USS Language Sample Coding Manual
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Manual for USS Child Communication Coding with ProcoderDV
Paul Yoder

Using ProcoderDV

**Download Media File from the Media Server (Yousendit.Com)**
You'll be coding a media file that is temporarily stored on your hard drive. NEVER link a ProcoderDV transcription file with a media file on the media server. Doing so can result in corrupting the media file. Store the media file in a folder named in such a way you can find it.

Download the Codefile onto Your Hard Drive
<u>Never</u> code a file using a codefile that is on the text server. Doing so can result in corrupting the code file. Put the codefile in a folder named in such a way you can find it.

The Codefile
The code file is constructed in the following manner:
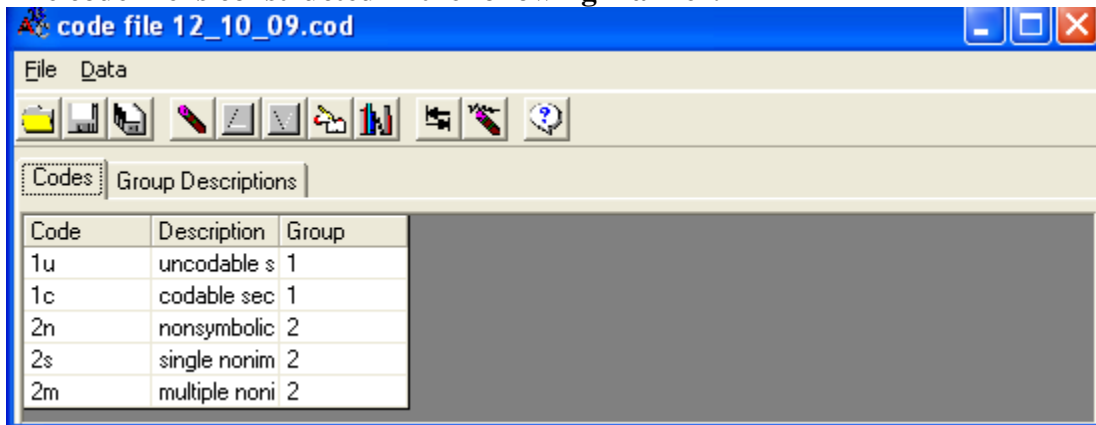
The present format of ProcoderDV transcription files do not allow separate columns for mutually exclusive dimensions (ProcoderDV calls these "groups") to be coded. Yet, we need sets of mutually exclusive categories for agreement matrices, which aid discrepancy discussions. Additionally, to remind the coder to select one code from each group, we've indicated the group number as part of the code. Selecting the group descriptions tab in the codefile reveals what concept each "group" is designed to describe. It looks like the following:
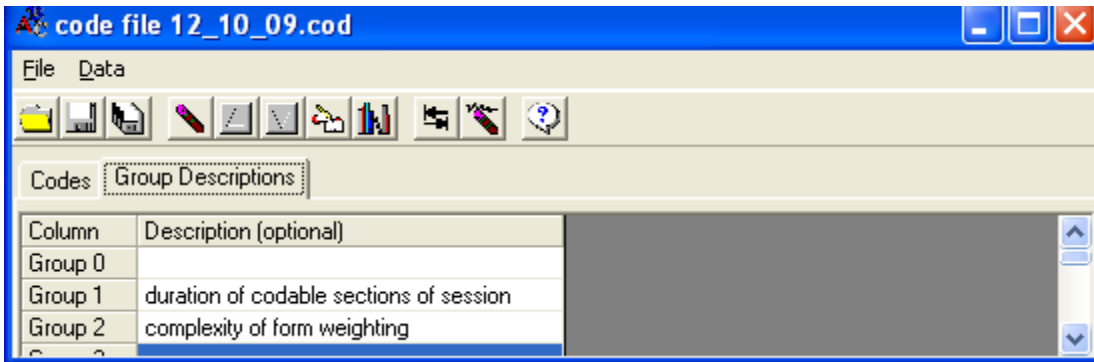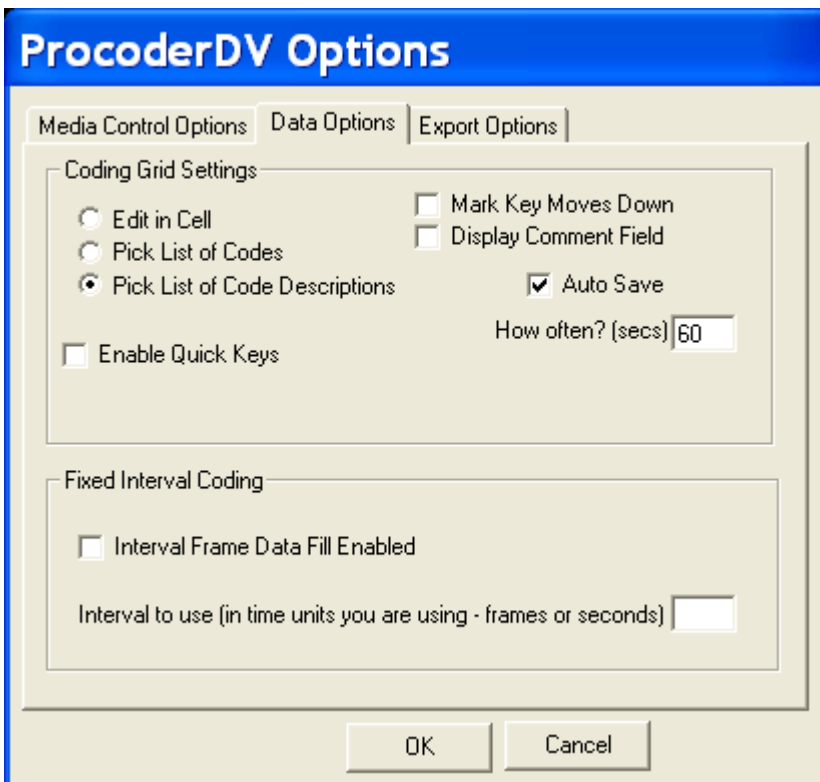
Setting Options for ProcoderDV

Open ProcoderDV. The ProcoderDV menu bar looks like the following:

**Select, Edit, Option to get the following dialogue box.**

Set the Data Options as shown above to:
- **Coding Grid Settings set to Pick List of Code Descriptions**
- **Check Auto Save and set How Often to 60 seconds**
- **Under Fixed Interval Coding nothing is selected or entered.**

Select the Media Control Options tab and then choose the settings as indicated below to:

- **Time Display is set for "Display in HH:MM:SS.ss"**
- **Frames Per Second are set to "29.97"**
- **Replay controls are set to "Play pre-roll/post roll around the event".**
- **Event Pre-roll is set to "3"**
- **Event post-roll is set to "10"**
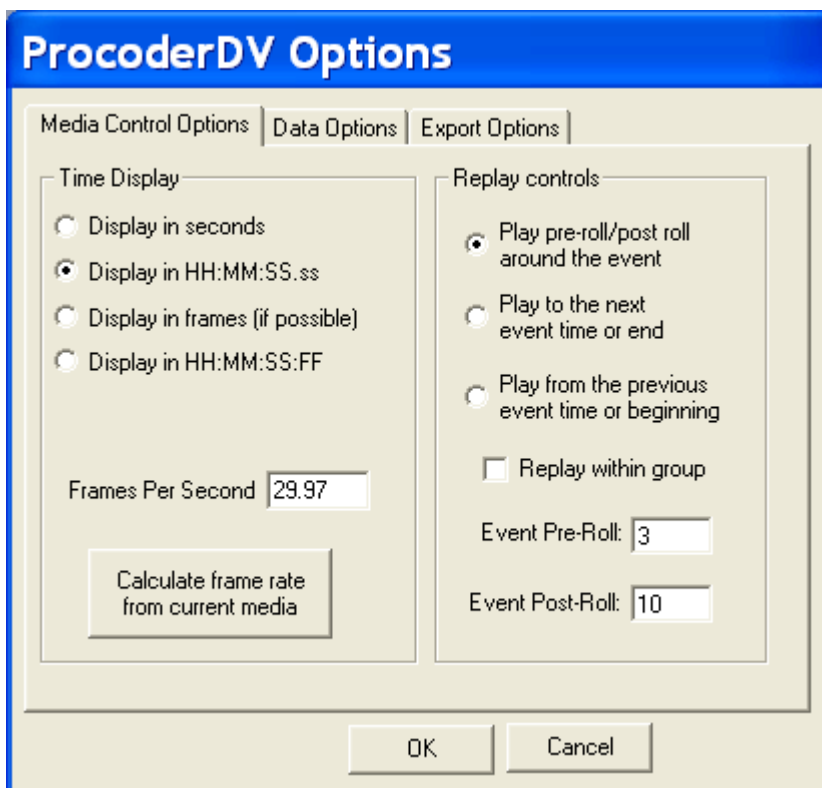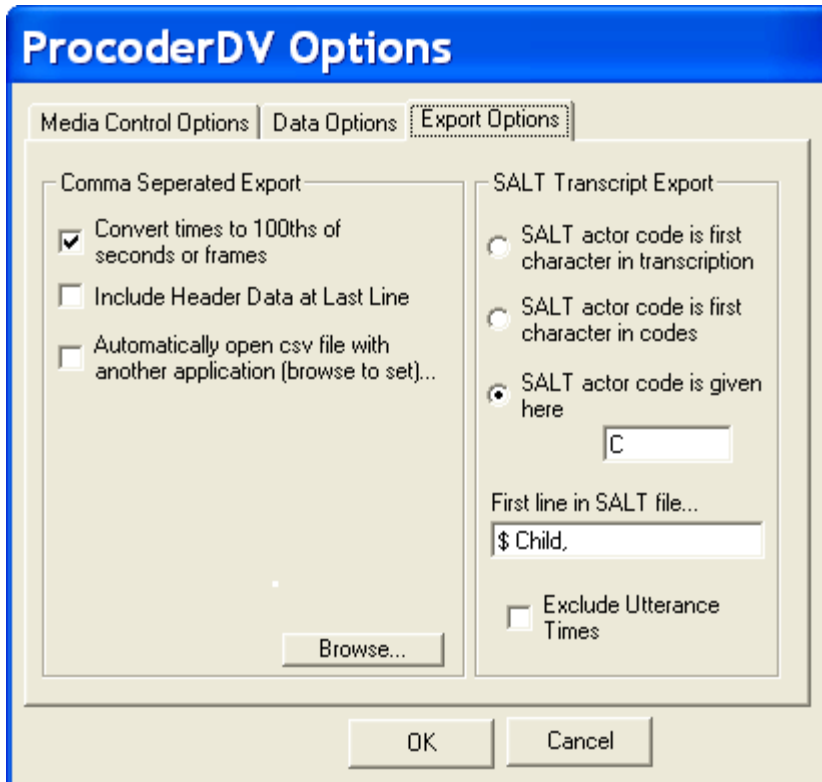
Set Export Options tab as shown above to:

- **Comma Separated Export is set to Convert times to 100ths of seconds or frames**
- **SALT Transcript Export is set to SALT actor code is given here, the letter C is entered and set the First line in SALT file… as "$ Child". (This allows us to not have to input the character "c" every time we transcribe something and prevents us from having to type in a line that is only required for the SALT program.**
- **The Exclude Utterance Times box is left UN-checked so that the program can compute the duration of one of the codes (i.e., [c]).**

Press the "OK" button at the bottom of the ProcoderDV Options window to accept and save these option settings.

