

Culturally Responsive Simulations for Developing Arab Teachers' Social-Emotional Competencies

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Abstract²: This study examines the impact of culturally responsive simulation-based learning workshops on the development of social-emotional competencies (SEC) among Arab teachers in Israel. Participants (n = 117), all Arab teachers enrolled in a master's program at a teaching college, were divided into a control group (n = 55) and an intervention group (n = 62). Both groups underwent a SEL-skills course with different teaching methods: the control group studied an asynchronous course through the Moodle system, while the intervention group took the same asynchronous SEL-skills course in addition to culturally responsive online simulation-based learning workshops. These workshops included scenarios that authentically reflected the experiences and cultural context of Arab teachers in Israel, aligned with CASEL's five SEL components.

A mixed-methods design was employed, with quantitative data from a SEL skills questionnaire distributed pre- and post-course to both intervention and control groups, and qualitative data derived from an open-ended questionnaire distributed at the end of the course to the intervention group. Quantitative findings showed that participation in the SEL course improved teachers' competencies across both groups. However, qualitative analysis underscored the added value of culturally responsive simulations, which enhanced participants' competencies across emotional, social, and cognitive dimensions. This study demonstrates the importance of culturally responsive pedagogy in professional development and provides insights into designing culturally responsive approaches for SEC development in teacher training programs.

Keywords: Arab teachers' professional development, cultural authenticity in teacher education, culturally responsive simulation-based learning, social-emotional competencies.

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Literature Review

Social-emotional learning henceforward (SEL) refers to a process in which people learn and apply a system of social-emotional and cognitive skills, attitudes, behaviors, and values that help direct their thoughts, feelings, and actions in ways that enable them to succeed in school, work, and life (Gimbert et al., 2023; Sahin Kiralp & Ummanel, 2023).

The aim of social-emotional learning is to enhance the learner's skills in five interconnected competencies in order to make life more efficient (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2022). The essential competencies encompass: (a) Self-awareness involves recognizing one's emotions and thoughts and how they affect behavior; (b) Self-management is about regulating emotions, thoughts, and behaviors in different situations, setting personal and academic goals, and working to achieve them; (c) Social awareness includes understanding different perspectives from diverse backgrounds and cultures, empathizing with others, and finding sources of support; (d) Relationship skills encompass forming and maintaining healthy relationships through clear communication, active listening, cooperation, constructive conflict resolution, and providing assistance when needed; and (e) Responsible decision-making involves making respectful choices while considering ethical standards and their impact on oneself and others (Wigelsworth et al., 2022).

A significant body of evidence supports the importance of SEL in education. Teachers with developed SEL-skills generate positive classroom climate and higher academic achievements (Ferreira et al., 2020; Poulou, 2017; Sandilos et al., 2023). Moreover, studies show that teachers with high SEL competencies contribute to the development of SEL among their students (Gimbert et al., 2023; Goroshit & Hen, 2016). Despite the teachers' importance in promoting SEL for their students (Assor, 2019), the issue of how to upgrade their own social-emotional learning skills remains a 'missing link' in the field of education (Rodriguez et al., 2020). There are insufficient studies that focus on the teachers' social emotional competencies (Soutter, 2023); therefore, the current study focuses on examining social emotional competencies among them.

In Israel, the policy discourse around social-emotional learning (SEL) has gained significant momentum over the past two decades, particularly following recommendations by the National Academy of Sciences expert committee which emphasized SEL as a core educational priority across all grade levels (Benbenishti & Friedman, 2020). The Ministry of Education has since integrated SEL instruction from early childhood through secondary education and has issued guidelines for embedding social-emotional competencies into both classroom teaching and school climate interventions (Zarad, 2023). It has positioned SEL not only as a pedagogical innovation but also as a policy tool for addressing issues of school violence, student well-being, and teacher professional development (Benbenishti & Friedman, 2020). Yet, despite these advances, official reports acknowledge that teacher training in SEL remains fragmented, with limited structured opportunities for in-service teachers to enhance their own social-emotional competencies (Assor, 2019). This gap is particularly salient given evidence from global systematic reviews showing that SEL interventions for teachers improve well-being, reduce psychological distress, and enhance classroom effectiveness (Oliveira et al., 2021).

From a practice standpoint, teachers in Israel - and especially Arab teachers - face distinct socio-emotional challenges that shape their professional roles. Teaching is widely recognized as emotionally demanding, with high risks of stress and burnout, and these risks are intensified in culturally complex and minority settings (Oliveira et al., 2021). Because most SEL frameworks were developed in individualistic Western contexts, their application in more collectivist and paternalistic cultures requires adaptation, as relational hierarchies, family centrality, and indirect communication styles often clash with Western emphases on self-assertion and direct expression (Rahal, 2025; Surya et al., 2023). Within Arab society in Israel,

cultural norms such as strong familial bonds, hierarchical social structures, sensitivity to family honor, and gender-specific expectations shape both educational practices and teachers' professional development (Arar & Massry-Herzallah, 2016; Dwairy, 2025; Haboush & Alyan, 2013). These dynamics create unique tensions when teachers balance professional demands with community expectations, particularly in managing parent-teacher relations or addressing socially sensitive issues (Sinai & Shehade, 2019). Consequently, social-emotional competencies cannot simply be transferred from Western models; they must be developed through culturally responsive approaches that acknowledge teachers' culture and lived realities as well as professional identities (Soffer-Vital & Finkelstein, 2024). In this regard, culturally responsive pedagogy provides a promising pathway for meaningful teacher training (Dwairy, 2025).

