Reflexive monitoring for sustainable transformations: A game-based workshop methodology for participatory learning

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ABSTRACT

In this study, we combined reflexive monitoring—a critical assessment, evaluation, and practice-adjustment process—with participatory learning through educational games to advance transformative sustainable tourism methodologies. The methodology was tested in a workshop with tourism practitioners in Norway. Using a constructivist lens, we analysed the narratives participants shared via game artefacts, observations, and debriefings. The tourism practitioners demonstrated some signs of enhanced reflexivity, trust, innovation, inclusivity, and equity, which contributed to their collective agency for sustainability. Integrating reflexive monitoring can empower practitioners to critically assess their practices, envision alternatives, navigate sustainability complexities, and drive transformative actions. Although further testing is required, the methodology holds promise for promoting sustainable tourism practices and enhancing practitioners' skills.

1. Introduction

Navigating sustainable transformations requires a nuanced understanding of the interplay between individual actions and broader social structures (Cunliffe, 2016; Giddens, 1984; Watts, 2019). Consisting of deep, systemic shifts towards the enduring, holistic wellbeing of socio-environmental systems (Bentz, O'Brien, & Scoville-Simonds, 2022), sustainable transformations are characterised by having rather broad and ambitious scope and objectives. Regarding tourism, numerous scholars have suggested that advances in sustainability can be achieved by promoting collaboration, creativity, innovation, critical thinking, and transdisciplinarity (Duxbury, Bakas, & Pato de Carvalho, 2021; Hales & Jennings, 2017; Hartman, 2023; Jernsand, 2019; Koens et al., 2022; Lalicic & Weber-Sabil, 2021; Liburd, Duedahl, & Heape, 2022). Several researchers in different disciplines have argued that effective approaches must be systemic and have outlined reflexivity and reflexive monitoring as crucial for driving change beyond partial temporary improvements (Alvesson & Sköldberg, 2018; Bentz et al., 2022; Nardon, Hari, & Aarma, 2021). These studies have highlighted reflexivity as an individual's ability to self-reflect on actions and decisions (Cunliffe, 2016; van Mierlo et al., 2010; Watts, 2019) and reflexive monitoring as the dynamic adjustment process whereby individuals respond to real-time feedback (Arkesteijn, van Mierlo, & Leeuwis, 2015; Beers and

van Mierlo, 2017; D'Cruz, Gillingham, & Melendez, 2007; Giddens, 1984; Sedgewick, Lemaire, Wirgau, & McKeague, 2022). In tourism, practitioners' ability to self-reflect and consider adjusting to challenges—whether spontaneously or through collective projects—can be vital for the sector's transformation towards greater sustainability (Smit, Melissen, & Font, 2024).

Although embedding reflexivity and reflexive monitoring into tourism practices is crucial for addressing sustainability in transformative terms, such integration remains challenging. Some sustainability scholars have claimed that overlooking the role of practitioners as reflexive agents who can bring about changes and adaptations to the system where they operate, risks to make sustainable efforts incomplete and contextually detached, hindering transformations (Bentz et al., 2022; Fazey et al., 2018). The discussion of ways to develop tourism practitioners' reflexivity is still limited, constituting a gap in research and practice. In line with some tourism scholars, we argue that reflexivity can be promoted in co-creation spaces at the intersection of academia and industry, such as through LivingLabs and workshops (Bertella, Lupini, Romanelli, & Font, 2021; Liburd et al., 2022; Montano, Font, Elsenbroich, & Ribeiro, 2023; Smit et al., 2024; Yati, 2023). In such spaces, researchers can act as facilitators, spanning partners and, ultimately, stewards of the reflexive process: they can promote discussions and external offer perspectives that enhance the practitioners'

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critical reflection on the assessment and evaluation of their practices and possible changes in response to evolving sustainability challenges. When applied in these co-creation spaces, reflexive monitoring is a key factor for engaging tourism practitioners in collaborative efforts towards sustainable transformations.

This study addresses the following research question: "How does integrating reflexive monitoring within a participatory learning methodology influence tourism practitioners' capacity for fostering sustainable transformations in tourism practices?". To answer this question, we developed a methodology that integrated reflexive monitoring into a participative learning game-based workshop with tourism practitioners in the town of Tromsø, Norway. We explored the narratives that emerged from the participants' reflexive accounts of their experiences in dealing with sustainability during the game and in their professional lives. To a certain extent, our findings revealed enhanced reflexivity, trust, and innovation; heightened inclusivity; and greater equity among the participants. Our workshop methodology empowered participants to express their voices, critically assess current tourism practices, and envision alternatives. The main contribution of this study is methodological since it showcases reflexive monitoring as a catalyst for sustainable tourism transformations through participative learning initiatives with practitioners in co-creation spaces.

2. Literature review

2.1. Reflexivity and reflexive monitoring for transformations

Reflexivity transcends mere reflection, embodying active, purposeful engagement in self-scrutiny and contextual analysis that extends beyond introspection and drives transformative change (Caetano, 2014; D'Cruz et al., 2007; Watts, 2019). While reflection may resemble looking in a rearview mirror, reflexivity requires steering based on what is observed (D'Cruz et al., 2007). These observations themselves constitute an intervention in the systemic transformation that social agents seek to initiate (Fazey et al., 2018). Reflexivity proactively guides responses to ongoing feedback, marrying past experiences with future projections to facilitate dynamic adaptation within complex environments (Giddens, 1984; D'Cruz et al., 2007; Sedgewick et al., 2022). Reflexive agency is about questioning our assumptions, seeking out diverse perspectives, and adapting our behaviour. This critical distinction underscores reflexivity's pivotal role in sustainable transformation (Bentz et al., 2022; Fazey et al., 2018; Lazurko, Haider, Hertz, & McCarthy, 2023; Moriggi, 2022), where the aim is not only to understand actions and outcomes, but also to adapt and transform practices towards sustainability within rapidly evolving systems.

