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Bringing the Ocean to the Stage: Performing Coastal Values and Marine Management

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Abstract

Recent years have witnessed a seemingly constant call for improved understanding of human–ocean relationships, resulting in a "boom" of marine social science research, sometimes framed through the lens of ocean literacy. Defined as having an understanding of your influence on the ocean, and its influence on you, ocean literacy has gained traction in recent years as a way of better understanding the complexities of human–ocean relationships. However, despite this interest in the human dimensions of the ocean, coasts and seas, and a corresponding increase in broader marine social sciences research, qualitative and arts-based research approaches continue to remain on the periphery of ocean research. This article explores the role of two ocean research "outliers," intersecting arts-based practice and marine social sciences through the lens of interconnected performances designed to explore the diverse values held by communities about their marine and coastal environment. Undertaken as part of the Diverse Marine Values project, the performances brought together ocean scientists, coastal and marine managers, and community members to create original performance pieces in Lerwick, Shetland, Scotland, and Portsmouth, England. Drawing heavily on applied theatre practice and scholarship, these distinct but interrelated performances utilised elements of forum theatre, devised theatre, and storytelling to address marine issues important to each respective community, with a view to understanding and fostering ocean literacy. In each location, the performance work illustrated ways in which theatre can serve as not only a tool for science communication, but also a research method to explore a range of ocean literacy dimensions. The performances helped the research team, comprised jointly of specialist theatre practitioners and experts in ocean literacy, coastal management, and plastics pollution

to reshape data collection and stakeholder engagement. This collaborative theatre-making process led to deeper conversations and embedded engagement within each coastal community. It also led to a fundamental reshaping of the questions and approaches that the marine managers and scientists asked of the communities in question. The article presents a discussion of the challenges of bridging these related, but often distant, disciplines, and highlights the role of arts-based research practice in broader ocean literacy research and discourse.

Keywords

human–ocean relationships; marine social science; ocean connection; ocean literacy; performance; science-art collaboration; social values; theatre

1. Introduction

As efforts to navigate the challenges facing the global ocean continue to intensify, recent years have seen a growing emphasis on understanding human–ocean relationships as being central to the development of effective solutions to address the challenges (Bennett, 2019; Claudet, 2021; McKinley et al., 2020). As research into human–ocean relationships has continued to gain momentum, developing processes of understanding the diverse values attributed to marine and coastal environments has been the focus of much research effort. Over the last two decades, a range of concepts and frameworks have been put forward, with those dominated by economics largely underpinning our understandings of values and decision-making. The concepts of ecosystem services (Millennium Ecosystem Assessment, 2005; Watson et al., 2019) and natural capital (Terama et al., 2016) are two such examples of concepts grounded in ecological understanding and monitoring of marine systems and their economic value that have underpinned marine and coastal decision-making (Collins, 2022). While these concepts have arguably provided a common language to support sustainable ocean management, the dominance of economic values frequently associated with these concepts has increasingly been recognised as a limitation of these concepts (McKinley et al., 2019). In recent years, however, there has been a growing recognition that a broader assessment of the diverse and multiple ways in which society values the ocean, coast, and seas, and indeed nature more widely, is urgently required (Díaz et al., 2015; Kenter, 2018; McKinley et al., 2019; Pascual et al., 2023). Delivering this requires more meaningful engagement with diverse audiences, adopting innovative and multiple methods of understanding connections between people, ocean, and place, and recognising and integrating a broad range of ways of knowing and valuing the marine environment. The emphasis on ocean-human relationships has been echoed and further cemented within international policy drivers, including within the UN Sustainable Development Goals (UN, 2015), as well as the UN Decade of Ocean Science for Sustainability 2021–2030 (hereafter the Ocean Decade).

Launched in January 2021, the Ocean Decade's ten challenges include the ambition to "restore the relationship between society and the ocean" by 2030, positioning the concept of ocean literacy as a key mechanism for driving the transformation and restoration required (Glithero et al., 2024; IOC, 2018). At its simplest, ocean literacy is defined as having an understanding of your influence on the ocean and its influence on you (Cava et al., 2005). Developed in the early 2000s in the USA by marine educators who recognised a lack of ocean science within the national curriculum, the concept has been grounded in seven key principles since its inception (Payne & Marrero, 2022). Increasingly recognised as a framework for

supporting public engagement in ocean issues (Kelly et al., 2021), in the last five years, ocean literacy has undergone something of a conceptual evolution, moving away from its formal education and knowledge deficit origins to a concept that is more comprehensive and inclusive of the multiple facets of human–ocean relationships. Numerous scholars have suggested an expansion of the dimensions of ocean literacy (Kopke et al., 2019), including C. Brennan et al. (2019) who suggested ocean literacy as a concept of six dimensions—namely, knowledge, communication, behaviour, awareness, attitudes, and activism; while Fauville et al. (2024) have recently proposed a seven dimension framework of ocean literacy, combining a number of aspects proposed by other authors in the dimension of "ocean connectedness" (Nuojua et al., 2022). This article draws from the ocean literacy framework presented by McKinley et al. (2023) who proposed ten dimensions, including the new dimensions of "emoceans" (i.e., emotional connections to and with the ocean), access and experience, trust and transparency, and adaptive capacity (see Figure 1). The concept of ocean literacy, even in its evolved form, is not without limitations or criticisms, with a number of scholars raising concerns regarding its Western, knowledge deficit roots (MacNeil et al., 2021; McKinley et al., 2023; Shellock et al., 2024). Nevertheless, the concept of ocean literacy has captured the imagination and momentum of global ocean policy discourse (IOC-UNESCO, 2024)—and the recent momentum gained around the concept offers the opportunity for further shifts in ocean discourse and change towards vital improvements in inclusivity. The framework of ocean literacy provides a valuable lens for exploring relationships between people and their ocean and coastal spaces (McKinley et al., 2023)—with ocean literacy research increasingly calling for, and indeed embracing, different ways of understanding the diversity of values and human–ocean connections (McRuer et al., in press).

