Consequential Feedback as a Mechanism of Action in Educational Leadership Simulations

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Evaluative feedback offered by experienced mentors is known to be essential in developing educational leadership, particularly via simulation exercises. However, the role of consequential feedback - naturally arising information about the consequences of learners' actions - has been overlooked as a mechanism in simulation-based learning in teacher education, though it is beginning to be recognized in simulation studies in other professional development fields. We trace how consequential feedback in educational leadership simulations supports educators' understanding of conflict resolution processes. Twenty in-service teachers enrolled in a master's level course on educational leadership participated in 10 role play simulations based on real-world dilemmas brought by participants and acted by class members. Focusing on three role-play scenarios, associated debriefings and participant reflections, we analyze how consequential feedback underpins learning about how to navigate situations that demand effective conflict resolution. By clarifying consequential feedback mechanisms, this study contributes to a richer theoretical understanding of feedback as a driving force in simulation-based learning for professional development, while supporting the design of simulations that intentionally embed consequential feedback.

Keywords

Consequential feedback, conflict resolution, simulation-based learning, educational leadership

Introduction

The use of well-designed feedback is one of the most effective strategies for promoting learning in teacher training (Haughney et al., 2020). Feedback-rich simulation is a powerful pedagogical approach for supporting teachers' professional growth and cultivating leadership skills in ethically complex educational contexts. In simulations, learners engage with authentic scenarios by participating in and observing role-plays, followed by debriefing sessions that provide a safe, structured environment for developing practical skills and professional judgment (Ade-Ojo et al., 2022). To maximize the benefits of simulation learning, learners need to apply theoretical knowledge to practical situations and critically assess their own cognitions, emotions, and actions (Chernikova et al., 2020). Through reflection, they can learn from their mistakes, improve conflict resolution strategies, and improve their ability to navigate educational and teaching challenges.

Johnson et al. (2021) stressed the critical role of learner-centered feedback within simulation-based learning, emphasizing that students derive the greatest benefit from feedback that is personalized, specific, and delivered at moments during the simulation, often involving input from diverse participants, including individuals role-playing patients. The effective enactment of feedback principles, particularly those applied during debriefings, requires explicit attention in practice to optimally facilitate skill acquisition. However, feedback processes are frequently dominated by facilitator-led debriefings, which can inadvertently restrict learner agency, reduce opportunities for active engagement, and constrain reflective self-assessment, thereby limiting the potential for deeper experiential learning supported by the simulation environment. This teacher-led approach contrasts with the principles of assessment for learning, which emphasize learner ownership and peer and self-assessment to actively advance learning (Yan et al., 2023).

Recent developments in feedback theory (e.g., Nicol, 2021) cast a wider net, emphasizing the omnipresence of feedback in learning processes. While evaluative feedback from teachers, facilitators, peers, AI tutors or learners themselves offer judgments, critiques, and suggestions for improvement, the feedback landscape is even richer than has typically been discussed. Quinlan and Pitt (2021; 2024) re-introduced the concept of *Consequential Feedback* (CF) to shift attention toward the information learners derive from the real-time consequences of their actions, rather than just evaluators' comments. This shift highlights the formative value of dynamic, in-the-moment interactions, positioning them as a key source of feedback. Thus, simulations, as well as work-integrated contexts, offer copious consequential feedback. Through CF cycles, learners can observe and interpret cause-and-effect patterns as they emerge, using these insights to inform and refine their next actions. In simulations, participants and observers can see and experience the behavioral reactions of characters in role-play scenarios and interpret action-consequence sequences during subsequent debriefings. Educational leaders need to be able to connect actions with observable outcomes to navigate emotionally charged educational situations. Despite its potential, CF remains under-researched in higher education, particularly concerning ethical reasoning and leadership development.

Therefore, we examine how teachers in a leadership program use CF to resolve simulated conflictual discussions and learn key leadership skills. We explore these research questions: RQ1. How do students learn through CF in teacher simulation programs? RQ1a: What CF information is available through the role-play? RQ1b: To what extent and how do students 'notice' and make use of this feedback? RQ2: What do students learn about educational leadership from the CF cycle? Based on our analysis, we will briefly consider how facilitators might better harness the potential

of CF in these types of scenarios to enrich simulation learning for developing educational leadership skills**.**

Simulation-Based Learning in Teacher Education

Simulation-based learning (SBL) involves interactions with real or virtual objects or people, and provides learners with the opportunity to influence how the interaction unfolds through their decisions and actions (Heitzmann et al., 2019). A meta-analysis of 145 studies revealed that simulations successfully develop complex skills such as real-world problem-solving among higher education students, including teacher education students (Chernikova et al., 2020). There are various simulation methodologies. For example, rehearsal-based teacher education (Kazemi et al, 2015) presents opportunities for teachers to role-play classroom instructional encounters. To increase realism, many teacher education programs in the US are now using mixed reality simulations that harness computer technologies to allow learners to practice dealing with key challenges like off-task students (Cohen et al., 2020).

