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Communicating Maritime Spatial Planning: The MSP Challenge approach

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A B S T R A C T

The MSP Challenge uses game technology and role-play to support communication and learning for Marine/Maritime Spatial Planning. Since 2011, a role-playing game, a board game and a digital interactive simulation platform have been developed. The MSP Challenge editions have been used in workshops, conferences, education, as well as for real life stakeholder engagement. The authors give an overview of the development of the MSP Challenge and reflect on the value of the approach as an engaging and 'fun' tool for building mutual understanding and communicating MSP.

1. Introduction

The 2nd International Conference on Marine/Maritime Spatial Planning (MSP) held in Paris in March 2017 highlighted that MSP processes are still in an early stage of implementation globally. It also revealed widespread commitment to substantially increase the sea areas covered by MSP by 2030 in the pursuit of sustainable development of the world's oceans and seas. At the conclusion of the event and to support this ambition, the conference organisers IOC-UNESCO and DG MARE issued a joint road map to accelerate the roll-out of MSP which sets out a series of priority areas and associated key actions [1]. A key action under Priority Area 5 of the roadmap - *Building mutual understanding and communicating MSP* - identifies the need to develop communication strategies for MSP and associated tools and materials and draws attention to the opportunity to build upon existing initiatives in this area. A prominent example of such an initiative is the MSP Challenge, which was featured in a workshop on how to communicate MSP as part of the Paris event. This paper provides a short overview of the development of the MSP Challenge and its application in different contexts, reflects on the value of the approach in developing understanding of MSP, and finally provides some thoughts on how this experience might inform others working towards building mutual understanding and communicating MSP.

2. The MSP Challenge

In the seminal book 'Gaming: the future's language', Duke [2] argues that a simulation game or serious game, is an excellent communication and learning tool for planning and decision-making. Through play, planners and stakeholders experientially understand the dynamic interrelations among various subsystems, the interdependencies among the actors and the consequences of actions well into the future. Simulation games or serious games have thus become connected to a communicative and learning style of planning and planning support [3–5]. The MSP Challenge was developed to explore these ideas [6].

The idea to develop a simulation game about MSP emerged in 2011 from a collaboration between staff from the Ministry of Infrastructure and Water Management in the Netherlands and game designers initially based at Delft University of Technology later at Breda University of Applied Sciences. The aim was to find innovative ways of engaging stakeholders and planners in the new era of MSP. The MSP Challenge sought to combine role-play, game-technology, geodata and simulation models to create planning-oriented learning tools for MSP professionals; and a communicative environment that makes players think, talk and interact. Subsequently the original simulation game has evolved in computer-based and board-based formats (sometimes used in combination) targeted at both professional and general public audiences.

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2.1. The role-playing game

The original MSP Challenge was designed for a HELCOM/VASAB/OSPAR/ICES Workshop on Maritime Spatial Planning in 2011 which brought together around 100 MSP professionals, mainly from Europe [7]. The role-play game featured a fictional but plausible sea basin, loosely based on the sea area Kattegat-Skagerrak between Norway, Sweden, Denmark and Germany. A challenging MSP storyline was created on the use and protection of various ecosystem services. Data from ICES and HELCOM was sourced and partially adapted to fit the imaginary sea. To further create a level playing field for the participants, the name of the sea was changed to the Sea of Colours, shared by four countries (Red, Green Yellow and Blue). The underlying idea was to support a discussion on governance aspects of MSP without 'real life' getting in the way. The MSP storyline consisted of national objectives and background information on planning and governance culture. Based on this, participants were challenged to make a national marine/maritime plan, taking into account cross-border coherence and shared interests. Assuming a role in the gameplay allowed the participants to explore new and different approaches and points of view in planning for the use of the area.

The original MSP Challenge featured a standalone database installed on the players' own laptops through which they had access to data, map layers and geo-information. The catch was that not all players had access to all data layers: each role had a unique code to unlock certain data and thus sharing information and knowledge had to be negotiated. In this fashion, the game contributed to a common language on MSP issues like planning approaches, stakeholder engagement and the role of science and planning support systems.

The MSP Challenge role-playing game was later used in educational applications in the Netherlands, an ICES course on MSP in Copenhagen, MSP education in Canada, summer courses organized by the EcoAqua Institute, Las Palmas, and a conference with planners organized by the Nordic Council, in Reykjavik [8].

2.2. The simulation platform

In 2015, the community around the MSP Challenge was enlarged when the game became part of three EU funded projects: NorthSEE (2016–2019) [9], BalticLINes (2015–18) [10] and SIMCelt (2015–17) [11]. The MSP simulation platform integrates *real* geodata (both marine and human activities) sourced from a great many proprietary institutions and data-portals (such as IMO [12], HELCOM [13], EMODnet [14], and national data centers) with science-based simulation models for shipping, energy and ecology (Ecopath with Ecosim [15]). The data and models have been linked together in a game engine (Unity [16]) to create an interactive simulation platform. This simulation platform allows anyone – experts as well as non-experts – to creatively operate it for scenario development, and/or for multi-player game sessions. This can have multiple purposes such as scenario exploration, co-design, validation or policy-oriented learning. Although the simulation platform has taken a significant step towards becoming a next generation marine planning support system, it continues to use play mechanics, in the form of player roles, scenarios and challenges.

