A Multimodal Interactional Classroom Coding System (MICCS)

A UCLA EPIC Supported Project

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1. Overview of the coding manual

This manual describes the major categories used in coding (Chinese) L2 classroom interaction data. The most basic level of distinction is made between the teacher (T) and students (S), with multiple types of student (e.g. SF (female), SM (male)) further marked. Among the means of T's engagement, we mark up four types as of this version: verbal, prosody, gesture, and environment. Verbal means refers to morphosyntactic resources such as question words, syntactic structures, referential forms. Prosody has to do with such suprasegmental features as intonation contour, duration, and stress. Gesture includes embodied actions such as pointing and pantomiming. Finally, environmental factors refer to such items as location of objects under discussion, PowerPoint slides, and index cards. We code student engagement with a scale of 0-3, where 0 designates no response and 3 responses beyond what the teacher may have expected. (For a similar scalar approach to teacher-student interaction through question and answer sequences, see Smit et al. 2022.).

Note that this system aims to mark up only the most explicit and prototypical segments of classroom interaction. Thus, unintelligible utterances, group work of any form and size, and non-interactive instructional events such as video-watching, song-singing, etc. are excluded from our coding system.

Table 1 provides an overview of the major categories used in the Multimodal Interactional Classroom Coding System (MICCS).

Table 1 Summary of Multimodal Interactional Classroom Coding System

Categories/subcategories		Codes	Brief definition
Teacher: means of engagement	**Verbal**	*-QF* *-Naming* *-Deictic* *-Descriptive* *-Directive* *-Others*	-Question form, e.g. question word, Y/N question, A-not-A question -Student's name called -Personal pronouns, demonstratives -Description of a student when their name is unknown -Imperatives, giving directions -Forms not included in the aforementioned
	Prosody	*Y*	Marked prosody, e.g. rising/leveling intonation, lengthening, increased loudness

	Gesture	*Y*	Manual gesture, e.g. pointing, pantomiming, body leaning, head tilting, etc.
	Environment	*Y*	Objects in the immediate environment, e.g. writing on the board, index card, PowerPoint slide
Student: level of participation		*0*	No response, silence
		1	Passive minimal responses (reactive tokens, laughter), type confirming answers to T's question
		2	Elaborated response
		3	Active response in broad scope and/or depth, without T's elicitation

2. Teacher's Means of Engagement (TE)

- Definition: T uses various verbal or nonverbal means to engage Students in an activity. Coded per spoken utterance, which is by and large intonation unit (IU) based (Chafe 1987, Du Bois et al. 1993, Tao 1996). Only utterances that are used to engage Students' participation are coded. For example, T initiates a turn and Ss answer it correspondingly. T's turn responded with noticeable absence (e.g. long pause, T pursues the Ss' response with repeat or reformulation) is also coded. Thus, T's self-talk/description kind of language that is not aimed to mobilize Ss' response is not coded.
- Notes: These codes are not mutually exclusive, meaning that an utterance can receive multiple codes if more than one means of engagement is utilized.

2.1. Verbal

- Codes: *QF, naming, deictic, directive, descriptive, others*
- Definition:
    - *QF*: question form, Teacher uses a question form to engage students in an activity, which includes question words, A-not-A questions, Y/N questions
    - *Naming*: Teacher calls Students' name to engage them in an activity
    - *Deictic*: Teacher uses deictic expressions to engage students in an activity, which include personal pronouns (你，你们，我们, 大家，各位，咱们), demonstratives (这（个/里），那（个/里）), 现在, etc.
    - *Directive*: Teacher uses directive, usually in imperative form to engage students in an activity.
    - *Descriptive*: when Teacher does not know a student's name, Teacher uses descriptive expressions of the target Students to engage them in an activity.
    - *Others:* verbal means that are included the aforementioned codes, which include (partially) repeating or reformulating students' utterances to mobilize for correction; T demonstrates the pronunciation in the activity of read-after-me;
- Examples:
    - (1) T: 这是什么。 *[Verbal: QF, deictic]*
    - (2) T: 你来回答。 *[Verbal: deictic, directive]*
    - (3) T: 彼得读一下。 *[Verbal: naming, directive]*
    - (4) T: 那个穿红衣服的。 *[Verbal: descriptive]*
    - (5) S: 资(zi4)本主义。
         T: 资(zi1)本主义。 *[Verbal: others]*
         S: 资(zi1)本主义。

2.2. Prosody

- Code: *Y (Yes)*
- Definition: Teacher uses marked prosody to engage students to participate in an activity, which includes intonation (rising or leveling pitch), lengthening, increased loudness, etc.
- Examples:
    - (1) T: 我们还可以<u>用::</u>， *[Prosody: Y]*
         S: 和平。
    - (2) T: 还有别的解释吗。
         还有别的解释？ *[Prosody: Y]*

