

Artificial Intelligence-Generated Vignettes as Triggers for Collaborative Reflection

Exploring Methodological Potentials in Higher Education

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Abstract

Given the ongoing digital transformation of professional practice, educators increasingly require tools that can scaffold collective reflection on ethically complex dilemmas. This study examines the methodological potential of generative AI (GenAI)-produced video vignettes as boundary objects for fostering collaborative reflection and professional judgment in pre-service education. In a qualitative case, pre-service social educators engaged in group discussions and written reflections around a GenAI-generated scenario designed for ethical ambiguity and professional recognizability. The analysis shows how the vignette's multimodal features activated dialogic exchange, supported negotiation of perspectives, and enabled the emergence of shared professional reasoning. Framing the GenAI vignette as a methodological artifact, the study extends vignette-based pedagogy by specifying affordances that intensify collective sense-making. We argue that GenAI vignettes can effectively scaffold dialogical reflection and context-sensitive judgment in technology-mediated settings, positioning GenAI as a co-creator of reflective spaces that enrich practice-based learning and the development of professional judgment.

Keywords: Vignettes, Generative Artificial Intelligence, Boundary Crossing Object, Higher Education, Reflective Practices

Introduction

Professional education programs increasingly require methodological tools that can scaffold collective reflection on ethically complex challenges. Across the welfare professions, digital transformation is reshaping the conditions for care, judgment, and pedagogical practice. Technology is no longer merely a tool but a mediating and transformative force in how professionals act, decide, and relate. As a result, technological literacy has become a core competency, not just technical proficiency, but critical, ethical, and reflective engagement with technology (Wallace 2011).

Reflection plays a crucial role in cultivating this capacity. Schön (2017) conceptualizes reflection-in-action as a situated response to uncertainty, where professionals explore, test, and reframe their understanding while still immersed in the situation. Similarly, Horn et al. (2020) emphasize that reflective practice unfolds in a negotiation

between experience and inquiry, particularly in contexts of ethical uncertainty. However, reflection in professional education often risks becoming superficial or individualistic (Brown et al. 2013; de la Croix and Veen 2018). Meaningful reflection requires an activating trigger and a space for dialogical sense-making (Bagheri et al., 2019; Schuler 2021).

Vignettes have long served as pedagogical tools to stimulate reflection and ethical deliberation. Traditionally composed as brief written scenarios, they enable students to engage with fictional yet realistic dilemmas without personal exposure (Demetriou 2023). Vignettes can create shared, low-risk arenas for exploring professional judgment when designed with ethical complexity and professional relevance. Recent work highlights their role as boundary objects, artefacts that support shared reflection while allowing interpretive flexibility across professional, experiential, or disciplinary boundaries (Star and Griesemer 1989; Jenkins et al. 2020). The rise of generative artificial intelligence (GenAI) presents new opportunities to reimagine the vignette format. GenAI can generate vivid, affectively rich, ambiguous video scenarios that engage students more deeply than static text. Such multimodal vignettes may foster more responsive, collaborative, and situated reflection, particularly in group settings where ethical dilemmas are negotiated collectively. In this way, GenAI becomes a tool and co-creator of reflective spaces. Accordingly, our interest is not in students' views on AI per se, but in the methodological affordances of GenAI-generated vignettes for structuring and intensifying collaborative reflection. This article therefore asks: *How can GenAI-generated vignettes function as methodological tools to foster collaborative reflection and the development of professional judgment in professional education settings?*

To address this question, we draw on an empirical study of pre-service social educators who participated in a focus group and wrote reflections centered on a shared GenAI-generated video vignette. We analyze how the vignette's multimodal and affective features elicited dialogic exchanges, negotiated perspectives, and emerging shared reasoning. The following section develops the theoretical frame guiding our methodological focus, centering on reflection-in-action (Schön 2017), boundary learning mechanisms (Akkerman and Bakker 2011), and the role of shared artefacts in collaborative professional learning.

Theoretical framework

In this study, reflection is conceptualized as a professional and situated response to complexity and uncertainty. Drawing on Schön (2017), we understand reflection as a practice-based process through which professionals engage with ambiguous or problematic situations by critically examining their actions (*reflection-in-action*) or revisiting them retrospectively (*reflection-on-action*). Schön's framework foregrounds how practitioners learn and develop judgment not through abstract reasoning, but through situated experimentation, inquiry, and adaptation.

