Design Principles for Promoting Intergroup Empathy in Online Environments

Noa Shapira
University of Haifa & CET,
Haifa, Israel
noas@cet.ac.il

Haggai Kupermintz
University of Haifa,
Haifa, Israel
kuperh@edu.haifa.ac.il

Yael Kali
University of Haifa, LINKS-ICORE,
Haifa, Israel
yael.kali@edtech.haifa.ac.il

Abstract

This study examined a professional development program designed to support Civics teachers in their efforts to promote empathy among Israeli Jewish students towards Israeli Arabs. The design rationale for the program is that teachers should experience empathic processes themselves before supporting their students in such an endeavor and that meaningful empathic processes can occur online if activities are properly designed. All phases of the program were designed to support teachers to participate as part of an online community of practice. Sixty Jewish teachers participated in two iterations of the design study. Refinements were made in the second iteration to provide teachers with explicit definitions of empathy and specific instructions for reflection. Findings indicate that these changes were reflected in higher degrees of empathic responses among teachers. Teachers also indicated that being a part of an online learning community contributed to the learning process they experienced during the program. We interpret this as a first step in enabling teachers to assist their students to develop a more empathetic approach toward the minority group and conclude with a discussion of recommended design principles for promoting such an approach.

Keywords: empathy, minority group, teacher professional development, teachers as designers, online learning community

Introduction

The current study examined a teacher professional development (TPD) program, aimed at supporting teachers who seek to address some of the educational challenges related to the complex relations between the Arab minority and Jewish majority in Israel. These relations are characterized by mistrust and separation between the groups. The division between Arabs and Jews in Israel is widespread

throughout society: in schools, government institutions, and places of residence (Smooha, 2010). The conflict between the groups is over issues central to both societies such as territories, self-determination, statehood, religious dogmas, and core values (Bar-Tal. 2007). As a result, deeply rooted collective narratives determine each side's point of view (Bruner, 1990, Coleman, 2003, Salomon, 2004). For example, Israeli Jews and Arabs disagree on whether the country can simultaneously be a Jewish state and democracy. About three-quarters (76%) of Israeli Jews believe this to be possible, but relatively few (27%) Israeli Arabs agree (Pew Research Center, 2016). These differences and disagreements, in the context of the wider Israeli-Palestinian conflict (Maoz, 2011; Steinberg & Bar-On, 2002), affect the relations between the groups, which are often characterized by mutual negative attitudes, de-legitimization, dehumanization, and prejudice towards the minority group (Bar-On, 2008; Bar-Tal, 2000, 2001). In a survey of more than 5,000 Israelis (Pew Research Center, 2016), nearly half (48%) of Israeli Jews supported statements saying that Arabs should be transferred or expelled from Israel; most (79%) Israeli Arabs indicated that discrimination in Israeli society against Arabs is widespread, while 74% of the Jewish majority did not acknowledge much discrimination.

The implications of the continuous conflict are reflected in everyday life in Israel in general, and in schools in particular. The culture of conflict encompasses everyday conversations, such as the news and political speeches, and teachers find it hard to effectively manage the dissonance in the socio-political environment that surrounds and affects students (Rosen & Perkins, 2013). In general, discussions about racism, diversity, privilege, and social justice are often sources of discomfort (Watt, 2007). Furthermore, peace education, conflict resolution, shared life, and coexistence programs in Israel face the challenge of collective narratives, histories, and beliefs (Kupermintz & Salomon, 2005). As a result, Civics education in Israel is a particularly difficult task, where little consensus exists on what should be the fundamental nature of society and what binds citizens together (Byrne, 1997; Ichilov, 2003).

The destructive effects of prolonged intergroup conflict underscore the urgent need for interventions that promote tolerance and cooperation (Stathi & Crisp, 2008). Teachers should be committed to fostering not only the academic development of students but also their social and emotional development (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011), especially in a divided society. To address this challenge, the educational approach we describe is based on the premise that empathy is an important social and emotional skill, necessary to improve relations between groups and to reduce prejudice and discrimination toward minority groups (Batson & Ahmad, 2009, Eisenberg, Eggum, & Di Giunta, 2010, Stephan & Finlay, 1999). In order to help teachers promote empathy and reduce negative attitudes towards the Arab minority group, the current study developed and examined an online teacher professional development (TPD) program that uses clips from a popular television series – *Arab Labor*. The series was one of the first Arabic-language television shows in Israel that combined Arab and Jewish actors, and was broadcast in prime time. The series presented the complexities of Arab minority life in Israel with humor and compassion and adopted a critical view towards both groups in Israeli society. Clips from the series were embedded in an educational website developed at the Center for Educational Technology (CET) and served as resources for the online TPD environment entitled "Fostering Empathy through E-Learning" (FEEL). The goal of the FEEL program is to support teachers in developing the skills and knowledge required to teach Civics to junior and high school students.

The FEEL program was designed as an online community endeavor, including 30 hours of interaction between teachers, spanning one school year (October-June), with three phases: teachers as learners, teachers as designers, and teachers as implementers (see detailed description in the Design section). Except for two face-to-face meetings at the beginning and the end of the school year, the entire FEEL TPD program was conducted online using the Moodle platform and facilitated by the first author of this paper. The collaborative activities were designed to support teach-

ers in an online community of practice in sharing their ideas, practices, and experiences with their peers, and in providing ongoing feedback to each other throughout the program, using specific prompts in the online forum. The decision to design the activities in the program so that interaction between participants would take place in an online community was based on our assumption that this would enable teachers to support each other in coping with a topic that entails emotional and well as cognitive challenges (Bar-Tal & Rosen, 2009; Kupermintz & Salomon, 2005).

The main goal of the current study was to examine the principles that guided our design in terms of enhancing empathic processes among teachers. In this paper, we report and discuss findings from the first phase of the project (teachers as learners), in which teachers watched selected clips from the series, reflected on their thoughts and feelings, and shared their experiences with their fellow teachers in the online forum.

Two major questions guided our research:

(a) What empathic processes occur among teachers during the first phase of the FEEL TPD program?

(b) How does the design of the program affect teacher learning in terms of developing empathic processes?

Theoretical Background

Social and Emotional Learning in Schools

Civics is one of the core subjects in schools, along with math, science, foreign language, and reading. While schools focus mostly on academic skills, social and emotional learning (SEL) has become an increased priority for schools in the past two decades (Durlak et al., 2011; Elias et al., 1997; Goleman, 1998). These interpersonal processes are part of a broad range of 21st century skills, such as communication, collaboration, teamwork, and empathy (Pellegrino & Hilton, 2012). In the context of intergroup conflict, such skills gain further importance when teachers address explosive socio-political issues.

Unfortunately, many students seem to lack social-emotional competencies (Blum, Libbey, Bishop, & Bishop, 2004). A large survey in the United States found that only 29%–45% of the students reported that they had social competencies such as empathy, decision-making, and conflict resolution (Benson, 2006). This phenomenon is potentially exacerbated in situations of intergroup conflict. Students experience a culture of aggression through everyday interactions with their family members, mass media, and the educational system (Abu-Nimer, 2004; Rosen & Perkins, 2013). Furthermore, as reported by Elias, Bruene-Butler, Blum, & Schuyler (2000), teachers tend to resist incorporating SEL programs, which usually require much time at the expense of more valued "academic" content. They often think that fostering SEL skills is beyond their expertise and should be the domain of school psychologists, counselors, therapists, or parents. Teachers also tend to fear that these programs would have no effect due to the increasing numbers of students with aggression and other troublesome behavior patterns (Elias et al., 2000).

