

Teacher Guide: Interest Interviews to Promote Math Belonging and Utility

Time: 15 minutes

Audience: Teachers of secondary students

Research citation

- Walkington, C., Sherman, M., & Howell, E. (2014). Personalized learning in algebra. *Mathematics Teacher*, 108(4), 272-279. doi:10.5951/mathteacher.108.4.0272. https://www.researchgate.net/publication/266735529_Personalized_Learning_in_Algebra
- Matthews, J. S. (2018). On mindset and practices for re-integrating “belonging” into mathematics instruction. TeachingWorks working papers. http://www.teachingworks.org/images/files/TeachingWorks_Matthews.pdf

Research background

- Students who received math problems personalized to their interests performed better and learned faster than students who received generic problems.
- The positive effects of receiving a personalized problem were the greatest when students were working on difficult problems. Using personalized problems proved particularly effective for students identified as those struggling in math.
- Personalizing problems uses students’ interests to elicit their beliefs about the utility and usefulness of math, which can lead to a deeper level of engagement and persistence with math concepts.
- Personalizing problems helps make abstract concepts more concrete and understandable. This can help students improve their ability to choose how they approach a problem and to judge whether their strategies and solutions are reasonable.
- Personalizing problems also promotes students’ sense of belonging in the math classroom. When teachers take the time to learn about their students’ interests and meaningfully incorporate those interests into the classroom, this signals to students that they belong and are an accepted and valued member of the math classroom community.

Timing	Topic/Steps/Activities	Teacher Notes
1 minute	<p>Individual think time prior to activity</p> <ol style="list-style-type: none"> 1. Provide students with a list of interview questions and ask them to prepare their answers as homework. 	<p><i>This allows students time to think and brainstorm their answers prior to conducting the interviews. You also can provide students with think time during class as an alternative to assigning this as homework.</i></p> <p><i>A list of questions is included at the end of this guide. You can use the questions on this list or adapt them to fit your needs.</i></p>
5 minutes	<p>Partner interviews</p> <ol style="list-style-type: none"> 1. Group students into pairs. Each student will take a turn interviewing their partner. The interviewer should record the interview using either a provided audio recorder or a cell-phone. 2. Allow Partner One five minutes to interview Partner Two. 3. After five minutes, switch and allow Partner Two five minutes to interview Partner One. 4. Have students submit their audio recordings to you at the end of class. 	<p><i>After you've reviewed the submitted interviews, use the data to create personalized problems for students and facilitate group discussions.</i></p> <p><i>This activity should be more than just a getting to know you activity. Do not do this activity if you're not sure how to use— or do not plan to use—the information you collect. If you ask for students' input and then do not use it, this can cause students to lose trust and agency.</i></p>

Sample interest interview questions

- How have you used math in your life in the past two weeks?
- What is your favorite thing to do in your free time?
- Do you like to play or watch any sports? If so, which ones?
- What is something you and your family like to do together?
- What do you use your phone for most often? How many hours per day would you say you are using your phone?
- What's something you're saving up for or that you'd really like to buy? How much does it cost and how do you plan to save the money to buy it?
- Where did you last go out to eat? Do you remember the cost of what you ordered? How much was the total bill?
- What's something you're really good at outside of school? How do you use numbers during this activity?
- Where is a place you'd really like to visit?
- Tell me about the last time you used math in your everyday life outside of school.