Moreover, reflexivity is intrinsically relational, action-driven, closely tied to agency (Caetano, 2014; Giddens, 1984; Sedgewick et al., 2022; Watts, 2019), and therefore crucial for supporting sustainable transformations. Although reflexivity originates at an individual level, it extends to influencing group dynamics and organisational practices (Bradbury et al., 2019; Sliep, 2010). Through collective reflexive processes, groups and organisations can adapt and evolve in response to their internal and external environments (Hartman, 2023; Sedgewick et al., 2022). This extension is facilitated by creating cultures, structures, and processes that promote open dialogue, critical examination of assumptions, and shared learning towards achieving sustainability (Bradbury et al., 2019; van Mierlo, Van Paassen, Lie, Damtew, & Witteveen, 2021). Consequently, reflexivity is a dynamic, critical, and transformational capacity that enables individuals to act, create shared understandings, challenge dominant power structures, question existing knowledge systems, and promote emancipatory practices (Bentz et al., 2022; Fazey et al., 2018; Moriggi, 2022). When coupled with collective agency, understood as the collaborative and coordinated actions of a group in pursuit of a shared goal, reflexivity becomes crucial for communities to navigate the complexity and pluralism of sustainability transformations and, importantly, act.

Viewing reflexivity as a stance allows us to explore the associated process of reflexive monitoring and its relevance to sustainable transformations. As a stance, reflexivity reveals a commitment to continuous, informed, critical engagement with the world, embedding reflexivity into one's identity and sensemaking to guide actions, interactions, and decisions (Caetano, 2014; D'Cruz et al., 2007; Giddens, 1984). Such engagement occurs through the process of reflexive monitoring, which is the mechanism that empowers collective action in groups (Giddens, 1984; Sedgewick et al., 2022). Reflexive monitoring integrates three essential dimensions (Cunliffe, 2016; Malthouse, Roffey-Barentsen, & Watts, 2014; Sedgewick et al., 2022; Sliep, 2010; Watts, 2019): 1) a *personal* dimension of reflection, which involves cognitive self-examination; 2) a *social* dimension, which encourages active questioning, alternative framings, and multiple perspectives; and 3) a *contextual* dimension that not only allows individuals to reflect upon their actions and take responsibility together, but also to recognise the impact of a demanding external context on themselves and their relations. Reflexive monitoring, therefore, promotes the empowerment of collective agency in response to contextual peculiarities (Giddens, 1984; Sedgewick et al., 2022), reveals the intentionality of social actors (Caetano, 2014; Cunliffe, 2016), and highlights the influence of structural, context-specific elements in shaping individuals' capacities for systemic transformation (Arkesteijn et al., 2015).

2.2. Reflective monitoring and participatory methodologies

Due to the features discussed in the previous subsection, reflexive monitoring has been incorporated into transformative methodologies. Research on the topic is mostly empirical and underscores the importance of individuals' and groups' intentional actions in shaping systemic transformation, challenging existing paradigms, and fostering collaborative learning for system innovation (Arkesteijn et al., 2015; Caetano, 2014; Cunliffe, 2016; van Mierlo et al., 2021). Reflexive monitoring is integral to methodologies developed for institutional and systemic change projects, which, by fostering participatory engagement, create "spaces of possibilities" for transformations to occur over time (Bentz et al., 2022; Fazey et al., 2018; Moriggi, 2022; Moriggi, Soini, Franklin, & Roep, 2020; van Mierlo et al., 2010). Typical tools and methods adopted within such methodologies are role-playing (Hersted, 2017), game-based learning (Mayer et al., 2014), mindfulness practices (Vu & Burton, 2020), sensemaking maps, and reflexive journals (Cunliffe, 2016). Some reflexive monitoring projects (e.g., community forums and workplace roundtables) may incentivise ongoing reflection on system dynamics to challenge the stabilising practices that sustain "status quos" (Arkesteijn et al., 2015; van Mierlo et al., 2010, 2021). Reflexive monitoring within methodologies targeting sustainable transformations helps individuals assess and evaluate practices and engages stakeholder groups in designing transformative interventions.

Methodologies integrating reflexive monitoring require a clear distribution of roles throughout related processes and an early definition of who is responsible for the monitoring. Appointed reflexive monitors, ranging from project team facilitators to external sparring partners, act as stewards of the reflexive process by offering external perspectives that enhance critical reflection (Alvesson & Sköldberg, 2018; Arkesteijn et al., 2015; Ripamonti, Galuppo, Gorli, Scaratti, & Cunliffe, 2016; van Mierlo et al., 2010) and overseeing actions aimed at systemic change (Arkesteijn et al., 2015; van Mierlo et al., 2010). This role requires such stewards to be skilled in information synthesis, in-depth discussion management, and reflective questioning (Arkesteijn et al., 2015; Bradbury et al., 2019; Ripamonti et al., 2016). Researchers are naturally positioned as reflexive monitors because they provide feedback, facilitate discussions, and aid participants in navigating the complexities of sustainable practices (Alvesson & Sköldberg, 2018; Bradbury et al., 2019; Ripamonti et al., 2016). However, in a participative learning setting aimed at participant empowerment, it is fundamental to establish a more democratic approach that gives participants a degree of

ownership over the monitoring process (Bradbury et al., 2019; van Mierlo et al., 2021) based on a reflexive attitude towards sustainability practice.

Hence, reflexive monitoring is a dynamic force for systemic change in sustainable transformation initiatives. The use of diverse tools—ranging from interviews and discussions to the analysis of audiovisual materials—facilitates multifaceted engagement with participants, ensuring that reflexivity is not merely an academic exercise but a lived experience that resonates on a cognitive and emotional level (Ripamonti et al., 2016; Bradbury et al., 2019). Reflexive monitoring advocates for a participant-led, researcher-facilitated model whereby participants learn to monitor their actions under guidance, fostering a democratic, inclusive process that can empower stakeholders towards sustainability (Wengel, 2021). This not only democratises the sustainability innovation process, but also allows participants to critically examine broader cultural and institutional barriers to stakeholders adopting reflexive learning practices (Moriggi et al., 2020; van Mierlo et al., 2010). Thus, reflexive monitoring supports a more inclusive, engaged, and responsive approach to tackling the sustainability challenges of modern tourism systems and their transformation.

2.3. Reflexivity for sustainable tourism transformations

Reflexivity is not a novel concept in tourism, but its application has some limitations that we will examine to identify opportunities for sustainable transformations. Reflexivity is generally examined from systemic-level perspectives, emphasising its role in adapting institutional frameworks and promoting collaboration in destination networks (Amore & Hall, 2016; Hartman, 2023; Smit et al., 2024). Although destination governance researchers acknowledge interactions among individual and collective actors and the presence of shared and conflicting, values in the tourism system, they often overlook the informal and cultural dimensions that influence tourism practices and the perspectives of industry practitioners (Hartman, 2023). Current tourism research predominantly considers reflexivity from the researcher's perspective, highlighting in terms of its importance in producing interpretive accounts of subjective realities (Crossley, 2019; Goebel, Camargo-Borges, & Eelderink, 2020; Westwood, Morgan, & Pritchard, 2006). This research focus often disregards the importance of other stakeholders as reflexive agents—individuals who actively analyse and adapt their behaviours based on self-awareness and environmental feedback. This narrow perspective limits the potential for reflexivity to enhance sustainability in tourism governance. Such limited exploration and application of reflexivity offers opportunities to design and test methodologies that integrate reflexive monitoring into participatory processes, thereby facilitating sustainable transformations.