Use ProcoderDV to Code

Open ProcoderDV. The ProcoderDV menu bar looks like the following:
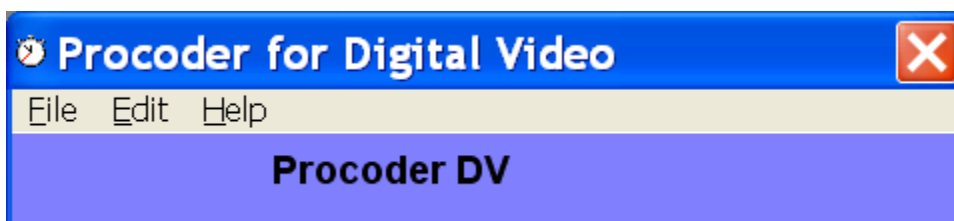
Open a new transcription data file, selecting
- **File**
- **New**
- **Transcription Data File**

Name the transcription file. Use the following convention:
- **Site initial –**
- **Research ID# –**
- **Procedure initials –**
- **Period number (1 – 5) –**
- **Coder's initials, first, middle, and last**
- **End file name w/ R if this is a reliability check by a secondary coder**

For example, the file might be called MR101ls1pjy if this is a primary coding or MR101ls1pjyr if this is a secondary coder.

There is no reason to put the extension on the filename (e.g., .pdv) because ProcoderDV does that automatically. Save file to a "Coded Files" folder on your computer.
The screen should look something like this:
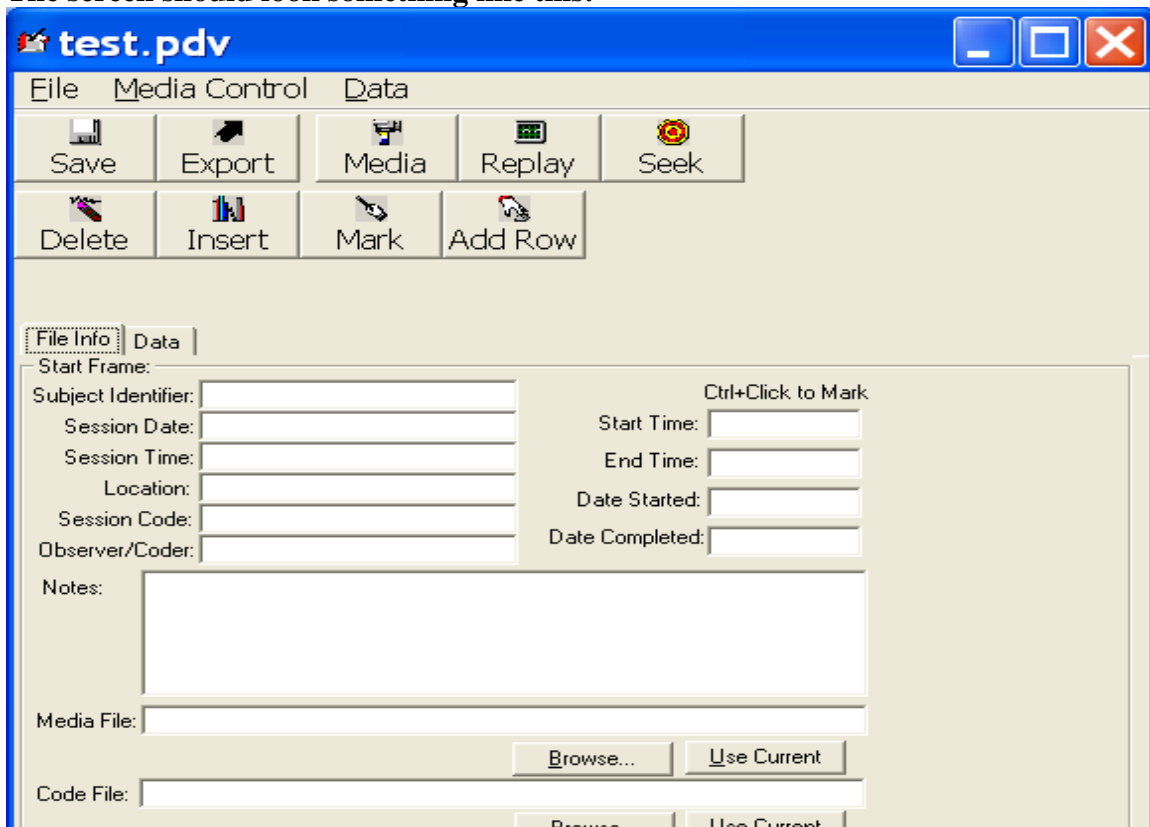
Link the media file and the code file. Under "Media File" window, select Browse. Browse to your desktop and select the target video. Under "Code File" window select Browse. Browse to your desktop and select appropriate coding file.
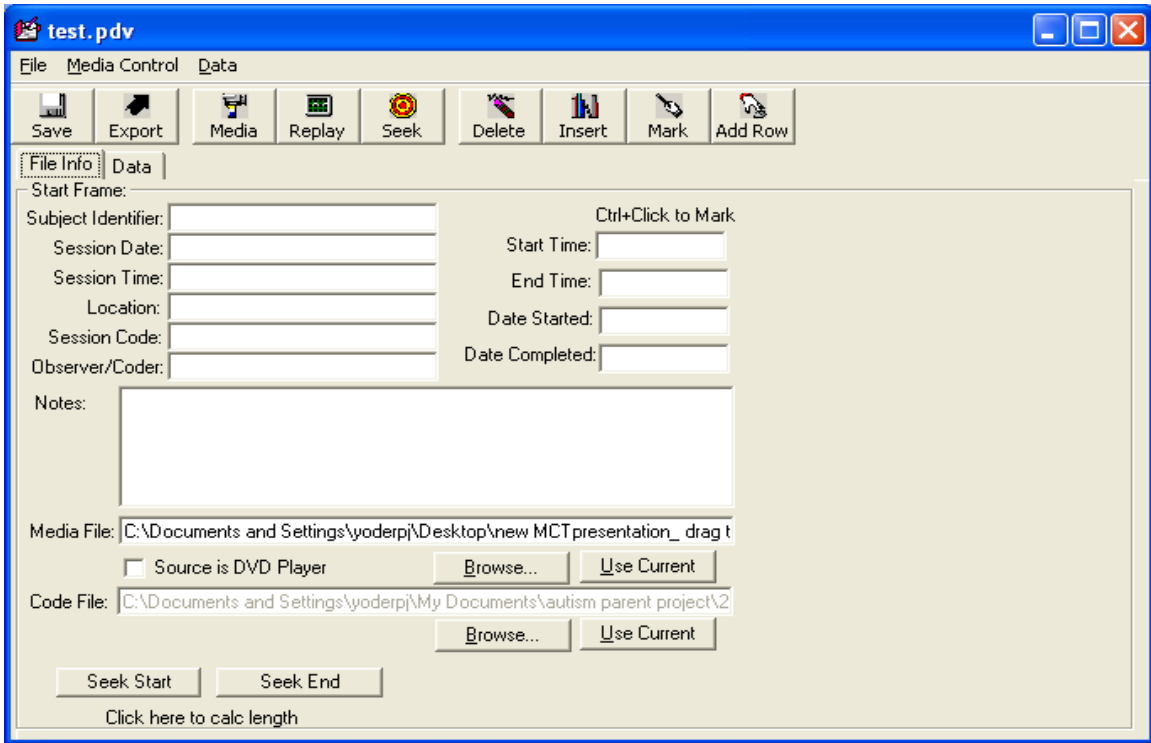
Make the media file visible. Select the "data" tab. Select the media radio button (the rectangle image that looks like a button and has "Media" at the bottom of the "button"). This should make the media file play. Position the media file and transcription file in a way that you can see both well. One way to do this is to put the media file in half of the screen and the transcription file in the other half of the screen.

Make the codes show. If you don't see your code descriptions shown, then select the Data drop down menu option and select "show loaded code file".
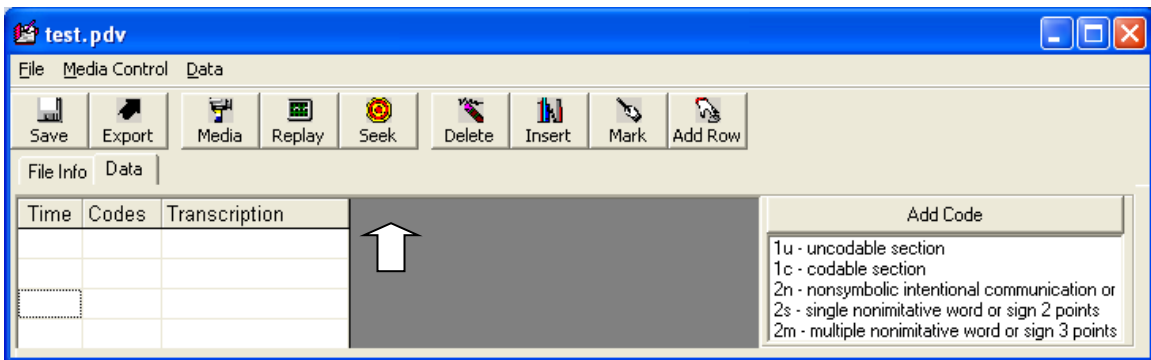
Expand the cells for the time, code and transcription. Put the cursor on the margins of the cells and holding the left mouse button down while you stretch the margin of the cells (like you might in excel)
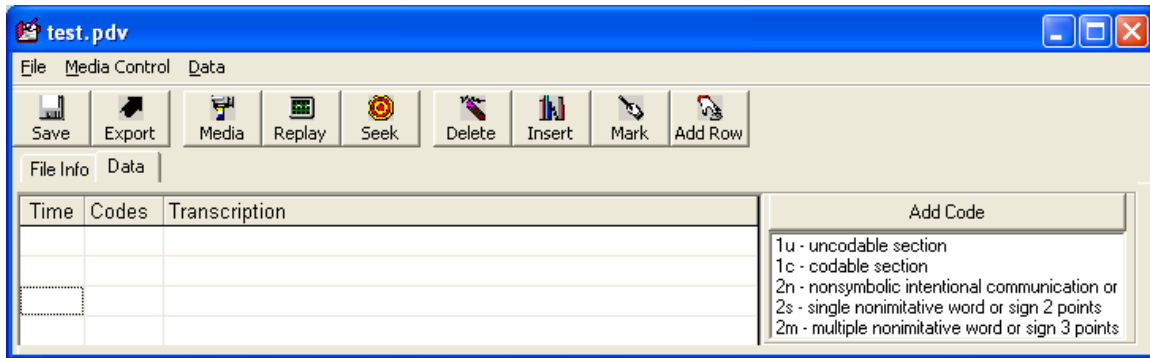
Indicate the start time. Put the cursor in the "time" cell. Press ctrl-D to play the media file, and press ctrl-F to stop the video at the off set of the examiner saying "start coding", press ctrl-e. You may find it necessary to stretch the time cell to see all of the time. The screen should look something the following:

Playback Volume Standard: The convention for setting the standard volume for the computer and headphones while coding is as follows. Set the Master Volume on the computer to maximum. Set the volume setting on the headphones themselves to roughly ¾ of maximum intensity. Standardizing the volume supports reliability on word approximations and vocal communication.
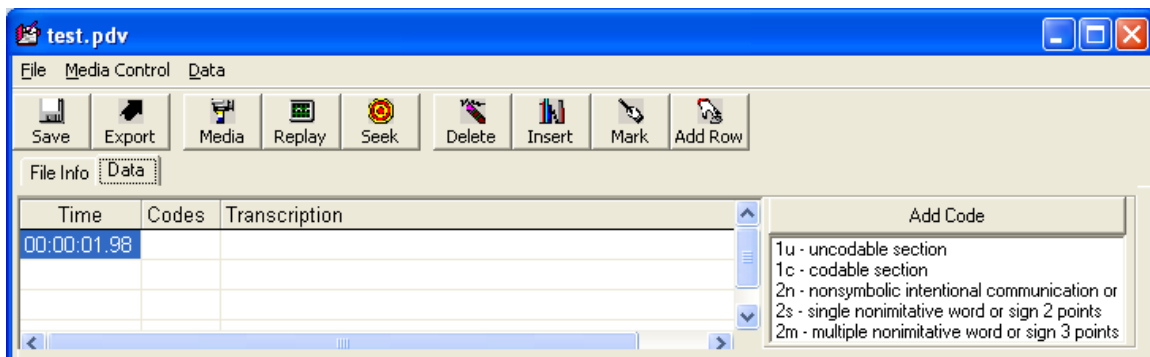
Operation of Keyboard and Mouse

Begin playing media using mouse to place cursor in cell for time, codes, or transcription in the .pdv window and press ctrl-D on the keyboard.
Stop the media by making sure the cursor is in the time, codes, or transcription cell in the .pdv window, press ctrl-F on the key board.

When coding group 1 (codeability of the session section). Stop the media file whenever any of the criteria for u occur (e.g., child cries, leaves the room).

When coding group 2 (intentional communication acts). Stop the media file whenever you observe the child using (a) a **gesture** or (b) **gaze to adult** or (c) a **vocalization (word or nonword).**

To mark the time for the onset or offset of a codeable period or the onset of an intentional communication act, make sure the cursor is still in the time, codes, or transcription cell in the pdv window and press ctrl-e on the key board. The time will appear on the line and serve as the "pivot" for REPLAY and SEEK features in ProcoderDV

To "rewind" the media file, make sure the cursor is (a) on the row with the time of the "act" or "portion of media file" that you want to see again and (b) is in the cell for time, codes, or transcription of the time you have marked, and press "ctrl-a" on the key board. Each time you press "ctrl-a", the media file will "rewind" another 3 seconds. Rewinding and reviewing is often necessary to decide whether you really want to code an act.

To delete times of un-coded acts, by placing the cursor in the cell of the pdv window you want to delete and pressing the "delete" key on the keyboard.

To play past acts that you've already code, place the cursor on the time of the act to be played, and use the mouse to "press" the "seek" and then "replay" radio buttons at the top of the pdv window or press "ctrl-r" and "ctrl-d" on the key board.

To select a code, use the mouse to place the cursor over the code (e.g., c) that is in the "add codes" box in the pdv window and 2-click the left mouse button.

To transcribe, use the mouse to place the cursor in transcription cell of the act you want to transcribe and type the adult spelling of the word you think the child said or tried to say (assuming word criteria are met).

Coding the 2 Groups and Definitions Used To Guide Decisions

Coding Group 1 (u or c)

These are used to mark the onset (c) and offset (u) of codeable sections (there may be many breaks in such) so a software program can compute the total duration of the codeable portion of the session.

Uncodeable session period onset (i.e., codeable session portion offset [u]). At the beginning of the session or after [c] has been entered, select (2-click) u when *any* of the following occur (if the criteria include a 10 second period, select the u at the *beginning* of the 10-second period. The ten second criteria is usually useful when deciding if the portion of the session is uncodeable for "long enough" to warrant removing that portion from the duration of the codeable session length. Ten seconds is determined by the clock on the ProcoderDV counter, not by counting in your head). Again, any of the following criteria are sufficient to code u. (a) The examiner says "stop coding" OR the examiner signals the end of the assessment in some other way (e.g., begins to move child to the table for another procedure). OR (b) The child commences crying and persists in doing so for 30 seconds or longer. The crying

must be to the point that other communication (besides protests or requests to leave testing, such as "all done") cannot or are highly unlikely to occur. Simple whining is not sufficient to stop coding. If the child is still able to interact with the examiner or toys in a controlled manner, then it is code-able (c) OR (c) There is a change in the number of adults in the room (e.g., parent or another staff member comes into the room) for at least 10 seconds OR (c) The child and/or examiner leave the room to retrieve the parent, diaper change, etc for at least 10 seconds.

      Code-able session portion onset (i.e., [c]) At the beginning of the session, select (2-click)c when *all* of the following occur (c is coded at the *beginning* of the 10 second consecutive engagement period): (a) The examiner says, "Begin coding" or the examiner forgets to say "begin coding" then use the examiner's other behavior to make a judgment of when the examiner believes the assessment has begun (e.g., the examiner may say, "here are some toys for you to play with") AND (b) The parent is not in the room or is in the corner of the room out of the play space __AND__ (c) None of the examples below occur that are to be marked as [u].
      If the child has been crying just prior to the period you are coding, the child must be facing or talking to the examiner, toy or space between them at the table for 10 consecutive seconds before c can be coded again (i.e., we want the child calm enough for long enough to communicate before we count the session portion as "codeable"). If the tester attempts to resume testing but is not able to do so for 10 consecutive seconds, the section should remain uncodable. Ten seconds is determined by the clock on the ProcoderDV counter (not by counting in your head_. c is an exclusion category (i.e., a non-u category). Coding of communication acts is resumed (or begun) after [c] is coded again (or coded for the 1st time in the session).
      When codeability of the portion of the session is indicated, the screen looks something like the following:
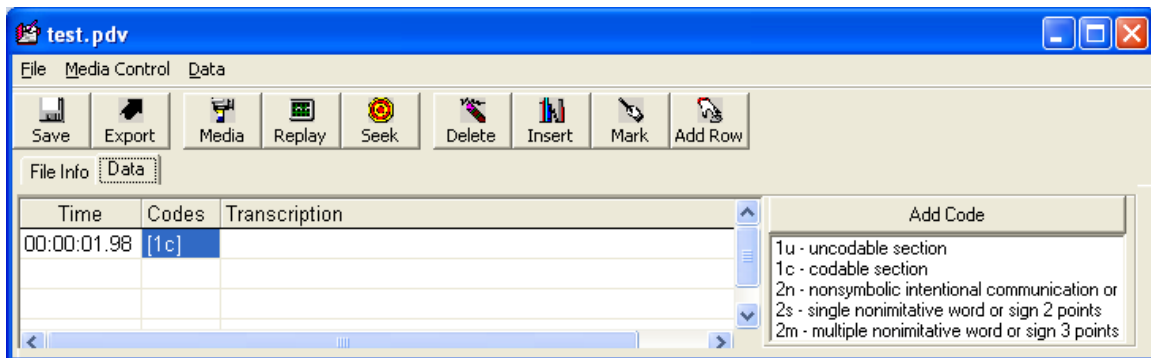
Marking the Time and Code for Group 2 (Intentional Communication Act)

      Overview of Group 2 The time is used to aid discrepancy discussions and coder training. Group 2 is coded to indicate the proper weighting for the weighted frequency of intentional communication variable. The code "n" is a non-symbolic or imitative symbolic intentional communication (weighting of 1 point). The code "s" is a single non-imitative symbol (i.e., sign or word) is used in the communication act (weighting of 2 points). The code "m" is a multiple non-imitative symbols are used in the communication act (weighting of 3 points). An act can but *usually does not*

have a "c" in the "code" column of the transcription file. There should only be a "c" as the first code in the "code" column for an act when an intentional communication act occurs right at the beginning of the current codeable portion of the session (an unlikely event). Usually a coded intentional communication act will look something like this:
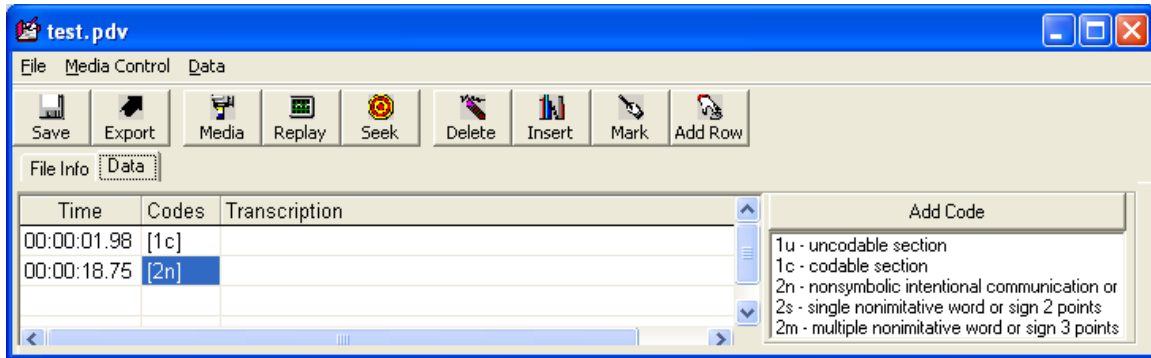
        Steps used to code an intentional communication acts.   Identify those elements of a communication act that are present in what you've already seen, e.g., attention to object and vocalization. Identify remaining elements that are needed to consider this episode as an intentional communication act (e.g., look to adult or a gesture that entails attention to adult) and select the appropriate code for group 2. . If the child produces two simultaneous acts which differ in their n^d group status (n, s, m) the higher level function is the one which is coded and other one is not coded.

INTENTIONAL COMMUNICATION ACTS

For the purposes of this study, a communication act will be defined as:

1. a nonconventional gesture or non-word vocalization with coordinated attention to object and adult
2. a conventional gesture with attention to adult (whether the attn is implied or not)
3. a non-imitative symbol (i.e., sign or word)

Attention to adult may be directed toward the examiner or the parent to be coded.

Non-word vocalizations cannot consist of reflexive, vegetative sounds resulting from burps, hiccups, coughs, sneezes and throat clearings. Laughs, sighs, and other pleasure sounds are included.