The importance of cultural context in educational settings is well-established through culturally responsive pedagogy, an educational approach that recognizes the significance of incorporating learners' cultural references in all aspects of learning (Howard, 2021; Talleyrand et al., 2022). This pedagogy acknowledges that culture significantly influences how people learn, communicate, and interact (Hammond, 2021). In teacher education, culturally responsive pedagogy emphasizes the need to prepare teachers who can effectively address the diverse cultural backgrounds of their students while being conscious of their own cultural identity (Kondo, 2022). Recent studies have shown that incorporating culturally responsive approaches in teacher preparation programs enhances teachers' ability to connect with their students and improves learning outcomes (Howard, 2021; Mensah, 2021). Furthermore, when professional development programs acknowledge and integrate teachers' cultural backgrounds, they become more meaningful and effective (Romijn et al., 2021). This is particularly crucial in contexts where teachers come from minority communities, such as the Arab society in Israel, as their cultural experiences and perspectives can significantly influence their professional development and teaching practices.

However, translating this pedagogical vision into practice requires methods that provide teachers with safe, authentic opportunities to rehearse complex emotional situations. One promising approach that responds to this need is simulation-based learning, which allows teachers to practice and reflect on culturally adapted and emotionally charged scenarios. Simulations have a long history in the education discipline (Murphy et al., 2021), and mixed-reality simulations have become increasingly popular in teacher preparation programs in recent years. For example, Hirsch et al. (2023) found that mixed reality simulations increased preservice teachers' teaching knowledge and skills. In another research, mixed-reality simulation sessions led to significant changes in a teacher's ability to manage behavior problems in the classroom (Larson et al., 2020). Simulation-based learning provides opportunities for authentic practice in a controlled environment with reduced risk of harm (Dalinger et al., 2020). It ensures a safe, controlled environment that allows for immersive experience, and provides an opportunity to improve professional and personal skills (Weissblueth & Linder, 2020).

A simulation-based learning model involves four distinct stages: (1) the introduction phase, (2) the simulator briefing phase, (3) the scenario, and (4) the debriefing phase. The primary goal of the introductory phase is to establish a safe and comfortable learning environment by setting rules and creating a framework that promotes a stress-free atmosphere. During the simulator briefing phase, participants receive essential background information and prepare themselves mentally for the upcoming simulation encounter. The scenario phase is the actual simulation, where a participant engages and interacts with a professional actor. Finally, the debriefing phase is the last stage of the learning cycle, in which participants reflect on the challenges, difficulties, and achievements they experienced during the simulation. During this phase, participants receive feedback from the facilitator and other observers, and they extract valuable insights from the simulation experience (Gerich & Schmitz 2016; Kolb, 2014).

As simulation-based learning becomes increasingly prevalent in education, research has begun to explore its effectiveness in developing teachers' social emotional competencies. Studies have demonstrated the value of simulations in fostering SEL skills through experiential learning opportunities (Kasperski & Crispel, 2022; Levin & Flavian, 2020). A meta-analysis by Chernikova et al. (2020) found that simulations are particularly effective for developing complex competencies in higher education, including emotional awareness, interpersonal skills, and decision-making abilities. However, the effectiveness of these simulations may largely depend on their cultural authenticity and relevance to the participating teachers.

While previous research has examined social emotional competencies (SEC) development (e.g., Lozano-Pena et al., 2021; Rodriguez et al., 2020; Schonert-Reichl, 2017), culturally responsive teaching (e.g., Gay, 2018; Hutchison & McAlister-Shields, 2020; Ladson-Billings, 2014; Tanase, 2020), and simulation-based learning (e.g., Chernikova et al., 2020; Murphy et al., 2021) separately, no study to date has investigated how these three elements interact in teacher education. This gap is particularly significant given the increasing diversity in educational settings (Howard, 2021) and the need for culturally sensitive SEC development approaches (Jagers et al., 2025). Therefore, the novelty of this study lies in the fact that it integrates these three elements, examining how culturally responsive simulation-based learning affects the development of social-emotional competencies among Arab teachers in northern Israel.

Aims and Research Questions

Building on the above theoretical, policy, and practical considerations, this study sought to examine the effects of culturally responsive simulation-based learning henceforward (CRSBL) on the development of social-emotional competencies (SEC) among Arab teachers in Israel. For this purpose, experimental design research was conducted to compare between two groups (intervention vs. control) of Arab teachers pursuing their master's degree in a teaching college. Both groups underwent a SEL-skills course with different teaching methods; the control group studied an asynchronous course through the Moodle system, while the intervention group took the same asynchronous SEL-skills course in addition to culturally responsive online simulation workshops.

The study sought to address three key research questions:

- A. Whether the SEL-skills course significantly affected the social-emotional competencies among both groups (control and intervention)?
- B. Whether the teaching method (asynchronous vs. culturally responsive simulation-based learning) accounted for notable variations in teachers' SEC?
- C. How did Arab teachers perceive the impact of the culturally responsive simulation-based learning on their social emotional competencies?

Methodology

Following the criticism of SEL studies that focus primarily on quantitative evaluation through the utilization of closed questionnaires, which do not provide an in-depth understanding of the learner's personal experience (Hurd & Deutsch, 2017), the current investigation exploits a mixed method approach, which integrates quantitative and qualitative paradigms, to examine the effects of culturally responsive simulation-based learning (CRSBL) on the development of social-emotional competencies (SEC) among Arab teachers in Israel, and to explore their reflection about participating in CRSBL workshops.

A total of 117 Arab teachers studying for a master's degree at a teacher-training college in northern Israel participated in this study, with a mean age of 37.41 years (SD, 8.01). The average number of years of teaching experience was 12.06 (SD, 7.80). The percentage of

women was very high compared to men, and they comprised 96.6% of the participants in the study, a percentage that aligns with previous studies that indicate a significant presence of Arab women in teaching profession in Israel (Arar & Abramovitz, 2013). Regarding religion, most of the participants were Muslim (51.3%), 32.5% were Druze, and the remaining 16.2% were Christian. The participants were students who registered to an elective course of SEL and were divided randomly by the registration office of the college into two groups, a control group (n=55) and an intervention group (n=62). Table 1 presents the background variables of the participants.