Unlike simulations that focus on analyzing instructional encounters in classrooms (e.g, Cohen et al, 2020; Kazemi et al, 2015), the SBL methodology we used focuses on equipping teachers to manage conflicts, many of which occur outside the classroom but contribute to teacher stress and burnout (Filella et al., 2018). By practicing emotional conflict management, teachers become better prepared for real-life situations (George et al., 2022). Gat & Shapira-Lishchinsky (2025) showed that SBL enables teachers to practice conflict management in realistic scenarios, that mirror educational settings in which emotionally charged language shapes self-management competence and ethical awareness.

In this study, we focus on role-plays based on learner-generated ethical dilemmas, which helps ground the learning experience in learners' own real-world contexts (Gat & Shapira-

Lishchinsky, 2025). These exercises are conducted with some participants actively engaging in role-play, while others observe remotely through one-way mirrors or television screens. Both active and observational roles contribute to cognitive learning outcomes, while each role has its own unique emotional experiences that contribute to learning emotional regulation (Han et al., 2024; Rogers et al., 2019). The role-play sessions are recorded and later used during debriefing, where multiple perspectives are discussed. Participants reflect on their own learning and identify areas for improvement, and receive feedback from role-play peers and observers. Facilitators guide the group in identifying challenges and exploring alternative professional responses (Raemer et al., 2011).

Feedback and reflection lie at the heart of the effectiveness of simulations (Chernikova et al., 2020). Feedback involves 'processes where the learner makes sense of performance-relevant information to promote their learning' (Henderson et al. 2019). While other studies of feedback in teacher education simulations highlight evaluative feedback after or during role-playing (Kazemi et al, 2015; Cohen et al., 2020), our contribution lies in exploring the role of Quinlan and Pitt's (2021; 2024) concept of consequential feedback in the context of this type of SBL.

Studies addressing consequential feedback have highlighted its importance in other types of simulations (Gresalfi & Barnes, 2012). For example, Paloncy (2020) found that a combination of consequential feedback and teacher corrective feedback was most effective in teaching cardiopulmonary resuscitation with a mannequin. In a marketing context where skills are cognitive, not physical, structured self-generated corrective feedback paired with consequential feedback was effective (Brazhkin and Zimmerman, 2019). People, not just machines, can also be the source of CF (Quinlan & Pitt, 2021; 2024). In human interaction role-plays, such as this form

of SBL, learners can observe the effects of their actions on their interaction partners, similar to how a comedian might monitor whether the audience laughs.

Conceptual Framework

Building on Quinlan and Pitt (2024), we frame our study around a comprehensive model of CF that incorporates cognitive, emotional, and ethical dimensions to examine how CF operates during interpersonal simulated interactions. CF, which offers information about the cause-and-effect relationship between actions and consequences, forms the foundation of the CF feedback cycle, as shown in Figure 1. This cycle emphasizes the learner's active role in noticing, interpreting, and acting on the consequences of, in our case, an educational leader's actions (Quinlan and Pitt, 2021). Contrary to evaluative feedback, which consists of critiques and suggestions provided by teachers or peers (usually during simulation debriefings, for example), CF offers direct information about how a leader's decisions and behaviors impact others that shapes the unfolding interaction. In SBL, active role-play participants can use this information immediately during the role play itself to navigate complex educational scenarios. Peers who are observers can attend to these links between actions and consequences, reflect on them, and discuss them during debriefs, though they may not have the opportunity to close the feedback loop until a subsequent role play or real-life episode.

Developing proficiency in observing, analyzing, interpreting, inferring, and modifying behavior independently is crucial for professional practice. Central to doing so is the ability to critically assess one's own work and that of peers, a skill that has been termed 'evaluative expertise' (Sadler, 1989) or 'evaluative judgment' (Tai et al., 2018). As learners develop this expertise, they become more adept at the self-generating feedback processes of seeking out and acting effectively on feedback of various types.

Nicol (2021) suggests that students can engage in this kind of reflective process (what he calls 'internal feedback') on their own with minimal educator intervention. During this process, a student interprets feedback-related information, engages in conscious internal comparisons, and articulates the relationships between their learning and feedback. However, for complex tasks, others have emphasized the role of educators in supporting and scaffolding learners' self-regulated or self-generated feedback (Wood and Pitt, 2024). In this study, we examine how learners, in-service teachers preparing for educational leadership roles, in our case, make sense of CF information.

In addition to evaluating their performance against expectations, SBL learners are encouraged to reflect, analyze the effectiveness of their strategies, and process cognitive and emotional actions and consequences, as well as contemplate ethical implications. Here, we elaborate on the steps in the CF process in Figure 1, focusing on "primary" or first-person