In our analysis, reflection is not treated as an individual or introspective act. Instead, it is conceptualized as a shared process of negotiating meaning and a professional stance in response to the scenarios presented in the vignette. It is in these reflective acts that students articulate and shape their understanding of professional responsibility, ethics, and technological mediation as a part of practice. To understand how such reflection unfolds socially, we draw on Trede and Jackson's (2019) concept of *huddles*: informal, practice-based spaces in which professionals engage in shared inquiry, deliberation, and mutual support. We treat the focus-group setting as a huddle-like space that enables dialogic exchanges oriented toward shared professional reasoning. Drawing on Schön's (2017) concept of reflection and Trede and Jackson's (2019) notion of huddles, we conceptualize professional judgment as a dynamic, ethically oriented, and socially negotiated capacity that emerges through collaborative inquiry in complex situations.

While reflection and collaboration are central elements of judgment, we also emphasize technology's mediating role. We conceptualize the GenAI-generated vignette as a *boundary object* (Star and Griesemer 1989), an artifact that maintains enough coherence to be shared, but enough interpretive flexibility to be understood and used differently by participants within or across professional domains. Even in homogeneous groups, students bring varied understandings, priorities, and professional sensibilities to the table. The vignette, with its narrative openness and ethical ambiguity, provides a shared stimulus for reflection while allowing multiple interpretations to co-exist. It acts as a space for collaborative inquiry, enabling participants to surface, negotiate, and refine their perspectives in relation to both the scenario and their emerging profession-

al identities. In this way, the vignette not only serves as a tool for coordination or discussion but also activates key *boundary learning mechanisms* (Akkerman and Baker 2011). The GenAI vignette thus aims at supporting not only reflective engagement but also the *learning potential* that emerges at the boundary of differing interpretations, even within a single professional domain.

Methods

This study applies a qualitative case study design (Yin 2014) to examine how pre-service social educators develop professional judgment through collaborative reflection on an ethically complex, GenAI-generated video vignette. The case is positioned as part of a broader research initiative on the development of reflective and ethically grounded professional agency in digitally mediated learning environments. Methodologically, we treat the vignette as a designed, mediating artifact and examine its affordances for scaffolding collective reflection.

The participating students were enrolled in the Social Education program at a Danish university college and were in their third semester, specializing in school and leisure pedagogy. At this point in their studies, they had received foundational instruction in pedagogy, ethics, and professional judgment, making them well-positioned to engage with complex practice-oriented dilemmas. Participation was embedded in an existing course module, ensuring alignment with curricular goals and situating the vignette within an authentic learning activity.

Development of the GenAI vignette

The research team developed the vignette collaboratively using a generative language model and a text-to-video AI technology. Initially, the team created a written prompt describing a fictional, yet realistic scenario rooted in the everyday practices of social educators. This script was then transformed into a short video using a multimodal GenAI platform capable of producing synthetic visuals, voiceovers, and dialogue.

The vignette centered on a newly developed AI-based app designed to assist children with autism in recognizing emotions during social interactions. The app utilized facial recognition and real-time feedback to guide the child's interpretation of emotional

expressions, features that introduced both pedagogical possibilities and ethical dilemmas. The scenario was designed to reflect core tensions in social educators' work, especially those specializing in school and leisure pedagogy; rather than presenting a problem with a clear resolution, the vignette combined ambiguity, emotional salience, and professional recognizability. This was done to stimulate situated judgment and collaborative reflection. The design process involved multiple rounds of iterative prompting and evaluation to ensure authenticity and affective resonance.