To foster such integration, it is crucial to create hybrid spaces that combine research and practice and to consider potential approaches, tools, and methods. Transformational methodologies can engage tourism practitioners in informal, unstructured learning through workshops and LivingLabs (Bertella et al., 2021; Liburd et al., 2022; Wengel, 2021; Wengel, McIntosh, & Cockburn-Wootten, 2019; Yati, 2023). These methodologies give all stakeholders involved in shaping destination systems the chance to recognise their roles as reflexive agents and their potential and responsibility for fostering sustainable tourism (Bertella, 2023a; Seeler, Zacher, Pechlaner, & Thees, 2021; Yati, 2023). Testing such methodologies requires researchers to engage with practitioners in collaborative problem-solving (Duxbury et al., 2021; Jernsand, 2019) and implement reflexivity-enhancing mechanisms that are capable of empowering learners to collectively influence wider tourism systems. Thus, some tourism researchers have employed game-based learning to foster transformative potential and enrich discussions about sustainability by embedding ethics, systems thinking, self-awareness, and reflexivity into participatory learning processes and outcomes (Koens et al., 2022; Liburd et al., 2022; Lupini, 2024; Wengel, 2021; Wengel et al., 2019). Game-based learning methodologies, which

typically include dice, cards, role-playing, and ludic competition, offer a robust approach for integrating reflexive monitoring into participatory learning for sustainable tourism transformations.

3. Methods

We reiterate that our aim was to explore how the integration of reflexive monitoring within a participatory learning methodology could influence tourism practitioners' capacity to foster sustainable transformations in tourism practices. To achieve this, we employed constructivist narrative inquiry, which recognises the existence of multiple truths and views narratives as vital components of the perception and construction of reality (Alvesson & Sköldberg, 2018; Clandinin & Connelly, 2000; Riessman, 2008). We drew inspiration from studies that applied this approach to sustainability, showing that narratives are essential for understanding sustainability challenges through problematisation and moral judgements (Bertella, 2023b; Weder, Lemke, & Tungarat, 2019). Consequently, we designed a game-based methodology to explore the narratives emerging from the participants' reflective accounts of their experiences in addressing sustainability, both within the game and in their roles as tourism practitioners. Following an introduction to the study's context, the participant selection process, and the composition of the research team, the subsequent subsections provide a comprehensive overview of our methodology's design, implementation, and analysis.

3.1. Study context, participant selection, and research team

The workshop was hosted in the Norwegian town of Tromsø (a popular Arctic destination that is facing significant sustainability challenges). Tromsø, like other destinations in northern Norway, has been experiencing a tourism boom in the last two decades, prompting an urgent need for sustainable practices that balance visitors' satisfaction with ecological and community wellbeing (Enger et al., 2013; Jakobsen, Iversen, Nerdrum, & Rødal, 2021; Visit Norway, 2024). Achieving such a balance depends on shifting sustainability from a peripheral theme to a core strategy that is deeply integrated into the fabric of tourism development (NHO, 2017). Tromsø's dynamic environment provided an interesting context for evaluating a workshop methodology that involved local practitioners, such as members of the Arctic 365 network and the Tromsø destination management organisation (Berglund & Skallerud, 2020; Visit Tromsø, 2024), who were aware of the numerous sustainability challenges and the need to address them.

Various channels were used to identify and select participants from among local tourism and hospitality practitioners via institutional (university and municipality), formal (industry cluster, organisation, and business), and informal (social media and personal network) avenues. The workshop involved twelve practitioners, who were organised into four teams in a safe workshop environment based on factors such as gender, nationality, and professional position (Liburd et al., 2022; Wengel et al., 2019). In assembling the teams, we tried to minimise hierarchical positions. The invitation letter explained that participants were invited as collaborators in a research project, highlighting their value as individuals familiar with the tourism context rather than as representatives of their respective organisations. Additionally, we physically equipped the workshop space with round tables and accessible refreshment areas to foster a convivial atmosphere. Due to the various nationalities represented, the workshop was conducted in English, although the participants were allowed to express themselves in Norwegian if they preferred. The idea was to ensure that the participants would feel safe and comfortable expressing their perspectives on sustainability, shaped by their professional experiences and personal views resulting from integrating sustainable practices into their daily lives, operations, and activities.

The first author served as a reflexive facilitator during the workshop and conducted the follow-up interviews. During the workshop, she was

assisted by four students who acted as observers, helping the teams engage with the game and taking notes about the team members' discussions. We have anonymised the participants and observers within this article by using codes to identify their roles as participants (P) or observers (O) and which teams they belonged to (Teams A, B, C, and D). For instance, "P$_A$3" means Participant 3 from Team A, and "O$_C$" means an observer of Team C. The participants gave their consent to us collecting various materials (artefacts, pictures, video recordings of the game session, and audio recordings of the interviews), which were used only for academic purposes. Any information that could be connected to a participant was eliminated in line with the Norwegian ethical research guidelines.

3.2. Methodology design and implementation

To design a methodology that could integrate reflexive monitoring within a participatory learning methodology, we drew from the literature on serious games (Mayer et al., 2014) and the tourism literature utilised in tourism to co-create actionable knowledge in a workshop setting (Bertella et al., 2021; Koens et al., 2022). We relied on a specific game kit that we designed previously and tested for educational purposes (Lupini, 2024). We integrated activities that promoted and supported reflexive monitoring mechanisms into the core of the game and the following debriefing sessions, as shown in Table 1, which illustrates the various steps in detail. The process consisted of an initial self-assessment, a game session, a group debriefing, a second self-assessment, and an individual debriefing three weeks after the game. The entire process was enhanced by interactions with the game facilitator, who acted as a reflexive monitor guiding group discussions and reflective interviews to deepen the experience (Nardon et al., 2021). This approach capitalised on the dynamic nature of game-based learning to foster a continuous reflexive monitoring process, which encouraged participants to critically reflect on their decisions and behaviours within the game and apply these insights to real-world contexts.