Empathy – A Social and Emotional Skill

The FEEL program underscores empathy as a key SEL skill. Empathy is the inclination to share emotions and to understand the thoughts of others (M.H. Davis, 1994; Decety & Meyer, 2008). In previous years, empathy was defined either as an essentially emotional phenomenon (Batson 2014; Strayer & Eisenberg 1987) or as the ability to cognitively understand the other's point of view without necessarily experiencing an emotional process (Wispé, 1986). Contemporary conceptual frameworks underscore the multidimensional nature of empathy and include cognitive,

emotional, and behavioral components (M.H. Davis, 1983; Zaki & Ochsner, 2012). The current study is based on the 3R (Resonance, Reasoning, Response) model of empathy (Zisman, 2009), as described below.

Empathic resonance: The first phase is a spontaneous, automatic, and involuntary affective resonance with the emotional state of the other person (Hodges & Wegner, 1997), sometimes referred to as parallel empathy or emotional contagion (Batson & Ahmad, 2009; M.H, Davis, 1994; Decety & Jackson, 2004; Stephan & Finlay, 1999). It involves feeling as another person feels, thus sharing their subjective states (Batson & Ahmad, 2009; Decety & Meyer, 2008; M.H. Davis, 1994). From a developmental perspective, this process provides the foundation for understanding that the others are "like me" (Meltzoff & Decety, 2003).

Empathic reasoning: Spontaneous resonance is followed by a more elaborate, contextualized, and controlled cognitive appraisal and reasoning process (Hodges & Wegner, 1997). The cognitive or perceptual component includes considering understanding the other's mental states (Zaki & Ochsner, 2012). This process entails perspective taking, by explicitly imagining the other's perspective and how one would think and feel if they were "in their shoes" (Batson & Ahmad, 2009; M.H. Davis, 1994; Stephan & Finlay, 1999).

Empathic response: Finally, resonance and reasoning lead to an internal response to the other's situation. This response may consist of compassion-related emotions, usually labeled empathic concern, feeling sympathy, compassion, or concern for the target's well-being (Batson & Ahmad, 2009; M.H. Davis, 1994). These responses are often associated with altruistic motivations and behaviors, such as pro-social concern and expressing motivation to improve the target's experiences, or behaviors like offering help or attempting to reduce suffering (M.H. Davis, 1994; Zaki & Ochsner, 2012). In other situations, the response may evoke negative feelings and personal distress in the face of the suffering of the other (M.H. Davis, 1994).

Intergroup Empathy

Empathy plays a crucial role in moral development, motivating prosocial behavior and inhibiting aggression toward others (Hoffman, 2001; P. A. Miller & Eisenberg, 1988) and is often considered at the interpersonal level. In recent years, there is a growing understanding of empathy at the intergroup level, especially when two groups are in conflict (Batson & Ahmad, 2009). Empathy-related processes might reduce antisocial behavior that could harm individuals from stigmatized groups. Bullying and similar offenses are related to low levels of empathy, but if empathy is fostered toward a member of another group or a stigmatized person, we would expect less prejudice and discrimination toward them (Eisenberg et al., 2010).

People differentiate groups to which they belong (in-groups) from groups to which they do not belong (out-groups) (Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, &Wetherell, 1987). Such social categorization processes influence intergroup empathy. Favoring one's own group results in more empathy for an in-group member than for an out-group member (Eisenberg et al., 2010; Tarrant, Dazeley, & Cottom, 2009). Intergroup conflict is especially associated with diminished levels of empathy (Batson & Ahmad, 2009). Strong negative emotions interfere with the ability to imagine or legitimize the other side's perspective (Kupermintz & Salomon, 2005). Groups involved in long-lasting and violent conflicts develop psychological conditions that help them cope with the continuous threat and violence that include a positive view of one's own collective, while the other is perceived as the immoral aggressor (Bar-Tal, 1995, as cited in Steinberg & Bar-On, 2002). Numerous examples demonstrate the destructive effects of low-level intergroup empathy: Apartheid in South Africa, racial discrimination in the United States, and religious and ethnic hostility in the Middle East and Northern Ireland (Batson & Ahmad, 2009).

It is therefore important to understand and learn to improve empathic processes, or at least prevent their erosion, in situations of intergroup conflict. The gradual development of empathic interpersonal relations may be key to improving intergroup relations through educational interventions (Kupermintz & Salomon, 2005), and a technology-enhanced environment can play an important part in this endeavor (García-Pérez, Santos-Delgado, & Buzón-García, 2016).

Fostering Intergroup Empathy

Studies conducted in recent years suggest several ways to improve intergroup relations by fostering empathic skills.

Contact between groups

Intergroup contact, under the appropriate conditions, may increase positive intergroup emotions and enhanced empathy, as well as reduce negative emotions such as anxiety (Pettigrew & Tropp, 2006, 2008; Tam et al., 2008). Contact improves intergroup relations by enhancing knowledge about the out-group and reducing perceived threat and apprehension regarding meeting members of the other group. The contact enables one to take the perspective of out-group members and may contribute to improved intergroup attitudes (Pettigrew & Tropp, 2008). Already in the 1950's, four conditions were specified for optimal intergroup contact: equal group status within the situation, common goals, intergroup cooperation, and support from authorities (Allport, 1954). These optimal conditions are hard to achieve in a context of conflict, separation between groups, and strong negative emotions. In such circumstances, it is possible to resort to indirect contact as the first stage before an actual meeting between the groups (Batson & Ahmad, 2009; Stathi & Crisp, 2008).

Imagining contact

Imaginary contact can elicit positive intergroup attitudes. This may have practical implications especially in the context of intergroup conflict where direct contact is difficult to attain, such as in schools in conflicting societies. Schools in such contexts can develop and apply teaching techniques that would encourage imaginary contact in order to bring groups closer together and promote tolerance (Stathi & Crisp, 2008). Books, plays, movies, television, and radio can present the out-group members in a way that draws the reader into their lives, plight, and struggles. A skilled writer can lead the audience to imagine how the out-group member is thinking and feeling (Batson & Ahmad, 2009). Using the power of new media and technology (Umaschi Bers, 2006), media programs and storytelling methods can foster empathy using both real and fictional characters (Steinberg & Bar-On, 2002; Zillman, 2006) that may generalize to the out-group as a whole (Andersen, Downey, & Tyler, 2005; Pettigrew, 1998). A year-long field experiment in Rwanda tested the impact of a radio soap opera on reducing intergroup prejudice, violence, and trauma in two fictional Rwandan communities. Listeners' emotional reactions to the soap opera were visible, audible, and frequent, and fostered more trust, empathy, and cooperation (Paluck, 2009).

Empathy in a technology-enhanced environment

Research indicates that it is possible to experience empathy online: Users can feel empathy in online communities towards other members (Preece & Ghozati, 2001; F. Miller & Wallis, 2011). In fact, "virtual empathy" is described as a key competence in "education 3.0" environments (García-Pérez et al., 2016). Bos, Olson, Gergle, Olson, & Wright (2002) found video and audio conferencing groups were nearly as good as face-to-face communication in developing trust and supportive interpersonal relationships. A study of 301 Northern California high school students examined the effects of playing a simulation game, *Real Lives*, that allows teenagers to simulate the lives of people in other countries. Students who played the simulation game expressed more

global empathy and identification with culturally and geographically distal characters when compared to a control group (Bachen, Hernandez-Ramos, & Raphael, 2012). Manney (2008) provided several examples: presenting complex questions and real-life issues within an online game has a positive effect on empathy; internet sites, such as blogs written in a war zone, encourage empathy and global understanding; and virtual reality can be used to create empathetic scenarios by reproducing the differing perceptions of other people.

