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MOTIVATION AND SOCIAL PROCESSES

'I Tried to Understand What the Student Really Needs: Using Simulations to Promote a Need-Supporting Dialogical Orientation in Teacher Educators

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ABSTRACT

Based on self-determination theory and principles of simulation-based learning, we present an innovative approach to fostering a need-supporting orientation in dialogues between teacher educators and their students. The need-supporting dialogical orientation has three major components: Empathic perspective-taking, fostering autonomous change motivation, and need-focused self-awareness. Interviews, reflections, and recordings of a simulation-based workshop revealed that participants found the need-supporting orientation personally relevant, understood important aspects of the components of this orientation, and tried to apply them in their practice. Overall, simulation-based learning of a need-supporting dialogical orientation appears to have the potential to deepen and promote educator-student dialogue, collaboration, and growth.

Introduction

Supporting students' basic psychological needs and intrinsic motivation has been a key tenet and hallmark of humanist approaches to education (e.g., DeCharms, 1971; Korczak, 1967: Maslow, 1968; Rogers, 1969; Rousseau, 1979). The need to support students' psychological needs has emerged again in the writing of leaders of socioemotional learning (Cohen, 2006; Elias et al., 2014; Darling-Hammond & Cook-Harvey, 2018; Jennings & Greenberg, 2009; Jones & Bouffard, 2012). Given the importance ascribed to educators' support (i.e., teacher, school counselor, teacher-educator) for students' psychological needs, it appears important to develop student-educators' capacity and motivation to support their students' psychological needs. One highly influential, empirically-based theory that focuses on basic psychological needs, and is widely applied to educational issues is Self-Determination Theory (SDT; Ryan & Deci, 2017).

According to SDT, people have basic psychological needs for relatedness, autonomy, and competence. The support of these needs promotes well-being and optimal functioning, whereas thwarting or threatening these needs causes suffering and poor functioning. In this article, we present an SDT-based conceptualization of educators' orientation that can support the basic needs of both student and educator. We posit that such an orientation is particularly relevant and useful in one educational domain hardly examined so far in research based on SDT: emotion - laden,

potentially conflictual educator-student dialogues. In addition, we propose that Simulation-Based Learning (SBL; Dotger, 2010) might be a particularly useful approach for teaching this need-supporting orientation to teacher educators. Accordingly, we present an SBL workshop aimed at promoting a need-supporting orientation to student-educator dialogues in teacher-education programs and describe participants' experiences of the effects of this program.

Importantly, the article also represents a first attempt to use SBL to promote the learning and application of SDT principles. Many SBL studies refer to some SDT concepta, and some also assess the effects of SBL on motivation variables based on SDT (e.g., Henrique-Sanches et al., 2024; Moll-Khosrawi et al., 2021; Radkowitsch et al., 2021; Walters et al., 2017). However, no studies to date focused on promoting understanding and use of SDT principles.

Theoretical background: a need-supporting orientation to educators-student dialogues (NSDO)

Dialogues between an educator and a student are an important part of the educational process (Alexander, 2008; Howe et al., 2019; Lefstein, 2010). Often, these dialogues touch on problematic issues that have to be addressed to allow satisfactory student development and positive educator-student relationships. Importantly, these issues tend to be products and/or causes of basic-need frustration in both students and educators. For example, students' overt dismissal and rejection of their educators' elaborate plans and concerted efforts to help them improve their academic performance may threaten educators' sense of competence. Similarly, an educator's highly critical comments on a student's assignments may frustrate the student's need for competence.

Given that teacher-student dialogues often pose a threat to student and teacher basic psychological needs, it is important that teachers develop a need supporting orientation to teacher-student dialogues. The notion of teachers' need-supporting orientation was first introduced by Deci et al. (1981), specifically for supporting students' need for autonomy. Building on this work and later developments in SDT-related research, we conceptualize educators' need-supporting dialogical orientation as a set of educators' beliefs regarding desirable action modes that are likely to promote optimal satisfaction of both students' and teachers' needs in dialogues. This approach is especially important in dialogues involving emotionally loaded, potentially conflictual, and therefore need-threatening dialogues. Educators manifesting this orientation not only strongly identify with the above-mentioned beliefs, but also try to implement them in their daily work. Defined in this way, the term "orientation" describes not only the overt response to need-threatening events, but also a basic approach, ways of thinking, internal reactions, and action intentions which precede need-supporting overt responses and improve their quality and effectiveness.

Although there is very little research on need-supporting dialogue between teachers and individual students on issues involving emotionally loaded, potentially conflictual, issues, there is considerable research on the support of students' needs in dialogues conducted as part of regular class instruction (e.g., Assor et al., 2002; Assor, 2017, Barber & Buehl, 2013; Davies, 2016; Reeve & Jang, 2006; Kaplan & Assor, 2012; Vansteenkiste et al., 2018; Wallace & Sung, 2017). This research delineates important features of need supporting dialogues, often with a special emphasis on the support of the need for autonomy. In such dialogues, educators try to take the child's perspective, minimize controlling actions, provide meaningful choices, provide convincing rational for the relevance of the learning activities to students' goals and values, and try to encourage students' reflections on their goals and values.

Past research on promoting teachers' support of students' basic needs focused primarily on the promotion of autonomy-support in the teaching of whole classrooms (Jang et al., 2016). Most of this research involves Reeve et al. (2022) Autonomy-support Intervention Program (ASIP). This research demonstrated that the ASIP program indeed had sizable effects on students' motivation,

engagement, and prosocial behaviors (Reeve et al., 2022), as well as on teachers' sense of competence (Cheon et al., 2020). However, the ASIP did not focus on teachers' capacity to conduct individual dialogues with their students in potentially conflictual situations. A program focusing more specifically on dialogue was developed by Kaplan & Assor (2012); however, this program did not provide structured opportunities for teachers to systematically examine their response style, emotions, or thoughts specifically during emotion-laden, potentially conflictual teacher-student dialogues. The program also did not provide teachers with a detailed description of the components or a sequence of key principles and processes that enable a need-supporting dialogue.

Given the dearth of programs aiming to enhance educators' need-supporting dialogical orientation (NSDO) in situations in which they experience their students as threatening their psychological needs, we developed a program to address this gap. As many educators may have little patience for detailed theoretical formulations (Schneider, 2014), we deemed it important to offer a brief and concise scheme of three major components of a need-supportive dialogical orientation, which educators are likely to find relevant and applicable.

The three components include features of autonomy support already noted above, in our description of need supporting dialogues in regular class instruction. However, our conception of NSDO attempts to take into consideration the order of need supporting responses, and therefore distinguishes between a first phase of an autonomy supportive dialogue involving "only" empathic perspective taking", and a second phase of an autonomy supportive dialogue, focusing on

Table 1. Components of the Need Supporting Dialogical Orientation.

Empathic Perspective-Taking

A nonjudgmental attempt to understand the students' perspective. Often, this can be done by simply asking students to describe what happened, how they view it, and how they feel about it. This behavior is especially important at the beginning of the conversation.

Respecting students' interpretation of the facts. This does not imply accepting the validity of the interpretation; yet it also does not dismiss it as completely invalid.

Accepting the feelings students express.

Attempting to understand the needs underlying students' interpretation, feelings and behavior.

Promoting Autonomous Student Change

Minimizing attempts to influence the student in controlling ways. This includes threats, rewards, punishments, competition, social comparison, commands, nagging, conditional regard, guilt induction, and shaming.