Before the workshop (Step 1), the participants were invited to consider and write a sentence about their thoughts on "Sustainability and Tourism". The first few minutes of the workshop were used to allow participants who had not finished to elaborate on their sentences. After an ice-breaker activity (Step 2 A), each team received a tabletop game kit that included the materials needed for the activities, an instruction manual, and a post-game questionnaire. In the game, participants recorded their personal and teams' contributions on sticky notes, maps, and cards, which served as data sources (Step 2B). The facilitator provided teams with guidance on how to play the game, giving them the freedom to interpret and frame problems, make decisions, and find solutions (Koens et al., 2022). The game structure involved a series of iterative problem-solving exercises based on real experiences that progressed through modular activities. Teams had to complete tasks within

specified timeframes and earn points based on the quantity and quality of their contributions to each task (Steps 2C to 2E). Scoring was designed to reward collaborative, creative, critical, and reflexive thinking. The team with the highest score at the game's end was declared the winner. Debriefings followed to reflexively discuss the game's learning outcomes and key takeaways.

The game began with teams assuming the role of a tour company aiming to enhance the destination (Tromsø)'s sustainability. The teams received the same company description and business model, and were asked to identify "values, disvalues, and critical areas for sustainability", prompting them to evaluate the company's impact on the destination. The problem assessment activities were followed by two creativity-boosting activities. Step 2C involved crafting a short story on "Tourism and Sustainability" by incorporating elements determined by rolling three dice (representing stakeholders, attraction/activities, and events). The aim of this activity was to unleash the participants' imaginations, lower tension, and strengthen team cohesion.

The second creativity-boosting activity (Step 2D) employed persona cards representing destination stakeholders, including nonhuman ones (animals and natural/cultural elements). Initially, the teams were asked to articulate the stakeholders' perspectives by voicing their wishes, needs, and desires for the destination. Which nurtured the participants' empathy. Next, in Step 2D, the participants brainstormed strategies for the fictional company to address the identified stakeholder aspirations, which helped the teams transition from assessing problems to formulating solutions. The activity revealed the complexity of tourism sustainability management and how business ideas based on societal, environmental, and economic needs can best address such complexity. The game concluded with each team drafting and presenting a sustainable business model, incorporating ideas developed throughout the game to frame and pitch sustainable solutions. This seamlessly moved them on to the debriefing phase of the workshop (Step 2E). Scores were calculated after the participants completed a feedback questionnaire on the game experience, and the winning team was finally announced (Step 2F).

Following the game session, the participants entered the debriefing phase (Step 3). This included 1) a group reflection exercise to encourage critical discussion on tourism paradigms and sustainability impact, 2) a questionnaire to gather immediate feedback on the game-based learning process, and 3) one-on-one reflective interviews three weeks after the game to delve into the participants' personal sensemaking (Nardon et al., 2021). The participants then revisited the initial subject of reflection, "Sustainability and Tourism", and were asked to write another sentence (Step 4). Comparing the participants' two sentences, written before and after the game, allowed the researchers to observe changes in their reflexivity (Cunliffe, 2016; van Mierlo et al., 2010, 2021; Watts, 2019). Over the following three weeks, the individual debriefings (Step 5) allowed us to thoroughly explore the participants' experiences, insights, and impacts regarding their personal and professional contexts.

Table 1
Workshop Methodology Steps, Tasks, and Activities.

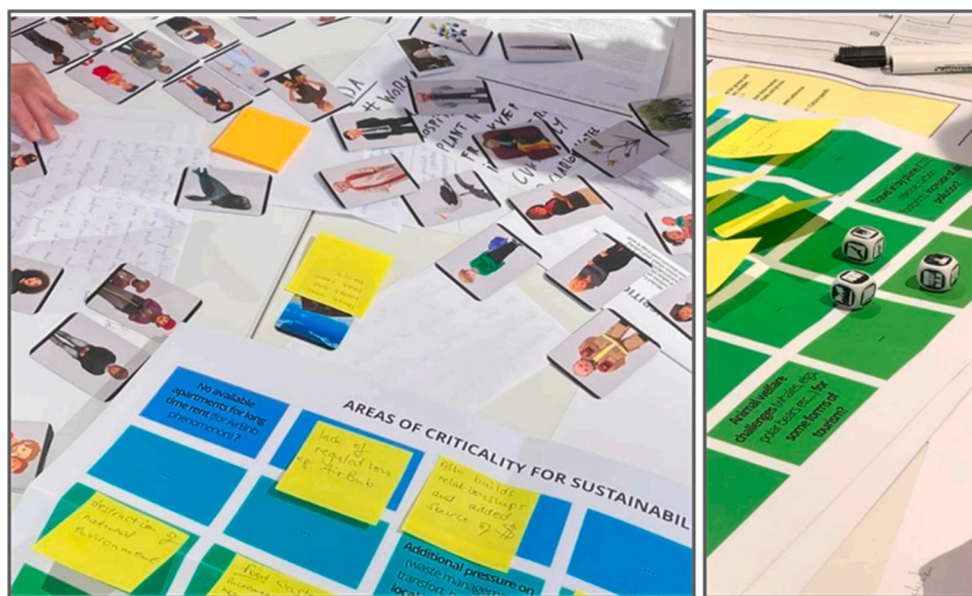| Step 1. SELF-ASSESSMENT (pre-workshop)	Step 2. GAME SESSION (during the workshop)	Step 3. GROUP DEBRIEFING (end of workshop)	Step 4. SELF-ASSESSMENT (post-workshop) Write a one-sentence reflection on the topic of "Sustainability and Tourism".	Step 5. INDIVIDUAL DEBRIEFING Follow-up reflective interviews.
Write a one-sentence reflection on the topic of "Sustainability and Tourism".	2A. Icebreaker activity: present toolkit, case, and challenge.	Group reflection. Feedback questionnaire.		
	2B. Activity 1: map values, disvalues, and critical areas for sustainability.			
	2C. Activity 2: write a short story about "Sustainability and Tourism".			
	2D. Activity 3: use persona cards to give a voice to destination stakeholders and identify business ideas to address their needs.			
	2E. Activity 4: develop a business model canvas for the company and pitch your proposal.			
	2F. End: score calculation and declaration of the winning team.			

Fig. 1. Game Artefacts.

