Using Teacher Moments During the COVID-19 Pivot

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Teacher Moments is an open source resource for teacher educators to create and use practice-based simulations in teacher education. Teacher Moments may be used to create digital clinical simulations (DCS) which are defined as opportunities for improvisational interaction with scripted character(s). During the COVID-19 crisis, we implemented an equity-based simulation created by a teacher educator. Results demonstrate the utility of the system for surfacing student perspectives which, in turn, provides opportunities for deeper discussion and reflection.

The spread of the coronavirus disease (COVID-19) in early 2020 has forced K-12 institutions around the world to quickly pivot from in-person to remote teaching and learning. This change is likely to have an unduly negative impact on our most vulnerable students, including young people with disabilities, from disenfranchised racial and ethnic groups, and those from poverty-impacted families who disproportionately lack access to reliable Internet and digital devices, and may be less likely to have parents who can actively support their learning at home (Reich et al., 2020). As the current pandemic exposes existing equity challenges and surfaces new ones, K-12 teacher preparation must have a parallel shift. In this study we report on the use of an existing online platform called Teacher Moments. Teacher Mo-
ments is a web-based environment that provides pre and in-service teachers’ opportunities to author and engage with text-based scenarios that simulate real-life teaching dilemmas related to issues of equity.

Teacher Education Simulation Environments

There are a variety of approaches to using simulations in teacher education from simulated conversations through role-play in the classroom (Kilgour, Reynaud, Northcote, & Shields, 2015) to digital approaches that can become as complex as products like Mursion which use virtual reality (Hudson, Voytecki, & Zhang, 2018; Peterson-Ahmad, Pemberton, & Hovey, 2018). We distinguish Teacher Moments as an open source, online authoring platform for digital clinical simulations (DCS) which are defined as opportunities for improvisational interaction with scripted character(s). Participants interact through text and audio with the online system. Teacher moments simulations follow a simple linear path meaning all participants go through the same set of interactions in the same sequential order. While this positions the story of the simulation as lower in terms of complexity it is a strength in that it makes authoring the simulation similarly straightforward (Hillaire et al., 2020).

Simulations authored in Teacher Moments\(^1\) provide teacher candidates with opportunities to practice predictable high-stakes interactions in a low-stakes setting. The simulations provide pre-service teachers the opportunity to think through and respond to situations they may encounter in the classroom, and therefore, develop a deeper knowledge of the demands of teaching as a practice (Grossman, et al., 2009). Teacher Moments is currently supporting the COVID-19 pivot to online teaching and we used the system in a spring, 2020 pre-service teacher education class that moved from face-to-face to an online presentation in a matter of days. The scenario featured in this study was created by the first and second authors. The simulation focuses on supporting a student affected by trauma, a scenario for which teachers require practice to handle appropriately; specifically, teachers need to be prepared to identify and respond to signs of trauma in their students, in part to avoid pathologizing trauma and perpetuating class- and race-driven oppressions (Dutro, 2017). Addressing issues of childhood trauma is high stakes as they are linked with neurocognitive impacts including memory and processing issues as well as interfering with a child’s ability to self-regulate (Zilberstein, 2013).

\(^{1}\) Teacher Moments project description - https://tsl.mit.edu/project/teacher-moments
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Process

Teacher Moments is both an authoring and a simulation environment, teacher educators can set-up accounts within the system that allow them to author a scenario (Figure 1); or they can select an existing scenario with which their pre-service students can engage (Figure 2). In this report, we describe the process of working with an existing scenario. Scenarios are provided textually and they are designed to first provide the classroom context in which the simulated interactions unfold, participants are then asked to anticipate potential interactions and situations that might arise as a result of the context. Next participants enter the simulation and enact their own responses by recording an audio answer in the system (Figure 3). Then participants reflect on the experience. After these activities, students engage in a research survey, and finally they reply to a series of questions that are posed as a “debrief” of the experience (Figure 4).

Practice spaces for teacher preparation programs

Scenarios by Florence

![Figure 1. Teacher Moments’ Authoring Interface Splash Page.](image-url)
An important affordance of the system is that the audio answers students record are automatically transcribed and the teacher educator is able to access participant answers immediately. This functionality allows the teacher educator to scaffold a discussion based on participant answers, and in particular their debrief replies. Breaking decisions down as designed in the debrief section will help a teacher educator evaluate the underlying assumptions of participants’ action (Robinson et al., 2018). This, in turn, supports facilitated equity discussions. In this way, the simulation offers a personalized learning experience for each student that may then be shared with others, such that challenges the students faced in developing a reply to the situation presented in the *enact* pages can be collaboratively discussed by the other participants and knowledgeably addressed by the teacher educator.
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Enact

You circulate around the classroom as students work in pairs on their storyboard. When you get to Naomi and Ivelisse’s table, you overhear Naomi telling Ivelisse that she will be the programmer and Ivelisse should draw the storyboard. You also notice that Jason is looking at the laptop screen and typing something, while Sean works on the storyboard.

How do you support all of the student’s learning and participation at this moment?

Who would you speak with first?

- Ivelisse & Naomi
- Jason & Sean

What would you say to the student group you selected?

- Record your response

Figure 3. An Enact Screen in the Teacher Moments System.

Debrief

What did you notice in the simulation?

How did you interpret what you noticed?

How did you intervene in the simulation?