Table 1
Background Characteristics of the Control and the Intervention Groups

Background variable	Control group (n=55)	Intervention group (n=62)
Age	38.55 (SD, 8.38)	36.41(SD, 7.59)
Gender	Female 94.5% Male 5.5%	Female 98.4% Male 1.6%
Years of experience	12.62 (SD, 7.17)	11.56 (SD, 8.37)
Religion	Muslim 50.91% Druze 32.73% Christian 16.36%	Muslim 51.61% Druze 32.26% Christian 16.13%

Participants in the Quantitative Part

All participants (n=117) were asked to complete a SEL-skills' questionnaire at the beginning and end of the course.

Participants in the Qualitative Part

Only the intervention group (n=62) were required to fill in an anonymous open-ended questionnaire to explore their perceptions regarding the contribution of the CRSBL workshops to their social-emotional competencies. The intervention participants were divided into four groups of either 15 or 16 members each. All four groups participated in online simulation workshops.

Procedure

This study was carried out through an elective course entitled "Social Emotional Learning" for Arab teachers learning at a teacher-training college in northern Israel for their master's degree. It is important to note that the authors of this study served as the course instructors who basically observed the simulations and the interactions that took place with the simulation center staff who administered all the sessions. The SEL-skills course comprised of twelve online sessions. It was delivered in two distinct methods: 1- The control group participated in an asynchronous course utilizing the Moodle platform, which entailed finishing independent reading and writing assignments; 2- The intervention group also studied an asynchronous course through the Moodle system, but in addition, they participated in online CRSBL workshops using the Zoom platform.

The twelve sessions were structured as follows: In the opening session, that took place through the Zoom with the two research groups, the researchers presented an overview of the course and reminded the participants that it would be accompanied by research. The students

were then instructed to complete the SEL-skills questionnaire, which was developed using Google Forms and accessed through the course's Moodle system. The subsequent ten sessions were designed to learn SEL-skills according to those outlined by CASEL- self-awareness, self-management, social awareness, relationship skills, and responsible decision making. In the control group, the participants were taught each SEL-skill over two sessions. During these sessions, they were required to read relevant articles and submit independent assignments through the Moodle system. Whereas, in the intervention group, two different teaching methods were applied for teaching each SEL-skill. In the first session, as in the control group, participants were asked to read articles and submit online assignments independently through the Moodle system. In the second session, the participants engaged in CRSBL workshops, conducted through the Zoom platform, and moderated by the simulation center staff of the college. It's important to note that the staff of the college's simulation center had no prior knowledge of the participants (details about the online simulation workshops will be provided later), whereas the researchers were basically, as previously mentioned observers of the interactions in these workshops.

In the final session of the course, both groups were asked to complete the same SEL-skills questionnaire that had been distributed at the beginning of the course. To explore the participants' perceptions regarding the contribution of the CRSBL workshops to their social-emotional competencies, the intervention group was asked to complete also a structured open-ended questionnaire at the end of the course.

Measures

Quantitative Measure

A SEL-skills questionnaire was adapted for this study by the authors including 50 statements that were selected out of four questionnaires found in professional literature as follows:

SEC-Q (Zych et al., 2018): SEC questionnaire contains 16 items with a 5-point Likert scale ranging from 1(Strongly disagree) to 5 (Strongly agree). Statements were related to four of the components of social-emotional skills: self-awareness-four statements; self-management and motivation-three statements; social awareness and prosocial behavior-six statements; decision-making- three statements. This questionnaire was translated from English to Arabic.

Social-awareness-MESH (Transforming Education & California's CORE Districts, 2016): MESH questionnaire is a 5-point Likert scale, ranging from 1 (*not at all true*) to 5 (*completely true*) and contains 8 items. The questionnaire was translated from English to Arabic.

Self-efficacy was developed by Chen & Gully (1997) and adapted and translated to Hebrew by Segal (2018): This questionnaire includes 14 items with a 5-point Likert scale ranging from 1(not at all) to 5 (to a large extent). This questionnaire was translated from Hebrew to Arabic.

Teachers' beliefs about social and emotional learning (Brackett et al., 2012):

This questionnaire includes 12 items with a 5-point Likert scale ranging from 1 (*not at all true*) to 5 (*completely true*). The questionnaire was translated from English to Arabic.

The SEL-skills' questionnaire was constructed as a Google Form and administered through the course's Moodle system.

Construct Validity and Reliability of Adapted Instruments

To evaluate the psychometric properties of the translated instruments in the Arab teacher population, confirmatory factor analyses (CFA) were conducted using the *lavaan* package in

R, and internal consistency reliability was examined through Cronbach's alpha (reported in Table 2) and McDonald's omega coefficients. The SEC-Q demonstrated acceptable construct validity ($CFI = 0.92$, $TLI = 0.90$, $RMSEA = 0.07$, $SRMR = 0.07$) and satisfactory reliability ($\omega = 0.83$). The Self-Efficacy scale showed strong model fit ($CFI = 0.94$, $TLI = 0.93$, $RMSEA = 0.08$, $SRMR = 0.05$) with excellent reliability ($\omega = 0.94$). The Teacher Beliefs about SEL scale indicated adequate model fit ($CFI = 0.96$, $TLI = 0.94$, $RMSEA = 0.08$, $SRMR = 0.05$) and strong reliability ($\omega = 0.91$) following the omission of one problematic item. In contrast, the MESH measure yielded weaker fit indices ($CFI = 0.86$, $TLI = 0.80$, $RMSEA = 0.14$), providing limited evidence of construct validity, although it demonstrated acceptable reliability ($\omega = 0.85$). Overall, these analyses provide initial evidence of construct validity for the SEC-Q, Self-Efficacy, and Teacher Beliefs scales in this context, while suggesting that the MESH instrument requires further refinement for Arabic-speaking teacher populations.

