through speaking, drawing, writing, signing, gesturing and pointing out pictures or letters.
- 3) To improve visual, auditory, and tactile memory skills both immediate, short and long term by using association devices.

- 4) To improve speech skills by concentrating on articulation and other dysfluencies in various types and degrees of verbal apraxia through language activities.

Materials Used in the BFA:

- 1) Sequence pictures which tell stories (probe material)
- 2) Pictures displaying several actions which elicit the transformation (article + noun + aux. verb + action verb + preposition + object).
- 3) Pictures displaying actions with varying verb tenses such as future, present, and past.
- 4) Actions of the patient or some person or thing displaying varying verb tenses.
- 5) Objects having up to nine characteristics such as name, color, shape, size, texture, composition, condition, number, place and function.
- 6) Pictures, people or things displaying various characteristics.

Content and Operation of the BFA:

The BFA operates under the theory that the patient with aphasia has not lost previously learned language, but the ability to comprehend and/or use the language through various communication systems has been blocked, altered or minimized due to brain injury (Schuell 1975, Lenneberg, 1967). The BFA operates under the interference versus language loss theory, but does not assume that the language is stored there semantically or syntactically intact.

This theory suggests the need for facilitating and stimulating techniques such as the BFA, which is designed to trigger, release and aid in maintaining the use of language elements.

The BFA starts out as a programmed technique controlled by the stimulation provided by the speech pathologist. However, it is designed to gradually move into a spontaneous, natural condition as the patient is trained to become a self-stimulator.

The BFA depends primarily on the use of wh-interrogatives which serve as a device to enter into the patient's thought and language system and trigger the use of his or her language. The wh-interrogatives also serve as associative devices which appear to organize, categorize, elicit and maintain the use of previously learned language elements.

Brown and White (1968) conclude, "We have seen that English sentences have two kinds of question asking transforms - the yes/no questions and the wh-questions. We may now consider a transformation rule for producing wh-questions. We must realize, first of all, that it is possible to ask questions about practically any part of a sentence."

(Refer to Page 2 for examples of wh-interrogatives used in the BFA.)

The BFA consists of three major levels.

Pre-training -- Level I

Level I is a pretraining test. Spontaneous reading, verbal expression or graphic samples are recorded and timed. Only the visual stimuli are presented. The materials used in this probe may be sentences, actions, etc., depending on the previous objective and/or subjective measures of the language level.

Training -- Level II

The patient is trained on material used during the probe. The training begins at the patient's level. The duration of the training period depends on the patient's responses, retention, and functional use of the reviewed language elements. The training steps are modified according to the language needs of the patient. Responses are recorded and timed. Special attention is placed on memory.

Post Training -- Level III

Level III is essentially a repeat of the pre-training Level I. Again, each oral, reading, or written response is recorded and timed. These responses determine the benefits of the training, and determine what aspects of the trained activities are in need of review or modification. They also determine if the level of the activities need to be simplified or advanced.

(Refer to pages 2-9 for examples of various training activities)

Scoring System Used with the BFA

A modified version of the multi-dimensional scoring system based on the Porch Index of Communicative Ability (PICA) is presently being used. Non-language behavior as well as language responses are recorded and scored. Each total response as well as its individual parts are scored (each word in a given sentence receives a score).

This scoring system allows for an immediate, short and long term measure of progress. The present session begins with a review of the activities of the previous one to assess carry-over.

The BFA is applicable to individual and small groups.

The BFA has been under clinical application for a year and a half. Observations made on four patients with aphasia leads the designer to believe that the BFA has a great future and is applicable to adults with various levels of aphasia and verbal apraxia (Refer to pages 2-9).

I invite you to research and help assess the value of the BFA in your respective clinics with a variety of impaired language skills. The BFA will be available as a kit in the near future.

The BFA is designed to review the grammar of one's language through the use of wh-questions. The grammar is reviewed at various language levels and at the patient's individual pace.

The BFA appears to be effective not only because it reviews one's grammar by using interrogatives, but also through the presentation of a total picture concept (Gestalt), which serves as another associative, triggering device.

Examples: Presentation of:

a) complete sentences, then phrases, then single words, then phonemes

or

b) pictures or actions displaying three different verb tenses, then any one of those tenses individually

or

c) actions of a person with all steps given in various tenses, then individual steps.

(Refer to pages 2-9 for brief examples of training programs)

Instead of gradually building up to the patterns of basic sentences (Brown and White, 1968) the BFA gradually breaks down the total sentence or actions into parts. Individual parts become more meaningful, are retained, and become more functional once reviewed in some context.

Lorayne and Lucas (1974) concluded that, "all memory, whether trained or untrained is based on association. One of the fundamentals of a trained memory is what they call 'original awareness'. Anything you are originally aware of cannot be forgotten. The application of association systems will force original awareness".