3.3. Data categorisation and analysis

The data were categorised into three groups following Kindon, Pain, and Kesby (2007) approach: game artefacts, observations, and interviews. When necessary, the texts included in some of the artefacts, as well as the transcripts of the audio recordings, were translated into English. Game artefacts (Fig. 1), such as maps, persona cards, and sticky notes, alongside debriefing questionnaires, provided visual and written sources for reflexive evaluations (Ripamonti et al., 2016). Observation formed a critical part of the data collection, capturing players' interactions, conflicts, and interpretations through photos, videos, and research notes. Observer notes captured participants' actions and enabled us to gain a deeper understanding of the outcomes and changes in the observed setting. The debriefing included follow-up interviews that allowed participants, back in their personal and professional contexts, to reflect on the game's impact on their learning (Yati, 2023). These post-game interviews promoted reflexive monitoring through dialogue and collaborative engagement between the participants and the researcher (Ingram, Caruana, & McCabe, 2017; Nardon et al., 2021; Ripamonti et al., 2016). Elicitation techniques, including artefacts, videos, and pictures, were used during the reflective post-game interviews to mitigate bias and facilitate independent reflections on participants' actions and choices (Ingram et al., 2017; Nardon et al., 2021). Open-ended questions fostered critical discussions and a trustful and balanced environment through active empathy and open dialogue

(Alvesson & Sköldberg, 2018), which also minimised power imbalances and encouraged candid responses.

We employed reflexive thematic data analysis following Braun and Clarke (2019) to explore the participants' subjective experiences and perceptions. This involved delving into the narratives and reflexively interpreting subjective realities, as per Alvesson and Sköldberg (2018) and Cunliffe (2016). The data analysis proceeded through iterative cycles of coding and interpretation. The analysis and interpretation relied on the first author's familiarity with the data sources, facilitating a thorough understanding of the underlying significance and contexts to access deeper layers of meaning. The workshop's artefacts were digitally preserved, translated, and cleaned of any typographical errors by the first author, who then proceeded to a first analysis, followed by several discussions and further analyses by the research team. We analysed the data team by team, incorporating observer notes, debriefing questionnaires, and interviews. The process started with the interview transcripts and continued across triangulated data sources to identify emergent themes. The conceptual elements that guided the game's design were also incorporated into the interview guide. This not only helped organise and inform the interview questions, but also provided a thematic structure to form a cohesive meta-narrative of the participant's experiences that, together with the observations, facilitated reflexive meta-interpretation that is reflected in the findings and discussion. Despite the limitations of a single workshop and the small number of participants, data triangulation across various data sources yielded results that

Table 2
Summary of the Main Findings.

Themes			
	Reflexivity	Collaboration, Trust, and Innovation	Inclusivity and Equity
Meta-Interpretation	By exercising their reflexivity, participants improved their capacity to critically assess and evaluate current tourism practices. This increased their awareness, and understanding, of sustainability and stimulated co-creation.	By encouraging diverse perspectives, creativity, and empathy, the participants challenged themselves to leave their comfort zones, address practical issues, confront dilemmas, and innovate. By promoting transparent communication and co-creative solutions, participants experienced an increase in mutual trust.	By co-creating knowledge in an inclusive experimentation space, the participants found a voice, questioned structural issues, and acknowledged existing power dynamics. These discussions led to advocacy for improved inclusivity and equity at the local destination.
Main Data Sources	Game artefacts (maps of values, disvalues, and critical areas). Sentences on Tourism and Sustainability. Observations. Reflective interviews.	Game artefacts (sustainable business solution pitches) Observations. Reflective interviews.	Game artefacts (persona cards and storytelling). Observations. Reflective interviews.

reached thematic saturation.

4. Findings

In this section, we elaborate on the main findings that emerged from the analysis of the participants' narratives, triangulated with our observations and notes. Data interpretation was conducted alongside the analysis, and the findings reflected the shared interpretive process regarding the integration of reflexive monitoring into a participative learning methodology to influence tourism practitioners' sustainability capacities. It 1) heightened personal, relational, and contextual reflexivity and 2) fostered collaboration, trust, and innovation among the participants' empowerment and collective agency. Table 2 provides a summary of the main findings related to these three areas, and the following subsections give a comprehensive description enriched by quotations, the most relevant parts of which are indicated by italics.

4.1. Heightened reflexivity

The workshop participants reflected critically on themselves, the tourist business community, the tourism stakeholders' practices, and their local and global societal and environmental impacts. The initial sentence writing prompted introspection and assessment of assumptions and activated personal reflexivity. Playing the game and addressing specific aspects of the local tourism context also activated the participants' relational and contextual reflexivity. During the "values, dis-values, and critical area mapping activity", for example, they collaboratively mapped key considerations regarding tourism's impact on the sustainability of the destination. Participants identified virtues (e. g., the contribution of tourism companies to job creation and environmental stewardship) and challenges (e.g., insufficient tourism-specific knowledge among authorities, weak sustainability leadership, a lack of regulations, and inadequate support for workers' wellbeing). The stepwise progression from assessing problems to identifying solutions

fostered the participants' reflexivity and helped them monitor existing tourism sustainability practices at the destination. The debriefing allowed them to engage in further critical reflection on the impact of those practices.

The participants' engagement with reflexive monitoring during the game and the debriefing made them realise that sustainability was not as straightforward as they had initially thought, and that their perspectives had shifted during the workshop. This change was evidenced by the participants' statements during their post-game interviews and by comparisons of their thoughts about tourism and sustainability (via their written pre- and post-game sentences). During the data analysis, any reflexive discursive elements that provided evidence of the participants' increasing awareness of sustainability's intricate nature were highlighted in italics. During the interviews, various participants acknowledged their evolving understanding of sustainability as follows:

"*I had never considered the structure* of how different things influence each other. The mapping was quite interesting … *I could see how it works*, what the business brings (good and bad) and what areas are affected, which in turn affect the business" (P_{D2}).

"Sustainability is *a topic that everyone believes* they can talk about and *know about*, but *the workshop made us realise that it's not such a simple thing*" (P_{B1}).

These quotations demonstrate reflexive monitoring's ability to facilitate realisations and shifts in perspective, extending beyond mere opinion changes. Enhanced reflexivity was evident in the participants' deeper thoughts about the relationship between tourism and sustainability. Clear evidence of heightened reflexivity emerged when we compared the participants' sentences on tourism and sustainability at the workshop's start and conclusion (Table 3). We observed a substantial increase in reflexivity. Initially, participants viewed sustainability as a paradox and a challenge, primarily due to external factors, such as industry growth and economic benefits. There was minimal collaborative and relational thinking, and their understanding of sustainability's

Table 3
Sentences on the Topic of "Tourism and Sustainability" Written by the Workshop Participants that Evidenced Enhanced Reflexivity.

