Differentiating Instruction with Middle School Students

Amy Hackenberg, ahackenb@indiana.edu
Mark Creager, macreage@indiana.edu
Robin Jones, robijone@indiana.edu
Ayfer Eker, ayeker@indiana.edu
Ryan Timmons, rtimmons@indiana.edu
Patti Walsh: pwalsh@mccsc.edu
Marie Johannisson: mjohanni@mccsc.edu

Lower Prep Strategies

• Small group check-in and instruction (rotate who is in the small groups—should not always be the students who struggle or who are seen to struggle)
• Open Questions (see next page); however, these may also be higher prep
• Choice Questions (see next page); however, developing a rationale for number choices may not be low-prep
• Number Talks (Humphreys & Parker, 2015)
• Student-teacher goal-setting
• Varied supplemental materials
• Giving variable amounts of time for tasks, assessment
• Check-ins: Fist to 5, thumbs up/down/in the middle, 4 highlighter colors on assignments for “no clue” to “understand like a teacher”, exit cards
• Mini-workshops (if you see more than 4 or 5 students with the same misconception as they’re working, stop the class, gather them in a dedicated spot and teach a mini-lesson to clear up the concept)
• Homework checkers (groups of 4 check homework, mark problems based on agreement or disagreement, explain any misconceptions they have cleared up, staple all 4 papers together and turn in. Students who did not complete homework sit apart from the checkers and complete it. Teacher grades one paper at random from the group)
• Personalizing problems (can spark interest, conversation)
• Giving different homework options
• Varied pacing with anchor options (anchor activities are specific activities to do when finished with assigned work)
• Flexible seating
• Options for modes of expression
• Varied scaffolding on the same organizer (provide a single organizer document to all students, but fill out different information for different students)
• Let’s Make a Deal projects (students can propose alteration of parts of a larger project, getting teacher’s approval before following altered plan)
• Think-Pair-Share by readiness, interest, learning profile (students work alone, then share ideas with one person, then share out to a larger group)
• Bell work can be differentiated and can be graded together—formative assessment where students get to participate in grading and evaluating and advising
• Having students explain thinking, compare responses
• Provide solutions to check work at different places in the room and then can see who is checking and what they are having difficulty with
• What else?

Many of the ideas on the above list are from Carol Tomlinson, How to differentiate instruction in mixed-ability classrooms p. 34. Some come from the brainstorming of the Teacher Study Group in July 2015.
Higher Prep Strategies

Open-ended problems and requests for two solutions

- Problems that invite multiple solution pathways
- Problems students can solve in multiple ways
- Can have a single answer
- Put constraints on the problems so that they are problematic/get at concepts not just procedures
- Example: If I can exchange 3 euros for $4, how many euros can I exchange for $28? Give two different ways to find your solution but do not set up a proportion and “cross-multiply.”

Open Questions (Small & Lin, 2010)

- Questions or problems for which a variety of responses are possible, including more basic responses and more complex ones (Small & Lin, p. 7).
- Typically have many answers
- Can spark good mathematical discussions, in part because many students can contribute.
- Example: You describe a situation with the expression 5x. What might the situation be (Small & Lin, p. 23)?

Choice Questions and Parallel Tasks (Small & Lin, 2010)

- Questions in which the teacher provides choices and students choose
- Limit the number of choices (3 options for numbers in Choice Questions, 2 options for Parallel Tasks)
- Let students choose, but can make recommendations after they have worked on their choice
- Example of a Choice Question: Sara bought a sweater on sale. It originally cost ($75.50, $80, $92.75). It had been marked down (10%, 15%, 22%). What was the sale price? Draw a picture to determine your answer and explain your solution.

Tiered Instruction

- Different activities tailored to different ways/levels of thinking in a heterogeneous classroom
- Teacher assigns students to activities—so here the teacher makes choices about what students will work on (in contrast with Choice Questions and Parallel Tasks)
- Activities should be focused on the same big ideas or key concepts

Learning Contracts

- An agreement between teacher and student
- Grants students certain freedoms and choices about how to complete a task (Tomlinson, p. 106)
- Includes specific expectations for students

Resources:


Carol Tomlinson's website: http://www.caroltomlinson.com/