Figure 4. Teacher Moments’ Simulation Debrief Form.
Recently, 12 teacher educators authored Teacher Moments simulations for use in their classrooms (Hillaire et al., 2020). We authored “Trauma - Bored and Tired,” in which the user practices managing a classroom containing a student affected by trauma. This simulation focuses on the experiences of two pairs of fifth grade students: Ivelisse and Naomi; Jason and Sean. These students are learning to use the computational animation program, Scratch, in their English Language Arts class. Users of the simulation are informed in the context pages that Ivelisse suffers from post-traumatic stress disorder due to early childhood trauma. In the simulation, the participants are provided with scenarios unfolding with both pairs of students and they are asked how they would respond to the various situations of the two pairs. One of the scenarios includes Ivelisse putting her head down on her desk and disengaging from the activity.

Our research questions are as follows:  RQ1: To what extent do participants respond to Ivelisse when she puts her head on the desk?  RQ2: What reasons do participants use to determine to whom they should respond? We piloted the “Trauma - Bored and Tired” simulation in a service learning graduate course that focused on teaching computational thinking to middle school students in an after school setting using robotics and other computational manipulatives. There were seven students enrolled in the course. The simulation was scheduled for the 8th week of the course, by that time, the course had been moved online by the instructor due to the COVID-19 stay-at-home guidance. Six out of seven participants (n=6) completed the scenario of which three (n=3) answered the debrief questions. The scenario takes between 45 – 60 minutes to complete and can easily be implemented during a regular teacher education class period.

Results

To answer our first research question, we present responses to the third Enact prompt. In this prompt, Ivelisse has laid her head on the desk, disengaging from the activity, and Sean has wandered away from Jason to chat with other students. The participants were asked which group they would speak to first, and then what they would say to that pair. Five of the six participants indicated they would speak to Naomi and Ivelisse first. In Table 1 we present the transcribed response of three of the six participants, due to space limitations. As can be seen in the responses, each participant has a different perspective on the students and the classroom situation.
To answer our second research question, we present the debrief responses (Table 2). Three participants completed the three debrief questions (detailed in figure 4).
Table 2  
Participant (N=3) Responses to Debrief Questions

<table>
<thead>
<tr>
<th>Participant</th>
<th>Notice</th>
<th>Interpret</th>
<th>Intervene</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>There were two sets of students who probably needed attention.</td>
<td>I tried to see which situation was more of a priority.</td>
<td>I tried to deal with the pair I thought needed immediate attention, and which could afford to wait a minute or two.</td>
</tr>
<tr>
<td>5</td>
<td>That this really involves deep-thinking</td>
<td>I looked at the simulation very personally. I did not want to make the child sad in any manner and so I really put thought into understanding the situation.</td>
<td>Several times, actually. I spoke to the girl pair several times - by appreciating each of their work, sitting with them and working along with them, and by spending more time with them.</td>
</tr>
<tr>
<td>6</td>
<td>Some situations are very complex and challenging for inexperienced teachers</td>
<td>I really struggle with and don’t know how to respond to some situations in this system.</td>
<td>Try to provide the equal environment for every student.</td>
</tr>
</tbody>
</table>

The goal of the simulation work is to help pre-service teachers practice how they would handle equity-related situations that might arise in their classrooms. In this simulation, the students had the chance to think about how to work with a Latina student who suffers from PTSD. As can be seen through the debrief data, some students were at a loss for how to respond, while others sought to work with students by appreciating their work and working more closely with them. Interestingly, one student remarked that they would like to create an equal environment for students. This last response would be a very important one to follow up on - especially as regards the distinction between treating people equally (giving all students the same thing), versus treating them equitably (giving each student what they need) (Espinoza, 2007). This is a perfect example of how debrief questions can break down decisions to support conversations about equity in the classroom (Robinson et al., 2018).

Implications and Future Research

Teacher Moments simulations provide concrete opportunities for teacher candidates to think deeply about teaching practice. As can be seen in the tables, participant responses reveal student perspectives in unique ways. Because each student has the chance to work through the simulation on their own, both the student and the teacher can reflect on the state of a given students’ knowledge and confidence in a given simulation. These simulative experiences are powerful teaching and learning aids that can improve teacher education and the pre-service teacher’s learning experience. This is especially true for discussing challenging issues related to equity and diversity.
in the classroom. Participant anticipate, enact, and reflect responses coupled with their debrief replies, create a strong picture of participant thinking. Making this thinking visible provides the teacher educator the opportunity to support students in developing as teachers.

Future research will continue to focus on how the system can support pre-service teacher learning through simulating improvisational responses to real world classroom scenarios. We are particularly interested in how the system can be used to meaningfully support discussions of diversity and equity in teaching and public education. For example, what sorts of anticipate, enact, and reflect prompts stimulate participant thinking about issues of race that may arise in a teaching situation? These discussions are particularly important for addressing historical wrongs that continue to reverberate today, as well as for creating classroom environments that honor and reflect the diverse backgrounds of today’s K12 public education students.

Teacher educators interested in authoring context- and content-relevant simulations to help teacher candidates prepare for challenges related to COVID-19 and/or other classroom challenges can benefit from using Teacher Moments. The Teacher Moments project page provides authoring and facilitation guidelines with templates, scaffolds, and supports (see Figure 5) to get started authoring (see Figure 6) for both face-to-face and remote instruction.

Figure 5. Example of Teacher Moments Authoring Supports.

Teacher Moments project description - [https://tsl.mit.edu/project/teacher-moments](https://tsl.mit.edu/project/teacher-moments)


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