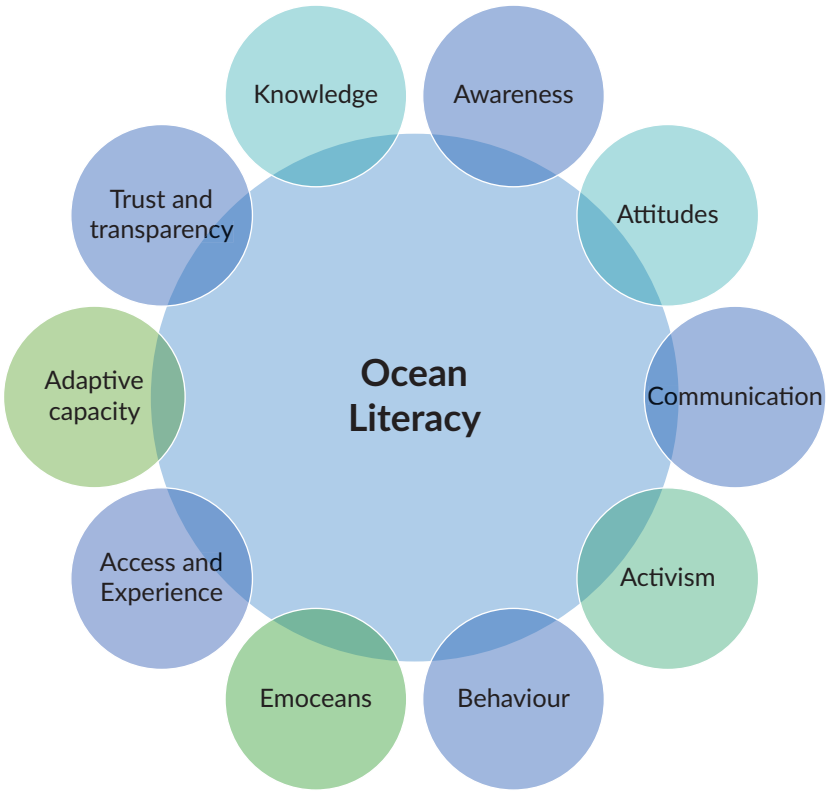

Figure 1. Ten dimensions of ocean literacy (McKinley et al., 2023).

The novel contribution of this article is that it adopts a transdisciplinary approach that is grounded in both applied theatre practice and qualitative methodologies, bridging the space among marine social science, arts-based research, and UK coastal communities. Broader marine social science research has its foundations in traditional social science disciplines (McKinley et al., 2022; Spalding & McKinley, in press); however, recent years have seen growing calls for improved transdisciplinarity within ocean research, including recognizing the role of arts and humanities scholarship and practice within ocean research. With a growing awareness of the need for improved equity and inclusivity in both ocean research and practice (Bennett, 2022), participatory methodologies are increasingly championed as best practice approaches (Popova et al., 2023) that both increase capacity for reflexive engagement and the range of stakeholders, worldviews, and knowledges involved. The emerging field of ocean literacy research (McRuer et al., in press) is beginning to echo this evolution of ocean research, with ocean literacy no longer seen as a process of passive knowledge development but one of societal action and empowerment through fostering of ocean connections (Glithero et al., 2024). However, despite repeated calls for improved societal engagement with the ocean, embracing diverse knowledge and value types in a way that centers inclusivity, equity and accessibility within ocean literacy has proven challenging with limited progress to date (Worm et al., 2021).

Socially engaged theatre scholarship and practice offer an opportunity for the ocean research community to be more inclusive and innovative in terms of how they consider human–ocean relationships. This includes, for example, drawing on participatory social sciences methods that are discursive, such as collective intelligence (McCauley et al., 2019), and championing approaches from the creative arts, including the empatheatre methodology, which has been utilised through the One Ocean Hub Collective (Erwin et al., 2022), as an integral part of the ocean research toolkit. Of course, it must be noted that participatory methodologies should not be considered a panacea within social science research, and like all other approaches, they are not without their limitations (e.g., lack of meaningful empowerment of communities, unintended reinforcement of unequal power dynamics between researchers and communities, feelings of participants not being listened to; see Cooke & Kothari, 2001; Eriksson & Stage, 2023; Neef, 2003). However, their potential value in achieving more socially equitable ocean research, and in turn ocean governance, should not be underestimated—as Erwin et al. (2022, p. 385) note, such approaches have the potential to "reject epistemological hierarchies and the problematic view that different knowledge systems are incommensurable." Furthermore, even utilising methods like Boal's Theatre of the Oppressed as epistemological thought experiments can help scholars to explore how participatory approaches might promote a reflexive understanding of complex socio-ecological problems (Neilson & Castro, 2016). With the notion of moving away from 'the usual suspects' of marine social science research, this article explores the use of different applied theatre practices as a way of understanding ocean literacy within different communities. In this way, we highlight the importance of diversifying the methods and approaches currently used to understand the complexities of human–ocean relationships, recognizing that one size does not fit all (Jefferson et al., 2021). The article presents key findings relating to the use of theatre practice as a way of evaluating community ocean literacy, and in particular, explores how these approaches can elicit previously unconsidered layers within the different dimensions of ocean literacy. Finally, the article presents a series of recommendations for the future use of theatre, and arts-based research methods more broadly, within marine social research.

