MALLI
MATHEMATICS AND LANGUAGE, LITERACY INTEGRATION IN DUAL LANGUAGE SETTINGS

Mathematical Discourse

To think about…

Are students obligated to contribute to class discussions?
Are there certain ways to get kids to pay attention during class?
Is it necessary for teachers to respond after each student says something?
Do the students know how to provide evidence of something?
Do the students know how to connect their ideas to the ideas of the other students?

Challenges in Teaching Academic Discourse

Revoicing students' oral contributions to make sure that everyone understood.

Maintain the focus and continuity of the conversation.

Respond to different language levels.

Maintain equitable participation among the students.

Evaluate when and how to include other students in the conversation.

Explain to the students about the use of language to do school work.

Elements of Academic Discourse

Thematic focus	The teacher selects and plans topics or ideas to start and maintain the discussion.
Activates previous knowledge	The teacher uses knowledge about the students to hook them in the discussion.
Direct teaching	The teacher can directly explain/teach the students.
Promotes complex language	The teacher obtains the students' ideas by asking questions like: "Tell me more.", "Do you agree? Why?"
Obtains ideas to justify answers	The teacher teaches students to use text or reasoning to support their arguments.
Fewer known answers	Much of the dialog focuses on questions and answers that can have more than one correct answer.
Responds to student contributions	While maintaining a focus on coherence in the discussion, the teacher also responds to the contributions of the students and the opportunities they provide.
Connecting the discussion	The discussion is characterized by multiple interactive turns and connections. Each contribution supports previous ones.
Challenges without threatening	The teacher creates a challenging atmosphere that is balanced with a positive environment. The teacher is a collaborator more than an evaluator.
Wide and self-selected participation	The teacher encourages general participation and volunteering among the students.

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Mathematical Discourse Strategies

Explain their ideas
Support their ideas
Reiterate ("*Revoicing*")
Stimulate elaboration
Clarify their ideas
Evaluate and compare their ideas
Paraphrase student reasoning
Wait Time
Ask the students to use their own reasoning and connect it to that of others

Questions that promote mathematical discourse

1. Each question has a different function.
2. Ask questions to promote collaboration, discovery and comprehension of the mathematics.
3. Teach them to ask themselves questions.
4. Ask questions that make connections between the mathematics, their ideas, and the application of the concept.

A collaborative environment

Make groups of 4-5 students and have them sit facing each other.

Direct the discourse

1. Model for the students exactly what they should say when they talk about their ideas.
2. Teach them how collaborative work functions.
3. Inform them what they should focus on.
4. Teach them to be self-aware: recognizing their strengths and weaknesses, monitoring their goals, encouraging one another, correcting kindly, pay attention to when someone is dominating the conversation

Promote active listening

1. Before: Anticipate what they are going to hear and identify the key information.
2. While: The students take notes and draw how the ideas and information are connected.
3. After: Analyze the information, apply it and create the final product.