The BFA is flexible as it inserts or deletes whole or separate language elements during the training period according to the patient's language level and needs. The BFA has a tendency to retrieve the use of language elements not reviewed directly.

Robert Marshall (1975) concluded, "In general, most studies have been concerned with whether or not the patient produced the appropriate word, not how he achieved success or why he failed to do so."

The BFA is designed to provide the patient with a way to achieve success, and to help him to understand how he achieved it. If he fails, it shows him where he has failed, helps him to determine why, and directs him in making corrections.

In conclusion, I wish to leave you with this thought:

As the child develops his language he bombards the listener with interrogatives; as they are answered, the child's language grows. As the patient with aphasia reviews the grammar of his language, he needs to be bombarded with interrogatives; hopefully, he will comprehend them and answer them so his language can again be used.

References

- Brown, Marshal L., White, Elmer G., A Grammar For English Sentences 1., Charles E. Merrill Publishing Co., Columbus, Ohio, Preface pp. 133-134
- Darley, Fred, The Efficacy of Language Rehabilitation In Aphasia, Journal of Speech and Hearing Disorder, 37 (1), 1972, pp. 3-21.
- Holland, Andrew L., The Effectiveness of Treatment in Aphasia, Clinical Aphasia Conference Proceedings; Santa Fe, New Mexico, 1975, p. 3.
- Lenneberg, E., Biological Foundations of Language, John Wiley and Sons, Inc., New York, 1967.
- Lucus, Jerry E. E., Lorayn, Harry, The Memory Book, Ballantine Books, New York, 1974, pp. 5-12.
- Marshal, Robert C., Word Retrieval Strategies of Aphasic Adults in Conversational Speech, Clinical Aphasiology Conference Proceedings; Santa Fe, New Mexico, 1975, p. 166.
- Schuell, H. M., Jenkins, J. J., and Jiminez-Pabon, E., Aphasia in Adults, Harper and Row Publishers, Hoeber Medical Division, 1964.

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APHASIA AND VERBAL APRAXIA IN ADULTS (BFA)

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Handout Material
Table of Contents

- I. Examples of wh-interrogatives used in the BFA
- II. Sample lesson (Levels I-II-III) Present Progressive Verb Tense
- III. Sample lesson (Levels I-II-III) Future-Present Progressive-Past Tenses
- IV. Sample lesson (Levels I-II-III) Object Program
- V. Sample responses of a patient with whom the BFA is presently being used

Preliminary material being used in the application of the BFA

1. Illustrated Expressions
School Sisters of Notre Dame, 1963
2. Visual Language Series
Designed by: Robert E. Newby, M.A.
Director, I.M.C.
The Pennsylvania School for the Deaf

The Basic Foundation Approach For Decreasing
Aphasia And Verbal Apraxia In Adults (BFA)

I. Examples of wh-interrogatives

Wh-interrogatives used in the Basic Foundation Approach for Decreasing
Aphasia and Verbal Apraxia in Adults (BFA).

Who or Whom?	Somebody	Nouns - Pronouns
What?	Something	Nouns - Objects
Where?	Some place	Prepositions - Adverbs
When?	Some time	Adverbs
How?	In some condition	Adjectives - Adverbs
	In some manner	
How many?	Number	Adverb
How long?	Some duration	Adverb
Who?	Will do some- thing?	What? Where? When? How? With whom?
	Is going to do something	What? Where? When? How? With whom?
	Are going to do something	What? Where? When? How? With whom?
		(any one or several of these above could be used per sentence).
Who?	Is doing some- thing	What? Where? When? How?
Who?	Are doing some- thing	What? Where? When? How?
Who?	Did something?	What? Where? When? How? To whom?
Who?	Finished doing something?	What? Where? When? How? To whom?
Who?	Will be?	When? How? When?
Who?	Is how?	
Who?	Are how?	
What?	Will do some- thing?	What? How? When? Where?
What?	Is doing some- thing?	
What?	Did something?	
What?	Will be?	How? Where? When?
What?	Is how?	Where? In what condition?
What?	Was how?	Where? In what manner? (Use various characteristics such as shape, size, color, texture, condition, place, etc.)

Sample Lesson
Levels I, II, III

Program: Present progressive verb tense

Language form: article + noun + auxiliary verb + action verb +
preposition + article + object

Pre-Training - Level I

(Pre-test or probe -- record time, score responses)

- 1) Present the actual action or pictured actions which elicit the following:

article + noun	auxiliary verb + action verb	preposition + article + object
The man	is sitting	on the floor

- 2) Elicit as many sentences as desired of the same language form as above.
- 3) Elicit responses in either one or all of three modalities: verbal, oral reading, or graphic.