While imaginary contact through popular media in a technology-enhanced environment can promote empathy processes, it is not enough to passively experience the lives of the out-group. An important principle is to invite participants to identify with members of the other group as they read about them, listen to them, or watch a video that presents them. It is recommended to add questions such as; "What emotions are the members of the other group feeling, what are they thinking, how are they viewing the world, and how do you feel about their responses to the situation?" (Stephan & Finlay, 1999) Perspective-taking and role-playing (e.g., speaking from the other's point of view) can help build and sustain empathy (Rosen & Perkins, 2013, Stephan & Finlay, 1999).

In accordance with the above insights, the current study used clips from a popular television program that presented the life of a low-status minority group, following tailored instructions and specific guidance, to foster empathy processes among teachers and their students.

Teachers in a Community of Practice

The social-constructivist view of learning is that people learn best not by assimilating knowledge, but rather by a knowledge-construction process that involves doing, becoming, and belonging to a learning community (Bielaczyc, Kapur, & Collins, 2013). "Communities of practice rely on situated theories of knowledge, i.e., the idea that knowledge is a property enacted by groups of people over time in shared practices, rather than the idea that knowledge is a cognitive residue in the head of an individual learner" (Hoadley, 2012, p. 229). However, schoolteachers rarely have the opportunity to participate in discussions and to collaborate about their practice (Barab, Makinster, Moore, & Cunningham, 2001; Darling-Hammond, 1997). Both novice teachers (Herrington, Herrington, Kervin, & Ferry, 2006) and experienced teachers (Tschannen-Moran & Hoy, 2007) report experiencing isolation and a lack of support in schools. The sense of isolation, in addition to the need for shared practice and participatory processes, may be exacerbated if teachers try to find ways to foster empathy towards a minority group in a context of continuous conflict and an environment hostile to coexistence.

With this in mind, we adopted a pedagogical approach using a community of practice for supporting teacher learning in the FEEL TPD program, with the aim of decreasing the sense of isolation teachers might experience in their workplace and providing opportunities for shared practices (Bielaczyc et al., 2013, Barab et al., 2001; Hoadley, 2012). Technological supports and especially infrastructure that enables teachers to participate in online learning communities can address these challenges by fostering collaborative peer learning in various manners (Bielaczyc et al., 2013; Kali & Linn, 2007; Linn, Davis, & Bell, 2004). Technology can directly support communication, provide tools for discussion with others, and provide a shared repository of information and other resources (Hoadley, 2012). Research shows that even when minimal face-to-face components are involved, online learning can provide learners with the benefits of belonging to a learning community (e.g., Barab et al., 2001; Kidron & Kali, 2015). Online communities of teachers or communities of practice have become known for their potential to promote professional development by providing continuous support, promoting ongoing interaction, and sharing common practices (Barab & Duffy, 2000; Barab et al., 2001; Barab, MaKinster, & Scheckler, 2003; Hur & Brush, 2009).

There are many reasons for teachers to share the knowledge and emotions related to their practice with their colleagues in online communities, for instance, (a) feeling a sense of support, belonging, and combating isolation (Ellis, Oldridge, & Vasconcelos, 2004; Hur & Brush, 2009); (b) the will to improve the welfare of community members; (c) fostering affinity between colleagues; (d) and altruism in supporting other teachers (Hew & Hara, 2007). Teachers can feel empowered by being part of a collective enterprise that works together toward shared goals, impacting motivation and engagement (Bielaczyc et al., 2013). Research also shows that fostering a group norm of in-group empathy can promote more positive attitudes towards people from another group (Tarrant et al., 2009). Consequently, in the context of conflict between groups, teachers who struggle with negative attitudes and racism in their classrooms can find that online communities provide a source of mutual learning, support, and even empathy.

The design of the FEEL program is also based on similarities that we identified between methods regarding ways to promote empathy between groups, as described in the first section of the theoretical background, and ways to promote learning in a community as described above. Table 1 illustrates these similarities.

Table 1: Similarities between the ways to foster online learning communities and ways to foster empathy through inter-group contact	
Ways to foster an online learning community (Bielaczyc et al., 2013)	**Ways to foster empathy between groups (Batson & Ahmad, 2009; Stephan & Finlay, 1999)**
Mutual respect is sought between people from diverse backgrounds, perspectives, and minority views.	Mutual respect is sought between groups.
Participants are encouraged to find a shared objective for their learning, and to be part of a collective enterprise that works together toward shared goals.	An effort is made to reach a common goal through intergroup contact.
By setting up collaborative groups and jointly produced consequential tasks, learning communities foster interdependence based on diverse expertise, which encourages participants to rely on and value the work of others and to contribute in a variety of ways to help advance the work of the collective.	Cooperative learning is used to improve intergroup relations (e.g., using Jigsaw activities).

We postulated that by implementing design principles, that foster the development of an online community of practice among teachers (Kali, 2006; 2008; Kali & Linn, 2007), the FEEL TPD program would assist teachers in a number of ways, including combating isolation, developing a sense of belonging to a broader group, benefitting from mutual learning and support from colleagues, and most importantly, promote empathy towards the Arab minority in Israel.

The Design of the FEEL TPD Program

The FEEL TPD program was designed to promote intergroup empathy by means of three main design principles derived from the theoretical background described above. We consider these principles as 'pragmatic design principles' in the design principles framework (Kali, 2006; Kali & Linn, 2007), which served as a conceptual basis for developing the Design Principles Database (DPD) (Kali, 2008). The DPD was developed as an infrastructure for designers to publish, connect, discuss, and review design ideas. The DPD includes 1) **Specific Principles** that connect directly to a single feature or single research investigation and that provide the specific rationale behind the design of that feature; 2) **Pragmatic Principles** that connect several Specific Princi-

ples; and 3) **Meta-Principles** that capture abstract ideas represented in a cluster of Pragmatic Principles. For example, a specific design principle can describe a specific feature in a learning environment that supports interaction between teachers. This specific principle can be connected to several pragmatic design principles, one of which is "Enable multiple ways to participate in online discussions", which is connected to the higher level meta-principle of "Help learners learn from each other" (Kali, 2006; 2008; Kali & Linn, 2007).

Based on the literature review presented above, we suggest the following pragmatic design principles for promoting intergroup empathy in online environments (Figure 1). These three principles can be viewed as employing the Meta-Principle 'help learners learn from each other'.

Design principle 1:	Use popular media as a preliminary phase in promoting empathic processes through and "Imaginary contact".
Design principle 2:	Provide explicit prompts for empathic reflection.
Design principle 3:	Foster the development of learning-community that embraces empathy as a shared value.

Figure 1: Design principles we suggest for promoting intergroup empathy in online environments

The decision to study empathic processes only within the Jewish population was based on findings that show that the Jewish population in Israel is less empathetic towards the Arab population than Arabs are towards Jews (Zisman, 2009), as well as on the growing understanding of the importance of uni-national educational programs in situations of intractable conflicts (Bar-Tal & Rosen, 2009). As mentioned above, when positive contact is difficult to obtain, encouraging imagery or indirect contact is a desirable first stage before bringing groups closer together (Stathi & Crisp, 2008).