DEFINITIONS FOR IDENTIFYING AN INTENTIONAL ACT:

ATTENTION

Attention to Adult:

Attention to the adult is indicated by gaze to face, answer to a question, or exact verbal imitation.

1. Gaze to adult's face is defined as looking at the adult's face without the adult doing something to bring the child's attention to herself.

    a. Use the orientation of the child's eyes and face/nose to determine if the child is looking at the adult's face. If there is a question as to whether the child is looking at the adult, then do not code. CODE CONSERVATIVELY.

        When a communication act involves a gesture or a non-word vocalization, the required attention to the adult component cannot be prompted or cued by any adult vocalization or movement. The child's look must be independent of the adult's behavior. The following example is not a communication act because the adult vocalization cued the child's look to adult.

        Example of adult vocalization usurping the attention to adult component:

        Child look to car > child non-word vocalization > parent vocalization > child look to adult
        .

    b. If the child is looking in the direction of the adult, and the adult is off-screen, do not consider this attention to adult.

c. Sometimes there is an object near the adult's face that makes it difficult to distinguish between attention to object and attention to adult. In this instance, the coder must be able to make a clear and distinct evidence of attention to adult and attention to object. Code conservatively.

> *Example:*
> - The adult pretends to drink from a cup then lowers it below her chin but still within the imaginary box around her head. The child looks at the cup, clearly tilts his head and looks up at the adult's face, then clearly lowers his head and looks back at the cup. We would consider this as both a look to adult and look to object since there was a clear head shift.

> *Non-example:*
> - Adult pretends to eat fruit and child looks to the area around the adult's face. Since we cannot determine if the child is looking at the adult, the fruit, or both, we do not code the look to the adult or object.

2. Answering an adult question exactly and correctly: A child's answer to an adult's question must be precise and accurate. It can be spoken, signed, or gestural as long as it precisely and accurately answers the question. Such acts show attention to the adult as evidenced by the accurate answer to the question. Those responses that are only partially accurate and those that are completely off topic do not inherently show attention to adult.

> *Example of gestural response:*
> - *Adult lays out a puzzle and a car and says, "Which toy do you want first?" The child looks up from staring into space, and points to the car without looking at the adult. Because this is an appropriate gestural response that precisely answers the question, attention to adult has been met (and a communication act can be coded).*

3. Complete or reduced imitation of the immediately preceding adult utterance. The imitation must occur within three seconds following the adult utterance containing the same word. Imitation may not be usurped by any event or topic shift. The imitation must meet the word rule. Echolalia is considered an imitation. The child's utterance must not add additional words to the adult's utterance, but may contain only a portion of the adult's utterance.

Attention to Object / Event:

Attention to object/event is demonstrated when the child looks at, deliberately moves or deliberately manipulates an object. Throwing is considered attention to object. Simply touching, holding, or picking up an object without looking or manipulating it does not qualify as attention to object/event. To get credit for attending to an auditory event, the child must provide evidence of attending to the event *and* actively seek out the source of the noise (e.g., look for noisemaker item).

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An object does not have to be in the visual field of the camera in order for the child to receive credit for attention to object as long as the adult the adult interprets the child's look or distal point as attention to object. For example, consider a sequence where the child looks off-screen and points, looks to the adult and vocalizes, followed by the adult saying, "You see the light?" This would be considered a communication act. However, if the child did the same thing (point to object off-screen, look at adult and voc) and the adult **DID NOT** respond, this would not be considered a communication act because there is insufficient evidence of the child's attention to object. In these cases, the responsibility lies upon the interacting adult to confirm attention to object since it is off-screen. The same rule would apply if the child's back is to the camera and the coder cannot reliably judge if the child is attending to an object.

Coordinated Attention to Object and Adult:

This is defined as showing attention to an object AND person within 3 seconds of each other sequentially or simultaneously.

1. **Sequential coordinated attention to object and person** is showing attention to an object or event AND a person sequentially such that the attention to object occurs within 3 seconds of attention to adult. The order of the sequential attention to adult and object does not matter. The most temporally proximal component of coordinated attention must be within 3 seconds of the communicative core behavior (i.e., gesture, vocalization, or word). If the child shifts his gaze to look at both an object or event and the adult, the gaze shifts must occur within 3 seconds of one another and without intervening behavior or vocalizations from the adult possibly causing the shift in gaze. Each component must occur within 3 seconds of the proximal component.

Example:
- The child is looking at the adult. The child then independently shifts his/her attention to the elephant and vocalizes within a three second period of time. This would be coded as an act.
- The child is looking at an object and immediately prior to beginning his/her shift in attention to the adult and vocalizing, the adult moves. However, the examiner judges the shift in attention to not have been caused by the adult. A communication act has occurred.

Non-example:
- The child is playing with an object and vocalizes. The adult begins to lean forward into the child's space and the child then looks up at the adult. Because the adult's movement toward the child may have caused the look to the adult, this would not be coded as an act.

2. Simultaneous coordinated attention to object and person is showing attention to an object or event (e.g., deliberately moving or manipulating an object) WHILE looking at the face of the adult, answering a question or imitating the adult.

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GESTURES

The following is an exhaustive list of actions identified as "gestures" for this project. Note that not all of these are sufficient for being an intentional communication act. It is important to note whether additional attention to adult (usually look to face) is required.

A. CONVENTIONAL GESTURES

Conventional Gestures (needing attention to adult, and not to object):

a. **Distal point**: In a distal point the index finger is extended towards the object /person of interest, or a group of unspecified objects. The other fingers should be clearly separated from the index finger making the point obvious.

b. **Shh** gesture

c. **Head nod or head shake**

d. **Wave**

e. **Shoulder shrug**

f. **Pantomime-like actions & depictive gestures***:* Pantomime is the use of a part of the body or face to imitate an object or the use of an object or to act out a meaning to the adult. For example:
- Pretending to brush one's hair without a hairbrush
- Moving arms in a "rocking baby" movement without a doll
- Fingers "walking" like a mouse in "walk-mouse-creep-mouse"
- Finger plays such as "Here's the church, here's the steeple..."
- Blowing a kiss.

B. UNCONVENTIONAL GESTURES

1. Unconventional Gestures with intrinsic attention to object (needing attention to adult):

      Attention to object is intrinsic to this group of gestures, and therefore no further evidence of attention to object is needed.

      g. Tapping with fingers in an attempt to get the adult to attend to an object or event. Tapping or hitting with the palm is not coded.

h. Moving object toward adult: When seated across from each other, the child must move the object across the midline of the table. If seated in any other arrangement, the object must be moved at least half the distance between the two.

- The child *does not need to release the object* if the move is considered an "offer" or "rejection" that is not received by the adult listener.
- If the child begins to move the object to the adult then changes his mind, **this is not coded.**
- Moving the object toward the adult does not include the child moving an object to another object either in front of the adult or in the adult's hand unless the act is dependent on the adult's presence (e.g., putting object in a bag the adult is holding would not be coded).
- Brushing adult's hair is not coded as move object toward adult.
- Moves are counted if the adult has his/her hand(s) out/open in expectation of the object and the child pushes the object toward the adult.
- Throws can be considered a move as long as the child does so intentionally with the purpose of having the adult complete some action.

Examples:
- *Codable Example:* A child rolls a ball to the adult. These *do* count as move toward adult. The child would not have rolled the ball (with the expectation for it to come back) if the adult was not present.
- *Non-Codable Example:* The child pretends to pour tea in the adult's cup by moving the pitcher to the cup in the adult's hand without any expectation that the adult perform any action. This *does not* count as move toward the adult. The child would have moved the pitcher to the cup even if the adult were not holding it.

i. Claps: A clap must consist of hand-to-hand contact which occurs two or more times in order to be coded as such. Flapping of hands in a clapping-like gesture where contact is not made or the bringing of hands together to rest (in which contact between hands is made only once) cannot be coded as a clap.

j. Reaching: A reach must be *open-handed involving an extended arm and a momentary, expectant pause by the child*. The child's hand may open and close as part of the reach. The intention of the act may be imperative or declarative. A reach is *not* scored if any of the following occur:
- The child touches the desired object without the adult's assistance
- An object is in the "reaching" hand
- There is extreme, strained body movement with tilting of the torso towards the "goal," suggesting clearly that the child's intent is to reach the object rather than to request help.

k. Proximal pointing: Child refers to an object by touching it with a finger.

- The index or middle finger must be extended, must touch the referent, and must be separated from the adjacent fingers. It is not necessary to actually see the finger make contact with the object if it is clear that the object has been touched (e.g., object moves or spins).
- At least two of the adjacent fingers should be curled under or arched up.
- When the child or adult is using the extended index finger to operate a toy (e.g., cash register buttons), this is not a proximal point.

2. Unconventional Gestures with intrinsic attention to object and adult

These gestures intrinsically show coordinated attention to object and adult and so don't need additional evidence of attention to object or adult.

l. Upturned palm: The palm should be upturned as if to say "give that to me." There should be an expectant pause in which the child waits for the adult to react. The upturned palm must not be part of an act designed to retrieve an object independently.

m. Giving object to adult: The coder can see or CLEARLY infer from the context that the child has a grasp on the object AND moves object in the direction of the adult. There must be at least a brief moment when they are both touching the object OR child drops item into experimenters upturned hand in an intentional and controlled way.

Note: An object must be deliberately transferred *to* an adult by the child rather than just placed on the floor in close proximity of an adult – setting an object on the floor by an adult does not constitute a "give".

n. **Showing an object to the adult:** The child must extend the object toward the adult. The intention of the act must be solely to "show" the object. The adult is not expected to take or do anything with or to the object except to look and perhaps to comment upon it.

3. Over-generalized Signs (needing attention to adult):

o. Over-generalized signs: When a sign is over-generalized it is considered non-symbolic and therefore is treated as a gesture. When a sign is over-generalized and is used for the incorrect item and accompanied with attention to adult (e.g., child looks at adult and signs "dog" for cat) the communication act is coded [n].

4. Imitative Signs (needing attention to object and adult):

> **p. Imitative signs:** When a sign is produced in imitation of either a spoken or signed word it is considered non-symbolic communication and is treated as an unconventional gesture, and must be accompanied by coordinated attention to object and adult in order to be coded [n]. Imitation intrinsically shows attn to adult

To count as an intentional act, a gesture and attention to adult must occur within 3 seconds of each other, and these two components cannot be separated by an intervening stimulus such as a noise. For example, if attention to adult occurs first, it does not matter if this is caused by the adult. On the other hand, if adult attention is established there can be no other stimulus (e.g., noise and/or motions by the adult) which could be the cause of the gesture and considered part of a complete, intentional act.

> *Examples of Codable Gestures:*
> - The child points to a toy or object and then looks at the adult without the adult causing the look
> - The child is looking at the adult and a toy falls causing a noise. The child points to the toy, and then looks to the adult again without another intervening sound or the adult causing the look, this is coded as an act.
> - The child is looking at the adult, a toy falls (e.g., block tower) but the child can't see this and there is no sound causing the child to look in that direction. The child then points to the toy. This is an act because there is no extraneous cause which results in the child's gesture to the adult.
> - The adult talks to the child, and the child looks up at the adult. The child then points to a desired toy with no intervening stimulus that might reasonably have caused the child to point.