Type of Instructions:

- a) "Tell me about this picture" or "What is happening here?"
- b) "Read these sentences to me."
- c) "Write sentences telling me about the pictures."

Training Level II

Train on the same material just probed.

Train at whatever level that a breakdown occurred on any of the three modalities.

Remember this is a training level, not a testing level.

- a) The pathologist asks the total sequence of wh-questions as the picture or actual action is looked at.
Who? is doing something? What? Where?
- b) The pathologist and patient answer the total question sequence together.
- c) The pathologist repeats the total answer.
"The man is sitting on the chair."
- d) Display written sentence also. Work through two or three different sentences of the same language form.
- e) Pathologist asks separate wh-questions for each separate part of the sentence.
Pathologist and patient work through each question and answer together.
Pathologist writes the answer after each question (under the question).

Who?	is doing something?	Where? What?
The man	is sitting	on the floor

Continue to work through the desired number of sentences this way. (The number depends on the level of the patient).

- f) Work on each language unit separately.
Drill on all the WHOs (nouns) if two or more pictures were used.

Who? Who? Who?
The man the boy the girl

Possible Drill Activities

1. Ask and answer several WHO? questions.
2. Write down the question and answer.
3. Auditorily and visually discriminate the various WHO answers.
4. Point to various WHOs as named.
5. Match printed WHO with picture.
6. Read off the WHOs.
7. Write down the WHOs. (Copy or trace if patient is that low)
8. Select one of two WHOs. (Is this the boy or the girl?)
9. Drill on opposites with the WHOs. (The opposite of girl is _____)
10. Work on sentence completions using the WHOs. (Here is the girl, this is _____).
11. Work on auditory and visual memory activities with the WHOs.
 - a) Boy-girl-man, which was first, which was second, etc.
 - b) Boy-girl-man, what were the WHOs
 - d) Boy-girl-man, turn pictures and words over -- what were the WHOs -- the words.

g) Drill on all the actions (verbs)
is doing something? is doing something? is doing something?
is sitting is sitting is sitting
Whenever all the actions are the same you might put in a different one in order to do discrimination work.
Work on the same type of training activities listed 1 to 11 above.

h) Drill on all the prepositional phrases
Where? Where? Where?
on the chair on the floor on the step
Work on the same training activities listed 1 to 11 under f.
There is enough flexibility that you might delete or insert different training activities other than those listed 1 to 11 under f.

Post Training - Level III

Post training - Level III is basically a repeat of Level I. It is a re-test time. Again present the same stimuli as used in Level I. Record time and score responses.
The patient's verbal, reading, or graphic responses will determine the effectiveness of the training activities and will help determine what language elements require more training, modification, advancement or simplification.

Sample Lesson Levels I, II, III

Program: Future, Present Progressive, and Past Tenses

Language forms: 1) article + noun future auxiliary verb + verb article + object

- 2) article + noun present auxiliary verb + action
verb article + object
- 3) article + noun past verb tense article + object

Pre-Training Level I

(Pre-test or probe - record time, score responses)

1. Present the actual actions or pictured actions which elicit the following: (present the three tenses simultaneously)
 - a) article + noun future aux. verb + verb article + object
The robber will rob the bank
 - b) article + noun present aux. verb + action verb article + object
The robber is robbing the bank
 - c) article + noun past tense verb article + object
The robber robbed the bank
2. Elicit as many sentences of all three tenses as desired of the same language form as above.
3. Elicit responses in either one or all of the three modalities verbal, oral reading, or graphic.

Type of instructions:

- a) Arrange these three pictures in the right order according to what happened first, second, third. (You might help the patient).
- b) Tell me about each picture. Tell me about this one, this one, and this one (pointing out in order).
- c) Read these sentences.
- d) Write these sentences.
- e) Copy or trace these sentences.

Training - Level II

Train on the same material used in probe. Train at whatever level that a breakdown occurred on any of the three modalities.

Remember, this is training, not testing time.

- a) Pathologist asks the total sequence of wh-questions of all three tenses as the pictured actions or actual actions are looked at.
Who will do something?
Who is doing something? Ask and answer each question as the patient looks and listens.
Who did something?
- b) Pathologist asks separate question per verb tense and answers question.
- c) Pathologist asks separate questions in sequence for each verb tense.
- d) Pathologist displays written sentences and works through all elements of each sentence. Ask separate wh-questions for each part of the sentence and write down answers under each question.

Who?	Will do something?	What?
The robber	will rob	the bank

Who?	Is doing something?	What?
The robber	is robbing	the bank

Who?	did something?	What?
The robber	robbed	the bank

If the patient is high level, you might work through two or three series of three tense sentences.

- e) Work on each language unit separately.

Drill on WHO or WHOs

Drill on action or actions

Drill on object or objects

This step depends on whether or not two or more pictures were used. However, you might put in different WHOs, actions or objects for discrimination work if you only used one three tense picture series.