Components of the Program

Based on the pragmatic design principles for promoting intergroup empathy in online environments (Figure 1), the FEEL TPD program includes the following components, which are embedded into each other, as illustrated in Figure 2:

1. **The online TPD FEEL environment.** This interactive environment was designed and developed in the current study to enable teachers to work as a distributed community of practice mentored by the first author, and to guide them through all phases of the program, the details of which are described below (Moodle was used as the platform).

2. **CET's educational website.** This educational website, designed by CET for open use by the public, includes dozens of television episodes as well as some guiding questions to reflect on the episodes (Figure 3). No interactivity is designed in the website. Therefore, it was used as a resource for further interactivity in the FEEL program.

3. **Clips from the television series *Arab Labor*,** selected for use as:

   a. Resources (e.g., lesson plans and collaborative activities) embedded in the educational website developed at CET

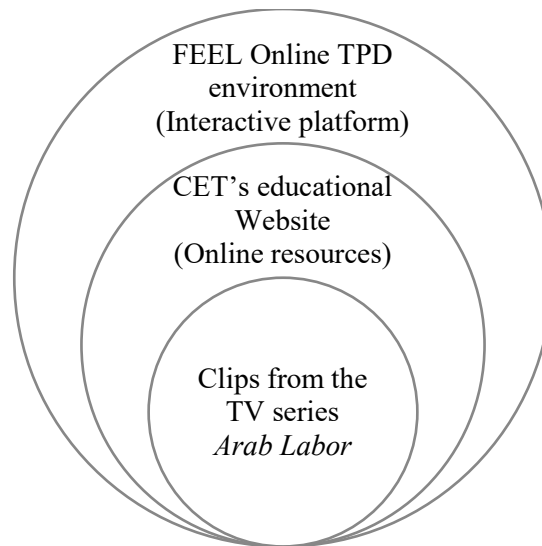   b. Reflection catalysts embedded in the FEEL environment.

Figure 2: The Design of the FEEL TPD Program

Figure 3: Educational website (CET)

Stages of the Program

The FEEL TPD program includes three phases: Teachers as learners (designed to be enacted during the first trimester of the school year); Teachers as designers (second trimester); and Teachers as implementers (third trimester). We describe the three phases to provide a wider context for the current study, which focused on the first phase – teachers as learners.

(1) Teachers as learners:

> Teachers often provide role models for their students (Eccles & Roeser, 1999). In the context of the current study, this means that teachers need to develop their own emotional skills, such as self-awareness, and use of emotions in instructional situations (Jennings & Greenberg, 2009). Personal experience is key in this development (Zins, Bloodworth,

Weissberg, & Walberg, 2004); therefore, we sought to provide teachers with a meaningful learning experience about empathy as a social and emotional skill, in order to help them foster, as role models, the development of similar processes among their students.

During the first two months of the program, teachers were required to watch selected clips from the series' episodes in their free time and were asked to choose three clips from the educational website to reflect upon, using the prompts for reflection. The first design principle (suggesting using popular media) was implemented in both iterations of the study in this phase. However, the second design principle was added only in the second iteration, in which teachers followed explicit prompts for empathic reflection. They wrote down in the online forum all the emotional and cognitive processes they experienced. As part of employing the second design principle (suggesting providing explicit prompts for reflection), they were also asked to imagine how the characters in the clip felt and wrote about that in the online forum (see details about the differences between the iterations below). The third design principle (suggesting fostering empathy as a shared value in the community) was reflected in both iterations: The teachers shared their experiences and practices with their fellow teachers and responded to each other as part of a community of practice.

For example, one clip presented a meeting between Amjad, an Israeli-Arab (the main character), and his Jewish neighbor Yehuda who offended him. The prompt asked the teachers to reflect on their thoughts and feelings during and after watching each clip. An example from one of the teachers' reflection (showing an empathetic response) is, "Amjad's response evokes sadness about how he chooses to 'give himself up' for the sake of integration [within Jewish society]."

(2) Teachers as designers:

Based on their experiences during the previous phase of the FEEL TPD program, teachers at this phase were required to interpret the technology-enhanced resources that appear in the educational website and adapt them for the use of their students and classroom settings (E.A. Davis & Varma, 2008; Matuk, Linn, & Eylon, 2015). The teachers used Bielaczyc's (2013) Social Infrastructure Framework to guide them in their design process. This framework explicates the various elements of classroom social structures that might influence the design. We assumed that involving teachers in the design of a learning environment for their students might help them adapt the program to their specific classrooms with particular learners; to increase ownership and commitment for implementation; and motivate them to engage in this practice (Kali, McKenney & Sagy, 2015). We also assumed that the engagement of teachers in designing their own learning materials would assist them in coping with instructions of new and complex content such as empathy between groups in conflict. Throughout the design process, teachers shared their designed learning environments with their colleagues and gave each other feedback in the online forum.

(3) Teachers as implementers:

Teachers implemented the learning environment they designed in their classrooms. They shared their experiences with their fellow teachers and responded to each other in the online forum. Records of practice enabled teachers to examine one another's instructional strategies and student learning and to discuss ideas for improvement (Borko, 2004; Little, Gearhart, Curry, & Kafka, 2003).

The Role of the Facilitator

Except for two face-to-face meetings at the beginning and the end of the school year, the entire FEEL TPD program was conducted online. During the first face-to-face meeting, the facilitator demonstrated and explained the 3R model of empathy and the role of empathy in intergroup relations (in the second iteration), the FEEL TPD phases, the role of the teachers as designers of their students' learning environments, and the rationale for learning as part of an online community of practice. In the second face-to-face meeting, the facilitator invited one of the actors from the TV series to discuss the issue of shared lives in Israel and his experience as an actor on the show. Finally, the facilitator encouraged the teachers to reflect upon the process they underwent throughout the FEEL TPD program.

Throughout the school year, the facilitator intervened in the online forum in order to foster a sense of belonging among the teachers and engagement in the online community:

a. Teachers received ongoing messages about new responses in the online forum with a link to the specific thread, such as *"Look, Ronny tried to reduce prejudice in her classroom; how did her students respond?"*

b. In order to encourage mutual sharing, teachers received personal messages if someone responded to them.

c. At the end of the first and third phase, the teachers received a summary of all the responses of their fellow teachers, in order to help them get a sense of the main topics, challenges, ideas, and methods of coping with potential problems raised by their colleagues.

Method

This study employed a Design Based Research (DBR) methodology, in which elements of learning environments are systematically explored in terms of their effects on learning, thus contributing to the development of theory and design practice (Cobb, Confrey, Lehrer & Schauble, 2003; Design-Based Research Collective, 2003). DBR systematically explores iterative refinements of learning environments, enacted in naturalistic and local contexts (Kali, 2008; Sandoval 2014). Changes in desired outcomes as a result of these iterations are used as evidence for the viability of the theory underlying the design principles and serve to further fundamental knowledge about learning or teaching in general (Kali, 2008; Sandoval 2014).

In the current study, two groups of teachers participated in two consecutive iterations of the FEEL program. The analysis focused on the first phase of the TPD program, where teachers watched and then reflected upon selected clips and shared their experiences with other participants in the learning community. Teacher reflections from the first iteration, which were general and did not involve enough personal expressions, underscored the need for more direct and explicit prompts to elicit empathic processes. In response to this insight, two major changes were introduced in the second iteration: (a) more explicit prompts for reflection while watching the clips (Table 2), and (b) an explicit, formal introduction of the 3R model of empathy, and the concept of empathy as an interpersonal skill in the context of intergroup relations is Israel. The empathic model and the importance of empathy in intergroup relations was introduced in the first face-to-face meeting and the explanation of the 3R model was presented in the online forum. The facilitator summarized in the online forum and noted the empathic 3R model as it appeared in the teachers' reflections in order to help them get a sense of the empathic processes they and their colleagues experienced.