2. Methodological Approach

This study combined methodologies from the social sciences and arts-based research. The activities and interventions in the two case study areas, introduced in the next section, were guided by applied theatre practices, while the analysis drew heavily on social science analytical approaches.

2.1. Introduction to the Diverse Marine Values Project and Case Study Sites

Conducted through the Diverse Marine Values project, as part of the UKRI-funded Sustainable Management of UK Marine Resources (SMMR) programme, this study sought to evaluate the role of theatre practice as a method of understanding and evaluating the diverse values held by different communities towards the marine environment. The research was carried out in two case study locations representing two geographically, socially, economically, and culturally different communities in the UK (Figure 2). The first is the Shetland test site, which is the most northerly region within the United Kingdom, forming an archipelago of over 100 islands, of which sixteen are inhabited. The population of just over 22,000 is dispersed across the islands, with over two-thirds of jobs directly or indirectly dependent on the marine environment. The management of Shetland's marine resources has been locally prioritised, and local decision-making has been championed by the local council and marine sectors such as fisheries. Historically Shetland's economy was based on fishing and knitwear, with aquaculture and oil and gas emerging as a key sector in the 1980s. The emergence of renewable energy in the form of wave, tide, and offshore wind raises opportunities for further economic transition for the region, with the potential to impact local industries and cultural heritage.

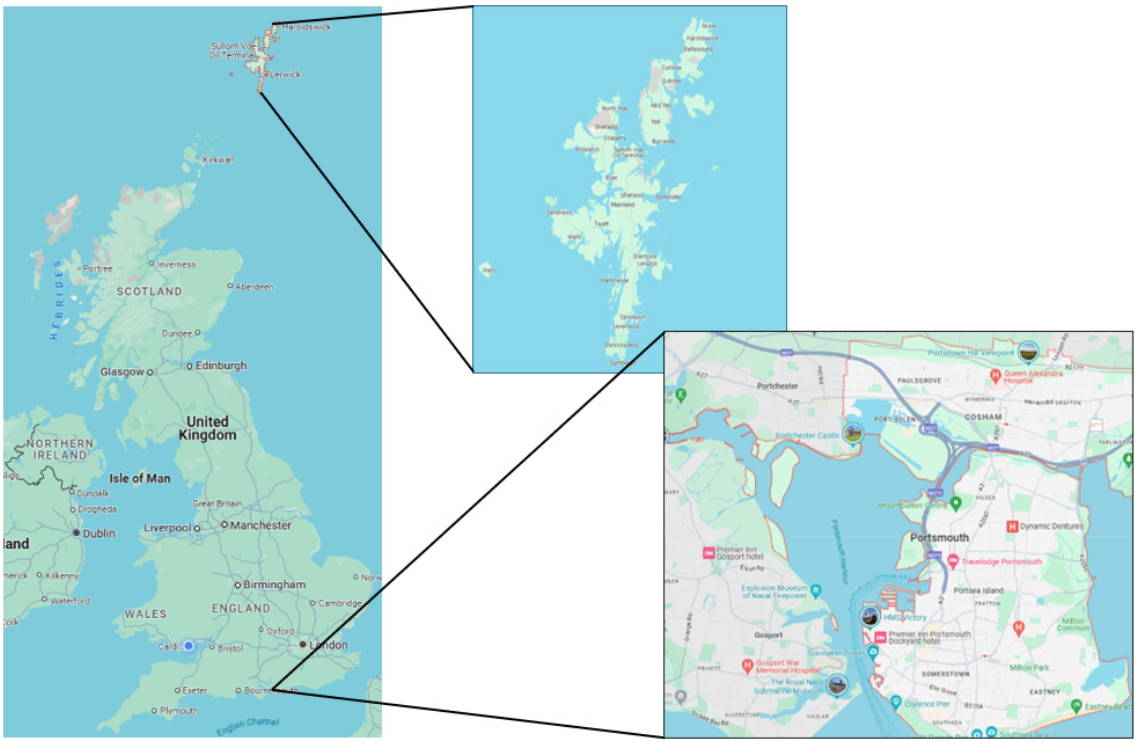

Figure 2. Location of the two case study sites, Shetland (top right) and Portsmouth (bottom right), with the boundaries of Portsmouth indicated by the dotted red line.