Qualitative Measure

A structured open-ended questionnaire was administered to learn about participants' perceptions of the contribution of the CRSBL workshops to their social-emotional competencies. The questionnaire was created using Google Forms and accessed through the Moodle system.

Some examples of questions:

1. Describe your experience of participating in CRSBL workshops and bring up points that you find important from this experience.
2. In what ways did the simulation workshops affect your social emotional competencies?

The Culturally Responsive Online Simulation Workshops

Drawing on the principles of culturally responsive pedagogy, the authors together with a college lecturer, specialist in drama, developed simulation scenarios that authentically reflect the experiences and cultural context of Arab teachers in Israel. The scenarios were deliberately designed to address situations that Arab teachers commonly encounter in their professional lives, including challenges related to cultural values, community expectations, and professional responsibilities. This cultural specificity was deemed essential for creating meaningful learning experiences that would resonate with participants' lived experiences and professional contexts. For instance, the scenarios incorporated cultural elements such as family dynamics, community values, and social norms specific to the Arab community in northern Israel, ensuring that the professional development experience would be both relevant and authentic for the participating teachers (see example in supplementary material).

The simulation scenarios were also in line with CASEL's five components of social-emotional learning: Self-awareness, self-management, social awareness, interpersonal relationship skills and responsible decision-making. Before each simulation workshop, the authors met with the simulation facilitator and the actor to coordinate their views regarding the scenarios in order to assure that the discussion focuses on the specific SEL-skill/competency of that workshop.

During each simulation session, a professional actor portrayed a conflictual situation together with a student volunteer; the rest of the group (14 or 15 students) observed the simulation and took part in the subsequent discussions. Each simulation workshop lasted 90 minutes. The scenarios were documented on video to allow re-viewing of the entire experience or parts of it. Afterwards, the experience was analyzed by the participants with the guidance of a professional facilitator. The "debriefing" was held first with the student who had participated in the role play, followed by a whole-group discussion.

Ethics

The study was approved by the Ethics Committee of the college. A total of 167 students signed up to the course and subsequently received an email from the researchers, informing them that the course was accompanied by a research study. The college's registration office subsequently sent an informed consent form to all registered students, and those who signed the form and returned it participated in the research, resulting in a sample size of 117 participants. The participants were randomly divided into two major groups: control and intervention groups by the registration office of the college. In addition, as mentioned before, the intervention group participants were divided into four groups by the same office.

In the initial gathering of the course, carried out through the medium of Zoom, all students were notified again by the researchers that the course is accompanied by a research study, and that their participation is voluntary, with the option to withdraw from the study at any time. To ensure the confidentiality of participants, the research assistant of the course randomly distributed a unique serial number, ranging from 1 to 117, through the Zoom chat to all participants. It was mandatory for them to write this number in the Google form when filling out the SEL-skills questionnaire (pre/post). In addition, at the end of the course, an anonymous open-ended questionnaire was distributed solely to the intervention group. Both courses assessed their students through a final online multiple-choice exam, administered and graded through the computerized Moodle system. In other words, the students' achievement in the course was unrelated to their participation in the study. Lastly, the online simulation-based workshops were recorded through the Zoom platform and securely saved in the cloud of the college's Zoom account. Furthermore, all intervention participants provided their consent to be recorded.

Reflexivity

A key methodological consideration in this study is the dual role of the authors as both course instructors and researchers. This position carried the potential for expectancy effects, as the researchers were directly involved in the instructional environment. To minimize such risks, several steps were taken. First, the CRSBL workshops were facilitated exclusively by trained staff from the college's simulation centre, who had no prior knowledge of the participants, thereby reducing the likelihood of instructor influence on the intervention itself. Second, the researchers maintained an observational stance during the workshops and refrained from intervening in the discussions. Third, the use of unique participant codes, anonymous questionnaires, and standardized assessment procedures through Moodle further reduced opportunities for bias. At the same time, the authors acknowledge that their positionality may still have shaped aspects of the study and therefore approached both data collection and interpretation with critical reflexivity.

Data analysis

Quantitative Data Analysis

The data analysis was conducted using the SPSS statistical software and included the following analyses: (a) Descriptive statistics of the SEL questionnaire measures; (b) analysis of variance designed by repeated measures to examine differences in the questionnaire variables by time (before and after the course), by group, and interaction between time and group to determine if the differences in the teaching methods (asynchronous vs. CRSBL) had an impact on the social-emotional learning skills before and after the course. In addition, the reliability of the questionnaire variables was examined using internal consistency.

Qualitative Data Analysis

The data obtained from the open-ended questionnaire was analysed through a systematic thematic analysis approach (Clarke & Braun, 2017). The analysis process followed four distinct phases. First, open coding was conducted: the second author performed line-by-line reading of the responses, documenting initial meaning units and emergent themes (e.g., a statement such as *“The workshop enabled me to connect more with the feelings of others and discover my ability to empathize with their challenges”* was coded as *developing empathy* and subsequently organized under the theme *strengthened social awareness and relationships*). Second, all researchers independently reviewed these codes and met to compare them, discussing discrepancies until agreement was reached on preliminary patterns. Third, during axial coding, transcripts were re-examined to identify relationships between themes. Finally, the researchers organized the key themes into a coherent framework for interpretation.

To ensure trustworthiness, intercoder reliability was enhanced through independent coding and consensus meetings, where disagreements were resolved through iterative discussion until full agreement was achieved. Combined with the recurrence of themes across participants, this process supports the internal validity of the qualitative analysis.

Findings

This section is divided into two parts, the first addresses the two quantitative research questions, while the second focuses on answering the qualitative question about the participants' perceptions regarding the impact of the CRSBL workshops on their social emotional competencies.

