**VNT Transcription Information**

**Portland State University**

**Inclusion criteria:**

Archival audiovisual recordings of BNT-SF administration from 132 individuals were obtained from the AphasiaBank database (MacWhinney et al., 2011) on March 6, 2019, for use in a prior study on BNT transcription. Of those 132 participants, 107 were identified as also having full VNT administration recordings, which were used in this present study. Participants were right-handed individuals who had experienced a single, left-hemisphere stroke resulting in aphasia. A diagnosis of aphasia was operationally defined as an Aphasia Quotient (AQ) of <93.8 on the Western Aphasia Battery - Revised Aphasia Quotient (WAB-R; Kertesz, 2006) or <11 on the Boston Naming Test - Short Form (BNT-SF). Individuals with a concomitant clinical diagnosis of apraxia of speech (AOS) or dysarthria were also included. All spoke English as their primary language, were judged to have adequate hearing and vision (aided or unaided) for testing purposes, and had no significant comorbid neurologic or psychiatric illness.

**Transcription procedure:**

Participant responses were phonemically transcribed by two research assistants at Portland State University in a pseudorandom order. In addition, since it was thought that participant responses to a verb confrontation naming test may elicit more multi-word responses than a noun confrontation naming test, research assistants transcribed everything the participant said/gestured in response to the stimuli and used a set of transcription coding conventions meant to capture elements of nonfluent speech.

Phonemic transcriptions were broad and variations in dialect were transcribed as they were heard using the phonemic notation below. If a given production strayed from our lab’s phonemic conventions, as was the case for some British dialects, that production was translated into Standard American English and transcribed in accordance with our conventions. Phoneme notation followed conventions developed by our laboratory for the purposes of use with a computer algorithm. Please see below for our phoneme conventions, a list of target phonemic transcriptions, and a list of transcription coding conventions.

**Transcription conventions:**

Phoneme notation:

See the chart below for a list of the phoneme notations used by our laboratory, as well as lists of examples:

|  |  |
| --- | --- |
| **IPA** | **Examples** |
| /p/ | "**p**at" |
| /b/ | "**b**at" |
| /t/ | "**t**en" |
| /d/ | "**d**en" |
| /ɾ/ | "bu**tt**er" (flap - allophone of /t, d/) |
| /k/ | "**c**oat" |
| /g/ | "**g**oat" |
| /f/ | "**f**an" |
| /v/ | "**v**an" |
| /θ/ | "**th**in" (voiceless) |
| /ð/ | "**th**en" (voiced) |
| /s/ | "**s**ee" |
| /z/ | "**z**oo" |
| /ʃ/ | "**sh**oe" |
| /ʒ/ | "occa**s**ion" |
| /tʃ/ | "**ch**urch" |
| /dʒ/ | "ju**dg**e" |
| /m/ | "**m**an" |
| /n/ | "**n**ose" |
| /ŋ/ | "si**ng**" |
| /ɹ/ | "**r**ed" |
| /l/ | "**l**ate" |
| /w/ | "**w**in" |
| /j/ | "**y**es" |
| /h/ | "**h**at" |
| /ʔ/ | "co**tt**on" (glottal stop - allophone of /t/) |
| /i/ | “sh**e**” |
| /æ/ | “c**a**t” |
| /ɛ/ | “r**e**d” |
| /ɪ/ | “f**i**t” |
| /u/ | “b**oo**t” |
| /ʊ/ | “w**oo**d” |
| /ɔ/ | “d**aw**n” |
| /ɑ/ | “n**o**t” |
| /ʌ/ | “b**u**t” (stressed) |
| /ə/ | “**a**lone” (unstressed) |
| /ɝ/ | “h**ear**d” (stressed) |
| /ɚ/ | “p**er**haps” (unstressed) |
| /aɪ/ | “k**i**t**e**” |
| /aʊ/ | “c**ow**” |
| /ɔɪ/ | “b**oy**” |
| /eɪ/ | “st**a**t**e**” |
| /oʊ/ | “v**o**t**e**” |
| /iɹ/ | “d**eer**” |
| /ɔɹ/ | “d**oor**” |
| /ɑɹ/ | “d**ar**k” |
| /eɪɹ/ | “d**are**” |
| /ʊɹ/ | “c**ure**” |