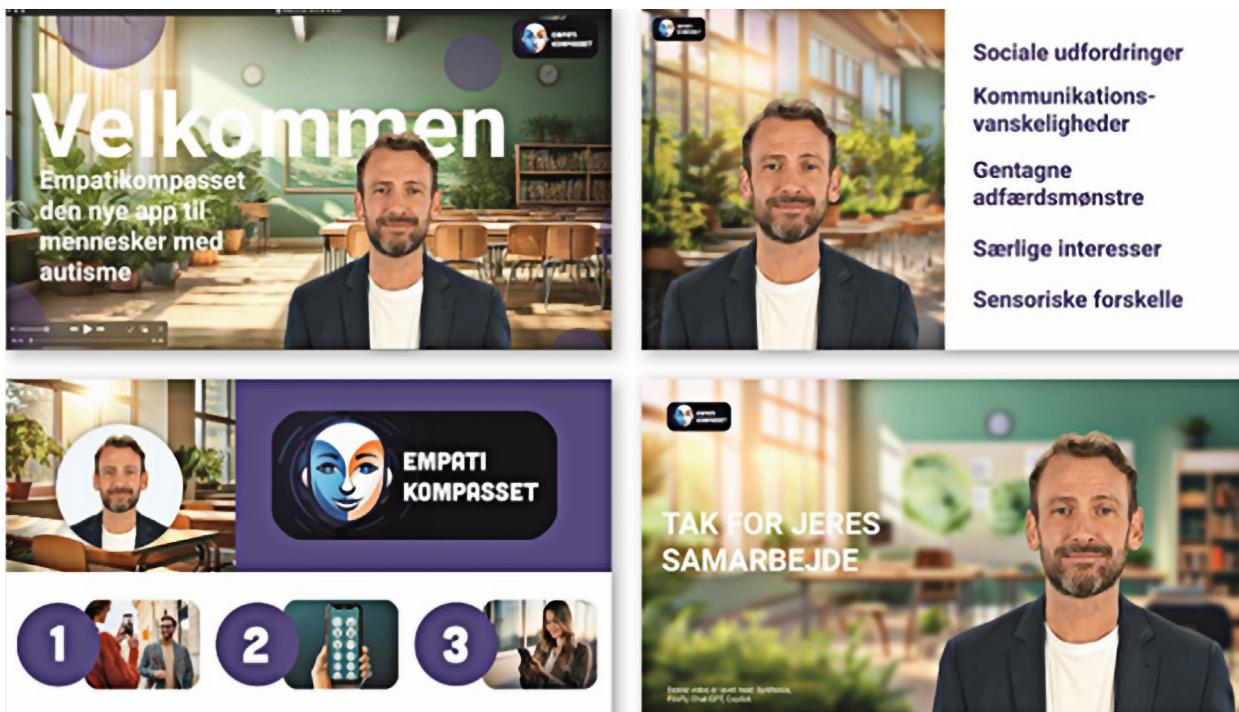


Figure 1. Image of the GenAI vignette

Data collection

Data were collected from two complementary sources: written group reflections and a focus group interview. All 23 pre-service social educators (SE) enrolled in the Social Education program School and leisure specialization, 3rd semester, were invited to participate. Three pre-service SEs agreed to participate in a focus group interview, while the remaining were assigned to reflection groups. These groups collaboratively produced written responses to a

shared set of reflection questions (Appendix) which also structured the focus-group dialogue. This parallel design ensured coherence across data sources and enabled a comparative analysis of individual and collaborative meaning-making processes. The focus group session was audio-recorded and transcribed. All participants' names were changed to preserve anonymity. Table 1 provides an overview of participants across data types and programs.

Program	Focus Group Interview	Reflection Groups	Total Students	Semester
Social Education	3 students	6 groups (3–4 students per group)	23	3rd

Table 1. Overview of Data Collection

Ethical considerations

All participants received written and verbal information about the study and provided informed consent prior to participation (Creswell and Creswell 2018). Participation was voluntary, and the pre-service SEs were informed that they could withdraw at any time. Data were anonymized during transcription, and all identifying details, including names, were altered to protect participant anonymity. Ethical approval was obtained through internal university procedures, and all research activities were conducted in compliance with institutional ethics protocols and GDPR regulations.

Analytical strategy

The analysis was grounded in Schön's (2017) theory of professional reflection and judgment. We explored how pre-service SEs responded to the vignette as a boundary-object artifact that challenged established patterns of thought and action, prompting either *reflection-in-action* (emergent within the group dialogue) or *reflection-on-action* (articulated in written or retrospective accounts). Reflection was understood not as introspection, but as a collaborative inquiry into the ethical, relational, and technological dilemmas emerging from the scenario. Consistent with our methodological focus, we analyzed how specific affordances of the Gen-AI vignette appeared to scaffold these reflective moves.

To better understand how such reflection unfolded socially, we drew on Akkerman and Bakker's (2011) framework of *boundary learning mechanisms*. These include:

- **Identification** – how pre-service SEs articulated their professional stance and clarified disciplinary boundaries.
- **Reflection** – how engagement with peers and the vignette allowed for comparison, questioning, and reconsideration of their assumptions.
- **Coordination** – how pre-services develop shared language and strategies to address the dilemma.
- **Transformation** – how new understandings emerge through interaction, sometimes resulting in the repositioning or rethinking of professional practice.