Quantitative Findings

The descriptive statistics and reliability measures of the SEL questionnaire were examined before and after the course for all participants. Table 2 shows an upward trend in the mean scores for most of the SEL skills after completing the course. The Cronbach's alpha coefficients, ranging from 0.74 to 0.96 for all measures, indicate good internal consistency, suggesting that the questionnaires were reliable in measuring the intended variables. The overall SEL questionnaire score increased from a mean of 4.04 (SD = 0.39) before the course to 4.13 (SD = 0.40) after the course, with high reliability ($\alpha = 0.95$) at both time points.

Table 2

Descriptive Statistics of the SEL-skill Questionnaire Measures and their Reliabilities Before and After the Course (n=117)

Questionnaire measures	Before the course				After the course			
	No. of statements	Mean	SD	Reliability α	Mean	SD	Reliability α	
SEC-Q: Self-awareness	4	4.17	0.55	.83	4.27	0.57	.89	
SEC-Q: Self-management	3	4.04	0.57	.74	4.20	0.56	.81	
SEC-Q: Social awareness	6	4.13	0.47	.77	4.12	0.47	.81	
SEC-Q: Decision-making	3	3.82	0.66	.80	3.94	0.66	.85	
Overall SEC-Q questionnaire score	16	4.07	0.41	.83	4.14	0.41	.89	
MESH social awareness	8	3.90	0.52	.85	4.05	0.51	.87	
Self-efficacy	14	4.11	0.51	.94	4.22	0.55	.96	
Teachers' beliefs regarding SEL	12	4.01	0.51	.90	4.07	0.59	.91	
Overall SEL questionnaire score	50	4.04	0.39	.95	4.13	0.40	.95	

Quantitative Questions

To investigate the quantitative research inquiries regarding potential significant improvements in social-emotional competencies for the control and intervention groups following the completion of the SEL-skill course, as well as to determine if the differentiated instructional modalities (asynchronous versus CRSBL) had an impact on social emotional competencies pre- and post-the course, a two-way repeated-measures analysis of variance (ANOVA) was employed. This statistical approach enabled the systematic examination of both the within-subjects factor (time: before and after the course) and the between-subjects factor (group: control versus intervention) and the interaction between time and group.

The findings are presented in Table 3 which presents the effect of time, group, the interaction between time and group, marginal averages, and standard errors presented for each effect.

The results of the two-way repeated-measures analysis of variance (ANOVA) revealed a statistically significant main effect for the within-subjects factor of time. Significant differences were found between the beginning and end of the course in both groups in a large part of the SEL skills including self-management, the overall SEC-Q questionnaire score, social awareness from the MESH questionnaire, self-efficacy, and the overall SEL-skills questionnaire score. This finding indicates that both groups improved in SEL skills after completing the SEL course. However, the repeated-measures variance analyses did not indicate a group effect in any of the SEL-skill questionnaire measures; that is, the main effect of group affiliation did not reveal any significant differences between the control group and the

intervention group. Furthermore, no significant interaction effect between time and group was detected across any of the SEL-skill questionnaire measures, suggesting that the observed enhancements in social emotional competencies following the course were not differentially associated with the instructional modality (asynchronous versus CRSBL).

Qualitative Findings

To gain insight into the perceptions of the experience of being involved in a CRSBL SEL-skills course, sixty-two students who participated in the CRSBL workshops were asked to respond to an open-ended questionnaire. Most participants have indicated that it was a unique and special experience. In general, they perceived the simulation workshops as a safe arena for self-disclosure especially because of having supportive and non-judgmental guidance. In this context, Laila wrote, “It was so good that I had the chance to freely express my fears in front of the group, knowing that the facilitator is there to support and lead the discussion.” Similarly, Gana noted, “I felt relieved when I shared my thoughts in front of a professional who could listen to me without making judgments, which allowed me to delve deeper and connect with myself.” Zena wrote, “The environment was comfortable and supportive, especially the lack of criticism. We were not tested or evaluated; we were listened to and supported, which enabled me to dare to criticize myself and confront my weaknesses.”

In addition to highlighting the significance of the safe arena, participants indicated that using authentic, real, and culturally relevant scenarios enabled them to develop meaningful and deep insights regarding their inner thoughts and feelings. For example, Rina wrote, “the simulations were very meaningful because they were so real. I watched, listened, thought, and felt things.” Similarly, Sanna wrote, “Through the simulation, you live moments as if they were real. This allowed me to delve into myself and my feelings.” Majd also indicated, “The fact that the scenarios were so close to my life, I was so involved and felt very pleasant during the simulation workshops.” Luna wrote:

Through the simulation, I experienced moments of truth. All the scenarios were similar to my own world. This is the first time, during my studies here in the college, that I feel very attached to a course and eager to participate in the meetings.

In addition to the participants’ opinion regarding their experience in simulation workshops, they were asked to refer to their perception regarding the impact of these workshops on their social and emotional competencies. A thematic analysis revealed that the simulation based SEL-skills course improved teachers’ competencies across three dimensions: Emotional, social, and cognitive.

Table 3

Results of Variance Analyses with Repeated Measurements Based on Time, Group, and the Interaction Between Them. The Standard Errors and Partial eta Squared Values are Provided in Parentheses.