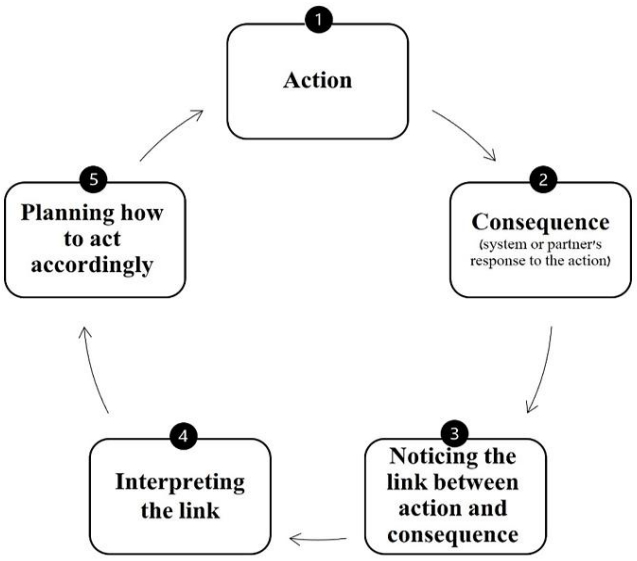

Figure 1. Consequential feedback cycle.

consequential feedback, that of the role players themselves. Observers can also benefit from "secondary" or "third-person" consequential feedback by observing and reflecting on the role play.

1. Action: The learner initiates the process by engaging in action (X), which could be any task, behavior, or performance within a specific context. The action serves as the starting point for CF information.

2. Consequence: Following the action, the learner encounters a consequence (Y), which is the response of the system or interaction partner to the learner's action. This consequence is an observable result, such as a response or reaction (e.g., a smile, frown, angry retort, argument) from another person or the outcome of a process (e.g., a disciplinary action).

3. Noticing the link between action and consequence: At this stage, the learner must recognize and reflect on the connection between his or her actions (X) and the resulting consequences (Y). This awareness often occurs internally.

4. Interpreting the link: The learner takes the next step by understanding the relationship between their actions and consequences. This interpretation often occurs through self-reflection, allowing the learner to generate internal feedback about the cause-and-effect link.

5. Planning how to act accordingly: Based on their interpretation, the learner develops a plan for future actions. This step is highly influenced by self-reflection, as the learner decides how to modify or maintain their behavior.

Stages 3, 4, and 5 show how learners move beyond passively receiving external feedback from external sources to a deeper, internally driven process of reflection and adaptation that prepares them for making independent decisions in their professional lives. Observing and interpreting consequences often involves navigating emotional information. During the noticing stage, learners may experience an emotional reaction as they become aware of the consequences of their actions, particularly when these consequences have emotional significance. Similarly, the interpretation stage challenges learners to engage in emotional regulation and management, thereby fostering the skills needed to adequately process these emotions before determining their next course of action.

Post-simulation debriefing sessions play crucial roles in transforming simulated experiences into tangible skill enhancements (Ade-Ojo et al., 2022; Sullivan et al., 2023). During this phase, participants collaboratively analyze role-play interactions, integrating perspectives from both role-players and observers. Reflection during the debriefing transforms the event into a public space in which the action-consequence sequences are critically examined. Observers actively participate in this part of the CF cycle, learning from secondary CF. In sum, we expect debriefing sessions will deepen the reflection taking place in steps 3-5 of the CF cycle for both active role players and observers.

Method

Participants

This study involved 20 in-service teachers (16 women and four men, mostly in their 20s and 30s) who participated in a simulation course as part of their M.A. in Educational Leadership. The gender distribution aligns with the demographic composition of educational staff in Israel. All teachers had up to five years of teaching or education experience in one of 20 local schools. Pseudonyms

for participants are used throughout. For clarity, the group of 20 participants will be referred to as "learners" throughout the rest of the manuscript, who alternate between performing role-plays and observing. This pattern ensures everyone engages in exercise from both perspectives.

Materials and procedure

To determine whether and how CF supports learning in simulation settings, we adopted a qualitative case study methodology (Stake, 2013) combined with conversation analysis (CA) (Sidnell, 2011). We collected detailed, multi-source data and analyzed the interactions within the SBL system described above (Creswell & Poth, 2016). The research was conducted in a teacher education simulation lab at Bar-Ilan University, with approval by the institution's ethics committee and informed, written consent of participants.

The first author is an experienced teacher and native speaker in the country where the study took place, with experience as a participant and researcher in simulation programs. He was a non-participant observer in the case study simulations that were analyzed. He transcribed and translated the research materials for collaborative analysis with the second and third authors, who are native English speakers.

The course aimed to enhance learners' ability to manage conflicts effectively in their professional contexts. Through the SBL process, learners role-played conflict situations they had experienced or observed while teaching (student, parent, principal, etc.). This study focuses on three of the ten role-play simulations conducted during the course. The selected scenarios, which captured conflicts between teachers, between teachers and students, and between teachers and parents, were chosen to illustrate a range of common types of leadership conflicts.