Participants	Pre-Workshop	Post-Workshop	Participants	Pre-Workshop	Post-Workshop
P_{A1}	"Tourism is growing up too fast in Tromsø, maybe more than the city can take".	"Think different! Attract other (diverse kinds) of tourists and think in terms of positive repercussions".	P_{C1}	"Tourists help the economy and that is how they help sustainability".	"Tourists don't care about sustainability, and I think the desire and responsibility to care for the environment belongs to the tourist companies".
P_{A2}	"Sustainability is a paradox".	"Sustainability in tourism depends on all involved parties agreeing on the path to take towards more sustainable activity; they need to compromise pursue that path with truth and honesty".	P_{C2}	"The tourism industry could start relating to the triple bottom line".	"The tourism industry has enormous dissemination and relationship opportunities to create deeper understanding among people of what sustainability actually is".
P_{A3}	"We need more sustainable tourism for a more sustainable future".	"Use societal needs to drive innovation and sustainable tourism development forward".	P_{C3}	"Sustainability within the tourism industry can only be attained if we take a holistic approach, considering products, problems, clients, professionals, and infrastructure"	"Sustainability can be achieved in the tourism industry by creating vain terms of forming long lasting links between individuals, nature, institutions, and businesses while considering the long-term effects of human activity".
P_{B1}	"Sustainability is a paradox, since the industry and customer groups are not on the same page".	"Sustainability is a result of choices we may not want to make".	P_{D1}	"Sustainability must cater to the local values and culture of the destination".	"Tourism has to work *with* the destination, not only *for* it".
P_{B2}	"Sustainability is a paradox because staying at home would be better for the environment".	"Sustainability can be achieved by facilitating the establishment of personal and emotional connections to nature".	P_{D2}	"The future is bleak for development in the tourism sector"'.	"We must develop the tourism industry in a way that embraces all three dimensions, as well as the economy. We need more creativity!"
P_{B3}	"To keep tourism sustainable, it must be carefully managed and controlled, as perpetual growth will not only destroy what tourists enjoy but also harm the wider environment".	"Tourists should take the time to pause and reflect—to feel the wind, air, water, sunshine, and so on. Companies should be the bearers of such values".	P_{D3}	"Being sustainable means contributing positively to the local environment, such as by managing short stays from cruise ships".	"There needs to be a balance between the economic and ecological drivers. One cannot trump the other".

broader context was limited. A remarkable shift became visible in the post-workshop statements, which revealed some self-awareness and introspection, with emotional elements, such as finding a common direction to pursue "with truth and honesty" (P_{A2}), fostering personal connections with nature, and encouraging tourists to "feel" and "reflect" (P_{B3}). This shift indicated the heightened personal reflexivity induced by the workshop.

Furthermore, the post-game sentences revealed enhanced collaborative and critical thinking. The participants mentioned working "with the destination" (P_{D1}), 'establishing connections' (P_{B2}), and "forming long-lasting links" among stakeholders (P_{C3}). They envisioned alternative value-creation options based on "societal needs" (P_{A3}) and acknowledged that tour companies must make tough and responsible choices. These examples show that the workshop enhanced relational reflexivity. Finally, post-workshop reflections in the debriefing interviews touched upon sustainability paradigms, with the participants recognising the need to consider all three dimensions of sustainability and to better "balance economic and ecological drivers" (P_{D3}), which indicated a deeper understanding of destination sustainability and provided evidence of contextual reflexivity.

4.2. Fostering collaboration, trust, and innovation

The workshop provided a platform for the stakeholders to reflect on their experiences and experiment with new ideas inspired by a collective sense of collaboration and trust, which is fundamental for ensuring groups' (contextual and relational) reflexivity and promoting the agency necessary for sustainable transformation. Initially, the participants found it challenging to work in teams, as evidenced by their responses to the questionnaires. However, during the individual debriefings, they recognised that such collaboration difficulties were common and prevented opportunities for sustainable innovation. A "basic lack of trust among people" (P_{A2}) shapes relationships in the sector, and this prevailing culture of diffidence and mistrust leads "to constant competition for a larger slice of the tourism cake" (P_{C2}). P_{D2} shed light on the extreme level of competition that affects social relations, "*people in tourism look at others as companies not as humans*. Everyone has an invisible tag that implies an agenda, a strategy and *you forget we could talk together*."

The workshop's emphasis on teamwork and the creation of a safe space for open and honest communication aimed to foster trust and a sense of community among the participants, even if only temporarily. The observers recognised that, despite the participants' different roles, backgrounds, and interests, they "all shared a common goal of advancing sustainable practices' (O_C), and 'trust was established across the teams" (O_A). P_{A2} highlighted the good chemistry established among the workshop participants while acknowledging extreme differences of perspectives: "Somehow it just worked very fine … we just *were all able to get to the same level*. There was no big dissent or clash or anything. I was just happily surprised and had a great time" (P_{A2}). This climate of trust reinforced the participants' capacities for collaboration. Listening to her teammates' thoughts made P_{D1} reflect on the importance of "*including* other people with *different perspectives* in future initiatives", emphasising the "inspiringly human aspect of collaboration". P_{D2} also realised that "during the game, *suddenly, we were talking as people* with knowledge and experience, and ta-da [emphasis] *there was dialogue and possibilities of cooperation*".

As participants forged meaningful connections among themselves, they began brainstorming innovative, sustainable ideas and solutions. Over time, the participants became more at ease, began to generate ideas, and gained confidence to "explore the concept of tourism sustainability together, from unfamiliar angles" (O_A). For instance, Teams A and D decided to evaluate possible sustainable solutions from the perspective of a "young Indian female solo traveller" (O_A) and a "cloudberry plant" (O_D) respectively. Team A explored ideas to enhance a sense of safety and cultural enrichment for visitors, while Team D considered designing tours that would involve tourists in revitalising

cloudberry-depleted areas. P_{A3} used reflexive monitoring to explain that "having highlighted different areas where to act, we were looking for *'something else'* [emphasis] … we got the input from the workshop on that, and *we felt our team could run with it confidently*."