Questionnaire measures	Interaction		Group			Time			F values (η_p^2)		
	Control (n=55)	Intervention (n=62)	Control – total (n=55)	Intervention – total (n=62)	Total before the course (n=117)	Total after the course (n=117)					
	Before the course	After the course	Before the course	After the course				Time	Group	Time X Group	
SEC-Q: Self-awareness	4.13 (0.09)	4.21 (0.10)	4.13 (0.07)	4.30 (0.07)	4.17 (0.07)	4.22 (0.06)	4.13 (0.53)	4.27 (0.57)	3.07 (.032)	0.28 (.003)	0.43 (.005)
SEC-Q: Self-management	3.96 (.10)	4.15 (.10)	4.03 (.07)	4.23 (.07)	4.06 (.08)	4.13 (.06)	4.00 ^{a1} (.57)	4.19 ^b (.56)	7.48**2 (.074)	0.61 (.006)	0.01 (.000)
SEC-Q: Social awareness	4.14 (.08)	4.19 (.08)	4.11 (.06)	4.09 (.06)	4.16 (.06)	4.10 (.05)	4.12 (.45)	4.12 (.47)	0.05 (.000)	0.63 (.007)	0.31 (.003)
SEC-Q: Decision-making	3.74 (.11)	3.81 (.11)	3.82 (.08)	4.02 (.08)	3.78 (.09)	3.92 (.07)	3.79 (.65)	3.94 (.66)	3.33 (.034)	1.51 (.016)	0.85 (.009)
Overall SEC-Q questionnaire score	4.03 (0.07)	4.11 (0.07)	4.05 (0.05)	4.16 (0.05)	4.07 (0.06)	4.10 (0.04)	4.04 ^a (0.39)	4.14 ^b (0.41)	4.23* (.043)	0.17 (.002)	0.09 (.001)
MESH social awareness	3.86 (.08)	4.03 (.09)	3.85 (.06)	4.06 (.07)	3.95 (.06)	3.96 (.05)	3.86 ^a (.48)	4.05 ^b (.51)	7.60** (.075)	0.02 (.000)	0.09 (.001)
Self-efficacy	4.09 (.08)	4.26 (.09)	4.10 (.06)	4.20 (.07)	4.18 (.07)	4.15 (.06)	4.10 (.50)	4.22 ^b (.54)	5.19* (.052)	0.06 (.001)	0.35 (.004)
Teachers' beliefs regarding SEL	4.08 (.08)	4.03 (.10)	3.97 (.06)	4.09 (.08)	4.05 (.08)	4.03 (.06)	4.01 (.48)	4.07 (.59)	0.32 (.003)	0.04 (.000)	2.40 (.025)
Overall SEL questionnaire score	4.03 (.06)	4.12 (.07)	4.01 (.05)	4.14 (.05)	4.08 (.05)	4.08 (.04)	4.02 ^a (.36)	4.13 ^b (.40)	6.40* (.064)	0.00 (.000)	0.20 (.002)

¹Superscript a,b denote the average with significant effect.

² *p<.05, **p<.01

The Contribution of the Simulation in the Emotional Dimension

About fifty percent of the participants reported that the simulation provided a space for sharing emotions and thoughts, which increased their self-awareness, especially the insight regarding the relationship between their feelings and thoughts. For example, Huda wrote, “The simulation workshop enabled me to observe and be aware of my feelings, and to share them with the group without hesitation.” Another student, Yasmin, indicated, “The simulation

workshop inspired self-reflection, getting in touch with inner feelings, and emotional venting.” The importance of venting emotions and legitimizing diverse feelings was especially prominent as mentioned by Salma who wrote, “Sharing emotions helped me loosen up and accept my mistakes more easily.”

The Contribution of the Simulation in the Social Dimension

Most of the participants (about two-thirds of them) related to the social benefits they had because of participating in the simulation workshops. They mentioned that the simulation sessions facilitated social interaction among the participants and strengthened the relationships between them. During the weekly sessions, the students listened to the difficulties and dilemmas raised by their peers, and were even asked to respond to them, a matter that increased the empathy among them. Lama wrote, “The simulation enabled me to connect more with the feelings of the others, with their difficulties in life, the challenges they face, and I found that I had the ability to empathize with others and accept them.” Lila also stressed that the opportunity to listen to the experiences of other students helped her discover her ability to understand others and their needs.

The Contribution of the Simulation in the Cognitive Dimension

Most of the participants (about seventy percent) viewed simulation as a tool that promotes critical thinking and responsible decision making. Participants learned to analyze scenarios, consider diverse perspectives, and improve their decision-making. The simulation sessions enabled students to think about the different scenarios and analyze them critically. For example, Yasmin wrote, “I always wondered how I would behave if I were in a similar situation?” Similarly, Rim indicated:

I constantly compared the way others responded to the scenarios to how I responded to them. I realized that human beings are motivated by different contexts that affect their choices. Actually, during the sessions, I always thought about the motives for my thoughts and my motivation and compared them to the choices of others.

Moreover, most of the participants referred to the effect the simulations had on their decision-making. They argued that it was the first time they had the opportunity to think about the considerations underlying the process of their decision-making. For example, Fatena explained, “The discussions during the simulation workshops helped me a lot, especially when it came to decision-making, and how to organize my priorities.” Similarly, Huda indicated, “I learned how to make decisions and how to think about alternatives before making any decision, especially when I’m angry.” Farida even wrote, “The ability to observe the situation from different perspectives enabled me to gain a deep understanding of how to look at a certain situation from various angles, until I realize what’s best for me and what’s best for others.”

To summarize the contribution of the simulation to participants’ social emotional competencies, Salma’s words make it very clear and precise. She wrote:

The simulation contributed to my growth in social and emotional competencies. Participating in the simulation workshop strengthened my self-awareness, social awareness, and my responsible decision-making. It helped me understand how to look at things and interpret them from different angles.....Participating in the simulation developed my skills and abilities, it allowed me to put myself in others’ place and to look at the scenario from diverse points of view, I became more

connected to the feelings of others, their difficulties in life, and to the challenges they face.