Encouraging students to reflect on whether they want to change the behavior discussed, in light of their authentic goals, values and needs.

Providing a rationale for the educator's expectations for a change in students' behavior (if students did not reach such understanding themselves through the reflection process).

Joint problem-solving. Student and educator work together on a flexible plan for behavior change. The plan addresses student's needs that had been overlooked and thus created the problem while still abiding by the educator's values and goals.

Educator's Need-focused self-awareness

Paying attention. Educators attend to the self-needs threatened by student's behavior, and try to understand how their own needs affected their interpretation of student's behavior, their feelings, and their actual or intended behavioral reactions.

Stopping automatic reactions. Educators inhibit their own automatic unconstructive behavioral reactions, which were triggered by the threat posed to their needs by student behavior.

Reflection-based reaction. Based on consideration of the student's needs and educator's values, goals and needs, educators respond in a way that supports student's needs and thus promotes her/his growth.

promoting autonomous change in students. The second phase includes many of the autonomy support features previously discussed, such as providing rationale and choice, and fostering self reflection on the student's goals. In addition, we added a third component involving teachers' need-focused self-awareness.

Each of these components is assumed to enable educators to support students' needs in situations in which these needs are threatened, while at the same time enabling educators to act in ways that are consistent with their own values, goals, and needs. The next section describes the three components (the components and their subcomponents are described in Table 1).

Empathic perspective-taking

This component involves a nonjudgmental attempt to understand the facts from the students' perspective, to respect their interpretations of what happened, to accept their feelings, and to try to understand their needs (e.g., Reeve et al., 2022). Importantly, this behavior reflects educators' recognition of the limits of their knowledge and interpretations. Of course, this attempt to understand does not imply accepting the behaviors stemming from students' interpretations and feelings. An empathic perspective is an essential first step in a constructive dialogue and problem-solving process because it enables educators to understand why students behave in ways that educators view as undesirable. Having considered the reasons behind students' behaviors, the educators can then initiate, together with their students, problem-solving steps. Moreover, a respectful and authentic attempt to understand and accept students' views and feelings enhances students' autonomous motivation (Ryan & Deci, 2017) to talk to educators, listen, and work together with them, because it shows that the educator cares about the students and views them as partners worth listening to.

Promoting autonomous change

Educator behaviors included in this component mostly take place following the process of adopting an empathic perspective. Thus, after educators have attempted to understand why students behave in ways they view as undesirable, the next step is to try to generate a process in which students will feel that they truly want to change their behavior; that is, to create autonomous motivation for change. Such motivation is likely to occur if educators avoid coercive or manipulative means (such as threats, commands, or guilt).

Instead, educators should try to encourage students to reflect on their behavior and think whether it really fits their true goals and needs. Assor and his colleagues termed this process as fostering inner valuing (Assor et al., 2023). Often, this type of dialogue may reveal that students do not really endorse or identify with the behavior that educators deem change-worthy. In fact, they would like to change their behaviors, but think there are various obstacles that prevent them from successfully changing their behaviors, resulting in a state of a-motivation (Ryan & Deci, 2017).

If this reflection-promoting dialogue does not lead students to recognize the importance of changing their behavior, educators may then offer a convincing rationale demonstrating why a behavior change is important and would be beneficial. When students accept that a behavior change is desirable (resulting from the student's self-reflection and/or the educator-proposed rationale), educators and students can begin a joint problem-solving process. In this process, the student and the educator work together on a flexible plan to change the problem's behavior. The plan is effective if it addresses student's needs that had been overlooked and thus created the problem, and is consistent with the educator's values and goals.

Need-focused self-awareness

Need-focused self-awareness, unlike the previous two components, involves educators' internal processes, rather than their behaviors toward the student. Yet, this component is important because it enables successful adoption of an empathic perspective and the facilitation of autonomous student coping when an educator's needs are threatened. In emotion-laden, potentially conflictual, situations, educators often experience considerable frustration of their basic needs, which in turn, evokes strong negative emotions (Assor et al., 2018; Assor et al., 2009; Vansteenkiste & Ryan, 2013). The negative emotional arousal is likely to evoke strong emotions, which are likely to undermine educators' willingness and capacity to take students' perspectives.

Furthermore, the negative emotional experience is also liable to lead to nonconstructive behavioral reactions, which may go against the educator's approach and goals. Therefore, it is important that educators learn to inhibit impulsive reactions when in conflict, while at the same time paying attention to and reflecting on the possibility that their own needs are threatened, which then leads them to undesirable reactions. The reflective process can then proceed with an attempt to formulate a reaction that is more empathic and more in line with the educator's values and goals.

The capacity to inhibit impulsive responses and engage in need-focused self-awareness is especially important at the beginning stage of the dialogue, because it is a necessary condition for establishing connection with students and taking their perspectives. However, this capacity continues to be important when educators and student work together to find ways that promote autonomous behavior change in the student. While students and educators work together on solving the issue that created the problem, educators can again experience need frustration and subsequent negative emotions, which they should pay attention to and regulate, so that constructive joint problem-solving can proceed.

Using simulation based learning (SBL) to promote educators' need-supporting dialogical orientation

There is considerable research suggesting that when basic needs are frustrated, people often react defensively and impulsively (e.g., Vansteenkiste & Ryan, 2013). As a result, educators are less able to attend to the ways their own threatened needs interfere with their capacity to respond to students in need-supporting ways, and they are also less able to consider the student's perspective and promote autonomous coping. Hence, applying a Need-Supporting Dialogical Orientation (NSDO) in emotion-laden situations in which both the educators and the student feel that their needs are threatened or frustrated is a formidable challenge. Given this challenge, it is important to select a learning approach that allows educators to practice what they have learned by using it in need-threatening situations. One approach that proved particularly useful in promoting effective, reflection-based responses to challenging situations is SBL.

SBL is an approach that simulates the conditions of the professional arena to allow the learning and practice of skills in complex conditions, similar to those encountered by professionals in their everyday work (Chernikova et al., 2020). Although SBL may seem similar to role play, the two methods differ considerably (Tufford et al., 2018). Role plays typically involves group participants assuming specific roles to enact scenarios, focusing on experiential learning through performance, without necessarily a concerted attempt to replicate the "real-world" accurately. In contrast, simulations strive to create and structure a realistic environment that mimics real-life situations to provide participants with practical, hands-on experience. To achieve this objective, simulations consist of interaction involving the participation of a professional (human or virtual) actor who is not one of the group members (Spencer et al., 2019). Furthermore, simulations provide structured feedback and evaluation, which are integral to the learning process, while role play often lacks such rigorous assessment mechanisms (Chernikova et al., 2020).

The actors are trained to observe the internal emotional reactions they experience as a result of the participant's actions, without getting overly involved and flooded by them. In addition, they are also trained to provide clear real-time feedback based on the participants' responses and the emotions they elicit (Dotger, 2015; Dotger et al., 2019). These capacities ensure a clear, structured and accurate feedback, which is crucial for effective learning (Chernikova et al., 2020; Spencer et al., 2019). The fact that the professional actors are not part of the group allows them more freedom to point to unhelpful or frustrating behaviors of the simulating participant, because unlike the group members, they do not expect to interact with the person doing the simulation in the next meetings or in a common context. The feedback is also less biased by past interactions and memories pertaining to the simulating participant.