Operationally, we applied these mechanisms as interpretive lenses across both data sources (focus-group transcript and written group reflections), treating speaking turns and paragraph segments as units of analysis. Pattern-matching (Yin 2014) guided cross-case comparison between mechanisms and observed interactional moves. We traced how pre-service SEs' understanding of professional judgment, ethics, and technology evolved through engagement with the vignette and one another.

Selected transcripts were independently reviewed by a second researcher to support analytical credibility and ensure interpretive consistency. While the study is limited to a single data collection point, it captured situated, collaborative reflection triggered by a GenAI-mediated scenario. This highlights how shared artefacts can structure and support professional learning in higher education.

Findings

In this section, we analyze how pre-service SEs engaged with a GenAI-generated vignette and how their collaborative reflection unfolded through the four boundary learning mechanisms identified by Akkerman and Bakker (2011). These mechanisms offer a deductive lens for tracing how professional judgment develops when pre-service SEs encounter ethically complex, technology-mediated scenarios. Throughout the analysis, we also draw on Schön's (2017)

concept of reflection-in-action to highlight the situated and dynamic character of the pre-service SEs' meaning-making.

Identification: Establishing professional values and boundaries.

The first analytical theme concerns how pre-service SEs articulated their professional stance and pedagogical boundaries. The vignette's ethically ambiguous, technology-mediated dilemma provoked many pre-service SEs to respond with strong normative assessments. These assessments reflect identification as a process through which learners clarify who they are and what they stand for professionally. Early in the discussion, several participants expressed ethical discomfort with the technological mediation itself. They questioned whether reliance on digital tools might reduce spontaneity or obscure individual differences. Rather than treating these concerns as opinions about AI, we interpret them as boundary-setting moves that clarified the values underlying their professional reasoning. These tensions were not merely obstacles but productive triggers for reflection, as the ethical frictions embedded in the vignette compelled participants to articulate and negotiate their professional values.

Several pre-service SEs immediately positioned themselves as protectors of relational pedagogy, emphasizing that technology should not replace human interaction. One group wrote: "We think it's a bad idea to introduce something like this, both because it can take away the personal aspect of the relationship..." (Reflection assignment, pre-service SE, Group 1). Others invoked professional responsibility and ethical concern: "We must use our professional judgment to assess whether this type of technology is ethically appropriate for the target group." (Reflection assignment, pre-service SE, Group 2). Similarly, another pre-service SE emphasized the irreplaceable role of interpersonal engagement: "I also just think that when everything is done through screens [...] I just believe that having human contact is better." (Pre-service SE, interview, Susan). These reflections express discomfort with the app's premise and the broader trend of digital mediation in pedagogical settings. Theoretically, these reactions map closely to Akkerman and Bakker's concept of identification, where professional boundaries are drawn and defended. In Schön's terms, these early reflections represent

practitioners' response to value-laden indeterminacy, a necessary precursor to deeper inquiry.

Coordination: Negotiating shared meaning within the group.

Despite these strong initial identifications, the collaborative setting created space for pre-service SEs to explore tensions rather than resolve them. Coordination unfolded through mutual recognition of ambiguity and difference, often in response to peers' perspectives. The collaborative setting encouraged pre-service SEs to reflect on how professional dilemmas can be perceived differently. In one focus group, a pre-service SE remarked: "I think it also shows how differently people interpret the situations they observe." (Pre-service SE, interview, Susan). Rather than striving for consensus, the group acknowledged interpretive variation as a condition of learning. In one group reflection, differing viewpoints emerged across pre-service SEs' responses, indicating that the presence of disagreement allowed for multiple interpretations and encouraged a more nuanced exploration of the vignette's dilemmas (Reflection assignment, pre-service SE, Group 2). Here, the GenAI vignette functioned as a boundary object that sustained joint attention while permitting divergent readings, precisely the condition under which coordination (shared language, provisional strategies) could develop. Pre-service SEs also recognized that interpretation is shaped by individual experience: "I also think this shows how differently people interpret the situations they observe." (Pre-service SE, interview, Susan). The vignette functioned as a boundary object (Star & Griesemer, 1989), enabling both shared focus and diverse interpretation.