Examples of Non-Codable Gestures:

- ▪ The child points to a toy or object. The adult says something and/or moves causing the child to look at the adult. This is not coded as an act since the adult causes the look.
- ▪ The child is looking at the adult and a toy falls causing there to be a noise. The child points to the toy and does NOT look back at the adult. This is not coded as an act because there is an intervening stimulus between the gesture and attention to adult.

CODING SYMBOLIC & NON-SYMBOLIC COMMUNICATION:

Non-symbolic intentional communication acts are coded [n] when a communication act contains non-word vocalizations or imitative words, in addition to evidence of coordinated attention to object and person. The coordinated attention to object and person must be within 3 seconds of the onset of the vocalization.

A non-word vocalization is a sound, other than a word, where there is evidence of voicing. Voicing occurs when the vocal folds vibrate to give voice to a sound. In whispered "p", "f", "t", "k", or "h" sounds there is no voicing. These are hard to get reliable on if that is the only sound made. We included voiced laughs, voiced sighs, and voiced cries as non-word vocalizations since distinguishing them from other non-word vocalizations reliably is difficult. Other sounds that are not considered vocalizations include trills, raspberries, and clicks with tongue.

An imitative word is an approximation that meets the definition of a word (see below) and is an exact or reduced imitation of an immediately preceding adult utterance. Exact or reduced imitation: The child's utterance must not add additional words to the adult's utterance, but may contain only a portion of the adult's utterance. The degree to which the child approximation is like the adult model need only meet the phonetic requirements for words (i.e., functionally equivalent vowel nucleus) in correct position, at least one target or child-like substitution for the consonant in appropriate position). Immediately preceding adult utterance: within three seconds following an adult utterance containing the same word. Within 3 seconds of vocalization means that the vocalization needs to have **begun** within 3 seconds of the closest component of coordinated attention to object.

Symbolic communication is coded when it includes non-imitative signs or non-imitative words.

Symbolic communication is coded one of two ways:

- o [s] for a single non-imitative sign or word in an act
- o [m] for more than one non-imitative sign or word in an act

Non-imitative Signs

 Signs are not transcribed. In this coding manual, "signs" are those that are found in A Basic Course in American Sign Language (Humphries, et al., 1980) and that are not imitated. The website http://www.aslpro.com/cgi-bin/aslpro/aslpro can be accessed for video clip examples of sign productions. A child's hand movements are classified as "signs" when *all* of the following occur:

1. The hand movement and location with respect to the rest of the body are   like the conventional sign. The hand shape does not have to match the conventional sign exactly, but the movement and location of the sign should be a close fit, given the child's motor limitations.

2. The coder determines that the child is using the word in a semantically and pragmatically conventional manner (i.e., not as a possible idiosyncratic child meaning). To determine that a sign is used in a semantically appropriate manner, the examiner must determine that (1) the context of the discourse is appropriate and/or (2) the context of the play is appropriate for this sign to be used. Judges must exercise conservative judgment when assigning semantic propriety to a possible signed word. This is especially true with pro-forms, like "do," that can be perceived as "possibly appropriate" in almost any situation. A good way of looking at this is that the sign must be truly appropriate and developmentally plausible, rather than simply "not inappropriate" or "conceivably appropriate."

3. If the child signs an adult's immediately preceding spoken word it would be considered imitative. Additionally, if the child immediately imitates the adult sign model, it would be considered imitative. Child acts that repeat words or signs and do not add new words are considered imitations regardless of whether they are produced in a different modality from the adult's model. For example, if the adult says, "Do you want more cookies?" and the child signs, "more" this is coded as in imitation.

4. Judges should apply their knowledge of language development, as determined by reviewing the child's age equivalency scores on the Mullen Expressive Language subscale and the MCDI and a general attitude of conservatism when judging whether a possible signed form should actually be assigned sign status.

5. If the child uses both the signed and spoken word for the same symbol, only the spoken word is transcribed.

6. The word that the sign represents is in the unabridged English dictionary;

7. A "possible sign" may be coded symbolic in some contexts because of its semantic and pragmatic appropriateness yet not be coded symbolic in other contexts (i.e., when it's over-generalized). This will most typically occur when a sign is used in contexts consistent with the adult meaning of the target word as well as in contexts that appear to be overly generalized use of the sign. For example, if the child appropriately points to a horse and uses the sign for "horse", and then later uses the sign "horse" and points to a cow, the first production would be counted as a sign, and the latter production of the sign "horse" for "cow" would not be given sign status. If an over-generalized sign is used, to get credit as a communication act, the child would have to add attention to adult, as in other nonverbal gestural acts.

8. At the same time, a "potential sign" that is frequently used in ways that are not consistent with the adult meaning of the word [and do not clearly appear to be overgeneralizations of the target word] may be judged to be non-symbolic even in those few contexts in which semantic and pragmatic conditions make word status plausible. For example, if the child signs "horse" for "horse" and also signs horse for unrelated objects then, the signing of "horse" would not be given symbolic status in any context.

9. If the child points to his or herself this should not be coded as a sign (e.g., "me"); it should be coded as a proximal point if it meets the criteria to be coded as an act.

10. If the child puts his hand to his ear to indicate telephone, this should be coded as a sign.

11. Clapping vs. signing "more" should be interpreted by the coder. Both the timing of the clapping and the demeanor of the child should be taken into consideration when determining whether the child is signing "more" (for request) or clapping (for declarative function). For example, if the child claps during or immediately following the bubbles being blown and the child is smiling and / or laughing, these will be considered claps and not a sign for more. Claps must be accompanied by attention to adult and object to be coded. If the child claps during or immediately following the bubbles, but is not laughing and smiling, then these acts would be considered a sign for "more."

*A list of common signs and approximations are in Appendix A.

Non-imitative words

1. Single non-imitative words are coded [s] and more than one non-imitative word is coded [m]. All words in a child's vocalization are transcribed when all of the following word rule criteria are met.

2. It contains a vowel nucleus that is the same as or is functionally equivalent to the adult target vowel. (See appendix for a description of functional equivalence) and

3. It contains one or more target consonants or child-like consonant substitutions (see appendix for common sound substitutions) of the target word in the appropriate position. Exception: if the target word is only a vowel (such as "a" or "I") it is okay if the child's vocalization does not contain a consonant. However if the only consonant in a word is deleted (due to a final constant deletion or omission of unstressed syllable) the child's vocalization is not considered close enough to the target word) and

4. It is in the unabridged English dictionary OR is on the MCDI and

5. It does not qualify as an imitation of a word candidate and

6. It does not have the same phonetic shape as another word transcribed within the same sample for the same child. The coder should transcribe whichever word is most pragmatically and semantically appropriate.

7. If a word is both signed and spoken in the utterance, code it as a spoken word

8. It is used in a semantically and pragmatically conventional manner (i.e., not as a possible idiosyncratic child meaning). To determine that a word is used in a semantically appropriate manner, the examiner must determine that (a) the context of the discourse is appropriate and/or (b) the context of the play is appropriate for this word to be used. Judges must exercise conservative judgment when assigning semantic propriety to a possible word. This is especially true with pro-forms, like "do," that can be perceived as "possibly appropriate" in almost any situation. A good way of looking at this is that the word must be truly appropriate and developmentally plausible, rather than simply "not inappropriate" or "conceivably appropriate." Judges should apply their knowledge of language development and other language test scores for the target child to judge the feasibility of a hypothesized utterance the child may be trying to say. For example, if the child's age equivalency score is under 20 months, it is unlikely that the child uses multi-word phrases. In order to credit a child with an age equivalency score under 20 months with a multi-word utterance, the utterance must be clearly articulated.

<center>**Transcribing**</center>

Overview

In this manual "transcription" means orthographying the child expanded imitations with words or non-imitative words in the transcription field. Transcription involves typing the adult spelling or child-like spelling (see appendix D) of the word the coder believes the child is trying to say. The spelling needs to conform to conventions because the exact spelling is used by a software program to count unique word roots. We are transcribing using SALT format's conventions because we are counting word roots, not words, to derive our variable. A word root is the base word (e.g., "book" is the word root for "book/s").

Coders Should Be Conservative When Transcribing Words

In general, coders should examine a particular vocalization in the media file no more than three times to determine whether it is a gloss-able (transcribable) word. If the coder still is not clear, she should consider that utterance to be a non-word vocalization instead of a word. Coders should review the most current CDI completed by the parent to calibrate himself/herself to the abilities of the child. The words listed on the CDI should not be used to determine whether or not a specific word is transcribed but rather to demonstrate the current level of language which the child is exhibiting with his parents.

Transcribing Over-generalized Word Candidates

Potential words may be transcribed as a word in some contexts because of semantic and pragmatic appropriateness, yet *not* judged to be words in other contexts. This will most typically occur when the same phonetic form is used in contexts that are consistent with the adult meaning of the target word as well as in contexts that appear to be overly generalized uses of the target. For example, if the child appropriately says "horse" and then points to a cow and uses the same form, the latter attempt of horse (i.e., for "cow") would *not* be transcribed as a word. To get credit as a communication act, the child would have to add attention to adult, as in other nonverbal acts (this rationale also applies to other instances in which a child mislabels objects). The child's first use of the word, though, would be transcribed. At the same time, a "possible word" that is frequently used in ways that are not consistent with the adult meaning of the word and do not clearly appear to be overgeneralizations of the target word may be judged to be a *non-word* even in those few contexts in which semantic and pragmatic conditions make word status plausible. For example, if the child signs "horse" for "horse" and other circumstances in which it appears to mean neither horse nor a close semantic neighbor of horse, it would not be given word status in *any* context.

UNANALYZABLE WORDS-what speech to exclude

"Unheard" words that are not understandable. This may be due to noise in the room (toy noise) or environmental noise (siren outside) or overlapping speech (adult talking over the child).

Singing is not transcribed.

Sound effects or animal sounds are not transcribed UNLESS they are on our list of words at the end of this manual or are in the dictionary. Note that words like "crash" and "oink" are words in the dictionary and although they may be spoken with emphasis or expression, they are still words being used to describe or label something. Refer to the dictionary for decisions on animal sounds. If they are not in the dictionary but you choose to include them type = {animal sounds}.

Articles, auxiliary, and copula verbs that meet the approximation rules (described later) are glossed only if the words they modify are also gloss-able.

ANALYZABLE WORDS-speech to include

Any audible acceptable approximation of a word that is in the English dictionary is included when one of the following can be demonstrated:

1. Immediate nonlinguistic support OR

2. Immediate conversational support OR

3. Evidence of productive use elsewhere in the session

In the case of **perceptually PRESENT referents**, we need nonlinguistic support to gloss the words. By "non-linguistic support," we mean that just before, during, or after the words is said, child demonstrates one of the following:

1. The child is looking at the referent object or attribute

2. Someone is about to do or has just done the action

3. The event that the child is communicating about has just occurred or is about to occur (within 3 seconds of the possible word).