Three main types of SBL exist in teacher education: *clinical simulation* with professional actors, *computer-based simulation* with digital figures, and *mixed reality simulation* with avatars. These types bridge the gap between theory and practice in distinct ways. Clinical simulations provide realistic, engaging and emotional scenarios, helping learners understand theoretical principles *via* concrete and relevant events, as well as translate these abstract principles into specific behaviors in a highly emotional context (Levin, 2024a). Computer-based simulations provide controlled and repeatable environments for extensive practice, reinforcing theoretical knowledge through repeated application (McGarr, 2021). Mixed reality simulations provide immersive learning experiences illustrating how theoretical issues apply to real-world teaching scenarios (Dalinger et al., 2020).

In the present study, we used a clinical simulation because it can capture the highly emotional quality of the conflicts we were interested in, and train participants to respond in a need supporting way in such emotional situations. Thus, we posited that when a clinical SBL is applied to the learning of a NSDO, it can help participants construct a repertoire of concrete relevant examples instantiating the abstract principles of this approach. The relevance and accessibility of these examples can help educators generate a need-supporting response in emotional need-threatening situations, in which people often find it hard to think clearly, broadly, and strategically. Indeed, research has shown that in stressful and challenging situations, availability of examples and action scripts helps people to respond in ways that are consistent with their goals (Gollwitzer & Sheeran, 2006).

A recent meta-analysis of SBL in higher education, based on 145 studies, found that different types of simulations share several common features (Chernikova et al., 2020). One of these features is an attempt to establish a safe learning environment in an attempt to facilitate openness and effective learning. Indeed, Kasperski and Hemi (2024) study of clinical SBL in teacher education found that a safe and supportive simulation setting strengthens learners' sense of self-efficacy. However, success in creating a safe simulation setting cannot be taken for granted, and the creation of such settings is a challenge simulations often have to cope with. Studies have also demonstrated that learners are more likely to trust sources of experiential learning (Ferguson et al., 2023; Joram et al., 2020) and the importance of constructing professional knowledge based on experience (Afdal & Spernes, 2018; Korthagen et al., 2006).

Importantly, the basic premises of clinical SBL have much in common with the underlying assumptions of SDT. Thus, clinical SBL, like SDT, emphasizes the importance of supporting learners' needs for autonomy, belonging, and competence to promote their learning motivation. For example, participants' need for autonomy is acknowledged by enabling them to choose the ways they take part in the workshop, whether as actors or observers (Frei-Landau et al., 2022). Throughout the learning process, the SBL facilitator attempts to support participants need to belong and feel accepted by others, particularly when groups tensions and conflicts start to arise (Levin & Muchnik-Rozanov, 2023). Finally with regard to the need for competence, one of the goals of simulation is to enhance participants' sense of professional self-efficacy.

While it is widely recognized that SBL can enhance professional self-efficacy (Samuelsson et al., 2022), specific characteristics of simulation types significantly influence their effectiveness in promoting self-efficacy among participants. Mixed reality simulations promote self-efficacy by

providing immersive and interactive experiences that closely mimic natural classroom dynamics (Theelen et al., 2019). Additionally, computer-based classroom simulations support the development of interpersonal skills necessary for effective teaching, thereby reinforcing self-efficacy through practice and reflection (Dieker et al., 2014). Clinical simulations facilitate peer collaboration and critical feedback, which is essential for developing a strong sense of self-efficacy (Dotger, 2015). This is achieved during the debriefing stage, by helping participants understand the connection between their perceptions and attitudes and their actions and behaviors during the simulated scene (Yablon et al., 2022). Despite the crucial importance of supporting learners' needs during SBL, the aforementioned studies did not examine the usefulness of SBL in promoting participants' learning and application of basic principles of SDT in educator-student dialogues.

The focus on teacher-educators

Attempts to promote educators' support of student needs have focused so far mostly on professional development courses for teachers. In the present study, we chose to focus on teacher-educators; 'those who are professionally involved and engaged in the initial and on-going education of teachers' (Vanassche et al., 2015, p. 341). Teacher-educators' role involves teaching small groups of student-teachers, supervising field observations, and providing ongoing support and mentorship. As part of this role, they focus on issues pertaining to class management, student motivation, fostering values, and moral and caring behavior, in addition to some general pedagogical principals.

Learning and practicing need-supporting dialogues with their students is important, because it may enable teacher-educators to develop and inculcate this orientation in their student-teachers during the formative and novice stage of student-teachers' professional development. Thus, it is reasonable to assume that if teacher-educators provide high-quality modeling and implementation of a need-supporting orientation in their teacher-student dialogues, their student-teachers (i.e., future teachers) may be inclined to internalize and apply a similar approach with their students.

The implementation of the SBL approach in the field of teacher education has developed rapidly in recent years (Levin & Flavian, 2022; Dieker et al., 2014; Dotger, 2015; Theelen et al., 2019). It has been shown that simulations enhanced professional self-efficacy (Kasperski & Crispel, 2022; Weissblueth & Linder, 2020), supports the development of educators' professional identity (Levin, 2024b; Levin & Muchnik-Rozanov, 2023) and prepares them to face future challenges (Levin, 2024a; Dalinger et al., 2020). These findings indicate its promising potential in the teacher education arena. Nevertheless, insufficient knowledge exists to explain how to promote a need-supporting dialogical orientation in teacher-educators. The current study addresses this lacuna by examining the cultivation of a need-supporting dialogical orientation in teacher-educators through SBL.

Study objectives

To assess the relevance of the proposed approach for teacher-educators, we developed a simulations-based workshop for promoting a need-supporting dialogical approach (NSDO) among teacher-educators, and explored the participants' experience of this orientation. That is, we examined the extent to which participants found the workshop and the NSDO important and personally relevant, tried to enact it in their practice, or intended to do so. In addition, we also tried to identify salient difficulties in the learning of an NSDO *via* SBL.

Methods

Participants and procedure

A simulations-based program aimed at promoting NSDO was devised and applied with 12 teacher-educators from Achva Academic College and Givat Washington Academic College. The

teacher-educators joined the program, after attending an introductory meeting. The role of teacher-educators involves teaching small groups of student-teachers and supervising their field observations and work. Eight participants were teacher educators in a non-religious college, and three worked in a teachers' college with a Jewish religious orientation. All participants were experienced teachers and had a master's degree in education. Their master's degrees included courses on principles of pedagogy and instruction, class management, value education, special education, sociology or philosophy of education. Three worked in kindergarten teacher education and supervision, seven worked in elementary school teacher education, and one worked in middle school teacher education. Before starting to work as teacher educators, most of the participants who worked in elementary and middle schools functioned as main teachers and as teachers of language, literature, and social science subjects. All participants signed informed consent forms and indicated their agreement to be videotaped. Initially, the group had included 13 participants, but one participant dropped out after two sessions because she was concerned about the videotaping.

The structure of the simulations-based workshop focusing on a NSDO

The workshop consisted of seven sessions. It started at the beginning of the first semester and ended after three months. The sessions were co-facilitated by two professional instructors, one with expertise in SBL and the other an expert in SDT. The professional actors who participated in the enacted simulations had prior experience acting in SBL workshops and received brief training in NSDO. The simulation scenarios were developed by an expert scenario writer together with an expert in SDT. The first two sessions were 6-h long, and each of the remaining sessions lasted three hours. Each session included four activities. The structure of a learning session is presented in Table 2.