The teams developed different sustainability solutions, ranging from promoting green shifts and carbon neutrality initiatives to redefining relationships with places and people in transformative terms. Some solutions focused on regenerative activities for local flora and cultural heritage. According to P_{A3}, the diversity of outcomes presented in the game pitches was positive because the participants "learned something from every team". The observers noted that the degree of openness to "play with different ideas, interpretations, and applications of sustainability increased with increases in the reliability and confidence participants established in their teams" (O_C). Consequently, the workshop fostered collaboration, built trust, and sparked innovative ideas and solutions.

4.3. Promoting inclusivity and equity

During the workshop, the participants critically examined tourist community dynamics and assessed their broader societal and environmental impacts. This led to open discussions on inclusion and equity, fostering a sense of shared responsibility. The game encouraged inclusive reflection through storytelling. In this activity, the story elements were determined by rolling dice that represented stakeholders from vulnerable social and environmental categories, external events presenting opportunities or challenges for sustainability, and tourism activities and attractions available at the destination. Storytelling provided an opportunity for the participants to create narratives that encompassed alternative perspectives. Team B, for example, having rolled a die and selected a bird (stakeholder), a wind park (event), and a music festival (attraction/activity), crafted a story from a cormorant's perspective:

> Billy (the cormorant) lost his "home" due to the unscrupulous expansion of a wind park … He became the symbol of an eco-friendly music festival organised to raise funds to compensate for the disruption of the cormorant's habitat … The festival brought together artists, politicians, and tourists to find a solution … which was to regulate the area and establish a bird sanctuary. (Team B).

Team B's story raised concerns about the impact of human activity on the wellbeing of animals. The subsequent activity, based on persona cards, encouraged inclusive narratives and broader reflections. In the persona-card activity, the participants considered the perspectives and experiences of vulnerable community members, cultural minorities, and nonhuman stakeholders. The participants provided different stakeholders with a voice (often critical) and imagined possible actions that tourism companies could take in response (Fig. 2). The activity empowered the participants to seek empathy-driven solutions. P_{B1} explained that taking the perspective of nonhuman stakeholders made the team feel "less arrogant", leading to an understanding that "it's not about me, it's not about my company, it's not about making money, *it's about everything*!" P_{A1} became increasingly aware of the "vulnerable people" aspect, acknowledging a dark side to tourism and questioning possible implications for collective agency: "people aspect really came through for me and *made me think long and hard to what the tourism community does and what instead it could do*".

This acknowledgement of diverse perspectives led to the identification of 1) interconnected issues that hinder progress towards sustainability and 2) potential ways to address them. During the debriefing interviews, participants acknowledged that the "dysfunctional organisation of the destination" (P_{D1}) prevents a clear distribution of roles and responsibilities for implementing sustainable change. The participants advocated proactive decision-making and commented that the prevailing social norms curb action. P_{D2} and P_{C2} acknowledged that the tourism industry experiences a struggle between collective engagement and

Fig. 2. Examples of Persona Cards Presenting Diverse Stakeholders' Voices (Small Sticky Note) and Business Ideas Acknowledging Those Voices (Large Sticky notes Notes).

passivity, which is exacerbated by an absence of political representation and inadequate institutional support for managing tourism-related issues. Moreover, the participants pointed out that dominant cultural norms often reward conformity, leaving those who resist or fail to conform feeling that they "do not belong" (P_{A1}).

The participants reflected on how disconnection and disempowerment hinder agency and change efforts. P_{C1} and P_{C2} claimed that a lack of representation and voice leads to frustration and disengagement. P_{C1} noted that foreigners working in tourism seldom hold positions of power or influence; most are placed at "the bottom of the pyramid" and "even if they are respected professionally, *they remain outsiders*". P_{C1} was resigned to not being able to make a difference, and P_{C2} explained that "voicelessness" discourages practitioners from contributing:

> When we are *at work, we only have one role*, and I see more and more that *I don't have a voice*… and even *if I put my voice forward*, I get an email back saying 'thank you for the input but we're *not going to take any action*.' It happens so often that *one just stops*." (P_{C2}).

These challenges disincentivise collective agency and silence tourism practitioners whose perspectives are dismissed. Prevailing norms reinforce a perceived hierarchy that excludes and disempowers certain individuals. Addressing these issues is, therefore, vital for promoting "synergies of intent" (P_{A3}) and enabling collective agency for more inclusive, equitable, and sustainable outcomes in the destination-system.

5. Discussion

Our integration of reflexive monitoring into a participatory learning methodology contributed to fostering collective agency by acting as a tool for transformative learning, trust-building, and the open discussion of structural issues. We will discuss these three aspects in turn.

5.1. Integrating reflexive monitoring as a tool for transformative learning

Our findings suggest that this study's workshop methodology empowered tourism practitioners to take ownership of their learning processes by actively engaging with the materials, the case, and their fellow participants. This fostered a shift in the participants' understanding of sustainability and their role in it, as evidenced by the findings. It encouraged them to reflect on and adopt practices that would support sustainability, turning the integration of reflexive monitoring and participatory learning into transformative tools. It is imperative to

note that, despite such encouraging results, the proposed methodology is an initial step towards cultivating deeper, more ingrained reflexive agency. The process of becoming reflexive agents of change, as indicated by Seeler et al. (2021), requires time, continued practice, and engagement beyond the temporal boundaries of a single workshop. Therefore, it would be incorrect to assert that the workshop participants became fully-fledged agents change.

Nevertheless, we firmly believe in our methodology's effectiveness. Scholars have emphasised enhancing the personal, social, and contextual dimensions of reflexivity for sustainability, and there is a clear need for methodological approaches that balance engagement with in-depth understanding tailored to hybrid learning or research contexts (Cunliffe, 2016; Sedgewick et al., 2022; Sliep, 2010; Watts, 2019). Previously suggested tools, such as sensemaking maps, class activities, and reflexive journals (Cunliffe, 2016), often demand substantial time and dedication from users. This makes them suitable for longitudinal projects and traditional educational settings (Hales & Jennings, 2017; Jernsand, 2019) but less practical in fast-paced contexts, such as workshops and pop-up labs, which require fewer resources but are dynamic enough to engage tourism practitioners (Bertella et al., 2021; Koens et al., 2022; Wengel, 2021; Wengel et al., 2019; Yati, 2023). A major challenge is to create methodologies that effectively engage participants within limited timeframes while fostering the deep reflexive competencies essential for addressing ethical and sustainable issues in tourism. In this sense, this study's methodology is effective, as it requires a limited amount of resources from organisers and a limited time investment for practitioners.