At the beginning of the course, learners submitted ethical dilemma scenarios drawn from their professional teaching experiences, which served as the foundation for the role-playing exercises. Every lesson began with a learner presenting the scenario to the group. Second, each learner responded to clarification questions to explore possible objectives for the role-play. The questions were:(1) "What do I know about dealing with the presented ethical dilemma?"(2) "What do I want to know about effectively dealing with this ethical issue?" Third, the scenario was enacted by volunteers from the class (role-players), with no predetermined resolution. In an improvised 7-minute enactment, role-players reached their resolutions while the rest (observers) watched it simultaneously via video. Throughout the course, learners typically took turns role-playing. The three scenarios we analyzed involved a total of seven role-playing learners, including six unique individuals, as one learner participated in both Simulations 1 and 3. Fourth, the observers used a worksheet to take contemporaneous notes during the simulation activity, focusing on the factors that either contributed to or hindered a productive resolution. Fifth, all learners, whether serving as role-players or observers, took part in a 20-minute debriefing in which they identified pivot points for further analysis of the video recording of the simulation interaction. *Pivot points* were moments where an action changed the trajectory of the interaction. During the debriefing, role-players could take a step back to observe actions and consequences while observers could share their interpretations. Finally, following the role-play and debriefing, all learners wrote reflections to explore their insights into handling conflictual discussions and how they could apply these lessons in their school setting. The following prompts were used: (3) "What do I now understand about dealing effectively with this ethical dilemma?"(4) "What do I believe I can apply in the field based on my new understanding?"; (5) "How might these actions contribute to resolving ethical issues? How do I know that?". Ultimately, all learners – both role-players and

observers – completed written reflections about what they had learned and how they might apply lessons to analogous school settings.

Data sources

For each case study simulation, we gathered data from three sources:

(A) To address RQ1a, role-plays were recorded to capture and map the sequence of actions and consequences, focusing on steps 1 and 2 of the CF cycle outlined in Figure 1. These recordings helped us to identify the CF information available from the simulated scenarios.

(B) To address RQ1b, debriefing sessions were recorded to capture the perceptions of both role-players and observers as they identified and discussed key moments and turning points in managing conflictual interactions. The debriefing recordings were examined to understand how participants noticed and interpreted the CF available (steps 3 and 4 of the cycle in Figure 1).

(C) To address RQ2, participants also completed pre- and post-simulation written reflections, which captured learners' changed understanding of educational leadership and conflict management as a result of the simulation. This data source illuminated steps 4 and 5 in the conceptual framework. Learners' reflections were identifiable, allowing us to see impacts on role-players versus observers and trace learning from pre- to post-simulation. Since our analysis focuses primarily on three selected simulations, the data reported here consists of 120 pieces of text (2 reflections X 3 scenarios X 20 students).

Data Analysis

Using a case study approach and conversation analysis (Sidnell, 2011), for each of the three scenarios, we analyzed the videos and transcriptions of both the role-play recordings (source A) and the debriefing recordings (source B). Through a series of iterative, collaborative discussions based on source A, we identified the action and consequence sequences that appeared to be pivotal

moments to the resolution of the conflict. These moments, which we term “pivot points”, provided key CF. That is, the action prompted an observable consequence that changed the direction and/or tone of the interaction. While Sidnell (2011) uses technical linguistic terms rather than the term "pivotal moments," his framework also focuses on pinpointing conversational moves that shift the trajectory of interaction, such as those that repair conflict, realign participant roles, or facilitate agreement.

Next, we triangulated our identified pivot points with learners’ own recognition drawn from the debriefing (source B) and their reflections (source C). First, we highlighted points in the debriefing when consensus was reached on a pivot point. The first author then extracted and translated comments from all the post-reflections for a given case into a single file to identify the learning that participants described taking from the discussion. The first author categorized learning outcomes into themes. Examples of key themes for each scenario are reported in the combined findings and discussion section below to show the learning outcomes of the CF.

We then diagrammed these pivot points as a sequence of actions and responses (steps 1 and 2 of the CF cycle). Figure 2 illustrates how actions and consequences interacted dynamically in a school meeting, highlighting how the principal's (Ronit’s) policy decisions resulted in both