Target transcriptions:

Phonemic transcriptions of the targets were as follows:

|  |  |
| --- | --- |
| **VNT Item** | **IPA Target** |
| Cut | kʌt |
| Bark | bɑɹk |
| Put | pʊt |
| Send | sɛnd |
| Drive | dɹaɪv |
| Wash | wɑʃ |
| Read | ɹid |
| Laugh | læf |
| Watch | wɑʧ |
| Give | gɪv |
| Swim | swɪm |
| Stir | stɝ |
| Pinch | pɪnʧ |
| Crawl | kɹɔl |
| Deliver | dɪlɪvɚ |
| Pour | pɔɹ |
| Howl | haʊl |
| Throw | θɹoʊ |
| Bite | baɪt |
| Shove | ʃʌv |
| Tickle | tɪkəl |
| Shave | ʃeɪv |

Transcription coding conventions:

See the chart below for a list of transcription coding conventions adopted from the [CHAT manual](https://talkbank.org/manuals/CHAT.pdf) (MacWhinney, 2000) for the purposes of this study:

|  |  |
| --- | --- |
| **Coding Convention** | **Definitions/Examples** |
| Fillers &- | Fillers or filled pauses (e.g., “um”, “uh”, “hmm”) were written orthographically preceded by &-. |
| Communicators | Communicators (e.g., “oh”, “okay”, “yeah”) were orthographically transcribed without any additional notation. This [list of communicators](https://drive.google.com/file/d/1SyStotiOk5kVP3YvZZhDkAs7R-fwQYbR/view?usp=sharing) created by Brian MacWhinney and Mitzi Morris, accessed from talkbank.org, served as a reference for identifying communicators and their standardized spellings. |
| Phonological fragments &+ | Phonological fragments or false starts, consisting of one or two phonemes, were written orthographically preceded by &+. |
| Letter sequence @k | Letter sequences were denoted using @k following the string of letters produced. For example, the spelling of the verb cut was written as: cut@k. |
| Gestures &=ges: | Any movement of a body part meant to express an action was written as &=ges:action. For example, &=ges:cut |
| Sound Effects &= | Any nonword vocalization meant to express an action was written as &=action. For example, &=laughs or &=cries. |
| Unintelligible utterances xxx | Unintelligible utterances were written as xxx in place of the unintelligible word/phrase/paraphasia. |
| Repetition of single words [x N] | All one-word repetitions were written once followed by the code [x N] where N is the number of times the word was produced in total. |
| Repetition of phrases <> [/] | All multi-word repetitions were written out. All but the last repetition was included in <> followed by [/]. |
| Retracing <> [//] | All retracings or revised utterances were written with the first phrase in <> followed by the [//] code. |
| Pause (.) | Silent pauses between utterances lasting more than approximately 1 second were denoted as (.). |

**Data annotation procedure:**

Participant responses and investigator prompts were annotated by two research assistants at Portland State University in a pseudorandom order at the time of transcription. Disagreements in transcription between the two research assistants are being resolved by a research speech-language pathologist in a pseudorandom order.

The following data annotation conventions were used to characterize participant responses and investigator prompts for the purposes of scoring the VNT.

**Data annotation conventions:**

Response and prompt annotations:

See the chart below for a list of notations used by our laboratory with definitions and/or instructions for how the data were annotated.