Discussion

The present study aimed to examine the effects of culturally responsive simulation-based learning (CRSBL) on the development of social-emotional competencies (SEC) among Arab teachers in Israel. Specifically, the study sought to address three key research questions: (1) Whether the SEL-skills course significantly affected the social-emotional competencies among both groups (control and intervention)? (2) Whether the teaching method (asynchronous vs. CRSBL) accounted for notable variations in teachers' SEC? and (3) How did Arab teachers perceive the impact of CRSBL on their social emotional competencies?

It is important to note from the outset that the quantitative and qualitative findings diverged: while no statistically significant group differences were found between asynchronous instruction and CRSBL, participants' narratives revealed perceptually meaningful benefits of simulations, particularly in relation to cultural authenticity, emotional safety, and identity-relevant professional growth. Accordingly, the discussion below interprets CRSBL's impact primarily in terms of participants' experiences rather than measurable superiority.

Regarding the first research question, the quantitative findings indicate that participation in the SEL-skills course contributed to significant improvements in SEC of both the intervention and control groups. This outcome underscores the effectiveness of structured SEL training in teacher education, regardless of teaching methods. The improvement across groups suggests that direct engagement with SEL content—whether through asynchronous instruction or supplemented by simulations—supports teachers in developing their social emotional competencies.

These findings align with the extensive meta-analytic evidence showing that SEL interventions, even in general educational contexts, reliably enhance participants' social-emotional skills (Oliveira et al., 2021). For teachers specifically, developing personal SEC is not only foundational for their own well-being but also essential for modelling these skills in classroom settings (Lee et al., 2023). Research findings reveal that teacher SEC is directly tied to classroom climate, quality of student–teacher relationships, and reductions in teacher stress and burnout (Alamos et al., 2022; Oberle et al., 2020).

The results also reinforce prior calls to integrate SEL training into pre-service and in-service teacher education. Oliveira et al. (2021) documented that while teachers overwhelmingly recognize the importance of SEL, most receive minimal preparation during their training. Researchers emphasize that providing SEL to students is extremely difficult without first equipping teachers themselves with the competencies to enact and model such skills (Murano et al., 2019; Wu & Qin, 2025). In this regard, our findings add to the growing body of evidence that SEL-focused coursework addresses the persistent gap in preparing teachers to develop their SEC.

Regarding the second research question, whether the teaching method (asynchronous vs. CRSBL) accounted for notable variations in teachers' SEC? The quantitative analysis revealed no significant differences between groups. However, the qualitative data demonstrated culturally specific contributions of simulations. This indicates that while CRSBL did not yield statistically measurable advantages, it provided perceptually meaningful benefits related to cultural authenticity, self-disclosure, and identity-relevant professional growth.

Both groups showed comparable improvements in social-emotional competencies (SEC), suggesting that the asynchronous SEL-skills course alone was sufficient to foster meaningful growth. This finding contradicts earlier studies, which reported that simulation-based learning environments can strengthen teachers' empathy, decision-making, and reflective

practice beyond traditional methods (Kasperski & Crispel, 2022; Levin & Flavian, 2020; Shapira-Lishchinsky, 2015).

Several possible explanations may account for this contradiction. First, both groups received a well-structured asynchronous SEL course, which may have been robust enough to produce significant improvements, leaving little room for additional statistical effects from simulations. This explanation aligns with previous evidence that even standard SEL curricula yield reliable gains in social-emotional skills (Durlak et al., 2011; Schonert-Reichl et al., 2015). Second, the dosage and duration of the simulation component may not have been sufficient to generate measurable quantitative differences. As Murano et al. (2019) note, effective SEL professional development requires continuous, high-intensity exposure and opportunities for practice.

Finally, and perhaps most critically, the discrepancy between quantitative and qualitative findings suggests methodological limitations. Standardized SEC measures may not fully capture the subtle, culturally embedded changes that emerged in participants' reflections. As Dowling and Barry (2020) argue, SEL interventions often generate effects that are difficult to quantify with traditional scales, particularly when they involve cultural identity, contextualized meaning-making, or shifts in professional self-understanding. The qualitative data in this study indicated that simulations provided a safe space for Arab teachers to engage with scenarios rooted in their lived realities, fostering deeper personal insights and relational growth that were more readily articulated in narrative accounts than reflected in numerical scores. This is consistent with Howard's (2019) observation that culturally responsive pedagogies frequently manifest in participants' experiences and meaning-making processes, which resist reduction to standardized quantitative measures.

In sum, the quantitative results suggest no significant differences between groups. At the same time, the qualitative findings underscore the perceptual and culturally embedded added value of CRSBL, as articulated by participants. This highlights the importance of adopting mixed-methods approaches in SEL research, since qualitative methods can capture experiential dimensions of learning that remain invisible to standardized assessments.

With regard to the third question, which sought to understand how Arab teachers perceive the impact of culturally responsive simulation-based learning on their social emotional competencies (SEC), the findings highlighted two key elements shaping their positive experience: supportive, non-judgmental facilitation and the use of authentic, culturally relevant scenarios. These elements created a safe environment for self-disclosure and encouraged teachers to critically examine the interplay between professional values and cultural norms. As previous scholarship suggests, skilled facilitation is central to the success of simulation-based learning, since facilitators provide emotional safety, guide debriefing, and help participants transform experiences into learning outcomes (Abulebda et al., 2020; Nakamura, 2022; Solli et al., 2020). Similarly, the integration of cultural authenticity reflects the growing recognition that pedagogical approaches must align with participants' lived realities in order to promote genuine engagement and sustainable learning (Handrianto et al., 2025; Howard, 2021; Minz, 2023).