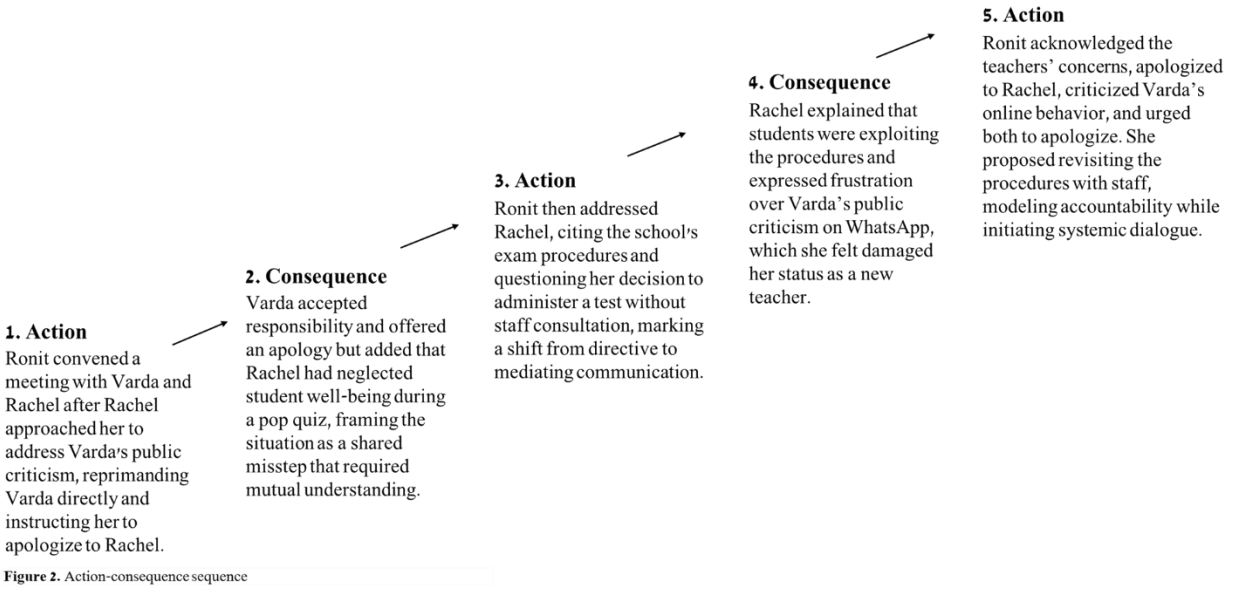

Figure 2. Action-consequence sequence

anticipated and unexpected outcomes for teachers. This example will be explored in detail in Simulation No. 1 in the findings and discussion section.

Drawing on source B, we analyzed if and how learners, particularly observers, benefited from the CF embedded in the role-plays and displayed through the recordings. That is, we focused on how learners noticed and interpreted the relationship between actions and consequences in the role-play (Sidnell, 2011). Using the summaries of learners' written reflections (source C), we analyzed what participants reported learning individually from these key turning points, leading us into step 5 of the feedback cycle.

Findings and discussion

We present each of the simulations separately, starting with a brief overview and then interweaving results with our analysis to highlight *how* (RQ1a and 1b) and *what* (RQ2) learners gained from the consequential feedback cycles in SBL.

Simulation Scenario No. 1 - managing conflicts arising from unintended policy consequences

Role-play overview

In the first simulation, Ronit (female, principal) had implemented a policy requiring teachers to announce exams in advance to reduce student anxiety. However, Rachel (female, new teacher) noticed that her students were neglecting to study on non-exam days, so she decided to give a pop quiz, contrary to the school's policy. Varda (female, seasoned teacher) publicly criticized Rachel in front of her students, making inappropriate remarks about her on the class WhatsApp group. Feeling angry and disrespected, Rachel turned to Ronit for intervention, seeking her support in resolving the situation before it further disrupted the learning environment.

Analysis of CF cycles

The role-play begins with Ronit addressing Varda's inappropriate comments about Rachel in a class WhatsApp group: *"Varda, you talked about Rachel in inappropriate ways… I ask that you apologize to her. It doesn't matter if she is right or wrong-I think you should apologize for the disrespectful discourse."* This initial directive represents Ronit's first action (stage 1) in the CF cycle.

Varda responds with partial accountability: *"I think the situation was not right, and I would like to apologize… but there was a feeling that Rachel was not attentive at all to the needs of the students. For us to understand the event, all sides need to recognize where they went wrong."* This statement serves as the CF (stage 2), signaling to Ronit that her directive approach partially achieved accountability but also exposed Varda's underlying concerns about fairness and shared responsibility. This moment was highlighted during the debriefing, where one observer noted: *"Ronit's direct approach got Varda to the table, but it also revealed that Varda needed space to voice her perspective before fully committing to an apology."* Ronit appears to be becoming aware of the connection between her action and the subsequent consequence (stage 3), interpreting this event in a manner that suggests that a directive approach may not be sufficient to resolve the deeper conflict (stage 4), and preparing an alternative course of action (stage 5).

In response, Ronit pivots toward a more mediating role, addressing Rachel: *"Rachel, Varda asks us to understand things… it is not accepted that, once there is a test and the students know it takes place on that day, the teacher still decides to hold a quiz."* This represents Ronit's new action, shifting from a top-down approach to facilitating dialogue between the two teachers. Rachel responds by voicing systemic concerns: *"I'm aware of the procedures, but the students take advantage of them… I can't apply any sanction, and they see it."* This CF (cycle 2, stage 2) prompts Ronit to notice the link between action and consequence, and interpret (cycle 2, stages

3+4) the issue not only as interpersonal conflict but as symptomatic of procedural challenges and misaligned expectations within the school system. During the debriefing, one observer reflected: *"Ronit's move to listen here was critical. It helped uncover a structural issue rather than just dealing with individual blame."* Another added: *"Rachel's response showed how new teachers may struggle to balance institutional norms with classroom realities. It was a call for clearer guidance."*

Ronit then plans a collaborative next step (cycle 2, stage 5), addressing both teachers: *"I wasn't aware that students didn't study because they knew there would be no quiz. I will look into it, and we will find a solution together. Perhaps we will adjust the procedure, but we cannot deviate from norms suddenly."* In that action (cycle 3, stage 1), she reframes the issue from blame to systemic reform. Rachel responds with cautious acceptance but also shares her vulnerability: *"Okay, I accept that. But the WhatsApp comments disrespected me and hurt my status at school."* This moment surfaces the emotional undercurrents of the conflict and highlights how collaborative problem-solving can expose power imbalances. An observer during the debriefing recognized the significance of Rachel's disclosure: *"This was powerful. Rachel's honesty about feeling undermined gave Ronit and Varda insight into the emotional costs of conflict."* Another noted: *"It's not easy for a new teacher to admit vulnerability in front of peers. Rachel modeled courage and professionalism here."*

Finally, Ronit synthesizes the insights from earlier stages into her last statement: *"Let's assume everyone here understands their mistake. Varda, I must address your lack of professional judgment on WhatsApp. And Rachel, you need to consult before acting. I apologize for the distress this caused. At the next staff meeting, we'll reorganize procedures and improve communication."*

This leadership move integrates individual accountability, relational repair, and systemic improvement. Varda and Rachel each reciprocate with constructive responses.