Possible Drill Activities

1. If you decide to use more than one three tense picture series, drill on the WHOs, actions and objects separately.
2. Write down the questions and the answers as the patient looks on.
3. Auditorily and visually discriminate between the WHOs only or the actions only or the objects only.
4. Have patient point to the language element as named.
5. Match printed to spoken elements.
6. Match printed words to the pictured elements.
7. Select one of two elements presented.
8. Read off the separate parts.
9. Drill on opposites, sentence completion, etc.
10. Work on auditory and visual memory skills.
 - a) the robber, the doctor, the milkman -- who was first, second, third?
 - b) robber - doctor - milkman - what were the WHOs?
 - c) read or name robber - doctor - milkman, turn words or pictures over, what were the WHOs or words?
11. Drill on the tenses - future - present progressive - past. If more than one series, drill on all future, then all present progressive, then all past tense. If only one three tense series is used, do discrimination drill work with the three different tenses.
Be sure you stress either that something will happen, is getting ready to, or
 something is happening right now
 or
 something happened - it is over - it has been done.
12. Read separate tenses - read total sentence.
13. Write, copy or trace separate tenses. Write total sentences spontaneously or from dictation.

Post Training Level III

Post training Level III is basically a repeat of Level I. It is re-test time. Again present the same stimuli as used in Level I. Record time

and score responses. The patient's verbal, graphic or reading responses will determine the effectiveness of the training activities and will help determine what language elements require more training, modification, advancement, or simplification.

Sample Lesson
Levels I, II, III

Program: Object Program

Examples of Language Forms: Article + noun + singular or plural verb + adjective or article + noun + auxiliary verb + preposition + article + object

Pre-Training I

(Probe - pre-test, record time, score responses)

- 1) Present object or objects (the number of objects being used depends on the patient's level).
- 2) Request that the patient tell all he can about the object.
- 3) Request that he tell such things as name, size, shape, condition, texture, place, composition, function (asking one at a time).
- 4) For an auditory test you might request that he or she point to objects by name and/or other characteristics.
- 5) Have patient write the name and other characteristics.
- 6) Have patient write sentences or phrases about each object using the various characteristics.
- 7) Have patient read the list of characteristics - list of names, colors, etc.
- 8) Have patient read phrases or sentences.

Training - Level II

- A) Present object or objects
- B) Present printed words with objects
- C) Present and discuss complete sentences about the object or objects

Example: 1. This (here or there) is a book.
 2. The book is blue.
 3. The book is oblong.
 4. The book is little.
 5. The book is made of paper and cardboard.
 6. The book is hard.
 7. The book is clean.
 8. The book is new.
 9. The book is on the table.
 10. The book is used for reading.
 11. You read out of a book.

- (Use two or more objects in order to work on the plural verb are).
- D) Work on separate characteristics. Place characteristics and answer on a chart as they are discussed by both the pathologist and the patient. Keep in mind this is a training - not testing level.

Answer the question and fill in the parts immediately once you know the patient can't.

what name?	what color?	what shape?	what size?	what made of?	what condition?	what texture?
book	blue	oblong	little	paper cardboard	good	hard
		where?	how many?	what used for?		
		on table	one	read out of		

- E) Have patient place the printed word under the correct characteristic (handed to him in order).
- F) Have him unscramble the various printed characteristics and place them under correct characteristic interrogative.
- G) Match printed interrogative with question.
Example: book - he places book under what called?
blue - places blue under what color?
- H) Do various reading, writing, auditory discrimination, matching, verbal activities as needed or desired.
- I) Do memory drill activities.

Note: These are but a few of the various activities being used -- several additional ones will be in the BFA kit manual.

Post-Training Level III

Post-training Level III is basically a repeat of Level I. Re-test those probed and trained activities.

Sample Responses of Patient Being Seen in the Clinic Presently

Pre-Training Level I

During this pre-training level, the pathologist's actions with an object are designed to elicit sentences describing three actions using three verb tenses.

Example of desired responses:

1. As the fan is about to be picked up
2. As the fan is picked up
3. As the fan is fanned with
4. After the fan is placed on the table

Example of instructions:

Tell me all the things you see me do with this (pointing to fan).

"Blowing - bubbles - I don't - I don't

(5) (5)

"Uh - Uh - I don't remember."

(5)

(PICA scoring)

Training
(approximately 14 minutes)

Post-Training Level III
Only Pathologist actions (specify action)

"Ida will pick up the fan"

15 13 15 15 15 15

"Ida is picking up the fan"

15 15 15 15 15 15

"Ida picked up the fan"

15 15 15 15 15

"Ida will fan, Ida is fanning, Ida fan herself, Ida put down the fan"

15 15 15 15 15 15 15 12 15 15 15 15 15 15