Semantic Feature Analysis (SFA) Protocol

What is Semantic Feature Analysis (SFA)?: SFA is a treatment approach that is used to target lexical retrieval. This approach has been shown to improve word-finding abilities in persons with aphasia, by stimulating the identification of semantic features of the target concept (Boyle, 2001; Boyle, 2010; Efstratiadou, Papathanasiou, Holland, Archonti, & Hilari, 2018). SFA uses a feature analysis chart (Appendix A), which includes multiple semantic categories, to help direct this process.

"Persistent and systematic practice in producing semantic features in this way enables individuals to achieve more organized word retrieval without the deliberate use of compensatory strategies." (Boyle, 2010)

Who Would Benefit from SFA: Research shows that success has been demonstrated when SFA is used in treatment with persons who present with mild to moderate expressive aphasia. Effectiveness has been shown for those with fluent aphasia, specifically. Generally, this is used with individuals who seek to improve naming deficits (anomia), specifically confrontational naming (selection of a specific label corresponding to a viewed picture of an object or action) impairments (Boyle, 2010; Wambaugh et al., 2001; Massaro & Tompkins, 1994).

Goal of SFA: Provision of a strategy for naming, that can be used in instances of communication breakdown. Though a semantic visual (feature analysis chart) is used throughout intervention, the ultimate goal is to utilize this strategy, in spontaneous conversation, without the aid of the visual.

Remember: Education is important in helping clients to understand our rationale for using certain treatment approaches. Provide an explanation of *what* you are doing with your client and *why* it can help them. You can include an explanation of the approach, what the desired effect is, and that it is supported by research. This will help the client to understand the purpose of the treatment and how it can help them to improve communication.

How to Implement SFA:

1. Begin by choosing target words for your therapy session. Depending on the individual, you may have 5-20 different target words and pictures. Because the goal of SFA is to stimulate identification of semantic features, it will be helpful to choose targets with the client's interests and goals in mind. Below is an example taken from Boyle, 2010:
    a. "… the semantic feature <grows on trees> is connected to APPLE, ORANGE, LEMON, PEAR, and LEAVES, among others. A concept may have many semantic features. For example, semantic features for APPLE include <a fruit>, <grows on trees>, <has a core>, <has seeds>, <has skin>, and <used for cider>. Semantic features differ in their degree of informativeness for a target concept, with distinguishing features considered to be more informative than other features.
    b. In the previous example, the feature <used for cider> is a distinguishing feature of APPLE because it distinguishes apples from other similar fruits, whereas <has seeds> is not a distinguishing feature because all fruits have seeds."

2. Introduce the SFA graphic organizer to the client. This chart includes a "web" with six different categories: group, use, action, location, properties, association. Explain the purpose of the chart, and how it will be used during treatment. Indicate that a picture with an item will be presented and that the chart will be used as a visual for listing the item's semantic features.

3. Starting with the initial target picture, begin to prompt the client to list semantic features of the target, with the aid of the categories on the chart (Picture of cat: "can you describe it?"). As the clinician, you will play the primary role in cueing the client to generate the semantic features and moving through the chart.

4. Completion of the chart is achieved by utilizing either verbal or visual cueing techniques for all semantic features. Some of these techniques may include sentence completion (it has….), asking questions (what does it do?), or simply utilizing the prompts listed on the chart (i.e. you use it to/for).

5. After each response, write the answer given by the client into the associated category box, to provide a helpful visual. Though this will be helpful during the initial stages of treatment, remember that the goal is to create a strategy for this individual to use in spontaneous conversation. With this, transitioning out of use of visual aids will be beneficial as therapy continues.

6. If the client names the target word at any point (that's awesome!), continue to move through the categories within the chart. If the client struggles to name a semantic feature, provide one both orally and by writing it in the associated box. If the client does *not* name the item after the chart is complete, say the name verbally, and ask the client to repeat the word and review the features.

7. Throughout the intervention process, begin to gradually fade cueing, prompts, and visual aids, so that the person with aphasia starts to become more independent in generating the associated features.

How to Take Data: Using a data collection chart (Appendix B), record the client's responses for each category related to the target item. After each category is filled, record whether the individual was able to name the target item. If appropriate, you can also record the cues used to elicit responses from the individual, following a semantic cueing hierarchy (Wambaugh, et al., 2001). Noting the level of cueing used can provide information regarding how much support is needed for the client. Gradually reducing the amount of cueing will help the client to become more independent with the use of this strategy.

Stimuli Examples: Ideal stimuli are pictures that depict various verbs and/or nouns (i.e. animals, activities of leisure, sports). These can include various items and/or actions and may even include topics that are of interest to your client (Massaro & Tompkins, 1994). See Appendix C for examples.