Reflection: Reconsidering assumptions and exploring alternatives

Overall, the results suggest that the GenAI vignette functioned not only as a didactic stimulus but as a boundary object (Star and Griesemer, 1989) that promoted both engagement and professional negotiation among pre-service SEs. Here, the boundary object is used as a pedagogical artifact that maintains shared reference while inviting divergent interpretations, precisely the condition that fosters collaborative reflection. Its narrative ambiguity and ethical complexity created space for collaborative meaning-making and

triggered pre-service SEs to seriously consider the interplay between technology and pedagogical practice. For some, this process led to a reaffirmation of core professional commitments. As one pre-service SE noted: "Technology must not replace professional pedagogical work" (Pre-service SE, interview, Jill). The process also triggered new forms of reflection, including reimagined uses of technology consistent with their values: "If social educators also uses the app, you can help support its use and help understand the emotions" (Reflection assignment, pre-service SE, group 3). Rather than settling for binary attitudes of acceptance or rejection, many pre-service SEs explored the conditions under which such a tool could become pedagogically meaningful. Through dialogue and discussion, the vignette helped them bring professional concerns to light. It also helped them test alternative frameworks and experiment with what Schön (2017) calls a reflective conversation about the situation.

Across the focus groups and written reflections on action, professional judgment was not presented as a static property, but as something emergent, social, and situated. It was negotiated within a shared space where emotional reactions, practical experiences, theoretical knowledge, and ethical commitments came into play. Through these interactions, the GenAI vignette supported shifts from initial stances toward context-dependent reasoning about practice.

Reflection emerged not as individual introspection, but as a collective and affectively rich process. One group reconsidered earlier skepticism: "We talked a lot about how this might work for some, especially in training situations. I hadn't really considered that before" (Pre-service SE, interview, Jill). Such comments reveal the beginnings of reflective flexibility. Another pre-service SE added a practical pedagogical scenario: "If you are prepared as an SE, you can use the app to practice with a child with autism" (Pre-service SE, interview, Marc). One comparison to analog learning aids further illustrated this reframing: "It's a bit like, you could easily create a kind of memory card game with them" (Pre-service SE, interview Jill). Another quote expands the lens beyond autism: "Just because you have autism doesn't mean you're unable to understand emotions. [...] All children need to learn about that" (Pre-service SE, in-

terview, Jill). Taken together, these shifts exemplify reflection as contrastive, negotiated, and scaffolded by a shared artefact.

Transformation: Reimagining technology's role in practice

While identification and reflection marked early phases of the learning process, several pre-service SE responses demonstrated transformation, where participants reconceptualized assumptions or envisioned alternative pedagogical strategies. One group that initially rejected the app wrote: "It's a bad idea [...] because it takes away the personal aspect of relationships" (Reflection, Group 1). Later, however, the same group suggested: "You could use it as a training tool [...] so they can learn to read facial expressions" (Reflection, Group 1). We interpret this shift as design-oriented rethinking consistent with Schön's account of adaptive professional reasoning.

Pre-service SEs also adapted the app concept to fit relational pedagogy better: "The app could become a Google speaker instead of a phone, so it doesn't interrupt the conversation" (Reflection, Group 3). Others challenged diagnostic assumptions: "Maybe it's our fault that the child will not learn about emotions?" (Interview, Jill). These examples indicate a growing epistemic agency and moral reflexivity. Crucially, such transformations were socially co-constructed. As one group reflected, "It was more legitimate to disagree [...] and find solutions" (Reflection, Group 2), while another emphasized, "We had a good discussion [...] and all came up with relevant ideas" (Reflection, Group 1). Methodologically, we read these outcomes as boundary-learning effects: the vignette's shared-yet-flexible form sustained disagreement productively, enabling participants to re-configure practices and roles in dialogue.

Concluding remarks

This study reveals how GenAI-generated video vignettes can serve as valuable pedagogical tools in professional education, particularly when ethical complexity and technological mediation are brought into focus. The findings illustrate that collaborative reflection, scaffolded by such vignettes, enables pre-service social educators to move from initial moral positioning to deeper ethical deliberation and design-oriented rethinking of their practice. Importantly, professional judgment did not emerge as a fixed or in-

dividual trait but as a socially constructed, dynamic, and situated capacity, forged in dialogue with others.