The findings resonate with the recent meta-analysis of culturally responsive SEL programs by Lim et al. (2024), which showed that interventions employing multiple culturally responsive strategies—such as sociocultural grounding (embedded in programs that incorporate cultural values, beliefs and practices of a target group), linguistic accessibility, and community involvement—were more effective than those relying solely on surface-level cultural adaptation. In this study, the scenarios developed for Arab teachers embodied the sociocultural strategy by embedding dilemmas deeply tied to participants' values and communal expectations. For example, the scenario addressing marital dilemmas within families revealed how cultural norms can supersede professional values, creating an authentic space for participants to practice

emotional regulation, empathy, and decision-making. This echoes Lim et al's (2024) argument that sociocultural grounding is a core marker of cultural responsiveness, and that authentic scenarios help teachers validate their own identities while navigating professional challenges.

Moreover, the multidimensional growth, reported by participants-emotional, social, and cognitive-aligns with established SEL frameworks (CASEL, 2022; Durlak et al., 2015; Schoon, 2021), while also adding a cultural nuance. Emotional competencies such as self-awareness and regulation were not only professional tools but also strategies for navigating the personal-cultural dilemmas. Social competencies like empathy and perspective-taking gained new relevance when participants reflected on balancing communal obligations with professional standards. Cognitive competencies, including decision-making and critical thinking, were tested in culturally sensitive context where the “right” answer required reconciling competing cultural and professional identities.

Conclusion

This study examined the effects of culturally responsive simulation-based learning (CRSBL) on Arab teachers' social-emotional competencies (SEC) in Israel, addressing three key questions. First, participation in an SEL-skills course, regardless of delivery method, significantly enhanced teachers' SEC, confirming broader evidence that structured SEL training benefits educators' professional and personal development. Second, while the quantitative analysis revealed no significant differences between asynchronous instruction and CRSBL, qualitative insights highlighted the unique contribution of simulations in providing culturally grounded spaces for self-reflection and relational growth. These findings suggest that standardized measures may not fully capture culturally embedded learning processes. Third, teachers' reflections emphasized that the authenticity of scenarios and supportive facilitation were crucial in fostering emotional safety, cultural validation, and professional agency.

Taken together, the study demonstrates the value of mixed-methods approaches and supports the integration of culturally authentic simulations into teacher education. In doing so, it supports the claim that while CRSBL may not show measurable superiority in standardized outcomes, it offers contextually meaningful and perceptually impactful contributions to teachers' SEC by acknowledging their lived realities. For Arab teachers in Israel, such responsiveness is especially critical, as it strengthens their capacity to navigate both professional demands and community expectations.

Overall Contribution and Implications

This study contributes to the field of teacher education by showing that while structured SEL courses alone can enhance teachers' social-emotional competencies, embedding cultural authenticity through simulation-based learning produces deeper, contextually meaningful growth. The findings point to several implications for research, policy, and practice:

- Systematic integration of SEL in teacher education: Even asynchronous SEL courses yielded measurable growth, underscoring the importance of embedding SEL systematically within pre-service and in-service teacher preparation curricula.
- Designing culturally responsive frameworks: Embedding SEC development in culturally grounded contexts ensures that learning resonates with teachers' lived realities, moving beyond universalized models toward training that acknowledges cultural identity, professional challenges, and community contexts.
- Creating culturally safe learning environments: Non-judgmental facilitation and cultural sensitivity are essential for enabling teachers to disclose dilemmas, reflect critically, and engage authentically in professional development.

- Adopting mixed-methods evaluation: While quantitative measures capture general skill gains, qualitative methods are needed to reveal cultural and contextual dimensions of teacher growth, offering a fuller picture of program impact.
- Recommendations for CRSBL implementation: Educational institutions are encouraged to design simulation scenarios that authentically reflect teachers' contexts, integrate cultural elements into SEC development activities, and employ culturally sensitive evaluation approaches to ensure meaningful professional learning.

Limitations and Future Research

While this study contributes to understanding culturally responsive approaches in simulation-based SEC development, several limitations should be acknowledged. First, while the sample size was adequate, it consisted primarily of Arab women teachers from northern Israel, limiting generalizability. This limitation, however, also reflects the study's unique contribution in examining SEC development within a specific cultural context. Future research could extend this cultural focus by examining how simulation-based SEC development operates across different cultural groups and educational settings.

Second, the apparent discrepancy between quantitative and qualitative findings warrants attention. While standardized measures showed similar improvements across groups, the qualitative data revealed unique contributions of culturally responsive simulations. This discrepancy may be partly explained by measurement issues: in particular, the MESH instrument demonstrated weak structural validity in this sample, which limits the strength of inferences drawn from this measure and highlights the need for further adaptation and validation in Arabic-speaking teacher populations. Future studies should consider mixed-method approaches that better capture the cultural nuances of SEC development and employ assessment tools that are both culturally grounded and psychometrically validated. Accordingly, the present findings should be interpreted with caution, as CRSBL's added value appears to be primarily perceptual and experiential, rather than reflected in measurable quantitative outcomes.

Third, the study's reliance on immediate post-intervention data collection limits our understanding of long-term impacts. Longitudinal studies examining how culturally responsive simulation-based learning affects teachers' professional practice over time would strengthen the evidence base. Such research could include classroom observations, student feedback, and periodic assessments of SEC implementation in diverse cultural contexts.

Fourth and last, while the study demonstrated the value of cultural authenticity in simulations, it relied primarily on self-reported data, which may be subject to social desirability bias. Future research could incorporate multiple data sources, including peer observations, administrator evaluations, and student perspectives, to provide a more comprehensive assessment of how culturally responsive simulation-based learning affects teacher practice.

Disclosure Statement

We confirm that this manuscript reports original work, is not under consideration by any other journal nor has it been published previously in any form. In addition, this study adhered to current ethical conventions regarding written consent obtained for all participants and the study received ethical approval from the Ethics Committee of the College.

All authors have approved the manuscript and agree with its submission to Ethnic and Cultural Studies Journal and report no potential conflict of interest.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this work the authors used ChatGPT and Claude.ai for language improvement. After using these tools, the authors reviewed and edited the content as needed. They take full responsibility for the content of the publication.

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