In the first part of each session, participants voluntarily share experiences, thoughts, feelings, and questions that had arisen since the previous session, and their expectations and feelings regarding the present meeting. The second part was dedicated to the enacting of a scenario (a different one each meeting) depicting a potentially conflictual educator-student dialogue, which was immediately followed by a debriefing phase. The enactment and debriefing together lasted

Table 2. The Structure of a Simulations-Based Session Focusing on NSDO.

Part 1 Opening - Sharing (15 min)	Part 2 Simulation (90 min)	Part 3 Conceptual Learning (45 min)	Part 4 Closing - Sharing (15 min)
Participants voluntarily share experiences, thoughts, feelings, and questions that had arisen since the previous session, and their expectations and feelings regarding the present meeting.	a. One participant & and one actor enact a scenario depicting a potentially conflictual dialogue. b. Replay of NSDO relevant segment, followed by participant, actor and group shared feelings and discussion.	Facilitators present concepts and issues central to NSDO, which the simulation experience exemplified or touched on. The group discusses these concepts, trying to tie them to their practice and educational approach.	Participant share thoughts, questions, and feelings they experienced in the session; what aspects of the session were especially meaningful or useful, and what was not. They also talk about possible applications.

90 min. The third part consisted of a conceptual learning process and a group discussion, in which the facilitators presented concepts and issues central to the NSDO, which the simulation experience had touched on. In the fourth part, participants shared thoughts, questions, and feelings they experienced throughout the session, and talked about possible applications.

Given that an important objective of the present study was to examine the role of SBL in the learning of a NSDO, we describe the simulation part in greater detail, noting that it also required more time than any other part. The simulative procedure was based on Dotger's (2010) model. In this model, the workshop participants are exposed to scenarios from their professional lives, in

which a professional actor plays the role of the "standardized other" (e.g., a student). The simulation-based segment begins with the entire group reviewing the background data for the scenario, after which one of the workshop participants volunteers to act in the simulation alongside the professional actor; they both conduct a five-minute conversation, which is videotaped. The pre-written scenario guides the professional actor to react in certain ways to the volunteer participant, based on the context, the simulation goal, and the volunteer participant's input and behaviors.

The background data for the scenario includes information about the characters, the situation and possible ways the scene might develop, presented in the form of "if–then" statements, intended to help the professional actor choose appropriate responses during the interaction (Levin, 2022). In this sense, the scenario is structured yet flexible (Kaufman & Ireland, 2019), and its development is a product of the dynamic interaction between the volunteer participant and the professional actor.

For the present workshop, seven scenarios were developed, each focusing on a sensitive, potentially conflictual issue, that teacher-educators may find difficult to handle. Table 3 presents the seven scenarios. The scenarios were developed in a two-phase pilot study. First, teacher-educators from different institutions were asked to generate sensitive issues, and then in a second phase, they were asked to rate the relevance and authenticity of each script. The seven scripts chosen were all rated as highly relevant and authentic.

Following the five-minute simulation, one of the group facilitators plays back to the group a short segment of the videotaped scenario, which in her view reflects an aspect of NSDO that was particularly salient, and which can be discussed in-depth by the group. The facilitator then initiates the debriefing by asking the volunteer participant to share experiences and thoughts after viewing his or her behavior in the recorded simulation, after which the other participants are invited to react and comment. This reflective discussion is the core of the SBL process, because it helps participants to identify and address potentially erroneous assumptions or conceptual gaps

Table 3. The Simulation Scenarios Aimed at Promoting a NSDO*.

Scenario #	Scenario Content
1.	Shiri angrily criticizes the teacher-educator because, in her view, she is giving increasingly difficult tasks, with no consideration of the pressures and constraints students' experience, which in the case of Shiri, are really formidable.
2.	Sarah is talking and laughing with her friends, while another student with no friends who usually does not participate in class, is sharing her views on a deeply personal subject. Sarah and her friends usually participate and contribute to class discussions, but they also often interrupt others in these discussions, and take up a lot of space, leaving little room for others.
3.	At the beginning of the year, Moshe invested much effort in the assignments he submitted and also participated in class discussions. However, lately he appears to invest very little in the assignments, and has stopped paritcipating. This happened after he failed to achieve high grades on his assignments, and experienced some condescending comments about his ability from classmates.
4.	During classes, Leah is often openly busy with her phone. In the classes she teaches in her fieldwork, she does not set any limits, allowing students to interrupt and talk while she or other students are talking. She also refrains from pointing out mistakes to students, stating that she believes only in positive reinforcement. In class, she sometimes talks in a way that implies that her approach is much deeper and better than the teacher's.
5.	Orly is a new teaching mentor and trainer whose role is to train the student-teacher observing and working with her in her class. The student working with Orly claims she does not provide any supervision, and mainly uses her to help teach and manage the class. The teacher-educator responsible for fieldwork initiates a meeting with Orly.
6.	Joseph is a math student now being re-retrained as a teacher. He is angry because he thinks your assignments do not help him learn anything valuable. In his view, the reports you require are way too detailed, and focus too much on what the students' and he feel and need. He much prefers practical step-by-step tools on how to conduct a math lesson.
7.	David is investing a lot of effort in the humanities classes he teaches. However, he does not try to evoke students' interest, tie the subjects learned to ethical and social issues, or to topics students may find personally relevant. He perceives himself as a subject matter expert, not a counselor or a psychologist, and also does not want to mix teaching with politics.

Note: The students described are college students training to become teachers.

(Sellberg et al., 2021), as well as missing knowledge and skills they may need to refine, in order to develop their professional expertise (Jossberger et al., 2022).

Toward the end of the debriefing, the professional actor provides feedback and tells the entire group about his/her experience (i.e., his/her needs in that particular role, what she/he found helpful in the interaction, what was missing, and how all of these factors influenced the development of the simulation). Finally, the debriefing was concluded by discussing the potential implications of the lessons learned for other situations that occur in teacher-educators' professional lives (Chernikova et al., 2020).

Data collection

To explore how participants experienced the NSDO they were exposed to, the effects of this orientation on their thinking and actions, and the role of SBL in this process, we relied on semi-structured in-depth interviews conducted with the participants one month after the workshop ended, transcripts of the video-recorded sessions, and participants' written reflections collected after each session.

Interviews

The interviews were conducted one month after the workshop ended to allow participants time to gain some emotional distance, and reflect on the way the workshop affected them". Most of the interviews lasted at least one hour and were conducted by an experienced interviewer, not connected to the study in any way. In preparation for the interviews, the interviewer read updated SDT and SBL literature, familiarized herself with the concepts of the NSDO. At the beginning of the interview, the interviewer clarified that she was not part of the group that initiated the workshop, had no stake in it, and would appreciate the interviewee openly sharing with her everything that she/he perceived as important, including critiques and negative feelings.

The interviews began by asking questions regarding the participants' background, and motivation for joining the workshop. Then, the interviewer asked about any thoughts, feelings, and actions that emerged during, after, or in relation to the workshop. Often, the responses to these questions addressed specific components of the NSDO and/or the SBL process. In these cases, the interviewer asked about feelings and thoughts regarding that specific NSDO/SBL component, whether the participants found it valuable or not valuable, how they understood it, and whether and how it affected their actions as educators. The interviewees were also asked how the SBL framework affected their experience and understanding of the relevant component. The interviews ended with a request to provide feedback on aspects of NSDO and the SBL that the participants considered less beneficial, superfluous, or that needed improvement, as well as aspects they personally found to be valuable.