This study confirms earlier concerns raised in the literature about the limitations of individual reflection tasks, often criticized for their superficiality or instrumentalism (Brown et al. 2013; de la Croix and Veen, 2018). Our findings, however, are in line with those of Iiskala et al. (2011), who emphasize the value of socially situated reflection in collective contexts. Moreover, we extend vignette methodology by specifying how GenAI video vignettes introduce emotionally rich, ethically ambiguous, and context-sensitive prompts that extend beyond traditional text-based forms (Jenkins et al. 2020; Demetriou 2023). Concretely, we reveal how these artefacts function simultaneously as boundary objects that support a shared focus despite divergent readings and as affective triggers that invite engagement, thereby scaffolding collective reflection and shared professional reasoning.

Our study also adds nuance to existing collaborative reflection research. While earlier work stressed deliberation and co-construction (Finlay and Gough, 2003; Trede and Jackson, 2019), our use of boundary learning theory illustrates the learning potential not just in moments of agreement but in the productive frictions that arise from disagreement and uncertainty. This highlights the importance of designing learning environments that do not prematurely resolve complexity. Instead, they allow pre-service SEs to dwell in ambiguity and work through tensions collectively.

Finally, this study advances methodological innovation in professional education by showing how GenAI-generated video vignettes can be used not as answers or shortcuts but as provocations that spark ethical reasoning, collective inquiry, and pedagogical imagination. It also contributes theoretically by integrating Schön's account of reflection in action with boundary learning to explain how shared artefacts scaffold the emergence of professional judgment. Practically, GenAI vignettes should be designed for ethical ambiguity, recognizability, and affective resonance, and facilitated in ways that keep multiple interpretations in play rather than push for early consensus. Future research could explore how different forms of GenAI vignettes (e.g., interactive or multimodal) shape reflection across diverse professional settings, and whether such approaches foster lasting shifts in professional judgment over time.

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Appendix

Question sheet for pre-service social educators.

The Danish Autism Association is developing an app called *The Empathy Compass*. What considerations would you, as professional educators, make in relation to using this app as part of your pedagogical practice?

Requirements set by the association for the app:

- It should help autism patients decode others' facial expressions and body language.
- It should provide tips for social interaction and communication based on the photos taken with the app.
- It must comply with the current legislation.
- It should use AI to perform its functions.

Explore the case further:

Spend 5–10 minutes researching to gain a proper understanding of the case before beginning your discussion. (Link for inspiration).

- <https://www.sundhed.dk/borger/patienthaandbogen/psykehos-boern/sygdomme/udviklingsforstyrrelser/autismespektrumforstyrrelser/>
- <https://www.autismeforeningen.dk/news/nyheder-2020/international-autismedag-fordomme-og-fakta-om-autisme/>
- <https://digst.dk/strategier/strategi-for-kunstig-intelligens/>
- Autism (Autism Spectrum Disorder) | Psykiatrifonden
- Emotionary by Funny Feelings
- Emotions from I Can Do Apps
- FaceReader Software | FR-PROJECT, FR-ACTIONUNIT, FR-SOFTWARE | BIOPAC

See the discussion questions on the next page.

Question 1:

Begin by discussing what you should pay attention to if such an app were developed, based on your professional and pedagogical knowledge. (*Explore and understand the case*).

- How might this app support participation opportunities for people with autism (in everyday life and in society), and how could the concept be used by professional educators in their work with the target group?

Question 2:

Next, discuss how this app could become a useful solution for autism patients. (*Explore and understand professional work processes*)

- What possibilities for action do you think an app like *The Empathy Compass* could offer you as educators working with this group?
- Are you familiar with other pedagogical tools used in similar situations?

Question 3:

Discuss the advantages and disadvantages of such technology in your practice. (*Requirements for a successful solution*).

- What wishes or requirements would you, as educators, have for such an app? What should it do?
- How would you, as educators, support citizens in using such an application?
- For whom was the application developed — the individual user or the institution?

Question 4:

What ethical considerations would you make if you implemented and used such an app? (*Ethics and professionalism*)

- What potential issues and/or conflicts can you identify from using such an app in social contexts? (e.g., legislation, consent, social codes and boundaries, the use of collected data, and other ethical concerns)

Question 5:

Imagine that you are implementing this app in your workplace — what professional considerations would you make? (*Ethics and technology*)

- Discuss the advantages and disadvantages of using this app in pedagogical practice.
- What ethical challenges can you identify as professional educators? For example, what potential issues might arise for the user when using the app, and what challenges could it create for the people the user interacts with?
- What kinds of challenges or conflicts might you anticipate arising in your encounters with children, young people, or adults with autism when working with *The Empathy Compass*?