

Identify Functions: Considerations for Teaching



Watch this video of two students working on an Identify Functions activity similar to the one you just completed. [Note: for our purposes today, the video is set to start at a certain moment rather than the beginning.]

[Watch Video Clip #1](#)

One mapping in particular caught their attention, the mapping of b to b' where b' “doesn’t move”. Next observe two other groups of students engaging with this same mapping. As you watch the video clips, pay close attention to the students’ thinking.

[Watch Video Clip #2](#)

[Watch Video Clip #3](#)

Below are the questions we pose to PSTs in the activity. Briefly discuss each with your group. (You do not need to record responses.)

Q1. For each video clip summarize what the group of students is thinking about with respect to the mapping (e.g., what do they understand and what are they struggling with).

Group 2 - All groups seemed to get the idea that if it maps to more than one point it is not a function. All groups seemed bothered, to different degrees, that b' didn’t move. The first group brought up the origin. Second group mentioned a straight line. Third group said something about not being able to cross a line and not being able to get the 2 points to meet.

Group 5 -

- Spent time in video 1 trying to match a with an a' .
- Trying to identify an algebraic expression. Since b' didn’t move, what does that mean? Linear? Function or not?
- Video 3-Felt b is a function b/c a wasn’t.

Group 6 -

Group 7 -

- Video 1 - They seem to quickly get that the one that maps to one point is a function. They don't clarify if the other one is or is not, but are interested in what the relationship is between the indep.Var and all of the other points; They noticed that one of the dep var could mbe the same as the independent, where the other too could not be the same.
- Video 1 - In the screen where there is a constant function, they say this is a function, but are confused as to how b' can stay in one point. They relate it to the origin on a cartesian plane; they focus on if/how the indep and dep variable can overlap each other; They talked about it being a reflection of some sort.
- Video 2 - b must be a function because a is not. One student says it is probably a straight line.
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- Video 3 -

Group 8:

- Students focused on "what is the equation that would go with it?" If $x' = 0x$ then it's ok. Discussed the origin.
- In the last part of the activity they had a problem with c never coinciding with c'
- Some students were not bothered that b' did not move when b moved (others were more bothered)
- Talked about a "straight" line.

Q2. For each video clip imagine you had just walked up to the group of students and observed them doing this work first hand. Note what questions you would ask these students and why.

Q3. If you were going to have the three groups discuss their ideas about this mapping with the class, in what order would you have them present? Why?

If you have any comments / questions about the Considerations for Teaching Activities, please post them below.