Transcripts of video recordings of the workshop sessions

All sessions were recorded and then transcribed (overall 27 h of recorded meetings). The transcripts were then scrutinized for statements that participants generated spontaneously during the sessions, and which appeared to reflect participants' thoughts and feelings regarding various NSDO components, and the extent to which they initiated actions inspired by these components. The role of the simulations in learning and enacting specific NSDO components was also examined.

Written reflections following each session

Immediately after each meeting, participants were asked to share feelings, thoughts, and questions that arose during the meeting. The review of the reflections was guided by the same questions and concerns that informed the reviews of the interviews and the video transcripts.

Data analysis

The major aim of the qualitative thematic analysis (Braun & Clarke, 2006) was to shed light on participants' experiences and understandings regarding the three main predefined components of the NSDO, the extent to which participants tried to apply these components in their actions, and the role of SBL in the ways participants experienced the NSDO they were exposed to. A two-stage thematic analysis was conducted in the following manner. First, a deductive analysis was conducted (Fereday & Muir-Cochrane, 2006), using the pre-devised three-component structure of the proposed model; hence, the analytic approach was deductive at this stage (Grove et al., 2012). During this stage, data from all three sources were coded based on the three NSDO components. In the second stage, an open-ended thematic analysis was conducted, using an inductive approach (Thomas, 2006). During the inductive stage, we analyzed the segments of data that had been identified in the previous stage as related to the three NSDO components, in an attempt to discern nuances and different patterns in the ways participants experienced, understood each component, and enacted it in their practice.

Ethics

The study was approved by the ethics committee of the academic institution where the study was conducted. Before the study began, participants signed an informed consent form, after being assured that their personal details would remain anonymous and that they could withdraw from the study at any point.

Findings

In our report, we focus first on the ways participants experienced, understood, and enacted each of the three components of the NSDO, and the role of SBL in the learning of NSDO. Accordingly, we note how participants thought and felt about each component, whether it was relevant to them, and whether and how they tried to apply it in their practice. In addition, we describe their perceptions of the ways in which SBL affected the learning and implementation process. Then, we address salient difficulties experienced in the learning and application of the NSDO. Due to space limitations, the paper includes only a limited number of examples of the presence of the three components in participants' interviews and session recordings. Further examples can be obtained from the authors upon request.

Participants experiences and reactions to simulation-based learning of NSDO

As the in-depth interviews provided a richer and more nuanced picture of teacher-educator experiences and reactions than did either the session transcripts or the reflections, most of the examples in this section are taken from the interviews. Our description of participants' feelings, understandings, and actions in relation to each NSDO component starts with the two components that appeared to be meaningful to most participants.

Empathic perspective-taking

Most participants noted that during and following the workshop, they developed a greater appreciation for the practice of empathic perspective-taking. Importantly, some also showed a good understanding of this practice and the challenges that this practice poses to the educator. Several interviewees indicated that beyond valuation and understanding of this practice, they had already started applying it in their daily work with their students.

The following excerpt provides a concrete example of enactment of the practice of empathic perspective-taking learn in the workshop into practice:

> I received a complaint (from the trainer in school) about a student who wasn't functioning properly, coming late to school, etc. I knew I had to have a serious conversation with her, and I took a lot from the basic need theory we were working on in the workshop … This was not a simple conversation … trying to find out why she arrives late, what were her difficulties. I didn't want merely to criticize her, but also to try to look with her, at what happens from her perspective, and think together about a way forward that would enable her to grow. That too was something that emerged strongly in the workshop, and I felt that what I learned helped me. After our conversation, her functioning improved. I know it from her school trainer reports and she too reported about it. (Betty, interview)

Betty begins with a general statement about how she relied on need theory (SDT) in coping with the specific problem she faced. Then she explains how she applied the practice of empathic perspective-taking in her conversation with the student-teacher. Moreover, her words about "think[ing] together about a way forward that would enable her (the student) to grow" demonstrate her application of the principle of promoting autonomous student change through encouraging student's reflection and participation in the attempt to improve her functioning.

From the standpoint of SDT, empathic perspective-taking involves an authentic attempt to understand what the student really needs, accompanied by the recognition that often, such an understanding can only be reached through careful attention to what the student is saying and feeling. The following excerpt reflects such an understanding, enacted in a challenging encounter with a student:

> I made some comments on the work of some student, and she got upset, and her reaction was even a bit defiant. At that very moment, I said [to myself], support her needs, Hanna, what is it she needs? So, first I scheduled a time to meet, and what really guided me in that conversation was the principle of supporting her needs, think what she needs now, what, not only what I hear, right?! Or what it causes me to feel, but what does she actually say, what is behind her words, as one of the points that emerged in the simulations was that … the fact that in the simulation I grasped one thing that was on the surface, when I conducted a very very short conversation, and then when the actor shared more about herself and her motives, I understood that there was an entire layer I did not even think about. And this is something that was very beneficial for me because this is the place of supporting her needs. If someone, for example, looks angry to me, this does not mean that is all she feels inside. Perhaps this anger stems from some need I do not presently identify, I do not see it, and I need to try to find and decipher, I need to be together with her, to try to find it. And if I respond with anger, then I miss her, but if I try to understand what she tries to tell me with her anger, what need there is presently unattended, then I will react differently. (Hanna, interview)

The important role of the SBL in increasing participants' awareness of the importance of empathic perspective-taking, and their attempts to enact this practice was mentioned by nearly all of the teacher-educators.

> Perspective is an amazing thing! It's such an important word because we always make assumptions and then we get angry based on what we assumed, and then it snowballs. You create a whole story. Even in the simulation, I was surprised when the actor explained the reason she felt alienated; I realized, Wow! I would never have thought of that. (Dana, session 4)

In the interview conducted two months following the fourth session, Dana again described that same experience and again noted the importance of the simulation as enabling her to understand the other's perspective. As the above quote demonstrates, the importance of empathic perspective-taking became even clearer following the feedback from the professional actor, which revealed to her a perspective she had not thought of.

Another participant noted in her reflection that the simulation experience increased her awareness of the importance of empathic perspective-taking. For her, this change came during the debriefing, when she heard various participants suggest different perceptions regarding the possible motives and needs of the "student" (played by the professional actor). This led her to realize that it is important to try to understand how the student-teacher perceives and experiences things.

> I realized that other people's perspective can be very different than my own. It's important not to assume that I know what motivates the other to behave a certain way. The feedback from the actor brought to the surface much that was not clear from her overt behavior. (Sharon, reflection)

Yet another participant noted that the simulation led her to understand that it is important to understand how students perceive their conversations with her, something she had not considered previously.

The simulation made me aware that students have their own lives,

> something that I did not consider before and … It occurred to me when the actors were providing feedback about how they felt in the situation. That's when I felt it because this is something that does not happen to you in real life, I never sit with a student to hear how she viewed our conversation from her side. It's like … you know, these way of looking at things, it isn't something that happens in life to a person … And then, afterwards, there were a few times in my interactions with students that I thought about things a bit differently. (Nicole, interview)

Promoting autonomous change

Participants noted that during and following the workshop, they came to appreciate the importance of supporting students' autonomous motivation to change their behavior, because they truly understood and identified with the importance of such self-determined change. Participants also understood that, as part of the autonomous change process, it is important to support students' initiation and/or endorsement of actual attempts to cope with difficulties that may impede their attempts to change their behavior.