The second location included in this study is the port city of Portsmouth on the central south coast of England. Portsmouth is the UK's only island city; 75% of Portsmouth's 208,000 residents reside on Portsea Island, which is the second most densely populated area outside London. The city's storied maritime history goes back centuries, and HMB Portsmouth is home to the Royal Navy's largest class of aircraft carriers. A range of industries are present in the region, including operating as a naval city, hosting Portsmouth International Port, with connections for freight and transport to the Isle of Wight, Channel Islands, and the Continent, and developing its cruise liner market. As an island city, Portsmouth is vulnerable to flooding and sea level rise with risk to residences and important historical and cultural features. The themes explored here have included issues relating to climate change, coastal development and management, peoples' connections to the sea, and maritime heritage.

2.2. Theatre Methods and Their Role in Ocean Issues

This project utilised theatre and drama practices that might alternately be referred to underneath the broad umbrella terms of "applied theatre" or "socially engaged theatre." Such practices position the act of making performance as a cultural exercise that can alternately reflect existing community values, strengthen community ties, and serve as important political and cultural interventions (Hepplewhite, 2020; Shaughnessy, 2012). In the Diverse Marine Values project, the researchers served as theatre facilitators who created bespoke drama workshops for each community setting that lasted from a few hours to a few days. The participants were not professional performers, but rather community members who represented local expertise and brought first-hand lived experience from their communities into the process of co-creation. Furthermore, while much theatre-making is traditionally focused on creating a product, i.e., a performance that would typically be open to the public, the techniques utilised in this project were inherently process based. In addition, the workshops focused on affording participants the opportunity to share values through collaboration, co-creation, and physical, embodied engagement with one another.

The workshops in Shetland were created in collaboration with ten young participants aged 13–17 from Shetland Youth Theatre, a part of Shetland Arts, an independent charitable trust that is a major arts agency in the region. Taking place over the course of one week in April 2023, the Shetland Youth Theatre workshops ran from 10 am to 4 pm daily. The research team utilised devising theatre techniques (Oddey, 1996) that did not involve a prewritten script, but rather drew on other cultural artefacts including music, images, and poetry, as starting inspiration. At the onset the team chose to not use a preexisting script. Rather, they decided to focus on creating an improvisational scaffold in which every rehearsal and performance would be open to new actions and insights from the young performers and their audiences. Although the sharing of work at the end of the week ended up being a fully realised performance entitled *The Ripple Effect*, the priority was on creating drama workshops that afforded young participants an opportunity to explore and discuss their personal relationships to their coastal environment and community. While the workshop content was planned in advance by the research team, co-creation with participants was an essential component of the project, so it was not uncommon for content to change significantly based on input from the members of Shetland Youth Theatre. Workshop exercises invited participants to use their voices and bodies to tell the stories of their community; these stories in turn became catalysts for in-depth conversations around ocean literacy and the future of the Shetland coast. In the final performance, the young performers also invited community members in the audience to share their own stories of the coast, then created improvised stage pictures illustrating these coastal connections.

For the Portsmouth case study site, the research team created a bespoke forum theatre play, *Community Consultation*, which was initially workshopped at Cardiff University and later performed twice for students and colleagues studying and teaching a range of postgraduate courses at the University of Portsmouth. Forum theatre has been successfully used in health sciences, community engagement settings, as a tool for development, and in environmental justice (Olvera-Hernández, Martin-Ortega, et al., 2023; Olvera-Hernández, Mesa-Jurado, et al., 2023; Sullivan & Lloyd, 2006; Walsh et al., 2023). Performances typically begin with a short dramatic scene that presents a problem, but not a solution—rather, audience members are understood as "spect-actors" (Boal, 1973) who participate in a range of activities that can include asking direct questions to the characters in the play, offering potential courses of action to solve the problem at hand, and even joining the actors onstage to perform potential solutions themselves. *Community Consultation* was based on a real situation: the 2021 dropping of boulders by Greenpeace in the Offshore Brighton Marine Protected Area. The performance was set in the imaginary English coastal city of Worthingtonshire, at a hypothetical public consultation meeting led by a new-in-post civil servant representing "EnglandNature" (loosely based on Natural England and NatureScot). Scripted roles included a fisherman representing a local fishers organisation, an environmental activist, and a representative from a wind energy company. These roles were performed by the research team who, in several cases, were experts in the same areas as their characters. The audience took on the role of community members attending the consultation. The scene was stopped by the facilitator once the civil servant lost control of the meeting; at this point, the audience was invited to interact with the performance through both direct questioning via a technique called "hot seating" (Burton & O'Toole, 2005) and by joining the actors onstage to take on the role of one of the aforementioned characters. Following the aforementioned interactions by volunteers from the audience, the performance ended with a conversation between the facilitator, actors from the research team, and the audience as a whole.