The MSP Challenge simulation platform hosts a bespoke edition created for the Clyde Marine Region in Scotland and the complete Baltic and North Sea basins. It furthermore links to a knowledge repository and Virtual Reality (VR) module so that in the future the player-planner can actually click for more information in the game, and have a virtual representation of consequences or future innovations. Since its launch in 2018, the MSP Challenge simulation platform has been used for seven transboundary stakeholder sessions in ecology, shipping and energy in the Baltic, North Sea and Clyde areas. Furthermore, it has been used in MSP courses at The Carl von Ossietzky University of Oldenburg (Germany), Novia University of Applied Sciences (Finland), the UNESCO/IOC training centre, Oostende (Belgium) and the Universita IUAV di Venezia (Italy). At the time of writing, within a year of its launch, the new simulation platform edition has been used by hundreds of stakeholders, planners and students.

2.3. The board game

In late 2015, the first MSP Challenge board game was developed. This low-tech, hands-on game was first played in February 2016 with around 40 stakeholders at a EU high-level meeting on Short Sea Shipping [12]. The idea behind this version was to communicate the emerging concepts of MSP, Blue Growth and Good Environmental Status of the sea to the Short Sea Shipping community in a short, powerful and engaging manner.

The MSP Challenge board game is played on a 2.8 × 1.6 m board, printed with a map of a fictional sea, superimposed by a grid with holes drilled through the middle of each square. Between 12 and 30 players are assigned to stakeholder or planner roles in one of three adjacent countries – Island, Bayland or Peninsuland – which share a fictional sea basin called the "RICA Sea" (Rivers, Islands, Coastal Areas). Players stand around the board and are introduced in a simple narrative with a few game rules: e.g. 'Jointly develop the RICA Sea so that at the end of the game, you and others feel comfortable with the state of the RICA Sea and how you developed it'. Many coloured squares, with various symbols for aspects of the marine environment and human activities, are designed to fit onto the grid in order to build up the picture of ecosystem services and human activities above, on and below the sea surface. Coloured threads indicate different forms of linear infrastructure and shipping lanes relating to different types of vessels.

The game literally puts players of all languages around the table to experience MSP. By discussing planning options and sharing information, evidence and stories from their own experiences, players jointly develop an ecosystem based marine/maritime spatial plan, while at the same time dealing with the language and communication challenges MSP poses.

The simplicity of the board game, and the possibility to play within an hour or so, has attracted much interest and to date variations have been produced tailored to the requirements of a range of MSP-related organisations including planning authorities and universities. It has resulted in many hours of MSP gaming, with more than three thousand people playing in MSP conferences, workshops and educational and training programmes. Dozens of institutions have been involved in its further development and dissemination. It has been used extensively in Scotland as an innovative method of stakeholder engagement to encourage their involvement in the implementation of the Scottish National Marine Plan (2015) and participation in the development of Regional Marine Plans, which are intended to complement the national approach by adding local definition. The MSP Challenge board game was invited to kick start the marine spatial plan revision process in Belgium, in a meeting with 125 stakeholders in Bruges (February 2017).

At the Atlantic Strategy Stakeholder Platform Conference (Dublin, 2016) the board game was demonstrated to the European Commissioner for Maritime Affairs and Environment (DG MARE), who subsequently invited it to be played as a warm-up session with speakers on the opening day of the 2nd MSP Worldwide Conference organized by IOC-UNESCO in collaboration with the European Commission in Paris, March 2017 (see Fig. 1). This demonstration resulted into the development of a IOC-UNESCO #MSPGlobal Edition with new scenarios to play and translations into many different languages, including French, Italian, Portuguese and Chinese.

3. Reflections

From the personal experience of the authors using the game in its different formats with many different audiences and drawing upon participant feedback from these events, it is apparent that the MSP