Table 2. Prompts for reflection and sharing in each of the iterations	
General prompts in iteration 1	**More explicit prompts in iteration 2**
1. What did you feel like during the activity and while watching the video clip? Share your ideas and thoughts with the community.	1. While watching the video clip, write down on a piece of paper all the emotions you experience.
2. Have you changed your point of view of the Jewish-Arab relation in Israel (understanding the situation, willing to change the situation, identification with the situation) following the activity and the video clips? Share this with the community.	2. After watching the video clip, share with the community the emotional and cognitive process you went through during and after watching the video clip.
	3. Try to imagine what the characters in the clips felt like, and share your ideas with the community.

Participants. The participants in both iterations, 31 in the first iteration and 28 in the second iteration, were Jewish Civics teachers who were from a variety of schools and socio-political backgrounds: secular schools, religious schools, schools in the periphery, and central cities. They also varied in their prior experience of dealing with Jewish-Arab relations in their classrooms. Some have attempted to do so in the past, and for some this was their first experience. Teachers' motivation to join the program was also diverse. Some participants joined because they wanted to promote coexistence in Israel while others were curious to use the popular television show.

Intergroup empathy questionnaire: This questionnaire included 20 items and was developed to measure the 3R empathy process towards out-group members (Zisman, 2009), in this case, Israeli-Arabs. The 3R, or empathic dimensions, included Resonance – 5 items, Reasoning – 6 items and Response – 9 items. The questionnaire items used a 5-point Likert-type scale where responses ranged from "strongly disagree" to "strongly agree". An average score of the items comprising each dimension was calculated.

Example items included:

Resonance: *"Usually it's easy for me to guess what the other person wants to talk about."*

Reasoning: "*Usually, I can understand the other's point of view, even when I do not agree with them."*

Response: *"When I see people crying, I feel bad."*

The questionnaire was administered to teachers in the second iteration at the beginning (i.e., Pre) and the end (i.e., Post) of the program.

"Arab Labor" empathy questionnaire: This questionnaire was developed for this study and was based on both teachers' statements in the online forum that pertained to their empathy toward the various characters in the clips they watched, as well as on items from a questionnaire by M. H. Davis (2008) regarding empathy toward imaginary characters from movies or stories. Here too, respondents were required to choose the answer on a 5-point Likert-type scale ranging from "agree strongly" to "disagree strongly."

For example: *"I understand Amjad's (the main character) desire to belong to Israeli society and the difficulties he encountered."*

Teachers in both iterations responded to this questionnaire at the end of the program.

Reflection sharing: Teachers' reflections in the online forum, regarding their feelings while watching the clips, were coded in both iterations to capture the three empathic dimensions: resonance, reasoning and response. These responses were coded as 1=present or 0=absent (Table 3).

Table 3: Examples of empathic processes in teachers' reflections	
Resonance	*"**I felt** Amjad's (the main character) anguish as he tries to integrate into Jewish society."*
Reasoning	*"**I thought** how hard it is to adjust yourself to the reality of the majority group."*
Response	*"The neighbor's behavior toward Amjad (the main character) **infuriates me.**"*

Interviews: 12 participants were interviewed, each interview lasting approximately 40 minutes, 3 in the first iteration and 9 in the second. The goal of the interviews was to explore in a detailed manner which empathic processes occurred among the teachers, to what extent they acquired skills to appropriately teach the subject, how they perceived the effect of the learning environment's design features on their own learning, and how they believed that the process they went through might impact their students' learning. In order to identify major themes in the interviews, a content analysis was conducted according to the research questions.

Questions, for example, included:

How did the course change your feelings and thoughts about the TV show, if at all?

How did watching video clips from the series lead you to better understand the perspective of the characters, if at all?

Findings

The analyses revealed two major sets of findings:

(1) Changes in empathic processes between iterations (Research Question 1):

    a. **Findings from "Arab labor" empathy questionnaire.** Teachers in the second iteration (M=4.28, SD=0.35) scored significantly higher than teachers in the first iteration (M=3.86, SD=0.78) on the questionnaire 'Empathy toward the characters in the television series' ($t(47)= 2.54, p<.01$).

    b. **Findings from reflections.** In the second iteration teachers exhibited a significantly higher degree of empathic responses in their reflections compared with teachers in the first iteration ($\chi2(1) = 6.42, p <.01$) (Table 4).

Table 4. Empathic responses from the reflections – Iterations 1 & 2

	Iteration 1 (n=31)	Iteration 2 (n=27)		
	Frequency	Frequency	df	X2
Empathy - (General)	87.1%	92.6%	1	.47
Resonance	51.6%	40.7%	1	.69
Reasoning	71.0%	74.1%	1	.07
Response	45.2%	77.8%	1	6.42*

*$ * p < .01 $*

(2) Changes in empathic processes within iteration 2:

> **Findings from 'Intergroup empathy questionnaire'. The analysis of the second iteration revealed an overall significant gain between the beginning (M=3.8, SD=0.4) and the end (M=4.0, SD=0.4) of the program (t(27)= -2.57, p<.05). This change was reflected mostly on the resonance and response scales (Table 5).**

Table 5: Pre and post 'Intergroup empathy questionnaire' scores – Iteration 2

	Pre (n=28)		Post (n=28)		
	M	**S.D.**	**M**	**S.D.**	**t (df =27)**
Empathy - (General)	3.88	.44	4.02	.36	-2.57*
Resonance	3.33	.63	3.60	.59	-2.57*
Reasoning	3.90	.53	3.93	.48	-0.37
Response	4.16	.57	4.33	.45	-2.15*

$* p < .01$

Qualitative evidence from the interviews provided further support for the findings:

The empathic processes that occur among teachers (supporting our answer for research question 1)**:**

> The excerpts below represent the ability of the teachers to understand the Arab perspective (i.e., empathic reasoning), and to react in accordance to that perspective (i.e., empathic response).

> "I feel empathy towards Israeli Arabs; **I understand** their difficulty and the discrimination they suffer from".

> "**It bothers** me they know our language but we don't do anything to get to know their language".

Teachers' **use of clips from 'Arab Labor' as resources** (supporting our answer for research question 2):

> The excerpts below represent that the emotional impact of the video clips on teachers was stronger than in their preliminary experience with the series before the FEEL TPD.

> "Looking at things … from the point of view of pain… even if you see that the actor (Amjad, the main character) … is a little afraid… to say (his opinion) … you can understand why. You actually feel like him".

> "... I have a bit of each character in me ... I see myself in all of the characters... "

> "Before (the FEEL TPD) I saw mostly the laughter. Now I see the pain"

The effect of learning as an online community (supporting our answer for research question 2)**:**

> Teachers greatly benefitted from the learning community, which provided them with opportunities for further development with regard to empathic processes.

> "Responses were really interesting for me, so I found myself coming back [to the online forum], checking and reading every response from the beginning and trying to understand and learn from it".

> "... Each one [of the teachers] has their perspective, and it has created mutual enrichment".

> *"... I tried to read responses of people who are different than me, and it was interesting ... to be exposed to more teachers ...."*

To summarize, the findings indicate a significant growth in empathic levels during the first phase of the FEEL TPD program. These findings, combined with information gleaned from the interviews pertain to the second question and suggest that the design of the program affected teachers' learning.

