

## Promoting Social Advocacy through Digital Storytelling: The Case of Ocean Acidification

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**Abstract :** Many chemical changes in the atmosphere and the ocean are invisible to the naked eye, but they have profound impacts. These changes not only confirm the phenomenon of global carbon pollution, but also forewarn that more changes are coming. The carbon dioxide gases emitted from the burning of fossil fuels dissolve into the ocean and chemically react with seawater to form carbonic acid, which increases the acidity of the originally alkaline seawater. This gradual acidification is occurring at an unprecedented rate and will affect the effective formation of carapace of some marine organisms such as corals and crustaceans, which are almost entirely composed of calcium carbonate. The carapace of these organisms will become more dissoluble. Acidified seawater not only threatens the survival of marine life, but also negatively impacts the global ecosystem via the food chain. Faced with the threat of ocean acidification, all humans are duty-bound. The industrial sector outputs the highest level of carbon dioxide emissions in Taiwan, and the petrochemical industry is the major contributor. Ever since the construction of Formosa Plastics Group's No. 6 Naphtha Cracker Plant in Yunlin County, there have been many environmental concerns such as air pollution and carbon dioxide emission. The marine life along the coast of Yunlin is directly affected by ocean acidification arising from the carbon emissions. Societal change demands our willingness to act, which is what social advocacy promotes. This study uses digital storytelling for social advocacy and ocean acidification as the subject of a visual narrative in visualization to demonstrate the subsequent promotion of social advocacy. Storytelling can transform dull knowledge into an engaging narrative of the crisis faced by marine life. Digital dissemination is an effective social-work practice. The visualization promoting awareness on ocean acidification disseminated via social media platforms, such as Facebook and Instagram. Social media enables users to compose their own messages and share information across different platforms, which helps disseminate the core message of social advocacy.

**Keywords :** digital storytelling, visualization, ocean acidification, social advocacy

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