Some participants also described instances when they attempted to apply their newly-gained knowledge regarding the importance of supporting students' autonomous motivation. As indicated in Table 1, the component of promoting autonomous student change includes educators behaviors such as minimizing attempts to control students, fostering student reflection on the issue at hand, providing a rationale for educator expectations (if needed), and promoting joint problem-solving. Below we provide examples of participants' thoughts, feelings, and actions regarding the NSDO component of promoting autonomous change.

> This workshop gave me the courage to try it [i.e., letting the learners choose their own method of self-evaluation and feedback], which I've been wanting to do for a long time. The idea is to give students space for self-reflection and looking inwards, but it requires that I give up some control, so that I am not the only one determining the final numerical grade or verbal evaluation, but it should also come from them. I share this insight with my students … this understanding went with me, yes, it went with me, and I also saw how I applied and gave it a place as I was moving along in my work with students, sharing this approach with my students, it became part of the discourse in my class. (Shelley, interview)

In this quote, the teacher-educator says the workshop enabled her to lessen her reliance on a practice allowing considerable control ("I am not the only one determining the grade") and implement a learning and evaluation method that allows students to have choices and exercise agency. Importantly, the new method was implemented through an autonomy-supportive process, involving open discourse with the students about the new method.

Another participant noted that the workshop caused her to change the way she talks with students. Thus, she now tries to talk in a way that encourages student reflection, self-expression, agency, and initiation of solutions. She also noted that shifting to a more autonomy-supportive style demanded considerable work on her part, indicating that it was not an easy process.

> I took things to my work with students, all the time, not only in individual conversations … where it is necessary and right to phrase things more in the form of questions, and less in statements ending with a period or an exclamation mark, which is something I needed to work on, how to, constantly, hand it over to the other side (the student), so that he will deal with the issue, think, formulate, explain, and sometimes will be the one offering a solution; it is him who should create a change in himself … A good change comes only from a place where the other person explores things in himself and deliberates within himself, and in the end finds ways to create change. This is where change really happens. That's when it can really happen. (Kate, interview)

Of note, this participant also mentioned in other parts of the interview that much of her inner change occurred as she observed how other people reacted in the simulations.

Other participants said that exposure to the principles of NSDO enabled them to set limits in ways that are now based more on a reflective discourse with the students and joint problem-solving, and less on controlling practices (e.g., threats).

> As regards the students' coming late to class … they explained why they come in late – some of them come from afar and then there is a line-up at the security check at the campus entrance. So, we discussed it together and came to a joint decision that we will start at 8:45 instead of 8:30, but the condition was that they would not be late, and that the class will end 15 minutes later, as I did not want to reduce class time. So, I did some negotiation with them … I did not close the door, even though I very much wanted to … I reached some agreement with them. (Jane, session 4)

Another participant provided an example of adopting the autonomy-supportive practice of providing a rationale for her limit-setting actions, a practice she might not have attempted before her exposure to the NSDO principles and the SBL training.

> I had a challenging group of students who had plagiarized complete assignments, and I submitted a complaint to the disciplinary committee. And then they sat in my class, and it was very unpleasant, so I asked the leader of the group to meet me for a talk.

> So, actually, I had, I even was very glad, I said, well, I will sit with her now, not in the simulation room, and I will practice on what, so I really explained to her why I initiated the talk, and what was the purpose, and what caused me to (summon her); I think I am not sure I would have done this before the workshop. I might have talked with her without clarifying what the issue is, maybe not talk, it would not be so clearly on the table (Dana, interview).

Need-focused self-awareness

The following excerpts suggest that the workshop enhanced the inclination of several participants to engage in need-focused self-awareness as they interacted with students. In the following quote, the teacher-educator explains how the workshop honed her ability to refrain from automatic responses and instead note how some of her emotions were related to her own concerns and interpretations, which enabled her to adopt her student's perspective and understand the student's needs. As a result, she was better able to regulate her own emotions and conduct a more empathic discussion.

> A student submitted her written reflection about the process she had undergone (in her fieldwork), and suddenly I felt that something happens to me; I felt uncomfortable with this reflection, and of course, I had automatic thoughts … so first I stopped, did not react immediately … I let myself be there, trying to understand what happens to me in this situation, and what happens to her; that is, what is her need … I stopped for a moment so I could try to examine what her needs, what she really needs, what happens there and what happens to me in her presence, and then I really got to this thing from a more connecting and relating place … also from a place that is more regulated, I repeated this process a lot during the workshop, something in this workshop helped me also in the part of emotion regulation … it helped me to stop and do some … really conduct an authentic discourse, enable me to separate things; that is, to understand what do things touch on, what is mine and what are the other's needs, this an internal dialogue that is important in this work (Arielle, interview).

Another participant noted how the workshop had helped her pay attention to her students' needs rather than to her own needs and concerns, inhibit impulsive reactions, and react in ways that consider students' needs.

> When I am in a meeting with a student who approaches me and seems very angry, I think: "Just a moment, look through the lens of need support, what does she need now? No Ego, not me; not I am the lecturer and you are the student, but look from the place of nee-support, this makes me sharper and more attuned … this thought of, Hedva, stop for a moment, try to think what does she need, what does she tell you she needs. This clearly came from the workshop, paying attention to needs, which of her needs presently is unattended (Olivia, interview)

In the two examples above, participants acknowledged how the workshop helped them learn to avoid strong automatic responses driven by their own threatened needs (or ego) so that they were now able to pay attention to students' needs in the situation. The teacher-educator quoted in the next excerpt does not focus on her own threatened needs, yet, she acknowledges that the simulation helped her realize the importance of inhibiting her immediate response so that students can express what they need and what they think.

> The wisdom of dialogue management, I say this at least from my own experience in the simulation, is also the principle of delaying reaction. You often feel a desire to say what is right, and sometimes your words block the student from saying what she/he really thinks, what she/he needs, what motivated him/her to act the way he/she did. (Sarah, session 7)

The ability to stop and examine what is happening, as the basis for practicing a more constructive process of reflection and action was mentioned also by other participants. Overall, only a few participants described how the NSDO and the simulations helped them pay attention to and stop unconstructive automatic responses, and gave concrete examples of such instances. Yet, many noted that participating in the SBL workshop on NSDO principles increased their general awareness of their own motivational dynamics. Specifically, they realized that their threatened needs often caused them to respond in ways that were not constructive. Many mentioned that this awareness also made them more sensitive to the needs of others in their family or people in other contexts.

Public exposure during the simulation as a learning obstacle

The second objective of the present study was to identify obstacles and challenges in the process of learning the NSDO. A review of the three data sources revealed one obstacle that was particularly salient. Several participants said they refrained from participating as an actor in the simulation because of the exposure it involved: "There are things that I know I do well in real-time, but I'm not sure I would do a good job in the simulation when everyone is watching. It makes me very uncomfortable" (Nicole, interview).

In addition to the anxiety evoked by performing in front of one's peers, it appears that having a limited amount of experience also affected participants' confidence, and thus their willingness to act in the simulated scenario: "I don't feel confident enough in this forum. This is my first year here … I'm learning a great deal but participating in that sense still feels unsafe" (Shelley, session 4).

Another aspect, namely, personality traits, may also affect people's decision whether to participate as actors in the simulation: "I would very much like to participate in the simulation, but I also feel anxious. Even if afterwards, I thought I did a great job, one comment could derail [my confidence] … I need a very very comfortable, enabling, and nonjudgmental environment to dare to go into the simulation room" (Dana, interview).

