

5th Grade Reflection on Thinking Lesson Study

September 29, 2020

Research Question:

Supporting students to reflect on and communicate thinking to advance in learning



The lesson study team hypothesized that the following actions would be important elements in supporting students to reflect on and communicate their thinking. Each hypothesis is listed below followed by the team's reflection.

Hypothesis 1 – Initiating shifts in discourse to promote reflection

One of the primary ways teachers can promote mathematical development is to initiate shifts in the discourse such that what was previously done in action can become an explicit topic of conversation.

Hypothesis 2 – Questions to cause cognitive reorganization

Teachers can use questions to offer or invite students to step back and reorganize what has been done thus far.

Hypothesis 3 – Modeling students' thinking

Teachers should model students' thinking as it plays an important role in facilitating collective reflection on the prior activity.

Hypothesis 4 – Individual reflection

Individual reflection/assessment can be used to provide insights to the teacher and give students opportunities to reflect on their thinking. The teacher provided many opportunities for students to share their ideas and get ideas from others.

- Asking questions that are deeper thinking questions promote reflection and help students to shift into thinking about what they're thinking.
- Asking students to verbalize their thinking either orally or in writing, including mathematical models.
- Teachers should be modeling students' thinking so that students can examine their own ideas.
- Re-voicing higher level ideas, followed by turn and talks
- Asking students to make connections between various representations (visual, symbolic and verbal)
- Asking students to think and talk about what another student just said ("What does he mean, How does he know that?")
- Allowing students to work in pairs and giving them the time to think and talk together enables the conditions for students to engage in reflective discourse.
- Establishing an environment where students realize that doing mathematics involves convincing each other that their ideas work stimulates opportunities for reflection, particularly when students know that they can change paths if they are moving in an unproductive direction.
- Students were using each other's models to reflect on their ideas and use those models as objects of discussion.
- Because the task supported the likelihood of modeling the situation, students could examine their models in pairs and treat them as objects of discussion.
- Allowing students' time to think is a necessary action to allow for reflection.