MALLI Classroom Observation Protocol

General Information about the Classroom Observations

The MALLI classroom observation protocol is designed to document the array of practices employed by teachers of math at the elementary level with a special focus on literacy development and language development activities in Spanish. This observation protocol includes two parts. The first is a Classroom Observation Scheme designed to describe instruction using narrative and codes during the observation. The second part is an Implementation Questionnaire—a series of questions and activities that ask the observer to reflect back on what was observed and document implementation of language learner adaptations.

Part I: Classroom Observation Scheme

Schedule

An observation should be at least 60 minutes in length. Before beginning the observation, observers record general information about the observation and the classroom. During the observation, observers alternate between recording narrative notes about what they observe and categorizing the observations into a set of codes outlined in the Math Instruction Coding Scheme. Observers record narrative notes for 7 minutes at a time. At the end of each 7-minute segment, they take three minutes to a) count how many students are on task, and b) begin coding the instructional segment. Each 60-minute observation allows for the coding of six 7-minute segments, each followed by 3 minutes of coding.

Sample Schedule

9:00-9:06	Narrative recording *The observer records a narrative of what is happening in the classroom.*	9:17-9:19	Students-on-task count and coding
9:07-9:09	Coding *The observer takes an on-task count, and records the materials in use by the student.*	9:20-9:26	Narrative recording
9:10-9:16	Narrative recording	9:27-9:29	Students-on-task count and coding
		9:30-9:36	Narrative recording
		9:37-9:39	Students-on-task count and coding
		9:40-9:46	Narrative recording
		9:47-9:49	Students-on-task count and coding
		9:50-9:56	Narrative recording
		9:57-9:59	Students-on-task count and coding

Accurate time keeping is essential.

Coding Scheme Overview

Each seven-minute segment of instruction will be coded at five levels:

Level 1: Languages (What language(s) are used?)

Level 2: Major Focus (What is the class mainly doing?)

Level 3: Instructional Activities (What were the specific activities?)

Level 4: Teacher Interactions (What is the interaction style being used by the classroom teacher during this level 5 event?)

Level 5: Student Response (What were the students (expected to be) doing?)

See the Observation Coding Scheme for a list of codes.

Observation Interface

Time of 7-minute narrative segment.

Observation Box
Complete once for each 10 minute segment (7 minutes narrative + 3 minutes coding).

Time:				
Notes:				
On-task Count:				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Language		**Activities**	**Teacher/ Interaction**	**Student Response**
S, E, T	**L**	**VR**	**T**	**L**
		MM	**M, T**	**R, OR**

Number of students out of the total number (e.g., 12/15) who are "on-task," or engaging in the expected behavior.

Codes associated with the 7-minute narrative.

Choose as many language codes as apply to the 7-minute segment. List all in the first line with commas between.

Choose one level 2 code.

Place one level 3 code on each row.

For each level 3 code, choose as many level 4 codes as apply. For example, here the teacher was Modeling and Telling as students were Reading.

For each level 3 code, choose as many level 5 codes as apply. For example, here the students were Listening as the teacher was Telling about nature of mathematics.

Observation Template

Part I: Pre Observation Data Gathering

Before Observation

Teacher Code:

Researcher:

Date: Start Time:

Grade Level:

PreK ☐ K ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Mixed ☐ Other ☐

Total Number of Students in Room: _____

English Learners_____

Spanish Learners_____

Expected language practices:

English-Only ☐ Spanish-Only ☐ Flexible language Use ☐

Number of Adults in Room:

☐ Teacher how many? _____

☐ Teaching aid how many? _____

☐ Parent how many? _____

☐ Student teacher how many? _____

☐ Other how many? _____

Describe the physical environment of the classroom. (Technology in room; print on the walls, language of print, classroom library, placement of tables and desks; general "feel" of the classroom)

Video #:		Segment #:	
Time:		On-Task Count:	
Narrative Notes			

	Literacy	**Vocabulary**	**Discourse**

Level 1	Level 2	Level 3	Level 4	Level 5
Language *S, E, T*	Major Focus *D, R, W, L, T, 0* (Select 1)	Instructional Activities *MC, MP, MCP, MM, AD VC, VS, R, RI, VR, W, WS, LD, EE, MA, MT, QM, O*	Teacher/ Interaction *T, M(s), C(s), L, RA, QA, D, PK, O* [for every level 3 code, include as many level 4 codes]	Student *R, OR, OB, L-OB, L, W, M, VR, D, CV, O* *[for every level 3 code, include as many level 5 codes]*

Observation Coding Scheme

Level 1: Language

What was the language of Instruction?

