

Not All (Former) Friends Are the Same

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Mathematics is often perceived to be a purely logical abstract field with no space for creativity, negatively impacting students' confidence and engagement (Boaler, 2016). Personification, attributing human characteristics to something nonhuman (Abrams & Harpham, 2012), helps students reflect on their personal relationship with mathematics and provides instructors insights into their students' mindset (Zazkis, 2015). By asking students to personify mathematics, educators encourage students to describe math as if it were a person in their lives, revealing their perceptions of the subject (Zazkis, 2015).

In this study, we analyzed students' perceptions by examining their responses to a personification prompt at the beginning and end of a Math Reasoning for the Arts course. Using Zazkis' (2015) framework of Monsters, Lovers, and Former Friends, we analyzed 80 pre- and post-personification responses across five semesters, identifying additional themes. We are still currently analyzing the data, however, preliminary results revealed categories such as Perfectionist, Mentor, Sibling, Antagonist, Current Friend, or Acquaintance. Additionally, we identified an extend theme of "Former Friends" that was combined with either Antagonist, Current Friend, or Acquaintance.

Out of 80 responses, 30 classified math as a Former Friend, defined as a friendship that has turned sour or dwindled, sometimes with the hope of mending, where an identifiable shift in or separation of the friendship is seen. Of these 30, the responses fell into one of three categories. Antagonist: (60%, n=18), where math is perceived as a bully who is hurtful, but not cruel; there is no intention of mending the relationship. Acquaintance (37%, n=11), where math is acknowledged as present in their life but is not considered a friend; there is no personal relationship. Current Friend (3%, n=1), where the friendship with math has been rekindled, or was maintained through hardships. These three extended Former Friend categories reflect distinct ways students perceive their evolving relationship with math, serving as a foundation for examining whether and how these perceptions shift over time. Building on this categorization, we investigated changes in students' views at the end of the Math Reasoning for the Arts course, after they had been exposed to mathematics in relation to art, music, and history.

Preliminary results indicate the following shifts in perception: Positive/Positive (49%), students express a new appreciation for math; Positive/Neutral (10%), students gain some respect or awareness; Neutral/Positive (23%), students show little change but develop a different perspective; Neutral (3%), students report minimal change in their feelings; Negative/Negative (1%), students feel worse and see no positive aspects; and No Change (14%), students continue to feel the same. Additionally, the content and structure of the Math Reasoning for the Arts course will be included in the presentation.

References

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