In the case of **perceptually ABSENT referents**, we can use nonlinguistic support, so we use "conversational support" to decide whether the child intended a particular meaning when he said a potential "word." When the child uses adult pronunciation of a word or word approximation, gloss the word only if the child:

1. Confirms the adult's interpretation of the utterance OR

2. Continues the topic that the word in question introduced using a non-imitative utterance.

In general don't use the adult's response to the child's utterance to gloss the word. Rather use the adult's response to suggest possible targets to test against the word rule and other criteria.

Bound morphemes (i.e. a unit of meaning) are suffixes that attach to root words and change the meaning of the word. These are usually separated from the root by '/'. Every time you are considering transcribing a bound morpheme, make sure you actually hear <u>RATHER THAN EXPECT TO HEAR</u> an adult-like morpheme or a dialectic form of the morpheme.

Fillers like "um" and "uh" are NOT transcribed as analyzable words even though they are in the dictionary.

SPELLING CONVENTIONS

<u>**Word roots**</u> <u>are nouns, verbs, adverbs, or adjectives in their uninflected form</u> (i.e., no bound morpheme) <u>and other words that are spoken the way an adult would write them.</u> These word roots constitute most of the words said. Even when the child mis-articulates a word root, if the word is close enough to be identified and if it meets the word rule criteria (see page ?) then type it in it's correctly articulated, adult form. (E.g. the child says "dwink" then enter "drink.") When the child expresses part of a word and the approximation meets the word rule (see page ?) then enter the *entire* adult word (E.g. If the child says "Bo" for the target word "Boat" then the word is transcribed "boat".)

<u>**A morpheme**</u> <u>is the smallest unit of meaning. A bound morpheme is a unit of meaning</u> <u>that is joined to a word root</u>. E.g., Balls is two morphemes: ball + plural s = "ball/s". **Word roots with bound morphemes** are entered with the word root followed by a forward slash "/", and then the bound morpheme marker. E.g., "ball/s".

Note that the word root is always spelled as if it did not have a bound morpheme on it. E.g., "cries" should be typed "cry/3s". This is necessary for the computer software program (i.e., SALT) to analyze the transcripts correctly and count the number of unique word roots.

See Table 1 for a list of the bound morpheme markers and how they should be entered into the transcript. THIS LIST OF BOUND MORPHEMES IS AN EXCLUSIVE LIST, not just examples. **DO NOT CREDIT THE CHILD WITH A BOUND MORPHEME THAT THE CHILD DID NOT SAY** ("C: BALL" WHEN REFERRING TO 2 BALLS IS TRANSCRIBED AS "BALL").

"**Child-like Words**" used in spoken English but not usually in written English are included. So that we may be consistent with ourselves and with other transcribers, please learn this list and their spellings. See Table 2 for the list of "Child-like Words" we transcribe. If you find an instance similar to those listed use what's on the table. If in doubt ask Project Director.

"**Unanalyzed Wholes**" are pairs of words used as a single-meaning unit and are transcribed as one word. The logic is that giving the child "credit" for two words is probably overestimating the child's ability to combine words in unique ways to create multiword sentences and phrases. See Table 2 for examples of these. Unanalyzed Wholes include:

- *Proper names* like Mickey Mouse should be entered as a single word, Mickeymouse

- *Ritually reduplicated words* like choo choo which would be entered as a single word "choochoo"

- *Compound words* like "Pocketbook" that are probably 'understood' as one word to the child because they are used together very frequently. Often adjective-noun combinations

- *Hyphenated words* like Jack-in-the-box should be entered as 1 word, "jackinthebox". SALT will not accept hyphens.

UNINTELLIGIBLE ELEMENTS: When you can't understand something said.

If you listen to a child utterance 3 times and you are still unable to determine what the child's target is (what he is trying to say) then the utterance should be considered unintelligible. This assumes that the transcriber is carefully attending to the key points noted below.

TRANSCRIBER'S ATTENTION DURING TRANSCRIPTION: Keys to child targets.

The transcriber must always attend to:

- Where the child's eye-gaze is directed

- What the child's hands are doing

- What the play-context and linguistic context has been up to that point

- What the adult has just said prior to the child speaking

MAZES ( ) VERSES UNANALYZED CONTENT { }: When to use each.

False Starts or Mazes occur when the speaker begins to talk, stops and begins again or revises what he started to say. These are referred to as "Mazes". When revisions or false starts occur they should be entered inside parenthesis **( )** so that the program excludes them from analysis. Only put those words in parentheses that do not add to the meaning of the sentence.   C (He, I) we went to the (shop) store.

C The dog is (in, on,) in the car.

NOTE: Do not confuse abandoned utterances for false starts. Abandoned utterances occur when the speaker changes the focus of his attention before finishing his utterance and they are transcribed using the carrot symbol for end punctuation. See the following example.

C My dog >

C Hey, give that back!

Repeated words or sentences that are not mazes should be entered inside braces **{ }** so that the program excludes them from analysis.

In these examples the child is repeating rapidly (less than 2 seconds apart).

C No {no, no, no}.

C Quack {quack x 8}.

C I want go home, {I want go home}.

Transcribe repeated words or sentences as separate utterances only when one of the following applies.

1. Separated by a two-second pause or longer

2. Topic referent has shifted

3. Adult utterance intervenes

In this example the sentence has been repeated but the referent has changed.

C I want that {pointing to teddy bear}.

C I want that {pointing to fire truck.}

In this example the word was repeated at 1 second intervals and the topic did not shift but the adult intervened.

C Gimme (gimme).

A Give you what?

C Gimme, (gimme).

SEGMENTING UTTERANCES: Where 1utterance ends and the next starts

When the onset of a child utterance is exactly concurrent with an adult utterance, transcribe the child's utterance first. Otherwise, sequence the utterances such that the utterance that begins first is sequenced first.

In the absence of intact grammar, generally speaking if the topic shifts from one phrase to another, then transcribe them as two separate utterances. If there is not a topic shift, use pauses, grammar and intonation to determine how to segment utterances. If the segment of speech in question is an entire thought or is grammatically said, then transcribe it as one utterance.

When the verbalization is composed of an **acknowledging word and a comment,** transcribe them together as one utterance rather than as two. Be certain to include a comma to divide.

C Yeah, that/'s right.

C Oh, I see.

If the speech segment in question expresses two messages then regardless of intonation or length of pause between them then transcribe them as two utterances regardless of whether or not they are grammatical.

> A You want the red one?

> C No.

> C I want the blue one.

If there are *two messages* and one refers to what has just occurred and the other is meant to elicit a response, transcribe as two utterances. No pause is necessary to segment these as two utterances.

> A Do you want the red one?

> C Yes.

> C Do you?

Transcribe the following as one utterance unless divided by a 2-second pause:

- **Vocatives** - nouns used in calling or addressing person/thing like "Mama"

> C Mama, come here.

- **Directives** - words used to direct the listener's attention like "Look"

> C Look, broken.

- **Attention-al Devices** - words used to call attention like "Hey"

> C Hey, stop.

- **Declaratives and Tag-questions** are transcribed as a single utterance unless separated by a 2-second pause.

> C This is a ball, isn't it?

> C You lost, right?

Lists or counting are transcribed as one utterance by glossing the first word, but not the others in the list. The others can be included in braces **{ }**.

Repeated words are segmented as one utterance unless separated by a pause of two-seconds or more. Put the second and subsequent instance of the repeated word in brackets { }. Refer to section on Mazes and Unanalyzed Content.

CONVENTIONS FOR CODING BOUND MORPHEMES

The Lexical Density variable for the Useful Speech Study is the number of different word roots transcribed in a session. Because this number can be affected by how bound morphemes are marked it is important to adhere to the following conventions. You must separate each bound morpheme from its free morpheme word-root with a slash (/) followed by a code. The SALT Program only recognizes bound morphemes when they immediately follow a slash <u>without blank spaces</u>.

ALWAYS REVERT TO THE SPELLING OF THE ORIGINAL ROOT WORD WHEN CODING ANY MORPHEMES OR INFLECTIONS.

THE FOLLOWING MORPHEMES SHOULD ALWAYS BE CODED.

Possessive Inflections (Dad's becomes Dad/z)

Use Z so that DAD'S becomes DAD/Z. <u>DO NOT code pronouns like HERS, OURS, YOURS that considered entire units</u>.

Plural Noun Inflections (Toys becomes Toy/s; Babies becomes Baby/s)

Code with **/**S. BABIES becomes BABY/S and HOUSES becomes HOUSE/S. Over-generalizations of the form ARE coded as in the MONEY/S. <u>Do NOT code nouns which only have a plural form like PANTS and CLOTHES.</u>

Plural / Possessive Inflections Combined (Babies' becomes Baby/s/z)

Use BOTH codes /S/Z stacked after the root word so that BABIES' becomes BABY/S/Z and FATHERS' becomes FATHER/S/Z. Apostrophes are omitted.

3rd Person Singular Verb Forms (Goes becomes Go/3s)

Code /3S for both the -s and -es forms of this inflection so that GOES becomes GO/3S and TELLS becomes TELL/3S. Do NOT code DOES as it is considered one morpheme. Over-generalizations of this form ARE coded so that GOTS becomes GOT/3s.

Present Progressive Tense Inflections (Running becomes Run/ing)

Code /ING so that DOING becomes DO/ING and HAVING becomes HAVE/ING. The dialectic pronunciation of "in" is transcribed as the standard pronunciation:"ing". Therefore "Jumpin" is transcribed and coded Jump/ing. <u>Do NOT code predicate adjectives like "Bowling pin, Swimming pool, Running shoes.</u>

Past Tense Inflections (Loved becomes Love/ed)

Code /ED for both the -ed and -d forms if this inflection so that LOVED becomes LOVE/ED and DIED becomes DIE/ED. Over-generalizations of the inflection are coded as in DO/ED and FALL/ED. <u>Do NOT code predicate adjectives like "Tired man" and "Scrambled eggs" and "The door is closed" and "The toy is broken" and The dog is gone" and "I am bored".</u>

Contractible Verb Forms (-'m, -'s, -'ll, -'re, -'ve)

Use the original root-word spelling followed by the forward slash, the apostrophe and the contracted verb stem so that I'M becomes I/'M, IT'S becomes IT/'S, YOU'LL becomes YOU/'LL, WE'RE becomes WE/'RE, and THEY'VE becomes THEY/'VE.

Negative Contractions (Can't becomes Can/n't)

Code /N'T so that DOESN'T becomes DOES/N'T, CAN'T becomes CAN/N'T, and DIDN'T becomes DID/N'T.   <u>Do NOT code DON'T, WON'T, and AIN'T which are considered single-morpheme words.</u>

Contracted Question Forms

Code /'D so that "Where'd it go?" becomes WHERE/'D it go and "How'd you do it?" becomes HOW/'D you do it?