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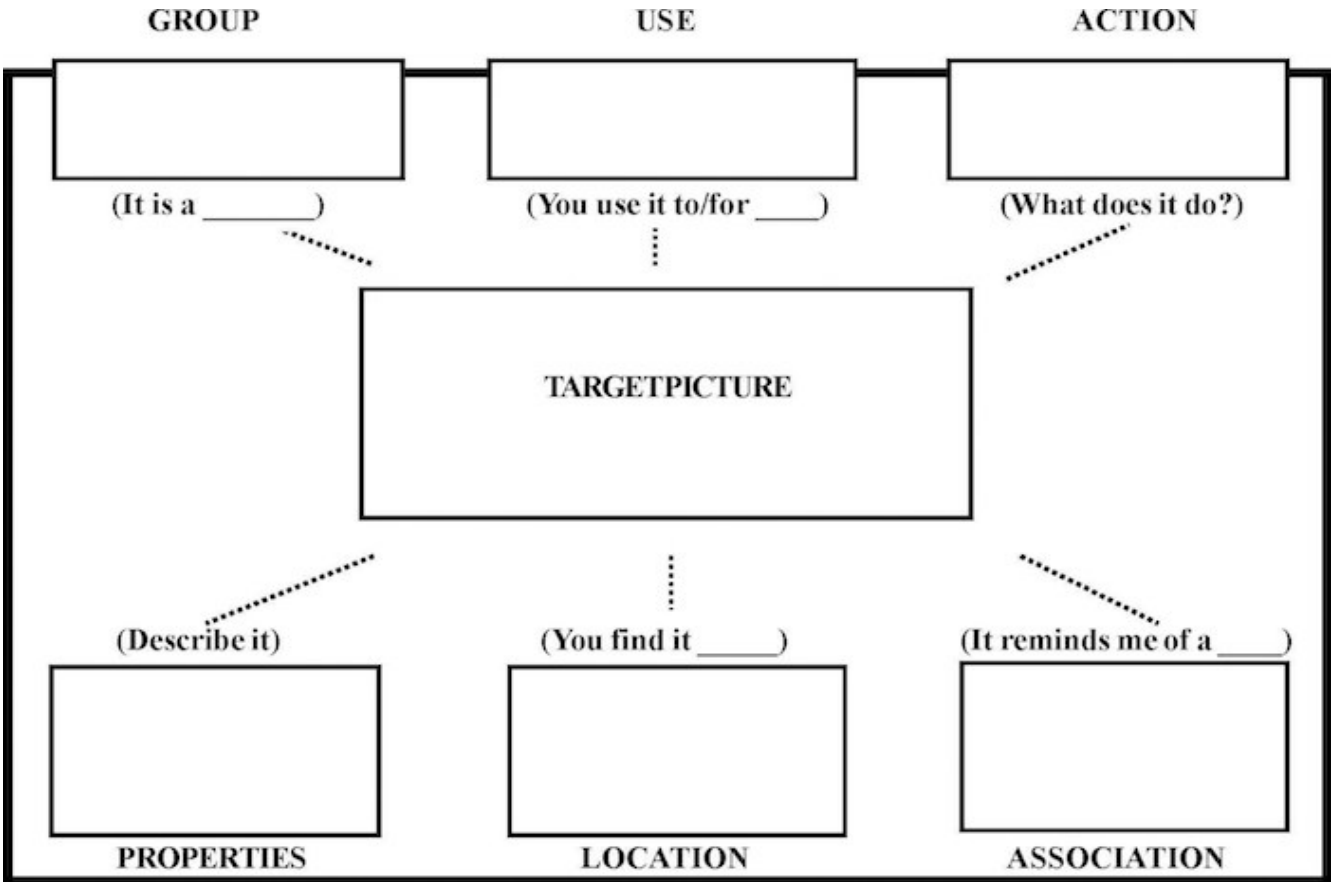
Sutton, M. S. (n.d.). Speech Therapy Apps for Adults: Stroke, Aphasia, Dementia. Retrieved from https://tactustherapy.com/semantic-feature-analysis-sfa-anomia/.

Wambaugh, J. L., Linebaugh, C. W., Doyle, P. J., Martinez, A. L., Kalinyak-Fliszar, M., & Spencer, K. A. (2001). Effects of two cueing treatments on lexical retrieval in aphasic speakers with different levels of deficit. *Aphasiology*, *15*(10-11), 933–950. doi: 10.1080/02687040143000302.

Appendix A:


GROUP
USE
ACTION
(It is a _____)
(You use it to/for ____)
(What does it do?)
TARGETPICTURE
(Describe it)
(You find it _____)
(It reminds me of a ____)
PROPERTIES
LOCATION
ASSOCIATION

Appendix B:

Target	Semantic Features (client responses)	Identified Target (accuracy)	Cues used

Appendix C: