**Background on the Use of Scripting Tasks in Teacher Education**

- Scripts or dialogues used in teacher education as a representation of practice constructed by the teacher educator (Zazkis & Herbst, 2018).
- Scripts or dialogues have several affordances—adding the illusion of reality and revealing character and relationships (Zazkis, 2018).
- In scripting tasks, teacher candidates (TCs) are presented with a classroom scenario and asked to write a script, showing how they might continue the discussion (Crespo et al., 2011).
- Serve as an “approximation of practice”—enacting teaching in focused situations of reduced complexity (Grossman et al., 2005).
- Existing research has focused on TCs’ mathematical and pedagogical knowledge and skill (Buchbinder, 2018; Campbell et al., 2019; Rougée & Herbst, 2018).

**Motivation and Framing**

- TCs’ “imagined” students’ mathematical reasoning and participation, though this has not been the focus of research (Zazkis, 2018).
- In this exploratory work, we begin to consider how TCs’ scripts, with a focus on the way student-characters are represented, serve as a window into:
  - Vision of teaching and classrooms (Munter, 2014).
  - Understanding of students as interacting in classrooms with mathematics (Hammemes et al., 2005).
- TCs’ scripts as representing *figured worlds*—“socially and culturally constructed realm[s] of interpretation in which particular characters and actors are recognized, significance is assigned to certain acts, and particular outcomes are valued over others” (Holland et al., 2001, p. 52).
- Research Questions – How do TCs’ represent student voice in scripts of whole-class mathematics discussions? What do those representations suggest about the figured world of the classroom being referenced?

**Study Context and Data Collection**

- Ongoing research and practice collaboration situated in secondary mathematics methods courses at two large, public research universities.
- Use of “practice-based pedagogies,” such as coached rehearsals and scripting tasks, with a focus on facilitating whole-class discussion and responding to student “errors”.
- Among a broader set of scripting tasks, TCs (n = 27) responded to the “Interpreting Graphs” scenario three times during the Fall 2019 semester, collected using Qualtrics.
- In the scenario, a student (“Foster”) shares an incorrect interpretation of the graph to start the whole-class discussion.

**“Interpreting Graphs” Scripting Task Scenario**

- *Context:* A class of algebra students have been working on the mathematical task at below.
- *Goal:* The teacher’s goal is to help students interpret distance-time graphs with particular attention to the meaning of slope in this context (distance-time graphs).
- *Discussion:* After students have had an opportunity to work in small groups, the teacher brings the whole-class together for a discussion.
- *Teacher:* Who would like to share their description of Tom’s journey? Foster, thanks for volunteering.
- *Foster:* Tom walked up a hill, down a hill, and up another hill to get to the bus stop.
- *Task:* Imagine that you are the teacher. Write the next 5-8 lines of dialogue for how you would continue this discussion.

**Analysis Methods**

- Evidence for a figured world found in the content of students’ and teacher’s talk and actions (Esmonde & Langer-Osuna, 2012).
- Focus on student dialogue, though understood in context of actions from the teacher-character.
- Open coding of entire scripts done individually with focus on analytic questions, in particular: Who are the student characters? What are their duties, obligations, and/or rights?
- Initial coding collectively discussed to create an emerging codebook.
- Memoing highlighted themes within and across codes and scripts.

**Preliminary Findings from Analysis of Set of Initial Scripts**

- The Foster-character was the only student presented as being able/expected to share incorrect ideas.
- The Foster-character was often represented as giving short responses to closed questions; other student-characters were represented as giving correct and “fully fleshed out” reasoning.
- Student-characters were always represented as fulfilling a duty to respond “on point” and without hesitation (even if incorrect).
- Student-characters were not represented as having the right to interact with other students unless mediated by the teacher-character.
- Other student-characters were represented as having the right to disagree with Foster by providing a correct interpretation.

**A Case of a Set of Script Responses from One TC**

<table>
<thead>
<tr>
<th>Initial Graph Script</th>
<th>Teacher: That’s sounds possible. Why do you think there must have been hills involved and he can’t have just been walking on level ground?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foster: If he was walking on flat ground his distance from home wouldn’t have had the spikes, and it wouldn’t have gone back down after it got to 100m.</td>
<td></td>
</tr>
<tr>
<td>Teacher: Can anyone else tell me what they think of Foster’s explanation?</td>
<td></td>
</tr>
<tr>
<td>Someone else: I don’t think it makes sense because even if he is walking up and down hills it still will still be away from home the entire time, and in this case gets closer to home again.</td>
<td></td>
</tr>
<tr>
<td>Teacher: So what was your explanation?</td>
<td></td>
</tr>
<tr>
<td>Someone else: I think that he could have been walking on flat ground and it didn’t have to be a hill. He could have dropped something on his way to the bus and then he had to go back home before he stopped and picked it up.</td>
<td></td>
</tr>
<tr>
<td>Teacher: Foster, what do you think of their explanation?</td>
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<thead>
<tr>
<th>Revised Graph Script</th>
<th>Teacher: That’s sounds possible. Why do you think there must have been hills involved and he can’t have just been walking on level ground?</th>
</tr>
</thead>
<tbody>
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<tr>
<th>Follow-up Graph Script</th>
<th>Teacher: Can you expand on your thinking please?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foster: If the graph is going upward that means that he is walking up a hill. Then when it switches to going down, he’s walking down the hill. Then it switches again to up, and he’s walking up a hill.</td>
<td></td>
</tr>
<tr>
<td>Teacher: Does anybody see where Foster’s character has the right to do this?</td>
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</tbody>
</table>

**Analytic Observations from Case**

- In the Initial Script, students are represented mostly in ways consistent with many other scripts from the cohort, except for Foster being presented as able to explain his interpretation thoroughly in Turn 2.
- Revised Script depicts changes that represent the Foster-character as able to “stick” to his answer in Turn 4, even in response to a leading question from the teacher.
- Multiple students represented as able to interact with one another without needing to be mediated by the teacher (Turns 4-6).
- Foster-character represented as obliged to listen to other students, make sense of their ideas, and use those ideas to reconsider his own (Turn 6).
- Follow-up Script represents a similar right for student-student interactions (Turns 4-6), as well as the Foster-character’s right to continue to stand by his original reasoning (Turn 6).

**Discussion and Conclusion**

- Prior work on scripts focused on teachers’ pedagogical skill—such as the use of particular moves—including changes over time.
- Those moves rely on the student-character in the script upholding a given set of duties, obligations, and rights.
- Disparities between TCs’ enacted practice in scripts versus enacted practice in classrooms may be due to different student roles playing out in the interaction.
- Focusing on TCs’ representation of student voice—and the role of student—in scripts provides insight into the figured world in which they imagine enacting their practice.
- Can serve as another way to understand TC development over time.