

CLIMATE CHANGE DELIBERATIVE DECISION GAME

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Intellectual Merit. Deliberative Decision Games (DDGs) are proposed as a method for engaging the public in deliberative democracy and as a public opinion and experimental research tool for Science, Technology and Society (STS) studies. Like a public opinion poll, a DDG collects opinion data. DDGs also provide an opportunity for learning. Most importantly, they facilitate public participation with science by encouraging players to form a more carefully considered, thoughtful opinion. Although DDGs facilitate internal deliberation, they do not involve interpersonal discussion. Aggregated data collection is built in to the game. Thus, DDGs can be made widely available, broadening citizen participation while gathering opinion data. DDGs can be used to collect stand alone data based only on game play or in conjunction with pre or post surveys.

DDGs are envisioned to be short, 15 minute online experiences which foster internal deliberation, change knowledge and opinions and boost personal agency about a socio-scientific issue while at the same time collecting extensive data about players' decision-making processes, personal values, and engagement with propositions and sources. DDGs present major propositions people may (or should) have been exposed to, along with supporting sources and evidence, in a concise experience through which players examine and weigh the merits and importance of propositions relative to their personal values as they develop a more deeply considered opinion.

The general public's current scientific, economic, and national and international policy understanding is probably insufficient to mobilize the combination of national policy and individual life style changes that are called for to address this global threat. Decision-making in the domain of climate change is complex in part because organizations in favor of and opposed to government regulations both present themselves as drawing upon scientific authority.

In this proof of concept study a DDG about climate change will be created to deepen public understanding of this complex issue, focused on whether the U.S. government should enact regulations to sharply and quickly reduce carbon emissions. The design process will incorporate formative research and iterative design methods with careful attention to how science, policy, and ethical content is presented.

To answer basic questions about the willingness and capacity of non-expert citizens to form a more deliberate opinion about global warming, a large, representative national random sample (drawn from the Knowledge Networks' (KN) online KnowledgePanelSM) will be invited to participate in an online public opinion study. Participation will consist of playing the online climate change DDG and completing a post-game survey. Because they will all be KN KnowledgePanelSM participants, we will know background characteristics of those who do not accept the invitation. This exploratory, innovative research will analyze whether and how different people play the game including how they approach the decision, what information they value, how deeply they dig to explore evidence, and how opinions change. In a controlled experiment, college students will be randomly assigned to three conditions: the game plus survey, an informational web site with the same content but no game interactivity plus survey,

and a survey only group. The experiment will isolate effects on expected outcome variables due to information content alone versus game play designed to foster internal deliberation.

An interdisciplinary team of experts from Michigan State University will combine substantial experience in game design, education technology, decision science, cognitive science, political science, biological science, and informal science education.

Broader Impact. DDGs are a powerful public opinion data collection tool and have the potential to deepen public understanding of science and involve people in complex socio-scientific issues. Our proof of concept climate change DDG will be created to be extensible so that future DDGs on different topics can be created by replacing text and graphic content for the issues, propositions, sources, and evidence and reusing the game engine, player interface, and data collection and analysis protocols.

The pilot climate change game will be made freely available to the general public through an MSU web page. Climate change organizations with a public web presence and other K-12 and public informal science web sites will be invited to post links to the game and provide feedback.

ABSTRACT

Online Deliberative Decision Games (DDGs) are proposed as a method for engaging the public in deliberative democracy and as a public opinion and experimental research tool for Science, Technology and Society (STS) studies. Like a public opinion poll, a DDG collects opinion data. DDGs also provide an opportunity for learning. Most importantly, they facilitate public participation with science by encouraging players to form a more carefully considered, thoughtful opinion. In this proof of concept study a DDG about climate change will be created to deepen public understanding of this complex issue, focused on whether the U.S. government should enact regulations to sharply and quickly reduce carbon emissions. Exploratory, innovative research will answer basic questions about the willingness and capacity of non-expert citizens to form a more deliberate opinion about global warming including whether and how different people play the game, what information they value, how deeply they dig to explore evidence, and how opinions change. An interdisciplinary team of experts from Michigan State University will combine substantial experience in game design, education technologies, decision science, political science, biological science, and informal science education.