The workshops in both test sites included activities that invited participants to identify existing connections and commonalities within their communities. For example, in one activity, "Come Be My Neighbour," participants move around the room whilst declaring statements that are true about themselves (for example: "I love swimming in the ocean, even when it is cold!"), then others in the room move to be near the person who made the statement if it is also true for them. A subsequent embodied activity deepened this new knowledge of common experience: Shetland participants created a scene about being on the shore and swimming in the sea, which shed light on what these youth associate with a visit to the coastline. Another activity involved a volunteer (from either the workshop group or, during the performance, the audience) telling a story about their relationship to the sea while participants behind the storyteller created shapes with their bodies to illustrate the story. It is important to note that while the performances in Shetland and Portsmouth were facilitated by a researcher serving as an emcee, and performed utilizing a scaffolding or plan that functioned as something of a "set list," none of the roles in either performance were scripted in a manner that required memorization of lines. The performances themselves were entirely codesigned by the actors and improvised within a structure that arose from our workshop activities. This allowed the participants to enact roles and explore relationships that were of direct relevance to them. While there may have been risks that individual biases and stereotyping of certain personalities may have been staged by the participants, the point of these processes was not to illustrate all values and relationships, but to focus on the ones of most interest and importance to the communities with which we collaborated.

In both Portsmouth and Shetland, participants were asked to provide feedback and commentary about their experience at the end of each workshop session or performance on blank postcards. These formed the basis of the data collection for this study, and also contributed to the iterative development of subsequent workshops in both test sites. Participants were free to respond however they liked, so the data captured included written, open-ended text and drawn responses. In Shetland, postcards were collected on each of the five days in April 2023, while in Portsmouth, feedback was collected at the end of each performance held in February and November 2023.

2.3. Data Analysis

Standard qualitative data analysis processes were used to analyse the various data collected through the theatre workshops, specifically focusing on the feedback postcards collected from participants. For the purposes of this article, analysis has focused on these feedback postcards due to the focus on the theatre process and its value in understanding ocean literacy in diverse audiences—a future paper will explore the performances themselves alongside the autoethnographic notes taken during the sessions.

Using NVivo 12 data analysis software, and adopting the ten ocean literacy dimensions proposed by McKinley et al. (2023) as an initial thematic framework, the data collected through the feedback postcards and the reflective summaries developed by the facilitation team was analysed using a standard thematic coding process (Braun & Clarke, 2006). Initially, an a priori coding framework was developed to identify evidence of the ten ocean literacy dimensions highlighted through the two theatre experiences, with additional indicative emergent coding carried out to identify new themes. The thematic framework and emergent themes are provided in Table 1 of the Supplementary File.

3. Key Findings and Discussion

As outlined above, thematic coding was undertaken to analyse the feedback outputs from the theatre practice activities in both Shetland and Portsmouth, with a total of 103 postcards (50 from Shetland Youth Theatre and 53 from Portsmouth MSc students). While the concept of ocean literacy and its ten dimensions were used as an initial framework for analysis, additional themes were identified through the emergent coding of the data. It should also be noted that not all ten dimensions of ocean literacy outlined by McKinley et al. (2023) were represented in the feedback data collected, although they were represented in the performances themselves. The next sections discuss the key findings (summarized in Table 1), identifying common themes across the two performance experiences, highlighting divergences and similarities, and feeding into the development of key recommendations for theatre as a method for understanding and fostering ocean literacy. Where appropriate the number of references relating to each theme is included with quotations also included.

3.1. Theatre as a Method for Exploring Ocean Literacy Dimensions

The analysis found several ocean literacy dimensions represented in the feedback comments, highlighting the opportunity for theatre-based practice research as a tool to explore ocean literacy in previously under-engaged communities.

Table 1. Summary of key themes.

Theme	Sub-themes discussed
Theatre as a method for exploring ocean literacy dimensions	Knowledge
	Awareness
	Emoceans
	Access and experience
Delivering equitable and inclusive ocean literacy through relationship-building	Building community and relationship
	Fostering of innovative and novel learning experiences
	Creation of safe spaces

The most frequently identified themes related to various aspects of the dimensions of *knowledge and awareness*, with 54 references identified in the participant feedback. Crucially, in this study, we have adopted the expanded definition of what knowledge can mean in the evolved ocean literacy concept suggested by McKinley et al. (2023). In addition to ocean science knowledge, the expanded definition of knowledge calls for the inclusion of Indigenous, traditional, and local knowledges, but also suggests that ocean knowledge should include having an understanding of broader topics relating to the ocean—including, but not limited to, ocean governance processes, ocean-related career opportunities, and related training programmes (McKinley et al., 2023). With this in mind, we have noted not only the development and expression of participants' knowledge of their local ocean or coastal space, but also their views on knowledge development and learning processes, and how these were supported through theatre practice. For example, the role of theatre in supporting learning through creative practice was referenced 20 times, with one participant from Shetland stating they "loved working with all the different techniques," while others (8) highlighted the importance of sharing and of storytelling as a form of knowledge and learning, as well as providing a method of understanding human–ocean relationships. One Shetland participant stated this clearly, commenting that they "loved writing our stories. I enjoyed the two hours that we got to speak about social issues [on the islands]. It was really powerful and we all connected."

Through the creative processes afforded by theatre practice in both communities, participants felt that theatre allowed them to learn from experiences and were given the space to develop transdisciplinary skills and knowledge (20). In Portsmouth, theatre practice allowed masters level students to learn by stepping into the (improvised) roles of a range of stakeholders within the marine decision-making environment and experiencing the challenges that come with environmental and marine management, diversifying from a curriculum largely dominated by traditional, banking-style pedagogy with an emphasis on marine science topics. Feedback from participants highlighted that the theatre practice allowed them to develop knowledge about various stakeholder perspectives with one stating that "it was a fun way to learn about the different perspectives which different stakeholders hold," with participants feeling that the "engaging scenario" was "entertaining," while "the session was insightful [and] gave…more understanding of the aims and reasons for conservation." Others commented that "the session was very educational and informative" and that it "played out a real life scenario of management issues and how it could be solved."