Comparative and Superlative Forms (Contrastives)

Code /ER and /EST so that COLDER becomes COLD/ER and HOTTEST becomes HOT/EST.**Special Notes**

- <u>Do NOT code irregular verb forms like FELL and WENT.</u>

- <u>Do NOT code catenatives like GONNA and WANNA.</u>

- Do NOT code predicate adjectives like:I AM TIRED; THEY LOOK BORED; THE DOOR IS CLOSED; THE TOY IS BROKEN; THE DOG IS GONE; SWIMMING POOL; RUNNING SHOES; BOWLING PINS.

- Do NOT code DON'T, WON'T, and AIN'T which are considered single-morpheme words.

- Do NOT code nouns which only have a plural form like PANTS and CLOTHES.

- Do NOT code pronouns like HERS, OURS, YOURS that considered entire units.

- Do NOT code words that end in "-LY." Example: "slowly"

- Do NOT code DOES.

- Do not code LET'S. Transcribe as Let's.

Table 2

Spelling Convention for Child-like Words

Use the following conventions to spell words children say that are not usually found in adult-adult speech.

AINT

ALLDONE

ALLGONE

ALLTHROUGH

ATTA (for "THAT'S A")

BETCHA (as in "I BETCHA CAN'T DO THAT.")

BOOM (CONVENTIONAL NOISE FOR EXPLOSION OR LOUD CRASH)

DOCTOR

FIXINA (as in "fixing to")

GIDDYUP (go) verb

GONNA

GOTCHA

GOTTA

HAFTA

HEY

HI

HUH (as in requesting clarification)

LET'S (not typed with a /)

LIKETA

LOOKIT

MISTER

MISSES

MISS

NOPE

OH

0K (for "OKAY" - Don't put period between the letters!)

OUGHTA (as in "I OUGHTA DO THAT")

OW = ouch, that hurts

POW (CONVENTIONAL NOISE FOR GUN SHOT)

SPOSTA (for "SUPPOSED TO")

TRYNTA (for "TRYING TO")

TV (Don't put periods between the letters!)

UHHUH (as indicating "YES")

UHOH (something bad just happened)

UHUH (as indicating "NO")

WANNA

WHATCHA (as in "WHATCHA DOING?)

WHOA { for "STOP"}

WOE {for exclaiming distress}

WOW {as expression of excitement, interest, wonder, pleasure}

YEAH (for "YES")   YEA (praise)   YEP (for a short, clipped "yes")

Spelling Convention for Child-like Words

 These words are transcribed this way for children only, as children treat them as unanalyzed wholes.

Single Words:

ALLGONE

ALLTHROUGH

BIGBIRD

BURGERKING

COOKIEMONSTER

CHALKBOARD

FIREENGINE

FRENCHFRY

HOTDOG

ICECREAM

KITTYCAT

KOOLAID

NIGHTNIGHT

OSCARTHEGROUCH

PLAYDOUGH

STOPSIGN

TEDDYBEAR

TRASHCAN

SHUTUP

Two Words

CHOOCHOO TRAIN

EVERY DAY

FIRE STATION

FRIED CHICKEN

GAS STATION

ORANGE JUICE

POTATO CHIP

ROCKING CHAIR

Segmenting

Overview

Segmenting means "separating". We group clusters of child behaviors for consideration as a single coded acts or code as 2 or more separate acts. It is important to know when a child act ends and when another begins. Often it is difficult to determine whether an act is *one continuous act or two or more acts that occur in rapid succession*. Clearly this decision influences the frequency of communication acts.

Criteria for Segmenting Acts

Any of the following criteria can be used to segment communication acts.

1. There is a three second pause in the child's vocalizations, gestures, and talking. Rationale: 3 second pauses are often taken as a signal in the conversation for the other to take a turn.

<div align="center">OR</div>

2. There is a change in focus of attention to another object. (rationale: a change in the child's focus of attention is an indication of a change of interest or thought)

   > *Example*: The child says "open [1 sec] open" [2 sec], gives the Cheerio container to the adult and again says "open." This would be coded as one act because there is no change in object of attention and none of the potential acts occurs more than 3 seconds from the other potential acts (e.g., the last "open" is within 3 seconds of the give). Therefore, none of the criteria for segmenting the act have been reached. In addition, the give is not coded separately because the higher level code (word open) takes precedent over the gesture (give).

<div align="center">OR</div>

3. A series of guidelines have been developed when adult actions are present because these are especially difficult child acts to segment. We consider segmenting is such cases because we are imposing a turn-taking structure on the exchange and the child is often responding to something the adult is doing.

   a) If the adult communication act overlaps a child's gesture, the child's act will be segmented (broken into 2 acts) when, following the onset of that overlap, there is a momentary pause in the child's gesture OR another vocalization, gesture, word or sign that adds clarity or emphasis to the child's act.

<div align="right">36</div>

b) If the adult's communication act overlaps a child's vocalization, the child's act will be segmented when, following the onset of that overlap, there is a momentary pause in the child's vocalization AND another vocalization, gesture, word or sign that adds clarity or emphasis to the child's act.

c) If the adult's communication act overlaps a child's vocalization that is paired with a gesture, the child's act will be segmented when, following the onset of that overlap, there is a momentary pause in the child's vocalization or gesture AND another vocalization, gesture, word or sign, which adds clarity or emphasis to the child's act.

d) If an adult communication act or "potentially influential adult behavior" about an object of interest occurs after some components of the child's communication act (i.e. gaze shift) and before others (i.e. vocalization), then components separated by the adult's actions must separately meet criteria for intentional communication to be coded as separate communication acts.

e) If an adult communication act or potentially influential adult behavior causes the child's gaze shift to the object during a communication act, then don't count the components that are separated by the adult's communication act or action as coordinated. Recall that the exhaustive list of potentially influencing adult behaviors we consider are

➢ Gross movements in head (e.g., getting up out of seat, moving head, shoulders, trunk to examine or get something on other surface)
➢ Vocal or verbal communication acts
➢ Moving object of interest to square near face

Example:
The child says "open, open" and the examiner then reaches her hand out to request the cheerios. The child places the container in the examiner's hand and then says "open."
This would be coded as two acts. The first "open, open" is

considered a single word. The second act is segmented from the first act by the examiner's outstretched hand. This second act is coded as since the child is responding to the adult's outstretched hand.

4. A series of guidelines for segmenting have been suggested for segmenting communication acts when child words are present

    a) In general, segmentation of child utterances is based on adult grammar and turn-taking rules.

    b) When there are two distinct messages or topic shifts in sentence-like form that could or should be separated by a conjunction ("and," "but," or "or") transcribe as two utterances. No pause is necessary to segment. Each utterance is coded as a separate act regardless of pragmatic function (i.e. both utterances may have the same pragmatic function). ("me try that you help me" would be transcribed as Me try that/You help me.)

    c) When there is no topic shift or change in the message, use pauses, grammar, and intonation to determine how to segment an utterance.

    d) When the group of words begins with an acknowledging word *plus* an utterance containing words that have a grammatical role, (Adult: "It's blue I think." Child: "Yeah, that's right." or "Oh, I see." or "Yep, and mine's green), transcribe as one utterance. These examples would be one sentence each.

        ➤ e.g., yeah, that/'s right.
        ➤ e.g., yep, and mine/'s green.

    e) When the group of words begins with a response word that follows an adult request but adds grammatical words that do not conform precisely to the request, the episode must be coded and transcribed as a single communication act.

        Example: The adult asks, "Do you want a snack?" and the child responds, "Yeah, cheerios." The child's utterance would be coded as a single act.

f) Vocatives are words used to get the listener's attention to oneself such as, "hey" or a person's name. Transcribe the vocative and the phrase that follows it as one act (e.g., Mom, Help. [to mean Mom, come and help me] vs. Mom help [to mean Mom helped/helps/is helping me]). Common vocative words are "look" and "see".

g) For example*:* The child says, "Look, a boot." Is segmented as one act.

h) When repeated words compose the sentence, segment as one utterance unless words are separated by three seconds. Only one of the set of repeated words should be transcribed and considered when coding.

i) When "false starts" or "mazes" are present within an utterance, these words are not transcribed or coded. A false start occurs when a child says a word or phrase multiple times before completing the statement. A maze is when a child reformulates the phrase as it is being said.

       1. Examples of False Starts
- If a child says, "I want I want I want I want that money." The transcription would be "I want that money."
- If the child says, "mi mi mi mi mine." This would only be transcribed once (e.g., "mine").

       2. Examples of Mazes
- If a child says, "I want need that." "Want" is considered a maze here and is not transcribed since the child reformulates the sentence. The transcription would be "I need that"

- When a child abandons an utterance with words, that utterance is transcribed and coded as a communication act. An abandoned utterance would be when the child starts a phrase or sentence but does not complete the thought. For example, the child says "I have" but does not complete this thought. This would be transcribed and coded up to the point of abandonment or interruption**.**

When you have completed coding a file…..

Remember To Mark the End of the Code-able Portion of the Session with [u]

When you get to a point where the adult says "stop coding here" or the session ends in some other way, you must mark that point in the session by coding [u] or the software program will not correctly compute the duration of the codeable section of the language sample.

Save and Log the Coded File

1. "Save" and then exit ProcoderDV.

2. Copy the PDV file to the following two addresses \\Kc-miles\uss\Coded Files and \\Groups-nas1\kc-bird\Yoder\USEFUL SPEECH STUDY\Coding\LS

3. Make an entry in the USS Coding Log to indicate the file has been coded. \\Groups-nas1\kc-bird\Yoder\USEFUL SPEECH STUDY\Coding\Coding Log

Create and Export the SALT File

1. Open the pdv file thru ProcoderDV
2. Select the radio button for Export and a dialogue box will open.
3. Use the Save in: drop down at the top of the dialogue box to select the location to save the file you are about to create and export (\\Groups-nas1\kc-bird\Yoder\USEFUL SPEECH STUDY\Coding\LS).
4. Use the Save as type: drop down box at the bottom of the dialogue box to select the kind of file you want to create (SALT files (*.slt).
5. Click Save at the bottom of the dialogue box and the click OK in the dialogue box that opens to tell you your file has been created.

<u>**Derive the Variable Scores**</u>

The variables we are reporting are below, followed by the steps you need to go thru to locate and derive them.

Lexical density

This variable is the number of different word roots from the total sample. It should be only the non-imitative, spoken words because imitative words and all signs are not transcribed.

Weighted frequency of intentional communication

The number of n, s, and m are to be recorded from the total sample utterance codes. Once recorded, compute the weighted frequency of intentional communication by using the following formula.

Frequency of n + (frequency of s*2) + (frequency of m *3)

1. **Open the new SALT file you have created,**
2. **select Analyze from the toolbar**
3. **select Code Summary from the dropdown menu,**
4. **select Continue in the Errors Found box and the Code Summary will open**
5. **Print the CODE SUMMARY page (use radio button on toolbar)**
6. **select Analyze from the toolbar again**
7. **select Word and Morpheme Summary**
8. **select Continue in the Errors Found box, the Word & Morpheme Summary will open**
9. **DO NOT print this page. Instead, locate the Child Total Utterances column and then copy the Number of Different Word Roots reported across the bottom of the CODE SUMMARY page you have printed out.**
10. **Use the formula below to compute the weighted frequency of intentional communication acts.**
11. **Put your printed files w/ calculations in the First Entry Data Entry basket**

Appendix A: Signs and Sign Approximations

This is a list of grammatical signs as found in <u>A Basic Course in American Sign Language</u> (Humphries et al., 1980) that are likely to occur during an assessment.