Our findings demonstrate that the reflexivity the practitioners developed during the workshop enabled them to delve deeper and more critically into sustainability, especially as applied to tourism, and promoted a shift from simplistic to holistic perspectives (Bertella, 2023a; Fazey et al., 2018; Fennell, 2019; Moriggi, 2022). We argue that the transformative aspect of reflexivity within the methodology equipped the participants with the skills and mindset needed to drive meaningful change in sustainable tourism practices (Hales & Jennings, 2017). Through the integration of reflexive monitoring and game mechanics, the methodology helped the participants explore the ethically complex issues of tourism sustainability, such as those related to inclusivity and equity, rapidly, safely, and interactively (Bertella, 2023a; Koens et al., 2022; Wengel et al., 2019), potentially leading to more informed sustainable tourism decision-making and interventions over time.

5.2. Integrating reflexive monitoring as a tool for trust-building

Building mutual trust is necessary for the success of participatory methodologies (Koens et al., 2022; Mayer et al., 2014; Wengel, 2021) but is often overlooked and considered implicit. In our methodology, trust is acknowledged as essential for achieving the desired learning outcomes; thus, the design fosters collaborative, innovative, and critical thinking and promotes trust-building accordingly. This study's findings, alongside those of other studies (Bertella et al., 2021; Duxbury et al., 2021; Liburd et al., 2022; Yati, 2023), suggest ways to create safe spaces for tourism practitioners to engage with their own and others' emotions and values, recognise the importance of active collaboration among stakeholders, and address the structural issues that hinder cross-industry collaboration. Our methodology provides opportunities to test collaborative dynamics of ideation and problem-solving through games and to compare the findings to real collaborative dynamics within the industry for implementing solutions. The teams integrated diverse perspectives to accomplish tasks effectively, embracing knowledge co-creation opportunities during the game (Yati, 2023). During debriefing, the participants used reflexive monitoring to compare the game experience with their professional experiences, delving deeper into barriers to collaboration in tourism and identifying their root causes.

Our findings reveal that initial scepticism and diffidence were quickly abandoned as participants began to feel comfortable sharing their ideas and finding value in the ideas of others. Within the tourism industry, our findings showed a pervasive lack of trust and revealed that the game-based workshop effectively helped participants relate to one another as humans with shared struggles and common hopes for the sustainable future of the destination. We argue that adopting methodological tools aimed at facilitating shared critical reflection about values, sustainability issues, and stakeholders' needs among tourism practitioners, as also observed by Bertella et al. (2021), can foster a sense of collective agency around a common purpose.

5.3. Integrating reflexive monitoring as a tool for openly addressing structural issues

In this study, unveiling biases and deconstructing narratives of objectification, exploitation, and domination were made possible by considering the needs of nonhuman stakeholders and recognising their sentience and communicative abilities (Bertella, 2023a; Moriggi et al., 2020). Our methodology employed persona cards, as introduced by Bertella et al. (2021), during the workshop's sustainability conversations. Inclusive persona cards helped the participants consider and validate alternative voices and nonmainstream perspectives. Our findings confirm the effectiveness of persona cards when coupled with reflexive monitoring. Empathetic engagement with a broad range of destination stakeholders encouraged the participants to question their identities within the tourism community as residents and professionals. Through reflexive monitoring, the participants questioned their biases concerning inclusion, exclusion, and the representation of indigenous peoples', minorities', and animals' rights. The methodology allowed them space to consider how these biases influenced their sense of accountability and responsibility for the destination's sustainability and their roles and relationships within the tourism industry.

Integrating reflexive monitoring enabled the participants to address existing structural issues collectively and openly—an imperative for facilitating sustainable tourism transformation. The study findings confirm that critical, empathy-driven examinations of systemic issues lead to transformative insights (Bertella, 2023a; Fennell, 2019). Participants moved from focusing on their individual concerns to recognising the need for a united approach to overcome systemic barriers to sustainability, which echoes Bentz et al. (2022) and Fazey et al. (2018) transformative sustainability research. Our methodology's strengths lie in 1) its facilitation of collective recognition of these deeply ingrained structural issues within the tourism sector, and 2) its promotion of collective action in support of equity, inclusion, and representation policies.

6. Conclusions

Our study highlights how integrating reflexive monitoring within a participatory learning methodology can influence tourism practitioners' capacity for fostering sustainable transformations in tourism practices. We designed and tested a game-based methodology, collected and analysed various types of data (observation notes, artefacts, and interview transcripts), and noted some signs of enhanced reflexivity, trust, innovation, inclusivity, and equity among the participants. While further testing is required, the methodology holds promise for promoting sustainable tourism practices and enhancing practitioners' skills.

The methodological contribution of this study is in developing a tool to encourage reflexive monitoring as a catalyst for sustainable tourism transformations through participative learning initiatives with practitioners in co-creation spaces. The fundamental idea on which this contribution builds is that to empower tourism practitioners to drive transformation, it is essential to position them as reflexive agents of change. This calls for flexible learning methodologies that nurture critical and creative thinking, foster collaboration, and promote a collective recognition of structural challenges.

This methodological contribution also has clear implications. We propose a methodology and describe it in detail so that others, including researchers and practitioners, can tailor it to specific contexts and explore different tools and methods. Our methodology can be easily adapted to different learning contexts and requires relatively low levels of investment in human resources and time. However, despite its promise, our methodology has some limitations. The methodology's effectiveness relies on the participants' willingness to engage in reflexive and collaborative learning. Resistance to nontraditional learning methods can be challenging in large or diverse groups. Such resistance not only hinders the learning process but also requires extensive support from organisers, potentially straining resources and limiting the method's scalability. Institutional endorsement and support, while beneficial, may not fully mitigate this issue, highlighting the methodology's crucial dependence on participant openness and adaptability. Another limitation is that the methodology was evaluated in a specific context and only once. This limitation suggests a potential area for future research to explore the methodology's applicability and effectiveness over long periods of time in diverse contexts. To explore the extent to which reflexive monitoring translates into actionable outcomes, follow-up studies should be conducted to investigate whether and how the ideas discussed during the workshop are translated into actions and with what results.

CRediT authorship contribution statement

Sara Lupini: Conceptualization; Data collection & analysis; Writing - original draft, review & editing. **Giovanna Bertella**: Supervision; Writing - review & editing. **Xavier Font**: Supervision; Writing - review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

observers.

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