In terms of knowledge development and process, gamification of ocean conservation and governance scenarios is becoming increasingly commonplace as a capacity-building tool, particularly as we continue to

recognise the need for innovative approaches to considering multiple perspectives, ocean users, and how these relate to trade-offs and decision-making (Abspoel et al., 2021). Previous studies have found that role-playing style games can foster feelings of empathy and understanding, while also demonstrating real-world ocean issues and problem-solving needs (Koenigstein et al., 2020)—echoing the findings of this study—and are increasingly being used as a tool to promote ocean-friendly behaviours and engender ocean literacy (Veronica & Calvano, 2020). In addition to the increasing use of gamification, adopting theatre practice in ocean teaching provides students with an opportunity to role-play and test different skills necessary for future ocean careers. As we continue to work towards a new generation of transdisciplinary ocean science, there is an opportunity to explore how theatre practice can support activities of this nature, drawing out a greater sense of connection, and generating new types of knowledge and skills (Erwin et al., 2022). This would directly respond to the expanded definition of knowledge within the ocean literacy framework, including knowledge of ocean governance processes as well as more traditional forms of ocean knowledge. This will be a crucial aspect of ongoing ocean education to ensure it fosters a next generation of ocean professionals with the transdisciplinary knowledge, skill, and confidence to undertake the roles expected of them (Gardner, 2021). Theatre lends itself to the development of listening skills via the use of role play to support understanding of diverse perspectives and values, which is an essential competency for working on often contentious issues (e.g., MPA designation, offshore wind development, fisheries management), management of groups, understanding different ways of feeding back and more. Finally in relation to the dimension of knowledge, the theme of challenging existing learning spaces and practice was highlighted by some, with one participant commenting that it was "great to be involved in something different to PowerPoint and lectures," while another indicated that the theatre practice created a safe space for not knowing the answer, and for "pushing beyond" what would be allowed in a real-life consultation, thereby learning by doing without "offending anyone."

Topics relating to the expression of "emoceans" and connection were mentioned 31 times by 26 individuals. In particular, there was a specific focus on theatre practice offering positive learning spaces and overall enjoyment within the co-creation process. While the two theatre experiences adopted quite different theatre approaches, in both test sites the facilitation of positive spaces that engendered enjoyment and fun was highlighted in a range of ways. In the forum theatre work in Portsmouth, participants stated that they found "the interactivity [through theatre practice] with people in the industry interesting and fun to engage with" with others indicating that it was "great fun" and a "fantastic opportunity…in a safe setting." In Shetland, youth participants made similar comments, with one stating:

> I really enjoyed today because it was so interesting and exciting talking about Shetland and Shetland's history. I love…folk stories so it was really cool to talk about that. I have a lot of stories that I really like sharing so I had a lot of fun today.

Examples of other comments made relating to this theme are presented in Figure 3.

The feedback from the Shetland theatre experience also identified the dimension of *access and experience*, with one Shetland stating that they enjoyed "talking about their experiences of the ocean" and expressing a desire to move the activity outside and "go down to the Knab [a local coastal path] to get ideas" as part of the co-design and theatre devising techniques.