In addition to these challenges, one of the participants noted that the language of the workshop was not her native tongue and while participating in the debriefing posed no problem, she did not feel comfortable enough to act in the simulation using a non-native language.

> I was really debating whether to participate in the simulation enactment; although I really wanted to, a few inner obstacles deterred me, one of them was the thought that I wouldn't convey what I wanted because it isn't in my native language … That was an inner conflict for me: each week I debated [with myself] and each time I decided against it. (Mika, session 7)

Although learning is achieved also by viewing the simulations, a language limitation undoubtedly makes the challenging experience of learning the NSDO through SBL even more difficult.

Discussion

The present paper contributes to extant thinking and knowledge in a number of ways. First, we presented an innovative, SDT-based model, of a need-supporting dialogical orientation (NSDO)

in potentially conflictual dialogues between educators and their students. Second, the study informed us on the extent to which SBL facilitated the learning and application of the three components of NSDO; that is, the personal relevance of each component, how participants understood it, and the ways in which they tried to apply each component in their practice.

How effective was the program in promoting the three NSDO components?

The quotes presented so far suggest that most workshop participants did come to appreciate the importance of all three NSDO components for high quality teaching. However, deep assimilation of the three components involves more than appreciation and personal relevance. When we move to these deeper levels, it appears that the workshop was most effective in promoting the learning and application of the component of empathic perspective taking, fairly effective with regard to autonomous change, and only mildly effective with regard to need-focused self awareness and reflection.

For empathic perspective taking, it appears that most participants came to appreciate how crucial and consequential this component is. They also found it personally relevant, and therefore noted that they should incorporate this component in their everyday practice. Some also understood the serious challenges involved in applying this practice, and several actually started to apply it in their everyday practice. For the component of autonomous change, most participants recognized its importance, and some also tried to apply in their practice. However, there was less talk about personal relevance or a learning to apply this component as a personal goal. In addition, participants did not refer to the challenges one may face in the attempt to apply this component.

Regarding need-focused self-awareness, most participants referred to its importance, and many also noted its personal relevance. However, most did not set it as a practice they should learn and improve at. Many reported that they started to be more aware of the fact that their threatened needs often caused them to respond in ways that were not constructive. However, only a few described incidents in which the workshop helped them pay attention to and stop unconstructive automatic responses. In addition, participants did not refer to the challenges one may face in the attempt to apply this component.

Overall, it appears that future SBL workshops attempting to promote NSDO in teacher educators should find ways to increase the assimilation of the components of autonomous change and need focused self-awareness.

Aspects of each NSDO component that were better assimilated

As each of the components of NSDO has several subcomponents, it is interesting to examine what aspects of each component participants paid greater attention to. Inspection of the materials gathered suggests that one subcomponent of empathic perspective-taking that often appeared in participants' accounts was the attempt to understand the needs underlying students' feelings and behavior. For example, in response to an angry and defiant student response, Hanna repeatedly emphasized her genuine attempt to understand the frustrated needs that might have nourished the anger. One possible indicator that the attempt to understand their students' needs indeed reflects educators' assimilation of the essence of empathic perspective-taking is that such efforts were often followed by attempts to support students' needs. An aspect of empathic perspective taking that was less present in participants' accounts was respecting students' interpretation of the facts and the feelings generated by interpretations which they may view as biased or incorrect.

The aspect of autonomous behavior change that was most prevalent was encouraging students to reflect on their behavior and on ways to change it. Often this reflection was done together with the teacher-educator, in ways that are non-controlling and respectful of students' preferences. For example, Kate noted that, as a result of her participation in the workshop, she was trying to encourage students to think of options, rather than offering them solutions in an authoritative manner. Accordingly, she added that now she prefers to raise questions rather than make statements ending

with an exclamation mark. An aspect of promoting autonomous change that was less prevalent in participants accounts is encouraging students to reflect on whether they want to change their behavior. As for need-focused self-awareness, participants mostly referred to the aspect of paying attention to their own (teacher-educator) needs and feelings that were evoked by need-threatened student behavior. However, they were less concerned with stopping their automatic reactions.

The data collected in this study cannot inform us of the factors that may have led participants to focus on some aspects of NSDO more than on others. Yet, it is reasonable to assume that specific features of the simulation-based workshop we designed might have led participants to focus on specific aspects of NSDO. For example, the debriefing phase encouraged participants to understand the student's (actor) needs. Moreover, in most debriefing discussions, participants were asked to devote more time and practice between the sessions to improving their capacity to understand students' needs. Less time was devoted to respecting students interpretations of events, and the feelings emanating from these interpretations. Furthermore, in the third part of each session (post-simulation debriefing), the facilitators often devoted considerable discussion time to underscore the importance of encouraging students to reflect on how they can cope with the problem at hand rather than offering them solutions. Little time was devoted to the question of whether students actually want to change their behavior.

Finally, because dealing with the components of perspective taking and autonomous change took considerable time, there was less time to work on need-focused self-awareness. In addition, the latter component may be particularly challenging to foster because it requires the capacity to face one's vulnerabilities and neediness, a process that might be especially difficult in a group context. Future development of SBL workshops fostering NSDO may attempt to refine the development of the self-awareness component of NSDO.

Obstacles to the learning and implementation process

While the materials gathered suggest that the workshop was experienced as significant and personally relevant by all participants (Appendix 1), and many of them understood and tried to enact the principles of NSDO, participants did note two obstacles to the learning and implementation process. The first difficulty involved fear of public exposure, which prevented some participants from participating as actors. As public exposure of the participating actor is an inherent feature of SBL, it is important to discuss the implications of this issue. The fact that one does not participate actively as an actor does not necessarily stop the learning process. As noted by Shelley, she was able to learn a great deal even though she refrained from taking the actor's role. Consistent with this report, recent studies suggest that observing others act in the simulation, without taking an active role as an actor, still contributes to learning in a multichannel manner (Kasperski & Hemi, 2024; Frei-Landau & Levin). Thus, it was recently found that participants in both roles may benefit equally from the SBL process (Levin et al., 2023a).

The finding that participating in a simulation may be stressful is not new (Stavroulia et al., 2016). In fact, the simulation process assumes that learning often requires participants to venture outside their comfort zone and face a challenge that might be experienced as stressful (Angelini & Alvarez, 2024; Levin et al., 2023b; McGuire & Lorenz, 2018). Interestingly, Cantrell et al. (2017) found that the stress accompanying SBL is often perceived as a factor that actually promotes learning. Perhaps, the stress experienced during the simulations enhances participants' motivation to pay attention and understand that they lack some important knowledge and that there are skills they may need to improve.

Yet, it appears that the anxiety aroused by active participation in the simulation process may reduce the benefits of SBL for some participants. To minimize the negative effects of anxiety caused by the simulation, SBL facilitators are trained to create a safe and nonjudgmental learning

environment (Kasperski & Hemi, 2024), and to manage the simulation in ways that match the abilities and sensitivities of the participants (Levin et al., 2023b; Peters et al., 2012).