S: 他喜欢猫。

2.3. Gesture
- Code: *Y*
- Definition: Teacher uses manual gestures to engage students in an activity, which includes pointing, depicting/pantomiming, body leaning, head tilting, etc..
- Examples:
    (1) T: 彼得读一下。 **((pointing to SM)**) *[Gesture: Y]*
        SM: 呃，
      香港人谢谢你们。
    (2) T: 推::动 **((pantomiming "push"))** *[Gesture: Y]*
        S: 推动。

2.4. Environment
- Code*: Y*
- Definition: Teacher uses objects in the immediate environment to engage students in an activity, which may include PowerPoint slides, vocabulary cards, props, writing on the board, etc.
- Examples:
    (1) T: 这是什么。 **((holding flowers)**) *[Environment: Y]*
        S: 花。
    (2) T: 还是彼得。 **((pointing to the slide))** *[Environment: Y; Gesture: Y]*
        读一下。
        S: 呃，
        因为()

[note: In (2), T's utterance is coded both Y for both gesture and environment because pointing gesture as well as the objects in the environment are utilized by T)

3. Students' Level of Participation (SP):
- Definition: the level of student participation corresponding to the teacher's attempts to engage students. It is labeled to the student's utterance with a numerical value indicating the degree of verbal or non-verbal participation of students.
- Codes: 0, 1, 2, 3; these codes are mutually exclusive.
- Note: S's level of participation is not evaluated based on their knowledge, but the responsiveness to T's elicitation or Ss' own initiation.

3.1. Level 0
- Definition: when the student does not respond or react and keeps silent despite the teacher's attempt to elicit students' engagement. After noticeable silence, T usually continues to pursue for an answer.

    Example:

T:　　　那么我还可以说什么。
　　　　争什么。
　　　　()... *[SP: 0]*
　　　　来，
　　　　一起来。
　　　　争端。

3.2. Level 1
- Definition: the student responses correspond to the teacher's elicitation regardless of whether the student's utterance was correct or not. Minimal responses such as reactive tokens (uh, um, etc.) and laughter is also coded as 1.

1) Incorrect answer

Example:
T:　　　你觉得你的中文说得怎么样？
SF:　　我觉得你的中文-- *[SP: 1]*
T:　　　<@ 你的中文？@>

2) Correct answer

Example:
T:　　　你的中文说得怎么样？
SF:　　哦，我的中文说得不错。 *[SP: 1]*
T:　　　不错，
　　　　嗯，
　　　　很好。

3) Minimal response

Example:
T:　　　<@ 谁的？ @>
　　　　你的中文说得好不好？
SF:　　..Oh okay@s。//用手遮脸// *[SP: 1]*
　　　　@@ *[SP: 1]*

3.3. Level 2
- Definition: the student's utterance that is produced within the expected range of teacher's elicitation AND is elaborated or added by another verbal or nonverbal response. The additional response(s) are produced within the same utterance (by the same speaker) or in consecutive utterances (by the same speaker or by multiple speakers).

1) Elaboration of response within the same utterance

Example:

      T: 奥巴马有没有狗？

      SF: 奥巴马他有<u>两只</u>狗。 *[SP: 2]*

2) Elaboration of response in the consecutive utterance(s)

Example:

      T: 同意的举手。

      SA: ((some put up their hands)) *[SP:1]*

      SF: [我觉得， *[SP: 2]*

      SM1: [可以。*[SP: 2]*

3.4. Level 3

- Definition: the student engages verbally or nonverbally beyond the expectation of the teacher. The students' utterances coded as 3 can "exceed" the range of teacher's elicitation prior to them in two ways:

1) Without assignment:

Students proactively produce utterance without being called upon or assigned to respond to any of the teacher's engagement moves.

Example:

      T: 那么对你们来说，

             爱国者的标准是什么呢。

             每个人的回答不一样吧。

             ((pointing)) 爱国者的标准。

      SM: ((省略 [SP: 1 & 2]))

      SF: ((SF hands up)) *[SP: 3]*

      T: 那么戴琳。

      SF: 呃()我觉得爱国者的标准是呃， *[SP: 3]*

             一个政府做做错了， *[SP: 3]*

             我们有责任责任反对它们。*[SP: 3]*

2) Beyond the range of the specific question:

Students voluntarily produce verbal forms during non-questioning instructional segments or without engagement elicitation of the teacher, presenting additional opinions that are not (directly) related to what is being asked or discussed.

Example (1):
        T: 那么他说过这样一句话，
                   来看看。
        SM: 他()他看起来爷爷。 *[SP: 3]*

Example (2):
        T: 你也不能说丧失了我的()手机。
                   okay好。
        SM: 在这个用丢。 *[SP: 3]*

References

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