|  |  |
| --- | --- |
| **Notation** | **Definitions/Annotation Instructions** |
| Response 1\* | Any verbal response the participant gives after being presented with the test item/first prompt from the test administrator. |
| Response 2\*\* | Any and all subsequent verbal responses from the participant following a second prompt\*\*\* from the test administrator. **If no response 2, leave blank.** |
| Delay 1 | 1 = yes, 0 = no, Yes if time between initial item presentation/prompt and participant's first response (excluding any initial fragments/fillers) is more than 10 seconds. **If no response 1, leave blank.** |
| Delay 2 | 1 = yes, 0 = no, Yes if time between initial item presentation/prompt and participant's first response (excluding any initial fragments/fillers) is more than 10 seconds. **If no response 2, leave blank.** |
| Multiword 1 | 1 = yes, 0 = no, Yes if participant verbalizes more than one word, excluding fragments and fillers. **If no response 1, leave blank.** |
| Multiword 2 | 1 = yes, 0 = no, Yes if participant verbalizes more than one word, excluding fragments and fillers. **If no response 2, leave blank.** |
| Additional prompts 1 | 1 = yes, 0 = no, Yes if administrator provides more than one prompt before any first participant response. |
| Additional prompts 2 | 1 = yes, 0 = no, Yes if administrator provides more than 1 prompt following a first incorrect response. **If no response 2, leave blank.** |
| No response | NR, If participant has no verbal response (excluding fragments/fillers) input NR in corresponding response column. **If no opportunity for response 2, leave blank.** |
| Facilitator prompt 1 | 0 = no, SE=semantic only, SY=syntactic and semantic, P=phonemic, G=gestures, E=sound effect, A=answer for any prompts given prior to the first response. If more than 1 type is given, separate the codes by a single space. |
| Facilitator prompt 2 | 0 = no, SE=semantic only, SY=syntactic and semantic, P=phonemic, G=gestures, E=sound effect, A=answer for any prompts following a first incorrect response. If more than 1 type is given, separate the codes by a single space. **If no opportunity for response 2, leave blank.** |
| Item not administered | NA, Input NA into Response 1 and **leave all other fields blank**. |

\*In instances where the test administrator did not provide a first verbal prompt, we defined Response 1 as any verbal response the participant gives after being presented with the test item.

\*\*In instances where the test administrator did not provide a first verbal prompt, we defined Response 2 as any verbal response the participant gives after completing their first response and after being presented with a first prompt from the test administrator.

\*\*\*Gestures or other nonverbal cues from the test administrator indicating the target action were treated as second prompts if they occurred after the participant’s first response.

Facilitator prompt coding conventions:

See the chart below for types of facilitating prompts or cues given by investigators with examples and the coding conventions used by our laboratory to annotate the data.

|  |  |  |
| --- | --- | --- |
| **Code** | **Type** | **Example** |
| SE | Semantic only | “Here is a book. What is happening?” |
| SY | Syntactic and semantic | “What is the boy doing to the girl?” or “What is the dog doing?” |
| P | Phonemic | “Mm Mm” or “It starts with an M” |
| G | Gestures | Investigator makes a pinching gesture with their index finger and thumb. |
| E | Sound Effect | Investigator barks like a dog. |
| A | Answer | Investigator verbalizes the correct response. |

**Transcription Resolutions:**

In the interest of developing a universal computer-adaptive naming assessment for both verbs and nouns, first response transcriptions were prioritized over second response transcriptions for resolution and scoring. Disagreements in first response transcription between the two research assistants were resolved by two research speech-language pathologists in a pseudorandom order.

**Time-Limited Transcriptions:**

A research assistant applied a 10- and 15-second time limit to create two time-limited sets of transcriptions, one in accordance with the time allowed to name an item on the VNT and one in accordance with the time allowed to name an item on the universal assessment under development, respectively. These time-limited sets of transcriptions were generated to be used for scoring such that any transcribed response that took place after the permitted time limit would be absent from the time-limited transcription and therefore not considered for scoring.

Time-Limit Procedure:

As a general rule, the timed naming window started the moment after the picture was shown to the participant and the test administrator completed their initial verbal prompt, with both conditions having to be true in order to start the clock.

This rule was adapted for cases where there was no first prompt from the administrator and/or the first prompt came shortly after the naming attempt began such that it overlapped with or interrupted the naming attempt. For example, if there was no verbal prompt, the clock started at the moment the picture was shown to the participant. If the participant started naming immediately after being shown the picture and the test administrator’s initial verbal prompt did not interrupt the participant’s flow of speech, the clock started at the moment the picture was shown to the participant and any transcribed response that took place prior to the verbal prompt was considered for scoring. If the participant started naming immediately after being shown the picture and the test administrator’s initial verbal prompt did interrupt the participant’s flow of speech, the clock started at the moment the test administrator completed their initial verbal prompt and any transcribed response that took place prior to the prompt was considered for scoring.