Spanish	**S**	Teacher provides majority of instruction in Spanish
English	**E**	Teacher provides majority of instruction in English
Translanguaging	**T**	Teacher provides instruction across languages flexibly and/or allows/promotes this from students (e.g., allow for google translate; discussion allowed in either or both languages)

Level 2: Major Focus

What were students mainly doing?

Doing a Math Activity	**D**	This includes preparing for a math activity, watching the teacher demonstrate an example math problem or activity, or doing math activity
Reading	**R**	This includes teacher read-alouds or students reading about math
Writing	**W**	Writing about math concepts, procedures or reasoning
Listening	**L**	Listening to teacher or other students about Math activities (e.g., listen to lecture)
Talking/Discussing	**T**	This includes discussing data or solving math problem (***this code Trumps D***)
Not applicable	**0**	*None of the above seems to apply; no instruction is taking place*

Level 3: Instructional Activities

What instructional activities took place?

Math Concepts	**MC**	Focus is on concepts. Teacher or students are introducing, composing, or reviewing math concepts. This may include: • writing key concepts about math • teacher expands a student's response in a conceptual way
Math Procedural	**MP**	Focus is on helping students complete procedural task or skill development (e.g., multiplication table)
Math Procedural & Conceptual connection	**MCP**	Focus is on making connections between procedural knowledge and conceptual development (***trumps MC and MCP***)
Math Reasoning	**MR**	Focus is on math reasoning. Teacher or students are introducing, composing, or reviewing ideas about process to solve math problems
Math Modeling	**MM**	Focus is on using models to illustrate math concepts. ● Models include diagrams, physical replicas, mathematical representations, analogies, and computer simulations.
Analyzing or sharing data	**AD**	Focus is on making sense of or sharing data that the students may have gathered Students may be: ● Organizing data, e.g., transforming data into a data table. ● Making sense of their data ● Making claims about their data or drawing conclusions Use this code when the teacher is discussing or modeling these activities, as well as when the students are engaged in them.

Vocabulary Concepts	**VC**	Focus is on word meanings. Students/teachers are engaged in discussing/ working on word meanings; students are recording words and definitions or synonyms; the teacher is previewing, introducing, or reinforcing word meanings; or the teacher is defining words in context.
Vocabulary Strategy	**VS**	This may include discussions of cognates. A focus on word analysis, such as strategies for using morphology to discern the meanings of words
Reading	**R**	Activity involves reading various math texts (e.g., ruler, diagrams, book, chart, graph, worksheet, poster). Students may also be searching for information to answer questions, to support their Math activity, or to write or present.
Reading Instruction/ Discussion	**RI**	Focus is on instruction or discussion about math texts (diagrams, graphs, ruler, table). This may include: ● Students are learning about text structures or features of math text or genres of math text.
Writing	**W**	Focus is on writing math texts (e.g., word problem, table, graph, diagram), including writing organization or instruction on important elements of math compositions.
Writing Skills & Conventions	**WS**	This code indicates attention to skills of writing taught apart from the writing of connected text. These skills include: ● Use of word-level linguistic structures such as contractions ● Use of sentence-level linguistic structures such as verb tense, subject-verb agreement, word order, and parts of speech ● Spelling
Language Development	**LD**	Focus is on language development (e.g., metaphors, idioms, subject/verb agreement).
Explanations/ Use of Evidence	**EE**	Focus is on the construction of math explanations supported by evidence
Math Argumentation	**MA**	Focus is on discovering new math ideas through convincing or being convinced that a math claim is valid
Math Talk	**MT**	Focus is on structured talk about mathematics (concept; math careers; procedures; discourse of math). These structures can include Think-Pair-Share, Fish Bowl, Discourse Circle
Questions about math	**QM**	Focus is on posing questions about math.
Other	**O**	Students are engaged in an activity other than those coded above. This may include: ● Cleanup following a math activity ● Giving directions ● Noninstructional activities (e.g., management or discipline that is either substantial or repetitive. Simple directives would not be coded; more extended exchanges would be coded.) ● Focus is on safety, such as proper use of tools and completing tasks in a safe manner. ● Students are engaged in talk or writing about the social aspects of their learning, such as how they worked together in groups or how to share materials. code should be used for a significantly noninstructional event (students are lining up for recess; teacher takes significant time to discuss behavioral issues).