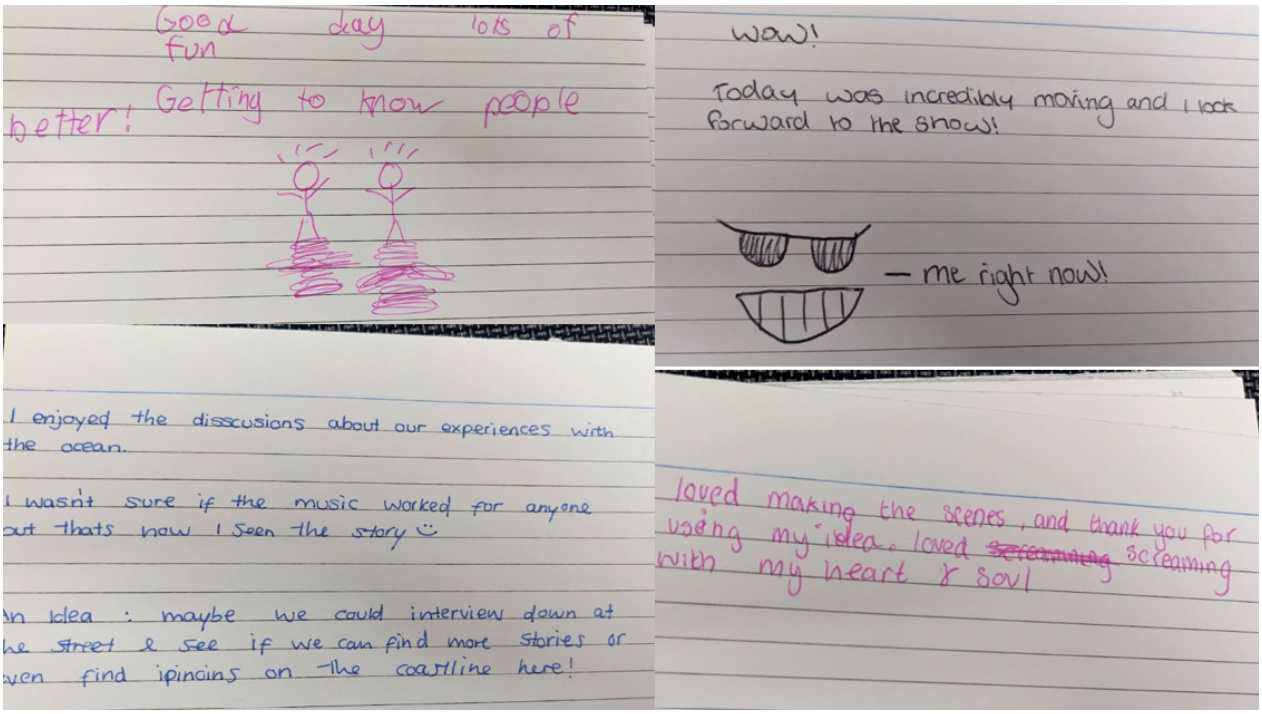

Figure 3. Example of the feedback postcards from theatre participants.

3.2. Delivering Equitable and Inclusive Ocean Literacy Through Relationship-Building

In addition to the ocean literacy dimensions, analysis of the data highlighted a number of emergent themes. One dominant theme was that of the role of theatre practice as a way of building community and relationships (14 references) in that it facilitates equitable and inclusive engagement in ocean issues, as well as the building of skills and knowledge. Participants commented that they "loved working as a team…and how everything contrasted" and that they "enjoyed the feeling of community" afforded by the theatre processes used. While the acknowledgement that more effort is required to support equity and inclusivity might not be considered particularly novel when thinking about community engagement, realizing this in practice continues to be a challenge.

A particular strength of theatre practice is that it can encourage disruption and diminishing of existing power dynamics that can be inherent within more traditional community engagement practices. Indeed, "theatre and performance can speak to critical socio-political and ecological contexts in imaginative ways, particularly in light of climate and environmental inequalities and injustices" (Woynarski, 2020, p. 4). In the case of both Shetland and Portsmouth, utilising co-creative theatre practice allowed a shifting of the balance of power so that participants and session leaders contributed equally, building community in a way that destabilised the status quo. Feedback from both groups reflected this, with one of the Shetland participants explicitly expressing gratitude, commenting "thank you for using my idea" in response to their suggestion being used to change the direction of the process, and one of the session facilitators commenting that it was "wonderful to hand over control and agency to the young people…and to follow their motivation." In terms of disrupting the expected power dynamics within the groups, the Spatial Justice concept of Lawscapes is useful here in helping to understand the importance of considering power within decision-making and engagement practices more generally. Where some people, practices, or ways of thinking are allowed to take up more space, they

act as "tilts," exhibiting a greater force on the wider group. These tilts can become naturalised into just the way things are and act as atmospherics hanging over the process (Philippopoulos-Mihalopoulos, 2015; Sarat, 1990). Moreover, theatre practice facilitates a more intimate and connected learning environment, breaking down language barriers and creating common understanding to allow natural change and flexibility within the process to happen. This requires vulnerability and openness on the part of both the theatre facilitators as well as the participants. This rebalancing of power achieved through this form of theatre work supports the building of trust and encourages active listening as a central part of the process which can be a vital part of ensuring meaningful community engagement in ocean issues.

Finally, as we continue to hear calls for inclusion and equitable space for diverse values and voices, drawing from the arts through theatre practice creates a space and platform for those who may have been excluded from ocean spaces in the past (Erwin et al., 2022). For example, theatre has long been seen as a particularly welcoming space to amplify narratives from youth (Hammond, 2013) and specifically LGBTQIA+ youth (Halverson, 2007). Recent scholarship has indicated how such practices can serve as resistance against oppressive paradigms that would silence these voices (Santiago-Jirau, 2021). The project in Shetland included queer, transgender, and nonbinary youth participants who foregrounded their experiences of non-heteronormativity in conversations about their relationship to their coastal community—conversations and insights that would most likely not have been captured through other methods, such as those from traditional social sciences. Furthermore, literary scholars have explored how ocean topics can offer queer and feminist spaces of fluidity (Huggan & Marland, 2023; Jue, 2020). The youth engagement with the Shetland performance was one marked by multiple fluidities: the inherent fluidities of the ocean and adolescence, as well as the added discovery of identity with the group discussing gender identity and sexuality in relation to their experiences of their community and coastal spaces. *The Ripple Effect* invited these young people to claim space as community members and coastal stewards and offered them an explicit opportunity to make their voices heard. Indeed, "our voices must be heard" was devised by the young actors as their closing refrain in their performance.