Post-simulation reflections reinforced these insights. Varda's role-player noted: *"It was important for me to own my mistake but also to explain my feelings. Apologizing felt more authentic after being heard."* Rachel's role-player reflected: *"This taught me that asserting my dignity as a new teacher is part of leadership too."* Observers emphasized leadership lessons drawn from this resolution. One wrote: *"Ronit's apology modeled humility. It reset the emotional tone and allowed others to follow."* Another highlighted the systemic perspective: *"The decision to revisit procedures together showed adaptive leadership in action."* Incorporating teacher input into decision-making processes, along with procedural changes, such as reorganizing staff meetings, illustrates adaptive leadership.

Simulation Scenario 2– balancing students' social and academic needs

Role-play overview

Bar (female, high school student) struggles socially in her class, lacking close friendships and considering leaving school. She expressed her lack of motivation and desire to transfer to another class or leave school altogether, convinced that her situation would not improve. As a result, she requested a transfer to another school from her current school. Recognizing Bar's difficulties, Dan (male, principal) proposed a trial arrangement for her to take selected classes with a different group of students.

Analysis of CF cycles

The role-play begins with Bar's complaint: *"I don't have any friends… All the other kids speak a foreign language… I only suffer here."* Dan attempts to provide emotional support: *"You're not alone. You have me, the staff… You know you can talk to me."* (stage 1)

Bar's immediate reply, *"We've already spoken. I didn't see any change,"* serves as CF (stage 2). Rather than repeating emotional assurances, he changes his approach (cycle 2, stage 1): *"Wait, let's take a closer look… Socially, you want to change things and academically, you want to improve, right?"* This shift suggests that Dan noticed (stage 3) the cause-and-effect pattern between his prior action (emotional support) and Bar's consequence (continued frustration and resistance) and interpreted it (Stage 4) as ineffective, requiring a different approach (stage 5).

This moment was noted during the debriefing, where one observer reflected, "*It was clear to Dan at this point that what he thought of as reassurance wasn't enough. He needed to shift gears.*" Not only did he change tack, but he also divided the problem into social and academic concerns. One observer added: "*It wasn't just that he broke it down. It gave Bar space to breathe and think. You could see her becoming less combative*." Bar's role-player later confirmed this pivot during the debriefing: *"You've deconstructed the problem… After I presented you with a 'mountain,' you divided it into two sections, explaining that the problem is academic and social."* Here, Dan demonstrates internal feedback (Nicol, 2021) by reflecting on Bar's resistance and reframing the issue on his own.

Later, when Bar challenges Dan further, *"You don't invest anything here,"* Dan reframes the conversation from external blame to shared accountability by introducing a reflective question, starting another CF cycle: *"Can you tell me what your role is in this issue? Are you fulfilling all your obligations…?"* Observers in the debriefing recognized this reframing as a critical leadership move. One noted: *"Dan's focus shifted from listening to pushing her… He assumed she wasn't giving her best and explored what would happen if she did.*" Another wrote: *"This was powerful. It's easy to give in to a student's frustrations, but Dan gently held her accountable and kept the tone respectful."*

Dan's iterative adjustments over multiple CF cycles culminate in proposing a trial period: *"We can arrange for you to stay in school but move to a different classroom… Let's agree on a trial period of one and a half months, and then we can reassess the situation."* Bar responds (stage 2) with cautious curiosity: *"Which specific class are you referring to? Could you provide more details?"* Dan's proposal acknowledges Bar's agency while maintaining institutional boundaries. An observer's written reflection highlighted the importance of the collaborative approach: *"Dan was asking Bar what she thought would help her and was negotiating gradual transition agreements with her*." Another reflected: *"It wasn't just about solving the problem—he invited Bar into the process, and that changed the energy in the room."*

Observers also noted the importance of timing and patience in Dan's approach: *"Dan came up with solutions only after he fully understood the situation."* Another emphasized: *"While Bar was less pleasant, Dan remained respectful, listened to her, and spoke to her in a considerate manner.*" By involving Bar in the decision-making process, Dan moves beyond a reactive leadership approach to an adaptive, context-sensitive approach to ethical decision-making.

Simulation Scenario 3 – Balancing Health Protocols and Student Well-being

Role-play overview

Ruth (female, principal) and Maya (female, parent) meet to discuss an incident involving her son, Jonathan. After prolonged isolation due to the COVID-19 pandemic, Jonathan struggled to readjust to social interactions with his new teacher. A confrontation with the teacher ensued when Jonathan refused to wear a mask. The situation escalated, resulting in Jonathan being sent home. Feeling frustrated and protective of her son, Maya expressed her anger and threatened to take further action if the situation was not addressed. Ruth, aiming to find a resolution, listened to Maya's concerns

while also explaining the school's procedures and the importance of maintaining order in the classroom.

