Oracy: learning to talk and learning through talk

Oracy is a set of skills which allow us to communicate effectively and encompasses learning to talk and learning through talk; both involve **speaking and listening**. Learning **to** talk should lead to learning **through** talk. The aim is for learners to articulate their mathematical thinking, to make it clear to themselves and others, and to make sense of the mathematical thinking of others, developing a relational understanding of the mathematics[1]. To achieve this, teachers will need to support exploratory talk[2], use dialogic teaching[3] and 'orchestrate productive mathematical discussion'[4].

Learning to talk includes:

- Establishing the psycho-social conditions which encourage and support exploratory talk; a classroom ethos that supports communities of learners where everyone's voice is valued, all learners have the potential to influence others and consensus building is central to lessons. This may involve:
    - Supporting all learners by addressing/removing feelings and thoughts that act as a barrier, by saying:
        - What's your **first** thought?
        - What **could** you do? What **might** work?
        - Imagine you are the sort of person who could do this, what would you do?
        - What would Batman/Elastigirl do?
    - In response to other learners, learners use sentence starters and questions:
        - I agree/disagree because…
        - I think differently…
        - I'm not sure but …
        - Can I make a suggestion?
        - Can I ask a question?
        - Do you mean…?
    - Deliberate positioning of both the teacher and the speaker during episodes of both 'private talk' and 'public conversation'[5]:
        - During private talk (in pairs/trios) teachers:
            - Provide space for talk without intervening, sitting and noting from a distance
            - Move around, listening in to select and sequence contributions for public conversation
            - Prime learners so that they can rehearse their thinking before speaking publicly
        - During public conversation (large group/whole class)
            - Speakers stand up in their place or come to the front so that they are prepared to speak publicly, and other learners know where to focus their attention
            - Teachers position themselves across the class from the speaker to encourage projection so that everyone can hear
    - Talking about talk, explicitly identifying aspects of talk useful to the group:
        - I am listening out for people who…
        - Reproposal[6]: I heard…say…
        - Praising talk, distinctly from mathematics: I like the way you started by saying…
- Being supported to articulate thinking in full sentences. This may involve:
    - Using sentence starters such as:
        - I notice…
        - I think…because…
        - I know…
        - I wonder…
    - Repeating well-structured sentences spoken by other learners and adults.
        - Attend to precision in repeating before rephrasing. Ask 'Is that exactly what you said?'
    - Creating meaningful sentences employing both mathematical and everyday vocabulary.
        - Requiring use of given words and phrases such as:
            - Describe the fraction using the word 'divided'.
            - Explain what you notice about the pattern using the word 'multiple'.
        - Being specific and avoiding the use of pronouns:
            - Saying 'The numerator is seven' rather than 'It is seven'.

Learning **through** talk includes:

- Establishing the cognitive conditions where there is something mathematically worthwhile to talk about by providing mathematical experiences that provoke thinking. This will involve:
    - Providing time and space for children to think and articulate their thinking:
        - Allowing thinking time before talking
        - Expecting all learners to share their mathematical thinking
        - Asking authentic questions
        - Praising thinking distinctly from correctness
- Teacher modelling thinking aloud with careful, precise use of language.
- Exposing, accessing, and understanding mathematical structure. This may involve:
    - **Careful use** of stem sentences, spoken in full by learners, with a focus on mathematical structure such as:
        - To find one ... of a shape you divide it into ... equal parts.
        - I have…one tenths. I have… tenths.
        - There are ... rows of... There are...altogether.
    - Repeating
        - Drawing attention to a response that exposes something about the mathematics and ask the class or an individual to repeat this response word for word.
    - Rephrasing
        - Can you explain what Megan said in your own words? Megan, is that what you meant?
    - Consensus building[7]:
        - Making sense of the appropriateness of strategies that are presented
        - Examining how presented strategies are both meaningful and efficient
        - Connecting different strategies presented
        - Extracting the general rule that can explain the differences in the presented strategies
    - Creating generalisations together such as:
        - For unit fractions, the larger the denominator, the smaller the fraction.
        - Angles which meet at a point on a straight-line sum to 180 degrees.
- Mathematical questions arising from students. This may involve:
    - Clarifying understanding linked to the learner's responsibility when listening.
        - Using sentence starters and shared questions such as:
            - Why does…?
            - Can I ask a question?
            - What do you mean by…?
    - Clarifying understanding linked to the learner's responsibility when speaking:
        - Does anyone want to ask me a question?
    - Questions prompted by the mathematics:
        - Will it always be …?
        - Does that always happen?
        - What would happen if…?

Reference notes:

[1] Skemp, R. R. (1976). Relational understanding and instrumental understanding. Mathematics Teaching, 77, 20-26.

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[3] Alexander, R. (2008) Towards Dialogic Teaching: Rethinking Classroom Talk, Dialogos

[4] Smith, M. S., & Stein, M. K. (2011). 5 practices for orchestrating productive mathematics discussions. Reston, VA: National Council of Teachers of Mathematics.

[5] Askew, M. (n.d.) Private Talk, Public Conversation available online: http://mikeaskew.net/page3/page5/files/Privatetalkpublicconverse.pdf

[6] Parker, C. 2001. In Experiencing Reggio Emilia: Implications for pre-school provision, ed. L. Abbott, and C. Nutbrown, OUP.

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