4. Concluding Comments and Recommendations

Recent years have seen increasing calls for improved transdisciplinary knowledge and skills as central to successfully addressing ocean challenges (IOC, 2018; IOC-UNESCO, 2024). However, ocean education remains dominated by natural science, despite efforts from the continually growing marine social science community. In addition to social science disciplines, here we call for improved integration and collaboration with the arts and humanities disciplines to deliver true transdisciplinarity for the ocean. This article explores the notion of outliers in an ocean context from a range of perspectives. Challenging recognised resistance to arts-based approaches in decision-making and policy, this study embraced the use of creative practice and arts-based research methods, historically not considered an integral component of the ocean research methodologies, to explore diverse values and relationships held by two different communities and their local ocean. This work is particularly timely, given recurrent calls for broadening and diversifying the definition of what constitutes ocean research. It is of note, for example, that during the UN Ocean Decade conference held in Barcelona in April 2024, several speakers and sessions specifically championed the need to embrace not only multiple and diverse knowledge and values types but also the need to expand the ways in which we seek to assess, evaluate and understand human–ocean relationships, all of which is reflected in the Barcelona Statement published following the conference (IOC-UNESCO, 2024). Secondly, the article

focuses on communities that are often on the edge of the ocean and coastal discourse (young people, members of the LGBTQ+ community)—including those who may be geographically proximate to the ocean but are perhaps outliers in their own communities. Ocean research and practice has long been plagued by its reputation as one of the least diverse sectors and communities (IOC-UNESCO, 2020), and while there have been, and continue to be, excellent efforts to address this, there are communities that remain excluded from ocean spaces and discussions (Bennett, 2022; Worm et al., 2021). This study clearly illustrates the capacity for theatre practice to allow the ocean research community to expand what is meant by inclusive ocean connections and ocean literacy, actively reflect on efforts to facilitate inclusive ocean literacy to date, and consider how we ensure everyone is considered equally within the ocean decade.

Despite an apparent turning of the tide in terms of perceptions of arts-based research within ocean science (R. E. Brennan, 2018), misconceptions of the validity and rigour inherent within arts-based research, a legacy within science of focusing on facts and outcomes or outputs, rather than process, and a common view of the role of arts solely as a communication and engagement tool remain persistent challenges to arts-based research being fully embraced by the ocean science community (Barone & Eisner, 2011). However, as stated by Franke et al. (2023), to truly deliver the change within and restoration of human–ocean relationships to deliver the goals of the Ocean Decade, and indeed the change needed to address the challenges facing the global ocean and the communities which depend on it, there is a clear need to move beyond the usual suspects and approaches.

The two case studies explored here provide quite different examples of how theatre practice can and should be considered a valuable component of broader ocean literacy research. The findings of this study clearly illustrate the role of theatre approaches as an effective mechanism of assessing existing levels of ocean literacy across a range of dimensions, capturing aspects and layers that have received limited attention to date. In doing so, these processes encourage a deepening and grounding our understanding of ocean literacy in a diverse range of human–ocean relationships, as well as a tool through which new types of ocean-relevant knowledge can be generated and taught. Theatre, like other arts approaches, offers opportunities to express relationships and values that draw on all senses and highlight common stories, symbols, and complex narratives in a way that gives voice and space to those who may have been unheard and deepens understandings (Barone & Eisner, 2011). Furthermore, through inviting participants to engage not only verbally and aurally but also with their whole bodies, socially engaged theatre practices open space for researchers to learn more about embodied and experiential knowledge held within communities that might otherwise not be captured as successfully via traditional research methodologies. Embodied practices like applied theatre have the potential to both highlight and challenge the one-sidedness of anthropocentrism in environmental values held and management decisions made, as "performance may highlight the interconnectedness of humans and the more-than-human world by theorising, revealing and critiquing ecological relationships" (Woynarski, 2015, p. 4). In these ways, engaging in applied theatre practices can contribute significantly to our understandings of the affective and empathetic dimensions of ocean literacy (Blythe et al., 2021).

As ocean research continues to respond to increasing calls to move away from business-as-usual approaches and seeks to create new ways of thinking about how to engage communities in ways that are inclusive, equitable, and accessible (Strand et al., 2022), it is timely to consider how theatre and arts-based practice can offer new ideas and solutions to the longstanding, pervasive, wicked problems facing the ocean on a range of scales (Jung et al., 2022).

Based on these two case studies, recommendations for facilitating a shift of arts-based research from an outlier to a core component of ocean research are set out below:

- Echoing calls from other scholars, transdisciplinary thinking to address the challenges facing the ocean will be strengthened through the inclusion of artists, both researchers and practitioners. As has been said about other areas of research that focus on the human component of the ocean, theatre should be considered a potential research tool to support meaningful co-design with communities. Crucially, this must happen during project design and be integrated effectively into project implementation to avoid the tendency to view theatre as a way of communicating project outputs.
- Theatre practice requires time and energy to develop trusting and open relationships between researchers and community participants. It is vital to ensure adequate time and resources are built into project budgets and designs to support the creation of space to deliver meaningful theatre practice.
- To answer the challenge above of operationalising theatre practice within the ocean decision-making sphere, capacity building and learning from where theatre practice has been used effectively to support decision-making and negotiations are needed (Erwin et al., 2022).

While this study clearly illustrates the value and potential of adopting arts-based methods in the context of ocean research, further effort is required to ensure that arts-based research is considered valid and valuable, if not integral, to truly understanding diverse expressions of ocean literacy, and within ocean research more generally. Crucial to this will be identifying pathways for operationalising arts-based methods within the ocean decision-making space as well as advocating for improved funding and collaboration opportunities.

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Data Availability

Data is available from the authors on request.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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