Discussion and Conclusions

A main rationale for designing the FEEL program was that teachers should experience empathic processes themselves, and share their experiences with their colleges, before being able to support their students in a similar endeavor. The current study examined the first phase for this pedagogical model – teachers as learners. During this phase, we examined the specific design elements that increase the likelihood of eliciting empathic processes towards an ethnic minority group. Our findings provided support for the reasoning guiding the pedagogical model, and demonstrated how use of media in a teacher learning community can enhance intergroup empathy in an online environment.

The first research question focused on the empathic processes that occurred during the first phase of the program. Findings showed that teachers did experience intergroup empathy processes during this phase, as reflected in the significant gain in empathy between the beginning and the end of the program in the second iteration. Additionally, a significant increase in teachers' empathic responses was found between the first to the second iteration. The changes were associated with teachers' guided exposure to powerful media clips and reflective sharing in an online community. These findings demonstrate the importance of teacher personal experiences in developing social and emotional skills as documented in previous studies, which concluded that teachers should develop their own such skills in order to teach them effectively (Jennings & Greenberg, 2009; Zins et al. 2004). The current study underscores the potential of an online learning environment to support such processes and the use of popular media following tailored prompts to promote empathy.

The second research question dealt with the design of the program and its effect on teachers' learning. Our findings provide empirical support for the usefulness of the design principles that may promote intergroup empathy (Figure 1). The first design principle was inspired by research that showed the potential of positive effects of using suitable media on intergroup empathy, even in the absence of direct contact with members of the outgroup (M. H. Davis, 1980; Paluck, 2009; Stathi & Crisp, 2008; Steinberg & Bar-On, 2002; Zillman, 2006). The second design principle calls for providing tailored instructions and specific guidance to elicit meaningful empathy processes. Studies indicated that media alone is not enough to foster empathy and understanding between groups (Stephan & Finlay, 1999) and concluded that direct, detailed prompts are required to help learners process information and engage more deeply in emphasizing with outgroup members. In addition to general prompts, our design was based on the 3R model of empathic resonance, reasoning and response. These empathy dimensions provided the conceptual underpinnings for focusing the guidance for teachers. Accordingly, the prompts in the second iteration addressed mostly the more conscious and controlled reasoning and response dimensions: *"Share with the community the emotional and cognitive process you went through and try to imagine what the characters in the clips felt like"*. The instructions did not address empathic resonance, which is an implicit, spontaneous process difficult to directly control. As was suggested by others (Stephan & Finlay, 1999), a future iteration will encourage teachers to take the perspective of the characters in the series more directly, thus shedding further light on the optimal guidance to support intergroup empathy.

Teachers are mostly trained to teach core academic topics. The current study demonstrates the need for further support in dealing with social and emotional issues, especially in the challenging context of intergroup conflict. Our findings emphasize that dedicating enough time and effort to help teachers discover their own positions and attitudes towards contested issues in a divided society is necessary before implementing such programs in the classroom. Furthermore, teachers often report feeling isolated and a lack of support while dealing with issues such as prejudice and racism. The interview findings of this research suggest that an online community of practice with teachers from various backgrounds allows for constructive exposure to diverse opinions, while at the same time improving social and emotional skills.

Regarding the third design principle, all phases of the program were designed to support teachers as an online community of practice. Teachers reported that they greatly benefitted from being part of a community. The benefits of such communities to support teacher learning is congruent with previous studies (e.g., Barab et al., 2001; Darling-Hammond, 1997). The current study underscores the effectiveness of the community even when teachers come from diverse backgrounds and struggle with conditions of racism and negative attitudes among their students.

From a methodological perspective, our study shows that design-based research methodology, in which theoretical considerations are combined with practical implementation of design features, is useful for understanding the complexities of real-world practice within a challenging sociopolitical context (Barab & Squire, 2004). We found that media can foster empathy and that meaningful empathic processes can occur online if activities are properly designed and supported. An online teacher community can be effective even for a heterogenic group of teachers who deal with intergroup conflict.

In addition to understanding how to foster intergroup empathy, we can offer some practical implications for TPD programs designed to support teachers who wish to improve intergroup relations:

- The first phase of the TPD program should encourage teachers to experience the targeted emotional and social skills.

- We recommend beginning with imaginary contact through media that presents the outgroup's narrative and point of view.

- To develop a more balanced approach towards the out-group, the facilitators should add suitable instructions and questions for reflection.

- It is important to encourage active participation by sending routine reminders, personal messages, and other such aids.

A limitation of the research is that all teachers voluntarily chose to participate in the program, and it may be concluded that they were initially sympathetic toward the goal of promoting intergroup empathy. Future studies should include teachers who are more skeptical about the potential or even desirability of improving relations among rivaling groups. It is also important to investigate the program in cases where participation may become mandatory, such as when a school principal decides that teachers must undergo such a program.

We view the change in the empathic processes – the increase in teachers' empathic responses from the first to the second iteration and the significant gain in empathy between the beginning and the end of the second iteration – as an important first step that can enable teachers to adapt the FEEL program resources productively to their classrooms. We hypothesize that when implemented in the classrooms, it will assist students to develop a more empathetic approach to the minority group and hold a more balanced view of the Jewish-Arab conflict. The effectiveness of the program for students will be examined in a third iteration. We will analyze the learning envi-

ronments teachers have designed in all three iterations in order to study how the adaptations of the FEEL resources were related to teachers' experiences and the usefulness for their students.

In conclusion, we have shown how the first phase of the FEEL TPD program (i.e., teachers as learners) facilitated teachers' learning in terms of developing emotional and social skills, as they pertain to empathic processes. Teachers' empathic responses significantly increased during that phase. We have further demonstrated that the pragmatic design principles (i.e., using clips from a popular television series as resources, explicit prompts for empathic reflection, and learning as part of an online community of practice) had a measurable impact on teachers' learning. These promising findings suggest the feasibility of using similar pedagogical models (i.e., teachers as learners) in TPD programs designed to help teachers deal with challenging intergroup relations in their classrooms.

Acknowledgement

References

Abu-Nimer, M. (2004). Education for coexistence and Arab-Jewish encounters in Israel: Potential and challenges. *Journal of Social Issues*, *60*(2), 405-422.

Allport, G.W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.

Andersen, S. M., Downey, G., & Tyler, T. (2005). Becoming engaged in community: Personal relationships foster social identity. In G. Downey, J. S. Eccles, & C. M. Chatman (Eds.), *Navigating the future: Social identity, coping, and life tasks* (pp. 210-251). New York, NY: Russell Sage.

Bachen, C. M., Hernandez-Ramos, P. F., & Raphael, C. (2012). Simulating REAL LIVES: Promoting global empathy and interest in learning through simulation games. *Simulation & Gaming*, *43*(4), 437-460.

Barab, S. A., & Duffy, T. (2000). From practice fields to communities of practice. *Theoretical Foundations of Learning Environments*, *1*(1), 25-55.

Barab, S. A., Makinster, J. G., Moore, J. A., & Cunningham, D. J. (2001). Designing and building an online community: The struggle to support sociability in the inquiry-learning forum. *Educational Technology Research and Development*, *49*(4), 71-96.

Barab, S. A., MaKinster, J. G., & Scheckler, R. (2003). Designing system dualities: Characterizing a web-supported professional development community. *The Information Society*, *19*(3), 237-256.

