

RE4MUL8 Project Video Discussion Questions

RE4MUL8 Themes > Problem-Based Learning (PBL) [12 minutes]

1. Amy and Dan both discuss how PBL affects student **confidence levels**? What did they observe with students in the class during PBL lessons?
2. How did Ted use a building/construction metaphor regarding classroom **pacing**?
3. What did Deb note about **observing participation** in PBL classes throughout the board?
4. How did Kathy describe the effects on **student engagement** in her classes when using PBL? How might lower-achieving students (e.g., chapter tests) fare in this kind of context?
5. Jodi mentioned that when asked to compare experiences, **student preference** was for the collaborative PBL approaches. What kinds of different reasons may account for this?
6. Richard describes how PBL can allow for **expectations from various Strands** to be covered within the same lesson. Do you think this is advantageous or distracting for students/teacher? How might this change the way teachers view the math textbook?
7. Richard also noted, “It’s about **working smarter**, not adding more to the curriculum.” How can using PBL lessons help to cover the math curriculum in less linear ways?
8. Liz talks about developing a “**culture of acceptance**” where **risk-taking is the norm**. How might one establish this kind of culture in one’s classroom using PBL?
9. Anne notes an observed “**increase in independence**” among students during PBL sessions (e.g., students do not need to wait with their hand up to ask a question of the teacher during lessons). Why is this ability to discuss thinking/questions with others key?
10. Jason said that “students are excellent at **scaffolding for each other**.” What does this mean? Why was he surprised to see this—what did he/others expect students to do?
11. Jason also noted that **classroom management** actually becomes less of an issue, over time, when using a PBL approach. Why, and in what ways, might this be true?
12. Ross stressed that slowing down enough to **listen to students explain/discuss** is important, yet very difficult for teachers to do. Why is this listening so challenging for educators, and how might it relate to good **teacher questioning**?

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RE4MUL8 Themes > “Messy Time” Transition: Balancing Instruction [20 minutes]

1. Ted described how in speaking with his students he conveys the idea that “we are all in this together,” helping them to understand that **he too is learning** as a teacher. Important?
2. How does Ted explain the elementary teacher’s perspective on covering many different topic/subject areas during any given day/week? Where might **active learning** happen?
3. Anne discussed how in the past she may have **explained more** and even, on occasion, “grabbed a pencil” and **completed questions** for students. Was this approach effective?
4. Anne also noted that “**wait time** is huge” in terms of observing where students will take a problem. She stated that PBL is, in a sense, rather “risky” for the teacher. Why so?
5. Liz had just begun to use PBL in her classroom. She noted that **students were often more comfortable with the technology** than she was. How might this be a positive item?
6. Dan noted that one of the biggest issues that he sees with teachers, as a coordinator, is the **lack of content knowledge in mathematics**. How had they helped teachers here?
7. According to Amy, **some topics/units lend themselves more easily** to a PBL approach. What math topics may be more readily explored in this way? Can all/most topics work?
8. Ross denotes a tension between “**efficiency versus student thinking/understanding.**” He noted that it’s easier to “tell a student” than allow them to explore. Why so frustrating?
9. Jason said that he often provides a number of manipulatives for students to access, allowing them to **select the tool(s)**. How does this approach relate to the Math Processes?
10. Ross makes a very interesting point about how teachers sometimes avoid PBL because **certain students are distracted and off-task**—yet he argues that this also happens in more traditional contexts as well, but is far less noticeable. Should this deter teachers?
11. Deb mentioned that moving from a focus on “a bunch of questions, to **one really good question**” (i.e., problem focus), is significant yet also hard for teachers. Why may that be?
12. Kathy made the point that even when internet/print resources are made available, they always still require **personalization**. How does this process allow for teacher growth?
13. Ann suggested that “teachers **start with small activities,**” and then build up to larger group problems. How does this “gradual release of responsibility” help the teacher grow?
14. Jodi claims that this way of teaching math is **much more fun**, and that she often sees students approaching problems in ways she would not have thought of herself. Response?
15. Richard notes that some elementary teachers struggle with PBL because they **lack math content knowledge**, while others with math degrees may also struggle because they have a **very specific view of how math should be taught** (i.e., how they were successful as a student in K-12). How can, and why should, both types of teachers be encouraged to try PBL methods in mathematics classrooms?