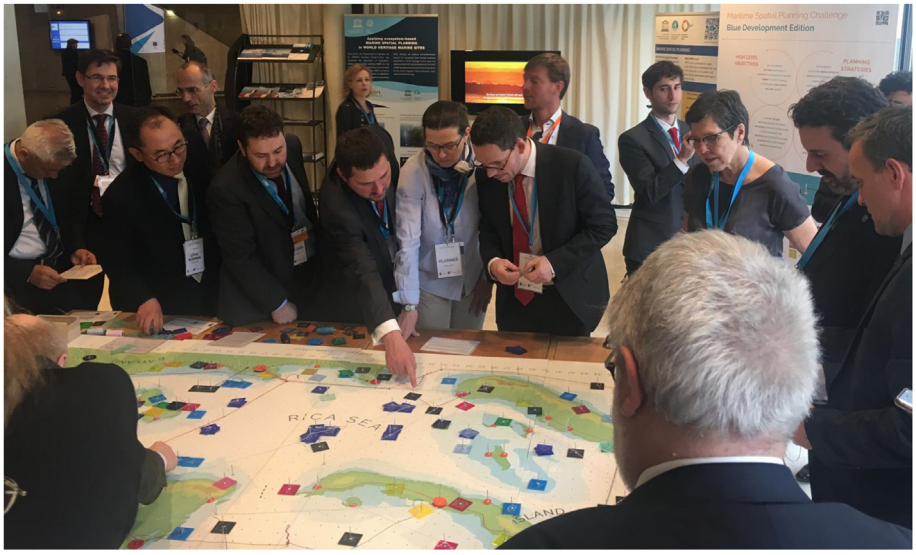

Fig. 1. Impression of the MSP Challenge warm-up board game session in Paris, March 2017.

Challenge's 'learning by doing', or 'learning by playing' approach is both enjoyable and informative for many participants. Although some find the gaming approach to public policy issues such as MSP challenging, there is no doubt that it has stimulated widespread interest and has received overwhelmingly positive reviews. Participants and observers appreciate the gaming format that creates a 'safe place' to develop a better understanding of:

- the different roles in a MSP planning process and how they interact;
- how MSP is guided by Integrated Maritime Policy objectives, some of which will be political in nature and driven by the actions and opinions of stakeholders, resulting in a series of challenges for MSP officials
- key mechanisms of planning, in particular the role of communication, language, negotiation, use (and miss-use) of information, and dealing with conflicting targets and interventions from stakeholders, the general public, and politicians; and
- MSP as both a technical exercise based on objective information, but also as a social endeavour requiring communication and mediation skills, social competence and empathy and at times requiring support from external experts with particular skills.

Gaming also allows people to switch into unfamiliar roles and develop a better understanding of different lines of argumentation and of the positions and underlying pressures of other participants [17]. As one prominent player commented, *'It is a fantastic tool to give insight to all stakes [in MSP …] and enter into the conversation'*.

There are of course also plenty of critical questions to be asked and answered: Who is invited to play these games and who is not? By whom and for what reasons? What happens if the 'wrong' message about MSP is passed on through these games? What if MSP authorities or participant-players skew the point the simulation games are trying to make? What if the players take the simulation game 'too literally' and cannot distinguish fact from fiction? What if the simulation games are not real enough and are only perceived as an enjoyable exercise after which everyone continues to think and do as before? These questions are relevant to those who want to use the MSP Challenge approach in the future. They illustrate the need to have a well thought-through idea of the learning objectives for target audiences from the beginning, and importantly, not to mistake the MSP Challenge as a method for implementing MSP, but use it as a welcome support mechanism in discovering and understanding the benefits and potential of MSP.

The MSP Challenge experience reveals the value of developing a range of tools and tailoring these to different audiences and contexts. For example, the board game format provides a valuable entry-level activity suitable for use with a wide audience, while the computer based format is more appropriate for professionals and others more closely involved in delivering MSP, be it for government, industry or other stakeholders. Both versions have proved to be lively teaching aids for both undergraduate and Masters' students. Taken together, the board game and digital versions offer players a logical and complementary progression in 'understanding by doing'. Therefore, while both versions are good and useful in their own right, our experience suggests that in combination with each other, they can really make the subject come alive! The MSP Challenge simulation platform might communicate a vision of next generation marine planning support: based on integrative data and simulators connected through game technology, developed for different sea basins and for different purposes, engaging *because* it is playful.

Since the first International Workshop on MSP was convened by IOC-UNESCO in 2006, we have witnessed the dawn of a new era of MSP. Today 70 MSP plans have been initiated worldwide, but it is evident that this is only the first phase of MSP activity that will be needed to secure the sustainable development of the world's oceans and seas. Many organisations are already working together to accelerate the roll out of MSP over the next few years, but it is clear that they face considerable communication challenges in terms of conveying what MSP is and seeking to achieve and in engaging stakeholders in these endeavours. This task, perhaps, is made even more difficult by the often hidden nature of human interactions with the sea, and how MSP can guide these in a positive way.

The MSP Challenge experience illustrates the place that non-conventional tools and materials can play in MSP communication strategies. It shows the value of approaches that harness the potential of 'learning by doing', combine simple but attractively designed hands-on resources and more sophisticated computer-based systems, and thoughtfully tailored programmes of activity with the needs and capacities of different users and communities in mind. However, above all we argue that the MSP Challenge experience highlights how a combination of creativity and working across disciplinary and sectoral divides can sometimes generate surprising results and that activities that are 'fun', in and of themselves, can present powerful avenues for learning about Marine/Maritime Spatial Planning.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.marpol.2019.02.057.

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