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Student Learning: Process vs. Product

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Research Question:

How can I implement student-centered lessons and engage students in the learning process?

Student-Centered Teaching: A wide-variety of teaching practices which shift the focus of instruction from the teacher to student, so the students are at the center of learning.

Literature Review:

- Daniels & Perry (2003) note that learner-centered practices place an emphasis on providing activities that are developmentally appropriate and specifically created with the students interests in mind.
- Sengupta-Irving & Enyedy (2015) characterized mathematical strategy talk as richer in open classrooms, and that student engagement increased in terms of flexibility when working on a task to students taking initiative when collaboratively defining, addressing, refining, and resolving their thinking.
- Voss & Rickards (2016) found that by making content relatable to the real world, students became more invested in their learning and took initiative to learn more

Methodology:

- 19 fifth-graders from a suburban school were participants.
- Lessons from *Everyday Mathematics* were taught daily. Topics include: place value, exponents, division, fractions, and decimals.
- Field notes, lesson plans, and student work were collected as data sources.
- Techniques from Ryan and Bernard (2003) were used to analyze field notes and lesson plans. Student work was analyzed last with previous findings already in mind.

Results and Data Analysis:

- Students were engaged when content was accessible to their skill sets and when activities interested them.
 - *Behavioral engagement* was seen most frequently, especially when students felt confident in their own abilities.
 - *Cognitive engagement* was not seen as much as behavioral, but was often demonstrated by a select students consistently.
- When forced to go through the learning process, majority of students demonstrated understanding of the concepts.
- Given opportunities for collaboration in the form of partner or small group work, students interact and learn from one another when all parties involved are behaviorally and cognitively engaged.
- Reasons for disengagement ranged from students not listening to directions, to not understanding the activity, to the concepts not making sense, and to them not wanting to get the wrong answer.

Conclusion:

- Students demonstrated increased behavioral engagement, and occasional cognitive engagement when student-centered practices were utilized.
- There are many student-centered strategies already in place in the traditional classroom: collaboration, process discussions, placing responsibility on the students.
- Limitations include time restraints regarding the length of the study in the classroom, and missing data in terms of details in field notes and student work collected.
- Further research should be done looking into strategies targeted at encouraging each type of engagement, rather than engagement as a whole.