Level 4: Teacher/Interaction

What was the teacher doing?

	Code	Definition
Telling/giving information (telling to)	**T**	Telling or giving children information, giving directions, or explaining how to do something. This includes showing students something—e.g., an artifact—without modeling.
Modeling (showing how)	**M** **MS**	The teacher is coded as explicitly showing, demonstrating, or thinking aloud the steps of how to do something or how to do a process as opposed to simply explaining it (e.g. a teacher models how to solve a problem). MS refers to modeling activities or interactions with individuals or subgroups where the teacher's apparent purpose is to provide extra support to these students.
Coaching and/or scaffolding	**C** **CS**	The teacher is coded as prompting/providing support which will transfer to other situations as students are attempting to perform a strategy or activity or to answer a question. The teachers' apparent purpose is to help a student engage in an activity or complete a task in a way that fosters independence in the future. A teacher might scaffold steps, break a task into more manageable pieces, or do part of the work for the student. CS refers to coaching activities or interactions that meet the definition above but are enacted with individuals or subgroups where the teacher's apparent purpose is to provide extra support to these students.
Listening and/or watching	**L**	Teacher is listening or watching as students are engaged in an activity.
Reading aloud	**RA**	Teacher is reading aloud to the students.
Question and Answer	**QA**	The teacher is coded as engaging the students in answering questions, or responding (q-a-q-a). The purpose primarily appears to be getting the children to answer the questions asked rather than engaging them in a formal discussion. When using this code make sure to pair it with the activity that the question is about – ask "what was the question about" (is it about the concept, the preparation, or the Ss hands on activity?) to determine which level three codes should be paired with this level four code.
Discussion	**D**	Teacher is engaged in a discussion with students, which is largely led by the teacher. Students may respond to each other, but with the teacher's mediation. Exchange may be t-s-s-s, rather than t-s-t-s.
Eliciting Prior Math knowledge	**PK**	Different forms of mathematical contextualization that elicit students to share prior knowledge about math related ideas or topics.
Other	**O**	Teacher is engaged in non-instructional activities, such as passing out student work or walking around without responding to students.

Level 5: Student

What were students (expected to be) doing?

Reading	**R**	Students are to be reading. Code as "r" if students are reading individually, in pairs, choral reading, turn-taking orally, or reading simultaneously.
Orally responding	**OR**	Student**s** (NOTICE PLURAL HERE) are responding orally in recitation, discussion, conversation, presentations. Oral response can be small group, or whole group, but must be on-task. Pointing, gesturing, and chorally responding are coded as OR.
Observing	**OB** **L-OB**	Students are to be observing something. *If students are observing and manipulating simultaneously, code as M instead.* If students are watching as the teacher shows and describes an artifact, code as L-OB.
Listening	**L**	Students are to be listening (and no child is reading or orally responding). Typically, this is coded when the teacher is telling children information, modeling, or reading aloud to the children.
Writing	**W**	Students are to be writing words, sentences, or paragraphs.
Manipulating	**M**	Students are to be manipulating, using their hands (other than writing). Manipulating includes physical movement.
Visual Representations	**VR**	Students are using visual representations. Students may be drawing pictures or diagrams, recording information in a table or t-chart. Students must be creating visual representations.
Discussion	**D**	Students engaged in a discussion, which is largely led by the teacher. Students may respond to each other, but with the teacher's mediation. Exchange may be t-s-s-s, rather than t-s-t-s.
Conversation	**CV**	Students engaged in exchange in which the norms of everyday conversation apply (e.g. students bid for turns without looking to the teacher, students talk to one another and not just the teacher, turns tend to be linked to previous contributions, the teacher is not in charge of the direction of the talk and turn-taking). (e.g., Think-Pair-Share) Talk patterns: s-s-s-s
Other	**O**	Some form of responding other than what is listed is expected. This might include using the Internet.

