Sensemaking:

Talk moves in a science education professional development

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INTRODUCTION

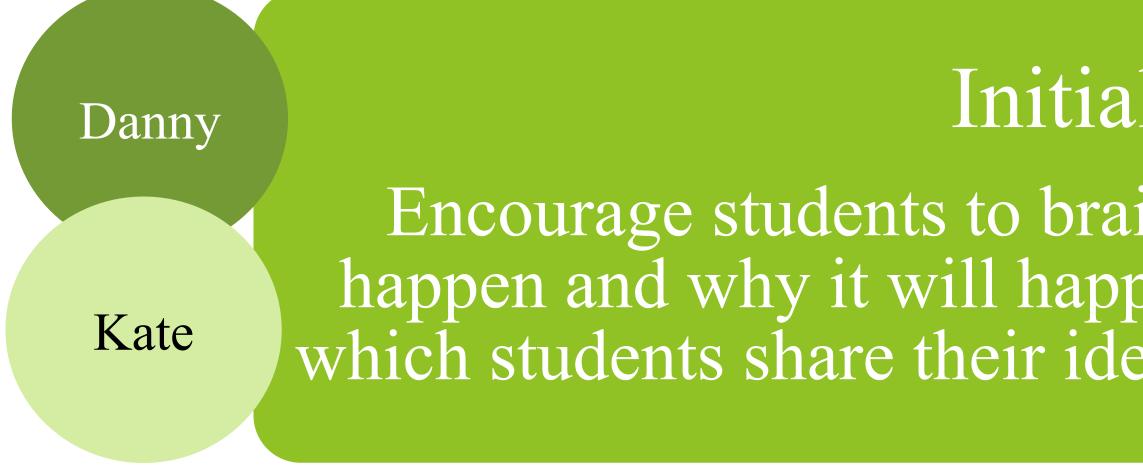
Sensemaking is a teaching practice that makes learning accessible for all students (Brown & Bybee, 2023). Talk moves are one way in which teachers can facilitate and support sensemaking in science classrooms (Wray et al, 2022).

METHODS

- I. Two teachers that were apart of a multi-year professional development project
- 2. Lessons from each teacher were recorded
- 3. Classroom video, audio, and transcript data were analyzed
- 4. Phase I Coding: flagging moments of teacher-student interaction
- 5. Phase II Coding: categorizing each moment under a specific talk-move

Teacher	Race/sex	Grade- level taught	Subject
Danny	White, male	High school	Advance- placement (AP) chemistry
Kate	White, female	Middle school, 8 th grade	Biology for high school credit

Talk Move	What it means	Example
Asking for evidence	 Seeking justification from the student; press for examples 	Why do you think that?
Cross talk	Teacher-guided student • conversations	Do you agree with what said? Can someone add to what said?
Rephrase	student said	So, what you're saying is When you say do you mean?
Say more	 Following up on a student's ideas; building off their initial thoughts 	Tell me more. What makes you think that?



Completing the activity

Various talk moves are used to guide the students' thinking without giving them the answer. Prompt the students to recall previous concepts to build their explanation.

Drawing conclusions and reflecting on understanding

Students use the data they collected from the activity to formulate claims and explain the phenomena that occurred.

Danny

Danny

Kate

Kate

Initial probe

Encourage students to brainstorm what they think will happen and why it will happen. Involves "partner talk" in which students share their ideas with their peers and teacher.



RESULTS Both Kate and Danny followed a similar pattern when delivering their lesson. Each activity started with an initial probe, followed by the completion of an activity, and ended with the students drawing their conclusions and reflecting on what they learned based on the data they gathered. Through all phases of their lesson, we see Kate and Danny engage in various talk moves to support their students sensemaking.

CONCLUSION Researchers have previously described the need for learners to engage in rigorous and authentic science learning opportunities (Brown & Bybee, 2023). In the case of Kate and Danny, we see a similar structure of the lesson and talk moves. These similarities might stem from being in the same PD cohort. Where the goals of sensemaking through talk were emphasized. In these lessons using talk moves, we see the beginnings for students to have opportunity to build on past learning experiences and construct new foundations for their learning.

Wray, K. A., McDonald, S., Lee, H.-S., & Pallant, A. (2022). Using teacher talk moves to help students talk like scientists. *Science Teacher*, 90(2), 56–60.

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SELECT REFERENCES

Brown, P., & Bybee, R. (2023). Promoting sensemaking. Science and Children, 60(4), 30-33.