Analysis of CF cycles

The role-play begins (stage 1) with Ruth openly inviting Maya to voice her concerns: *"Well, I'd love it if you could tell me what you have to say. I want to understand the situation from the way you see things to reach a solution… that will help us move forward and all parties will be satisfied..."* Maya responds with a surge of emotion: "*An unforgivable event happened here… You don't even know what we're experiencing at home and what distress was caused to my son… it's all one big disgrace."* Maya's angry response provides CF (stage 2). Ruth appears to notice (stage 3) that her empathic invitation has successfully (stage 4) elicited honest expression because she chooses (stage 5) to continue her empathic approach by acknowledging Maya's frustration before introducing institutional constraints (cycle 2, stage 1): *"I listened and I understand the frustration… However, we have procedures in the school. We have procedures that we must follow to maintain stability."* This new action (cycle 2, stage 1) attempts to reorient the discussion toward systemic considerations. But Maya pushes back: *"But my child is hurt… and taking the child and telling him to go home is beside the point."* This CF (cycle 2, stage 2) signals that while Ruth's framing highlights broader institutional priorities, it also risks being perceived as dismissive of Maya's individual concerns.

Interpreting this CF (stage 4), Ruth must choose (stage 5) whether to backtrack to continued empathic listening or to forge ahead with reframing the conversation toward shared responsibility. She initiates a new cycle with, *"It's not one of his events, it's already three events… She has a role and is responsible for all the students in the class."* Thus, she attempts to broaden Maya's

perspective by contextualizing Jonathan's behavior within a pattern of incidents and the teacher's professional responsibilities.

Ruth finally proposes a collaborative approach to finding a mutually satisfactory solution: *"Your child's way back to the classroom should be accompanied by some kind of apology… Let's think together about what kind of apology won't hurt Jonathan's dignity."* At the same time, she underscores the importance of protecting her teacher's professional standing: *"It's not fair for my new teacher to lose her dignity after the student curses her in front of the whole class… If that happens, it will harm all the teachers."*

This new action (stage 1) reflects Ruth's growing ability to integrate the needs of multiple stakeholders. Maya's softened response (stage 2), *"What apology would be acceptable to your teacher? We both understand that he understands he's wrong… Let's figure it out,"* signals a shift toward constructive engagement.

In the final CF cycle, Ruth (stage 1) employs relational language to humanize the teacher: *"She's such a sweet teacher, loves the students, loves your son. There is no friction and anger in it, everything is fine."* This subsequent action represents a crucial pivot toward relational repair and emotional closure. Maya responds (stage 2) with a noticeable shift in tone: *"You convinced me."* This CF indicates successful conflict resolution.

The debriefing phase revealed learners' insights into the action-consequence dynamics of educational leadership and conflict resolution. They identified several effective actions: Ruth's future-oriented approach, with one observer noting, "*The principal is looking to move forward*," mirroring techniques described as "*clear*", and consideration of the impact of COVID-19, "*I didn't understand why it was hard for the child to apologize, but you convinced me that it was because of the COVID-19 lockdown isolation.*"

This role-play interaction illustrates how role players engaged in internal comparisons and reflections with minimal external intervention. Ruth's ability to independently reassess her perspective based on new and critical information demonstrates the power of CF information in complex interpersonal situations. Maya's role-player confirmed the effectiveness of Ruth's actions: "*I was convinced…*".

This scenario also illustrates how dialogic leadership, anchored in CF cycles, can facilitate ethical decision-making and rebuild trust by fostering reflective dialogue and shared understanding in emotionally charged situations (Tai et al., 2018). Ruth's ability to alternate between empathy, institutional framing, and relational repair reflects adaptive expertise essential for navigating the complex realities of school leadership.

Conclusion and recommendations

The role-play scenarios illustrated how learners in the teacher education simulation environment developed leadership skills through engaging in iterative CF cycles that linked actions to observed emotional and practical outcomes. In all scenarios, CF information made available through the role plays included the emotional responses of complainants (RQ1a). Interaction partners came with frustration and anger at the beginning of the role plays, which was replaced by increasing calm and new perspectives on the issues as the role plays progressed. Reducing the negative emotions of complainants is key to resolving conflicts that teachers regularly face in various educational settings. The CF information about emotions, then, was central to interpreting the effectiveness of the leaders' conflict resolution strategies (actions) in reaching the goal of an agreed solution. In all three scenarios, a solution was reached that role players and observers interpreted as reasonable.

The written reflections and debriefings showed that the participants, both role players and observers, noticed CF links between actions (i.e., leadership strategies or policies) and consequences (the complainant's emotional responses and agreed-upon solutions). In short, participants were able to summarize the key lessons that emerged from the role plays. They highlighted the educational leaders' actions that led to satisfactory outcomes in their interaction partners (i.e., teachers in Scenario 1, a student in Scenario 2, and a parent in Scenario 3). Thus, we conclude that the data showed evidence that both role-players and observers consistently noticed and interpreted the CF information embedded in the role-plays (RQ1b).