Part 2: LL Adaptation "Indicators"

Which of the following did you observe the teacher doing?

Building or using background knowledge & Translanguaging

- □ Building background knowledge—e.g., preteaching vocabulary or concepts related to an investigation
- □ Relating concepts or experiences to the students' learning from prior activities or connecting across curriculum areas
- □ Relating concepts or experiences to the students' prior knowledge
- □ Using cognates to explain words or concepts
- □ Translating to/from students' L1's/L2
- □ Providing opportunities for students to use L1/L2 in talk, reading, or writing
- □ Making connections between Math and students' cultures or communities
- □ Other _____

Scaffolding using images or realia

- □ Using prepared visual material, such as picture, diagrams, and graphic organizers to explain or engage students with concepts or processes
- □ Providing written or visual references for instructions
- □ Creating a written record of students' responses or of the discussion or QA
- □ Using physical objects OR kinesthetic activities to explain or engage students with concepts or processes
- □ Creating visual representations, such as pictures, diagrams, and graphic organizers during the lesson
- □ Using environmental print as reference/resource, excluding the board
- □ Other _____

Opportunities for additional practice/time

- □ Providing practice with key vocabulary words, such as word mapping
- □ Providing additional practice with reading, writing, or talk
- □ Providing addition time to complete work requiring written responses
- □ Other _____

Modifications to teacher input or interactions

- □ Using repetition or restatement in his/her explanations
- □ Repetition or restatement of student responses
- □ Providing wait time for responses in his/her talk with students
- □ Asking leveled questions (asking different questions of different students)
- □ Asking students to repeat back or summarize instructions or main points
- □ Using strategies for choosing who talks other than hand-raising
- □ Using verbal metaphor or simile to explain concepts
- □ Other _____

Modifications to arrangements and routines

□ Engaging students in partnered reading or discussion (e.g., bilingual buddies)

□ Referring to established routines for classroom activity

□ Instructing students on how to involve all members of class or group in activity

□ Making language-based grouping choices

□ Other _____

Modifications to modalities

□ Inviting choral or simultaneous group responses (e.g., thumbs up/down, response cards, etc.)

□ Asking students to use visual representations, including drawing or graphic organizers

□ Providing opportunities to use different modalities to respond or show understanding

□ Other _____

Attention to language development

□ Attending to linguistic "blindspots" for second language learners (e.g., multiple meaning words & figurative language, including metaphors, clichés, idioms)

□ Explicitly talking about language in math (e.g., differences from language in other contexts)

□ Providing Feedback on student miscues (written or oral form)

□ Other _____

Part 3: MALLI Impressions Questionnaire

End of Observation

1. Explain evidence of MALLI practices implementation. (e.g., materials used, time spent, which MALLI practices implemented)

2. Discuss the language demands of this lesson and if/how the teacher mitigated those demands (if other than above).

3. Discuss opportunities that students had to engage in talk and in what group structure—pair, whole class, small group.

4. Discuss student participation and engagement. (Were the students actively engaged in the activities?

5. Discuss the classroom environment and other. (Comment on any other aspects of the environment or other factors you think might be helpful in the analysis.)

6. Did the teacher:

	Yes	No
a. Explicitly discuss the purpose of the lesson?	□	□
b. Focus on one main learning goal?	□	□
c. Link the learning goal to ideas in previous sessions?	□	□
d. Link math ideas to activities?	□	□
e. Summarize and synthesize key ideas at some point during the session?	□	□