Sign approximations are coded according to the procedures in the manual (i.e., the hand shape does not have to match the conventional sign exactly, but the movement and location of the sign should be a close fit, given the child's motor limitations). In addition to this general rule of allowable sign approximations, a table with a description of other possible sign approximations that a child may produce for some signs is included below.

Animals	Colors
Alligator	**Black**
Bear	**Blue**
Bee	**Grey**
Bird	**Green**
Butterfly	**Orange**
Cat	**Pink**
Caterpillar	**Purple**
Cow	**Red**
*Chicken	**White**
*Duck	***Yellow**
Dog	
Elephant	***Must be different**
Fish	**from one-handed**
Giraffe	**"play" sign.**
Goat	
Gorilla	
Hippo	
Horse	
Kangaroo	
Lion	
Monkey	
Owl	
Penguin	
Pig	
Rabbit	
Rooster	
Seal	
Sheep	
Snake	
Spider	
Turtle	
Zebra	

*Must be different from bird

Clothing

Coat

Dress

Gloves

Hat

Mittens

Pants

Shirt

Shoes

Socks

Sweater

Watch

Food

Apple

Banana

Bread

Carrot

Corn

Cheese

Chocolate

Hamburger

Ice cream

Lemon

Milk

Orange

Pizza

Peach

Peas

Strawberry

Tomato

People

Baby

Boy

Clown

Dad

Girl

Man

Mom

Woman

Other Objects

Book

Bed

Chair

Clock

Cup

Fire

Flag

Flower

House

Moon

Plate

Stars

Telephone

Toilet

Tree

Other Relational Signs

* All done/Finish

Big

Down

Little

*More

Up

*See table for other possible sign approximations

Toys

Ball

Balloon

Bubbles

Blocks

Doll

Drum

Kite

Piano

Puzzle

Robot

Rocket

Slide

Swing

Trumpet

Vehicles

Bicycle

Boat

Bus

Car

Motorcycle

Train

Truck

Tractor

Wagon

Verbs

*Drink

*Eat

Fall

*Go

*Help

Look

*Open

*Play

Sit

Sleep

Stand

Stop

Swing

Wash

*See table for other possible
sign approximations

Other Possible Sign Approximations

Signs	Examples of Additional Acceptable Approximations
Drink	▪ Touches thumb to side of mouth
Eat	▪ Touches index finger to mouth
Open	▪ Twists both flat palm-down hands once so that the palms are facing
Help	▪ Raises both closed fists
More	▪ Claps flat hands
	▪ Taps/places index finger or thumb against palm of opposite hand
All done/Finish	▪ Places one forearm on top of other forearm with fingers pointing in opposite direction
	▪ Rotates wrists of both hands with fingers spread
Play	▪ Child uses only one hand
Go	▪ Child moves index finger from pointing up to pointing away from body
Stop	▪ Child uses one hand only, palm must face to the side

Of note: Touch happens early in signing

    Hand shape often different

    Location of sign approximation with respect to trunk has to be the same as traditional sign

Appendix B

Functional Equivalence of Vowels

a. When the child produces a vocalization that is a potential word, first determine what word the child is attempting.

b. Next, pronounce the *target* vowel of the word the child is possibly attempting.

c. Find the target vowel on the vowel chart below and note the numbers beside the vowel.

d. Pronounce the adult vowel that is the closest possible to the child's actual production.

e. Find the child's production on the chart and determine whether any of the numbers on the chart match one of the numbers for the *target* vowel.

f. If the child's vowel is functionally equivalent to the adult target and all other semantic, pragmatic, and phonetic (e.g., consonantal) criteria have been met, transcribe the child's production as a word.

	Central Vowels	Back Vowels
Front Vowels		

Front Vowels   Central Vowels   Back Vowels

i (1) (as in "he" or "heed")   υ (5) (as in "who" or "sued")

I (1, 6) (as in "hit" or "him")   Y (5) (as in "hood" or "should")

e (1, 2) (as in "hay" or "say")   o (4, 5) (as in "hoe" or "soap")

E (2, 3, 6)   ℘ (3, 4)   □ (4, 5) (as in "call" or "ball")
(as in "head" or "said")   (as in "hut" or "hum")

                                ™ (3, 4)
                                d (as in "her" or "hurt")

Θ (2, 3) (as in "hat" or "Sally")   α (3, 4)   A (3, 4) (as in "hot" or "dot")
                                (as in "hi" or "bye" in
                                many Southern dialects)

Diphthongs (Note that diphthongs in Southern dialects tend to be produced as single vowels. Many single vowels in Southern dialects are *heavily* diphthongized.)

aI (3, 4) (as in "hi" or "bye" in standard dialects)

αY (3, 4) (as in "how" or "bounce")

□I (3, 4) (as in "boy" or "toy")

The Most Common Speech Sound Errors Found

in Young Children's Early Meaningful Speech Productions

Lip Sounds

Target Sound   *Produced as*

m   m (i.e., usually correct)

w   w (i.e., usually correct)

p   b, at the beginning or middle of a word
                        (e.g., "pie"→ "bye" or "happy" → "habby")

b   p, at the end of a word
                        (e.g., "bib"→ "bip")

f   p or b
                        (e.g., "fat" → "pat" or "five"→ "bibe" or "knife"→ "nipe")

v   p or b
                        (e.g., "very" → "beree" or "five"→ "bibe")

Tongue on Teeth Sounds

"th," as in "<u>th</u>ink"   t or d or f or s

(e.g., "bath"→ "bat," "bad," "baf," or "bas")

"TH" as in "<u>th</u>is"   d or t

(e.g., "that" → "dat" or "tat")

Tongue Behind the Teeth Sounds

t   d, at the beginning and middle of words

(e.g., "toy" → "doy," "top" → "dop")

d   t, at the end of words

(e.g., "bad" → "bat," "hide" → "hite")

s   t or d

(e.g., "see" → "tee" or "dee," "miss" → "mitt," "missing"→
"mitting" or "mittee")

z   t or d

(e.g., "zoo" → "too" or "doo," "fuzzy" → "puddy" "bust"→
"biddy," or "buzz" → bud)

l   d or w or "y," at the beginnings or middle of words; usually
omitted or changed to a vowel, like "oh" at the end of words
(e.g., "lime" → "dime" or "yime" or "wime," "bubble" →
"bubboh," "call" → "kaw" or "kaoh")

Tongue on the Mid-Palate Sounds

"sh"	t or d (e.g., "shoe" → "too" or "doo," "washing" → "wating" or "wadding," and "push"→ "put")
"ch"	t or d (e.g., "chew" → "too," "watch" → "watt," or "match"→ "mat")
"j"	t or d (e.g., "jam" → "dam," "badge" → "bad," or "judge"→ "dud")
"y"	y (i.e., usually correct), sometimes d (e.g., "you" → "doo," "yoyo" → "dohdoh," or "yeah"→ "dae")
"r"	w, at the beginning and middle of words, usually omitted at the end of words (e.g., "run" → "won," "mirror" → "miwoh," "ride"→ "wide," or "car" → "kaw" or "kaoh")

Tongue on the Back-Palate Sounds

k	t or d (e.g., "key" → "tea" or "dee"," "kick" → "tit" or "dit," "back"→ "bat," or "yucky" → "yutty" or "yuddy")
g	t or d (e.g., "go" → "doe," "get" → "tet," "give"→ "tive," or "gar" → "daw")
"ng" (as in "king)	n (e.g., "king" → "keen," "bang" → "ban," or "song"→ "tawn,")

Other Patterns to Look for

Final Consonants	Often omitted altogether (*Final consonant deletion*) (e.g., "car" → "kaw" or "bad"→ "bae" or "knife"→ "nye")

Unstressed syllables   Often omitted altogether (*Weak syllable deletion*)
(e.g., "around" → "wownd," "tomato"→ "mato" "banana"→ "nana," or giraffe → "waef")

Consonant blends   Often changed to a single consonant (*Cluster reduction*)
(e.g., "please" → "peas" or "pea", "blue" → "boo," "sky" → "kye" or "gye," "friend" → "fen" or "pen")

Words with two or   One sound is often changed to be the same as or similar to more
consonants   another, yielding a within-word consonant repetition or
 "near" repetition. (*Assimilation* or *Consonant Harmony*)
(e.g., "dog" → "dod" or "gog," "kitty" → "kicky" or "titty," "money" → "mummy")

Remember that more than one of these changes can occur in a single word,
(e.g., "Susan" → "tutu" (s → t plus *consonant harmony*); "laughing" → "yappee" (l → "y", f → p, and *Final consonant deletion*)

Common sound substitutions for "n" and "h" sounds have been omitted in the above because they are so rarely misarticulated.

These two sounds are among the five or 10 most frequently BABBLED sounds across all languages of the world. So, they're usually there in English kids first words.

When SUBSTITUTION errors do occur, [m] would be the most common substitution for [n]. Nasals are readily confused.

For [h], the most common error is omission in which case you just have a vowel. Another consonant substituted for [h] is extremely rare. Some kids have strong patterns of favorite sounds; so [t] might substitute for a whole lot of sounds, including [h]. But there's no obvious substitution alternative for this sound.

Appendix D: Spelling Convention for Child-like Words

Some words may be spelled in different ways. Other words and word combinations are learned by children as unanalyzed wholes rather than as multiple word utterances. The following list provides the spellings that must be used for most common of these examples. Note that in *all* cases, proper names are spelled as one word with letters bunched together.

AINT
ALLDONE
ALLGONE
ALLTHROUGH
ATTA (as in "Atta boy/girl.")
BIGBIRD
BUBBLES (always one word)
BURGERKING
CASHREGISTER (always one word)
CHEERIOS (always one word)
COOKIEMONSTER
DOCTOR
FIREENGINE
FRENCHFRY
GIDDYUP (go) verb
GONNA
GOTTA
HAFTA
HOTDOG
ICECREAM
KITTYCAT
KOOLAID
LETS (not typed with a ')
MISTER
MISTERJONES
MISSES
MISS
MISSMONICA
NIGHTNIGHT
OUGHTA (as in "I OUGHTA DO THAT")
OSCARTHEGROUCH

PLAYDOUGH

SHUTUP

SPOSTA (for "SUPPOSED TO")

STOPSIGN

TEDDYBEAR

TRASHCAN

TV (Don't put periods between the letters!)

WANNA

WHATCHA (as in "WHATCHA DOING?)

2 Words:

CHOOCHOO TRAIN

FIRE STATION

FRIED CHICKEN

GAS STATION

ORANGE/GRAPE/APPLE JUICE

POTATO CHIP

ROCKING CHAIR