Assuming that simulations in front of an audience may arouse some stress, and at times anxiety, the question of the costs and benefits of this method, compared to other methods remains open. One way to tackle this issue, is to look at it through the lens of the concepts of facilitating versus debilitating anxiety or stress (Alpert & Haber, 1960; Sarason, 1980). Debilitating anxiety involves levels of stress and worry that undermine effective information processing and learning (Carrier et al., 1984). However, facilitating anxiety may have a different effect. The concept of facilitating anxiety, actually refers to increased levels of arousal and excitement that are often accompanied by some stress, when facing a difficult challenge. Therefore, it may be appropriate to substitute the concept of facilitative anxiety with the concept of facilitative mild stress. Research has shown that these type of challenge-induced arousal and mild stress, may, at times, contribute to learning and performance (e.g., Preckel et al., 2006; Raffety et al., 1997). Future research may examine the role of "facilitative mild stress" in SBL compared to other methods of learning.

On a practical level, as high levels of anxiety may interfere with optimal learning from the simulation, it appears that future simulation-based NSDO workshops should find ways to reduce the anxiety that some participants experience in the simulation. Perhaps, these anxiety-prone participants may benefit from a more gradual learning process. Such process may involve observation of models, practice with feedback without being videotaped (e.g., Zimmerman & Kitsantas, 2002), and only then participation in a simulation. It may also help to reduce the size of the audience.

Theoretical and practical implications

To our knowledge, the present study is the first attempt to connect the SDT and SBL theoretical and applied traditions. Future research may examine prevalent SBL assumptions and applications in light of the SDT-based concepts and research findings. Similarly, future research may also examine SDT views on learning processes and interventions from the perspective of SBL's basic assumptions and research findings.

Another contribution of the present study involves the field of teacher education. This is the first study to suggest a theoretical approach along with a practical method that enables teacher-educators to support the needs of student-teachers while simultaneously enhancing their motivation for learning. Hopefully, simulation-based NSDO workshops may serve as a first link for the spread of a need-supporting orientation in the educational system. The present study did not examine whether the teacher-educators' self-reported assimilation and enactment of NSDO indeed led them not only to internalize this orientation but also to implement it in their field-work. Future longitudinal research may examine if such carryover effects exist, and what can be done to support the implementation of the orientation learned in the workshop during the post-college phase of teachers' careers.

Limitations and future research

First, although the present study showed that the participating teacher-educators found the simulation-based workshop promoting NSDO personally relevant, understood important aspects of this orientation, and tried to apply them in their practice, we do not know whether their students indeed experienced their teacher-educators as need-supporting. We also do not know if the students of these teacher educators internalized the need-supporting approach and enacted it in their own routine teaching practice. To examine these issues, future research should examine whether following exposure to the workshop, students perceive their educators as more need-supportive, and are also more inclined to enact need supporting practices in their student-teaching training. Such research may also examine whether students who took the workshop to engage in need-supporting practices after they graduate from college.

Second, the present study did not include a control group. Future studies employing quantitative methods should use a control group in which NSDO is taught in methods other than simulation, so that the effects of SBL based teaching of NSDO can be compared to the effects of other teaching methods. For example, methods using modeling, followed by practice and individual feedback. As already noted, these methods may generate less anxiety, but perhaps also less engagement and excitement.

Third, the present study did not include a control group where instruction of NSDO is based on other methods. Future research should examine whether simulation-based learning is a more beneficial way for learning NSDO relative to other methods. Fourth, the current study relied exclusively on a qualitative method. Future research should employ quantitative methods using self-report and other-report scales and observations. Fifth, we did not examine whether teacher-educators valued the orientation and enacted it for a significant period after the workshop ended. Sixth, we do not know if the workshop and the orientation it attempts to foster will be relevant in different cultural contexts.

Seventh, we do not know if a simulation-based learning workshop aimed at promoting NSDO is beneficial when conducted directly with teachers who already work in the education system. Finally, it is important to note that in our approach and study we did not focus on dialogues in situations where students function well and are autonomously motivated to study and behave in a pro-social manner. Although in these situations, teacher-initiated dialogue may be less crucial, an autonomy supportive dialogue is likely to contribute to the maintenance and enhancement of autonomous motivation to learn and care for others. As part of such dialogues, teachers may show interest in what students do, help them set goals and find challenging tasks, or help students cope with difficulties that may undermine their autonomous motivation. Future research may address the latter three issues.

Conclusion

Based on self-determination theory and the principles of simulation-based learning, we described an innovative approach for fostering a need-supporting orientation in teacher-educators' dialogues (NSDO) with their students. This orientation consists of three components: perspective taking, autonomous change, and need-focused self-awareness.

Interviews with participants, their reflections, and recordings of workshop sessions showed that participants found all three components important. Yet, the three components were not assimilated to the same extent in terms of attempts to apply in practice, setting the learning of the components as personal goals, personal relevance, and realizing potential obstacles in attempts apply in practice. Thus, the workshop was most effective in promoting the learning and application of the component of empathic perspective taking, fairly effective with regard to autonomous change, and only mildly effective with regard to need-focused self-awareness. Future research may examine various ways to improve the assimilation of all components and reduce the high levels of stress that some participants experience when invited to take on the actor role. Overall, simulation-based learning of a need-supporting dialogical orientation appears to have the potential to deepen and improve the educator-student dialogue and promote growth.

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Appendix 1. Quotes from participants demonstrating the importance they attributed to the workshop

- "I think that this workshop, meeting with other professionals in the same role, that is, people who are dealing with similar issues – some of whom succeed in it more than I do – was very helpful. First of all, it enabled me to be myself, including my weaknesses, and [to reveal] even my deficiencies, the things I still want to work on and learn. I love learning and do it constantly; this workshop provided a different kind of learning."

- "Today I realize that after this workshop, I can specifically attribute –and with a great deal of respect– I credit the workshop for causing me to stop and observe. The system [requires us] to pause and ask: "Wait, what was I focusing on? Did I miss something?" – that's my responsibility. "Was I dealing with the more minor issues?" The main thing is that as a person, one tries to do better, right?"

- "We dealt with so many concepts, but the part of internal observation converted the theory into a useful tool for all of us, as a group and as individuals. [It taught us] to observe ourselves and know how to manage a discussion with someone else, how to reach the other and influence him or her."

- "This workshop helped me understand what motivates me to act the way I do and how I can do things in a slightly more refined manner, differently, in a way that allows more room for the other person [in the conversation]. I liked that point very much and that's what I took with me from the experience. It simply is important and I think it became clearer and I gained a deeper understanding."

- "This workshop made me see that I'm in the right place. I think it contributed a great deal and it helped me shed light on things that are really important to us as people, that is not just for me alone, but on the level of interaction with people. The idea of needs – what people need – that idea still accompanies me and is in my thoughts."

- "I think this workshop contributed to my professionalism and helped clarify my path, the path that I believe in and follow. It's as if the workshop confirmed what I already knew and empowered me to continue."

- "This workshop strengthened something that was already part of my professional foundation; it was a refresher and reaffirmed what I already knew. It provided a place to talk and that helped. We also had very good facilitators, the atmosphere was positive, and the group members were amazing. I also learned new things from the workshop: the theory and the scenarios that were acted out in the simulation also helped me learn. From these experiences, I learned how to cope; the workshop made me more focused and helped me understand myself better. I was able to understand my role as a pedagogical mentor and as a human being."

- "This workshop is good for everyone, for every pedagogical mentor, and it doesn't matter whether one is in the early stages of one's career or toward the end. It really provides a different perspective about the path you take and the methods you choose, which is important. Now, I feel that it's important for me to take what I learned and give it forward, in an organized fashion, perhaps integrate it [into my lessons]. I have to figure out how to go about it. It will be interesting to think about".