Even when external prompts like debriefings and reflection questions prompted learners to notice and interpret CF, internal feedback remains an internally driven process. The prompts were deliberately general, rather than specific to the role-play. Thus, they acted as catalysts to promote engagement with the information in the role-plays, without dictating conclusions.

Ultimately, the learners must internally process these experiences, connect actions to consequences, and adjust their in-the-moment behavior accordingly. This dynamic process, fueled directly by the CF received during the interaction, constitutes reflection-in-action.

We also found that participants effectively learned key lessons about how to manage and resolve conflicts teachers encounter in daily practice, addressing RQ2. Educational leaders in the role play demonstrated a range of conflict resolution strategies (actions) that led to reduced emotional negativity in their interaction partners and subsequent conflict resolution (consequence). Specifically, the role plays provided live demonstrations of the effectiveness of techniques such as active listening, empathy, perspective-taking, asking open questions, reframing problems, maintaining calmness, breaking down complex problems into smaller components, mirroring, and

negotiating compromises, which were key desired learning outcomes for this course. These techniques were highlighted by learners.

The simulations provided CF that allowed role players to experience real-time consequences and allowed observers to analyze these outcomes from a third person perspective. The debriefing phases, in which the CF cycle was publicly examined and comprehensively analyzed collaboratively to understand the relationship between actions and consequences, were vital to solidifying the lessons learned.

This analysis, though, illustrated the complexity of analyzing action-consequence sequences in the context of live human interactions. All parties in the role play are both taking action and experiencing the consequences of those actions in real-time. In most professional practice learning situations, the actor or actions of interest are those that the learner seeks to emulate - in this case, the educational leaders. In this simulation course, though, the role players often played the roles of the complainants. From that role, they were uniquely positioned to directly experience the cognitive and emotional impact (consequences) of the educational leaders' actions.

While Quinlan and Pitt (2024) emphasized that primary CF involved appreciating the impact of one's own actions and that secondary CF can also occur when observing another person, they did not elaborate on the potential of learning from being *the source* of the CF for another person. Across all three role-plays, the educational leader character created the conditions for their interaction partners to internalize feedback, enabling their partners to notice, interpret, and plan future actions based on the consequences of their actions in the scenario.

As a result of the debriefing, role-players who have experienced these CF moments first-hand can share their experiences and clarify their understanding, an aspect that previous literature has not emphasized. Understanding the benefits of playing the interaction partner in these

scenarios, rather than the educational leader, may be important for understanding how to continue to enhance the simulation programs. Teacher educators using simulations may want to consider different reflection prompts for role players in each of the positions to leverage the special perspective on consequences provided by those role-playing the interaction partners. By doing so, all participants may be able to see the action-consequence sequences more clearly, which may result in better planning and strategic decision-making.

In summary, we argue that the CF cycle is a key mechanism that explains how simulation learning works and why it is so effective. This study is novel in that it is the first to explicate this mechanism at the heart of SBL in teacher education, offering a model for how to research this concept in other settings. It also offers a unique extension of the work of Quinlan and Pitt (2024), who theorized CF as a key element of simulations and role plays more broadly. While they illustrated how CF works in a variety of simulated professional practice situations, their examples did not address simulations in teacher education. Reflecting limitations of existing literature on CF, they also focused primarily on examples of cognitive and behavioral learning, such as better mathematical reasoning (Gresalfi & Barnes, 2012), strategic thinking Brazhkin & Zimmerman, 2019), or changing the way a physical maneuver is carried out (Paloncy, 2020). Thus, this study makes an original contribution by showcasing the emotional and ethical learning that can come from reflecting on CF embedded in interpersonal interactions around dilemmas of practice, particularly conflictual situations.

To foster effective leadership and enhance learning outcomes, we make several recommendations for teacher educators using simulations: (1) Design structured opportunities for participants to experience and analyze their decisions in real-time and immediately afterward, resulting in internal feedback and a deeper understanding of their actions and outcomes; (2) Make

feedback processes transparent by explicitly teaching the mechanisms during simulations and debriefs. (3) Encourage reflection on CF. Educators might prompt learners with questions like "What did the leader do? Why? What happened when the leader did x? Was the consequence what you expected or wanted? Why or why not? (4) Separate out and then pair CF with evaluative feedback. After processing the CF, evaluative feedback can be sought from the participants and offered by the facilitator.

While this study highlights how feedback about the consequences of role-player actors operates through the overall design of the simulation phases, we recommend that future research focus specifically on how educators facilitate CF to maximize student learning in simulated settings. While we have offered preliminary recommendations regarding enhancing this practice in teacher education, it is essential to understand the specific steps and types of questions that expert facilitators use to accomplish these tasks to prepare these teacher educators and simulation facilitators.

Finally, this study demonstrates how CF, generated through structured role-play simulation and reflection, enabled participants to understand the impact of their actions better. The CF cycle proved essential for helping learners connect actions with outcomes, interpret meaning, and adjust behavior in real-time, thereby strengthening their educational leadership skills.

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