Barab, S. A., & Squire, K. D. (2004). Design-based research: Putting our stake in the ground. *The Journal of the Learning Sciences*, *13*(1), 1–14.

Bar-On, D. (2008). *The others within us: Constructing Jewish-Israeli identity*. Cambridge, England: Cambridge University Press.

Bar-Tal, D. (2000). From intractable conflict through conflict resolution to reconciliation: Psychological analysis. *Political Psychology*, *21*(2), 351-365.

Bar-Tal, D. (2001). Why does fear override hope in societies engulfed by intractable conflict, as it does in the Israeli society? *Political Psychology*, *22*(3), 601-627.

Bar-Tal, D. (2007). Sociopsychological foundations of intractable conflicts. *American Behavioral Scientist*, *50*(11), 1430-1453.

Bar-Tal, D., & Rosen, Y. (2009). Direct and indirect models of peace education. *Review of Educational Research*, *79*(2), 557-575

Batson, C. D. (2014). *The altruism question: Toward a social-psychological answer*. Psychology Press. Hillsdale, NJ: Erlbaum.

Batson, C. D., & Ahmad, N. Y. (2009). Using empathy to improve intergroup attitudes and relations. *Social Issues and Policy Review*, *3*(1), 141-177.

Benson, P. L. (2006). *All kids are our kids: What communities must do to raise caring and responsible children and adolescents.* San Francisco, CA: Jossey-Bass.

Bielaczyc, K. (2013). Informing design research: Learning from teachers' designs of social infrastructure. *Journal of the Learning Sciences*, *22*(2), 258-311.

Bielaczyc, K., Kapur, M., & Collins, A. (2013). Cultivating a community of learners in K-12 classrooms. *International Handbook of Collaborative Learning*, 233-249.

Blum, R. W., Libbey, H. P., Bishop, J. H., & Bishop, M. (2004). School connectedness–strengthening health and education outcomes for teenagers. *Journal of School Health*, *74*(7), 231-235.

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, *33*(8), 3-15.

Bos, N., Olson, J., Gergle, D., Olson, G., & Wright, Z. (2002, April). Effects of four computer-mediated communications channels on trust development. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 135-140). ACM.

Bruner, J. (1990). *Acts of meaning*. Cambridge, MA: Harvard University Press.

Byrne, S. (1997). *Growing up in a divided society: The influence of conflict on Belfast schoolchildren*. Madison, NJ: Fairleigh Dickinson University Press.

Cobb, P., Confrey, J., Lehrer, R., & Schauble, L. (2003). Design experiments in educational research. *Educational Researcher*, *32*(1), 9-13.

Coleman, P. T. (2003). Characteristics of protracted, intractable conflict: Toward the development of a metaframework – I. *Peace and Conflict: Journal of Peace Psychology*, *9*(1), 1-37.

Darling-Hammond, L. (1997). Quality teaching: The critical key to learning. *Principal*, *77*(1).

Davis, E. A., & Varma, K. (2008). Supporting teachers in productive adaptation. In Y. Kali, M. C. Linn, M. Koppal, & J. E. Roseman (Eds.), *Designing coherent science education: Implications for curriculum, instruction, and policy*, (pp. 94-122). New York, NY: Teachers College Press.

Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, *10*, 1-17.

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, *44*, 113–126.

Davis, M. H. (1994). *Empathy: A social psychological approach*. Boulder, CO: Westview Press..

Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews*, *3*(2), 71-100.

Decety, J., & Meyer, M. (2008). From emotion resonance to empathic understanding: A social developmental neuroscience account. *Development and Psychopathology*, *20*(04), 1053-1080.

Design-Based Research Collective. (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, *32*(1), 5–8.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405-432.

Eccles, J. S., & Roeser, R. (1999). School and community influences on human development. In M. H. Bornstein & M. E. Lamb (Eds.), *Developmental psychology: An advanced textbook* (4th ed.). Mahwah, NJ: Lawrence Erlbaum.

Eisenberg, N., Eggum, N. D., & Di Giunta, L. (2010). Empathy-related responding: Associations with prosocial behavior, aggression, and intergroup relations. *Social Issues and Policy Review*, *4*(1), 143-180.

Elias, M. J., Bruene-Butler, L., Blum, L., & Schuyler, T. (2000). Voices from the field: Identifying and overcoming roadblocks to carrying out programs in social and emotional learning/emotional intelligence. *Journal of Educational and Psychological Consultation*, *11*(2), 253-272.

Elias, M. J., Zins, J., Weissberg, R. P., Frey, K., Greenberg, M. T., Haynes, N., Kessler, R., Schwab-Stone, M., & Shriver, T. P. (1997). *Promoting social and emotional learning: Guidelines for educators*. Alexandria, VA: Association for Supervision and Curriculum Development.

Ellis, D., Oldridge, R., & Vasconcelos, A. (2004). Community and virtual community. *Annual Review of Information Science and Technology*, *38*(1), 145-186.

García-Pérez, R., Santos-Delgado, J.-M., & Buzón-García, O. (2016). Virtual empathy as digital competence in education 3.0. *International Journal of Educational Technology in Higher Education*, *13*(1), 1-10.

Goleman, D. (1998). *Working with emotional intelligence*. New York, NY: Bantam.

Herrington, A., Herrington, J., Kervin, L., & Ferry, B. (2006). The design of an online community of practice for beginning teachers. *Contemporary Issues in Technology and Teacher Education*, *6*(1), 120-132.

Hew, K. F., & Hara, N. (2007). Empirical study of motivators and barriers of teacher online knowledge sharing. *Educational Technology Research and Development*, *55*(6), 573–595.

Hoadley, C. (2012). What is a community of practice and how can we support it? *Theoretical Foundations of Learning*, 287–300.

Hodges, S. D., & Wegner, D. M. (1997). Automatic and controlled empathy. In W. Ickes (Ed.), *Empathic accuracy* (pp. 311-339). Guilford Press :New York.

Hoffman, M. L. (2001). A comprehensive theory of prosocial moral development. In D. Stipek & A. Bohart (Eds.), *Constructive and destructive behavior* (pp. 61–86). Washington, DC: American Psychological Association.

Hur, J. W., & Brush, T. A. (2009). Teacher participation in online communities: Why do teachers want to participate in self-generated online communities of K–12 teachers? *Journal of Research on Technology in Education*, *41*(3), 279-303.

Ichilov, O. (2003). Teaching civics in a divided society: The case of Israel. *International Studies in Sociology of Education*, *13*(3), 219-242

Iram, Y. (2006). Culture of peace: Definition, scope, and application. In Y. Iram (Ed.), *Educating towards a culture of peace* (pp. 3-12). Greenwich, CT: Information Age Publishing.

Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, *79*(1), 491–525.

Kali, Y. (2006). Collaborative knowledge building using the Design Principles Database. *International Journal of Computer-Supported Collaborative Learning*, *1*(2), 187–201.

Kali, Y. (2008). The Design Principles Database as means for promoting design-based research. In A. E. Kelly, R. A. Lesh, & J. Y. Baek (Eds.), *Handbook of design research methods in education* (pp. 423–438). New York, NY: Routledge.

Kali, Y., & Linn, M. C. (2007). Technology-enhanced support strategies for inquiry learning. In J. M. Spector, M. D. Merrill, J. J. G. V. Merrienboer, & M. P. Driscoll (Eds.), *Handbook of research on educational communications and technology* (3rd ed.) (pp. 445–490). Mahwah, NJ: Erlbaum.

