

Supplemental File A: CSBS Coding information

Adapted from Wetherby, A., & Prizant, B. (2002). *Communication and symbolic behavior scales developmental profile—First Normed edition*. Baltimore, MD: Paul H. Brookes.

Step 1: Communicative Acts (CAs) must first be identified and the relevant section of video should be delineated using the ELAN programme.

To qualify as a Communicative Act, refer to Figure 4.1 (Wetherby & Prizant, p.34) summarised below.

Figure 4.1

For a behaviour to be considered a communicative act, the answer to all three of the following question must be yes; that is, the behaviour must be described by at least one of the options under each question.

1. Was the act a gesture, vocalization or verbalization?
2. Was the act directed toward the adult?
3. Did the act serve a communicative function (see table 4.1 below)

Termination of a CA happens when:

- Exchange of turns (vocal/gestural)
- Pause greater than 3 seconds
- Child shifts topic/focus of attention

Incomplete CAs should not be counted. This is when child abandons the act or is interrupted before it is completed.

Step 2: identify the communicative function of the behaviour

Table 4.1 (Wetherby & Prizant, p.32)

<u>Behaviour regulation</u>	Acts used to regulate the behaviour of another person to obtain a specific result. Child's goal is to get the adult to do something or stop doing something.
Examples	Request object/action - acts used to direct another to give a desired object or to carry out an action
	Protest object/action – acts used to refuse an object that is not desired or to direct another to cease an action that is not desired
<u>Social Interaction</u>	Acts used to attract or maintain another's attention to oneself. Child's goal is to get adult to look at or notice him or her
Examples	Request social routine – act used to direct another to begin or continue carrying out a game-like social interaction
	Request comfort – acts used to seek another's attention to comfort from wariness, distress or frustration.
	Call – acts used to gain the attention of another to indicate that a communicative act is to follow
	Greet – acts used to indicate notice of a person or object's presence or to signal the initiation or termination of an interaction

	Show off – acts used to attract another's attention to oneself by displaying a performance
	Request permission – acts used to seek another's consent to carry out an action; involves carrying out or wanting to carry out the action
<u>Joint attention</u>	Acts used to direct another's attention to an object, event or topic of a communicative act. Child's goal is to get adult to look at or notice an entity or event.
Examples	Comment on object/action – acts used to direct another's attention to an entity or event
	Request information – acts used to seek information, explanations, or clarifications, about an entity, event, or previous utterance; includes wh-questions and other utterances with rising intonation contour
Unclear	Acts used for a communicative purpose but for which there is insufficient information to determine the category of function that it most appropriately fits. That is, it cannot be determined whether the child's goal is to communicate for behaviour regulation, social interaction or joint attention.

Step 3: Identify Respondent Acts

- Yes: the CA is in response to an adult's conventional gestures or speech. Topic of CA must be same as topic of adult act. Must occur 2-3 seconds after adult act to be considered. Does not have to display comprehension of the adult act.
 - No: if not respondent, the act is 'initiated'
- ➔ Use step 2 and 3 to insert IBR, RBR, IJA, RJA, ISI, RSI or unclear into the Communicative Function column in ELAN

Step 4: Identify the communicative means (Gesture alone; vocal act alone; gesture and vocal act together)

- **A gesture** is any non-vocal behaviour directed to another person that serves a communicative function. Directed eye-gaze without head or hand movement does not count as a gesture. Holding, touching or taking an object does not count as a gesture unless the child is directing the gesture towards the adult (e.g. showing, giving). Examples given:
 - Giving object to adult*
 - Touching adult's hand, arm, body or face
 - Moving adult's hand or face
 - Pushing object toward or away from adult*
 - Head shaking or nodding*
 - Hitting, biting or pinching self or adult
 - Throwing or dropping object
 - Showing off without object
 - Showing off with object near child's face
 - Making indicative gesture (pointing* or tapping with finger or fingers (not palm)); raising arms; open-hand reaching* with minimal body movement; showing object*
 - Making depictive gesture (i.e. pantomime-like action)
 - Waving*
 - Clapping

NB. Gestures marked * are considered CONVENTIONAL GESTURES (not required for coding scheme)

NB. Distal hand gestures are made when a child's hand does not touch a person or object when gesturing. Examples include reach, point, waving, some depictive gestures

- **Vocal act** is further broken down into:
 - **Vocalisation** may be spontaneous or imitative vocal acts that do not contain recognisable words
 - Nontranscribable (e.g. laugh, cries, sighs, lip smacks, trills, single consonant without a vowel). Any vocalisation is non-transcribable if you cannot transcribe it within 3 attempts.
 - or transcribable (requires at least one vowel sound and may include a consonant, may be single syllable or multisyllabic)
 - **Verbalisation** (spoken single or multiword utterance) NB if there is a non-spoken verbalisation (signed or AAC words), mark this as gestural and describe under the 'other' column

Consonants used for consonant inventory

(from table 4.2, Wetherby & Prizant, p.36)

Sound	Example
/m/	<i>Mother</i>
/n/	<i>No</i>
/ŋ/	<i>Ring</i>
/b/	<i>Ball</i>
/p/	<i>Pop</i>
/d/	<i>Dog</i>
/t/	<i>Toy</i>
/g/	<i>Goat</i>
/k/	<i>Cookie</i>
/w/	<i>Wagon</i>
/j/	<i>Yellow</i>
/l/	<i>Little</i>
/r/	<i>Read</i>
/v/	<i>Very</i>
/f/	<i>food</i>
/z/	<i>zoo</i>
/s/	<i>Soap</i>
/ð/	<i>The</i>
/θ/	<i>Thumb</i>
/ʃ/	<i>Shoe</i>
/tʃ/	<i>Church</i>
/ʒ/	<i>Measure</i>
/dʒ/	<i>Judge</i>

Observed Phoneme Inventory

One point per line

VOWELS

Sound	example
/ee/	Keep
/ai/	Kind
/oo/	Soon
/e/	Get
/u/	Up
/a/	Cat
/or/	Door
/i/	Tip
/oh/	No
/o/	top
/ah/	Far
/ay/ or /ou/ or /er/ or /oi/*	Say, out, player, boy

*using any of these sounds scores 1 point

CONSONANTS

Note these are slightly different to the consonant inventory above

Sound	Example
/m/	Mother
/n/	No
/ŋ/	Ring
/b/	Ball
/p/	Pop
/d/	Dog
/t/	Toy

/g/	Goat
/k/	Cookie
/w/	Wagon
/j/	Yellow
/l/	Little
/r/	Read
/v/or /f/	Very, food
/h/	hand
/z/ or /s/	Zoo, Soap
/ʃ/	Shoe
/tʃ/ or /dʒ/	Church, Judge