Kali, Y., McKenney, S., & Sagy, O. (2015). Teachers as designers of technology enhanced learning. *Instructional Science*, *43*(2), 173-179.

Kidron, A., & Kali, Y. (2015). Boundary breaking for interdisciplinary learning. *Research in Learning Technology*, *23*. 1-17.

Kupermintz, H., & Salomon, G. (2005). Lessons to be learned from research on peace education in the context of intractable conflict. *Theory into Practice*, *44*(4), 293-302.

Linn, M. C., Davis, E. A., & Bell, P. (Eds.) (2004). *Internet environments for science education*. Mahawa, NJ: Routledge.

Little, J. W., Gearhart, M., Curry, M., & Kafka, J. (2003). Looking at student work for teacher learning, teacher community, and school reform. *Phi Delta Kappan*, *85*(3), 185-192.

Manney, P. J. (2008). Empathy in the time of technology: How storytelling is the key to empathy. *Journal of Evolution and Technology*, *19*(1), 51–61.

Maoz, I. (2011). Does contact work in protracted asymmetrical conflict? Appraising 20 years of reconciliation-aimed encounters between Israeli Jews and Palestinians. *Journal of Peace Research*, *48*(1), 115-125.

Matuk, C. F., Linn, M. C., & Eylon, B. S. (2015). Technology to support teachers using evidence from student work to customize technology-enhanced inquiry units. *Instructional Science*, *43*(2), 229-257.

Meltzoff, A. N., & Decety, J. (2003). What imitation tells us about social cognition: A rapprochement between developmental psychology and cognitive neuroscience. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *358*(1431), 491-500.

Miller, F., & Wallis, J. (2011). Social interaction and the role of empathy in information and knowledge management: A literature review. *Journal of Education for Library and Information Science*, 122-132.

Miller, P. A., & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin*, *103*(3), 324.

Paluck, E. L. (2009). Reducing intergroup prejudice and conflict using the media: A field experiment in Rwanda. *Journal of Personality and Social Psychology*, *96*(3), 574.

Pellegrino, J. W., & Hilton, M. L. (Eds.). (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. National Academies Press.

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, *49*(1), 65-85.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 751–83.

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology*, *38*(6), 922-934.

Pew Research Center. (2016). *Israel's religiously divided society*. Retrieved from: http://www.pewforum.org/2016/03/08/israels-religiously-divided-society/

Preece, J., & Ghozati, K. (2001). Experiencing empathy online. *The Internet and Health Communication: Experiences and Expectations*, 147-166.

Rosen, Y., & Perkins, D. (2013). Shallow roots require constant watering: The challenge of sustained impact in educational programs. *International Journal of Higher Education*, *2*(4), 91-100.

Salomon, G. (2004). A narrative-based view of coexistence education. *Journal of Social Issues*, *60*(2), 273-287.

Sandoval, W. (2014). Conjecture mapping: An approach to systematic educational design research. *Journal of the Learning Sciences*, *23*(1), 18-36.

Stephan, W. G., & Finlay, K. (1999). The role of empathy in improving intergroup relations. *Journal of Social Issues*, *55*(4), 729-743.

Smooha, S. (2010). Arab-Jewish relations in Israel: Alienation and rapprochement, *Peaceworks No. 67*. Retrieved from: http://dspace.cigilibrary.org/jspui/handle/123456789/31324

Stathi, S., & Crisp, R. J. (2008). Imagining intergroup contact promotes projection to outgroups. *Journal of Experimental Social Psychology*, *44*(4), 943-957.

Stephan, W. G., & Finlay, K. (1999). The role of empathy in improving intergroup relations. *Journal of Social Issues*, *55*(4), 729-743.

Steinberg, S., & Bar-On, D. (2002). An analysis of the group process in encounters between Jews and Palestinians using a typology for discourse classification. *International Journal of Intercultural Relations*, *26*(2), 199–214.

Strayer, J., & Eisenberg, N. (1987). Empathy viewed in context. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 389– 398). New York: Cambridge University Press.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. *The Social Psychology of Intergroup Relations*, *33*(47), 33-47.

Tam, T., Hewstone, M., Kenworthy, J. B., Cairns, E., Marinetti, C., Geddes, L., & Parkinson, B. (2008). Post conflict reconciliation: Intergroup forgiveness and implicit biases in Northern Ireland. *Journal of Social Issues*, *64*(2), 303–320.

Tarrant, M., Dazeley, S., & Cottom, T. (2009). Social categorization and empathy for out-group members. *British Journal of Social Psychology*, *48*, 427-446.

Tschannen-Moran, M., & Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education*, *23*(6), 944–956.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, UK: Blackwell Publishing.

Umaschi Bers, M. (2006). The role of new technologies to foster positive youth development. *Applied Developmental Science*, *10*(4), 200-219.

Watt, S. K. (2007). Difficult dialogues, privilege and social justice: Uses of the privileged identity exploration (PIE) model in student affairs practice. *College Student Affairs Journal*, *26*(2), 114.

Wispé, L. (1986). The distinction between sympathy and empathy: To call forth a concept, a word is needed. *Journal of Personality and Social Psychology*, *50*(2), 314.

Zaki, J., & Ochsner, K. (2012). The neuroscience of empathy: Progress, pitfalls and promise. *Nature Neuroscience*, *15*(5), 675–80.

Zillman, D. (2006). Dramaturgy for emotions from fictional narration. In J. Bryant & P. Vorderer (Eds.), *Psychology of entertainment* (pp. 215– 238). Mahwah, NJ: Erlbaum.

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2004). The scientific base linking social and emotional learning to school success. In J. E. Zins (Ed.), *Building Academic Success on Social and Emotional Learning: What Does the Research Say* (pp. 3-22). Teachers College Press.

Zisman, Y. (2009). *The individual and the collective: Attachment and empathy processes in intergroup relations* (Unpublished Master's thesis). University of Haifa, Israel.

Biographies

Noa Shapira completed her B.A. in social science and her M.A. in Democracy Studies in the Open University in Israel. Her thesis was entitled: *Multiculturalism, Democracy and Violence at Israeli Schools*. She is currently a Ph.D student in the Faculty of Education at the University of Haifa and a member of the Learning in a NetworKed Society (LINKS) Israeli Center of Research Excellence (I-CORE).
Noa is a project manager at the Department for Civic Education and Shared Lives in the Centre for Educational Technology. She is responsible for developing online resources and online professional development programs for teachers, which deal with topics such as racism, human rights, and coexistence in Israel. She is also the facilitator for these professional development programs.

Haggai Kupermintz is a senior lecturer at the Faculty of Education, University of Haifa. His academic research themes include intergroup empathy (exploring the dynamics of Jewish-Arab relations in Israel) and learning-teaching processes (with a recent focus collaborative problem solving. In addition, Kupermintz specializes in research methodology, educational assessment and program evaluation, and is involved in local and national efforts in the areas of school improvement, teacher education, alternative education, and 21st century skills.

Yael Kali is an associate professor of technology-enhanced learning at the Technologies in Education Graduate Program, Faculty of Education, University of Haifa, and the director of the Learning In a NetworKed Society (LINKS) Israeli Center of Research Excellence (I-CORE). Using a design-based research approach, Kali explores technology-enhanced learning and teaching at various levels, from junior high school to higher education. Together with her students of the TEL Design group she studies the role of design, and design principles for supporting Computer Supported Collaborative Learning (CSCL), and for teacher professional development, in a Teachers as Designers (TaD) approach. Kali currently serves as an Associate Editor for the journal Instructional Science.