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Newsworthiness of selected environmental related articles and their implications for the public understanding of environmental issues

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Abstract

This study aims to characterize the common stylistic patterns of selected environmental-related articles in the Philippine setting by analyzing the conventional devices used to enhance their newsworthiness to the Filipino audience. It employed a mixed method research, for the quantitative aspect, descriptive presentation of the topics using frequency and percentage was used. For the qualitative aspect, it used the analytical perspective adaptation of Bednarek and Caple's (2014) newsworthiness framework. Results of the study revealed that the thematic categories of the papers shows that most of the topics surfaced issues on climate change and biodiversity. Further, the analysis reveals that patterns of lexical and grammatical features of the articles adhere on the newsworthiness of rationalization and mitigation of speculation, followed by timeliness and impact, presentation of negativity and positivity, and novelty. Sense of infotainment is dominant among the selected environmental-related articles but there is limited conversationalized interaction pattern observed. As an implication of the study, Philippine environmental-related articles may adhere to *infotainment* as well as put emphasis on the conversational style to engage Filipino readers and ultimately increase public understanding of environmental science.

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Introduction

Public understanding of environmental issues is treated as a mass communication problem that has yet to be adequately solved. The public understanding of this and other environmental problems typically find understanding to be lacking, while studies of media effects conclude that media have little or no effect, or even that they contribute to misunderstanding (Stamm, Clark, & Eblacas, 2000).

Since research on public understanding of environmental concerns has so far focused mainly on the inadequacies in understanding there is a need for effective science communication which is not a one-way process, and that public controversies about scientific issues are not straightforwardly attributable to a lack of knowledge among the general public (Sturgis & Allum, 2004). Effective science communication is increasingly seen as requiring a two way conversation or dialogue, and is more usefully conceptualised as 'engagement' (Kahan & Carpenter, 2017).

As the evidence reviewed in this report shows, whilst the accumulated knowledge about communicating and engaging around environmental science topics is vast and well-developed, the field is far from settled, and considerable challenges remain in terms of public engagement on a range of scientific issues, in countries around the world.

The goal of communicating environmental scientific research with diverse audiences is rooted in many scientists' desire to share their knowledge in order to fuel discovery and encourage science and environmental literacy, (Pace *et al.* 2010). Science communication is an umbrella term covering a wide variety of activities including professional communication by scientists; interactions between scientists and members of the public; media representations of science; and the ways people use scientific knowledge in their own lives (Mellor & Webster, 2017).

Science journalism is noted to be one of the key vehicles of science popularization in contemporary media-saturated societies (Bauer & Bucchi, 2010). To attract and retain science consumers, they adopt

communicative styles that are less demanding and more enjoyable, as too much jargon and too complex a story could alienate readers (Conboy, 2011). Likewise, Kozakowska (2017) affirms that science journalism can be considered as a domain that combines science-related content (garnered from top academic institutions, influential research organizations and R&D departments), often couched in academic jargon, with the styles of expression reminiscent of popular journalism. While the democratizing and educational effects of science journalism are appreciated here, attention is paid to communication styles that reproduce 'the ideology of newsworthiness' (Bednarek & Caple, 2014), which may hinder public understanding of environmental issues and concerns.

Science journalism act as gate-keepers and interpreters of science-related issues particularly topics on environmental sciences. In the study of Jensen (2012) it was concluded that popular science writing is not so much about changing textual composition and style into a more accessible idiom, but mainly about highlighting or framing scientific activities. That is why the popularization of science is not to be seen as a mechanical process of 'reformulating' scientific discourse in simpler and more palatable ways. Rather, science reporting 'recontextualizes' scientific discourse into popular journalistic discourse (Myers, 2003), ideally without misinterpreting the results, omitting crucial points or confusing the public. Science mediation should remain an arena of competing discourses and multiple styles, where various themes or voices (of researchers, institutions, experts, governments, citizen organizations and media outlets) may be given more or less 'rhetorical potency' (Moirand, 2003).

This study hopes to contribute to the enhancement of the understanding of Filipino audience on the issues and concerns on the environment taking into consideration the different printed articles as conduit of science journalism. Lorenzoni *et al* (2007) affirm that the task of communicating environmental related information is however, complex and there are psychological barriers to engage the public including the challenge of communicating environmental risk information.

Precisely this challenge is being faced by the different government agencies tasked to inform the public on the environmental status and disaster risks the country is presently experiencing (Harris & Corner, 2011).

This study aims to characterize the common stylistic patterns of selected environmental-related articles in the Philippine setting by analyzing the conventional devices used to enhance their newsworthiness to the Filipino audience. It specifically aims to: (1) assess the environmental related articles as to their scientific quality; (2) thematically categorize the articles based on their topics presented; (3) analyze the stylistic pattern of the environmental-related articles as to their novelty, timeliness and impact, negativity and positivity, and rationalization & mitigation of speculation.

Materials and methods

Research Design

This study employed quantitative and qualitative methods of research. For the quantitative component, it employed descriptive survey method regarding on the newsworthiness of articles devoted to environmental issues. The qualitative part focused on the analysis of selected articles. Greene (2007) confirms that mixed methods research is the new research paradigm that encourages the combined use of qualitative and quantitative research elements to answer complex questions, is recently gaining enormous popularity.

Data Sampling

The researcher selected fifty environmental related articles as population and randomly selected a sample of fifteen. The sampled articles were subjected to series of readings and analyses with the use of open-coding procedure with emphasis on the following: (1) article format; (2) headlines and titles; (3) linguistic devices used in presenting the issue; (4) significance; (4) exposition of scientific procedure; and (5) argument building and reliability of scientific sources. Patterns were subsequently coded, labeled, and categorized according to how the selected environmental-related articles present and use strategies.

Analysis

For the quantitative aspect of the study, descriptive presentation of the topics using frequency and

percentage distribution was used. For the qualitative component, the study also aims to uncover the dominant stylistic patterns of the selected environmental related articles. It followed the Bednarek and Caple’s (2014), newsworthiness framework (discursive news values analysis). The specific aim of this study is to identify the main strategies of making science ‘discursively constructed as newsworthy’ (Bednarek and Caple, 2012), with special attention paid to lexico-grammatical features that can be identified as having been used to present science-related information to appear as interesting, attractive or relevant. The researcher selectively draw from their typology of news values by focusing on novelty and superlativeness, timeliness, negativity/positivity and, to some extent, prominence. This section defines these news values and links them to their typical linguistic realizations in general news based on Bednarek and Caple (2012). This is followed by an explanation of other discursive strategies instrumental for generating engagement in science journalism, and of their operationalization. These include rationalization and speculation, direct address and conversationalization.

Results and discussion

Thematic Categories of the Selected Articles

Categorizing thematically the articles was employed. Table 2 shows the thematic categories of articles. Out of 15 samples, 4 or 27% were climate change & global warming articles, 3 or 20% were air pollution related articles, 2 or 13% articles bear plant/ animal biodiversity conservation topics, there were 3 or 20% related to depletion of natural resource, and 3 or 20% discussed alternative energies.

Table 1. Thematic Categories of Articles.

Themes	Frequency	Percentage
Climate change/ & global warming	4	27
Air pollution	3	20
Plant/ Animal Biodiversity Conservation	2	13
Depletion of natural resources	3	20
Alternative energies	3	20
Total	15	100

Results of the study revealed that the thematic categories of the papers shows that most of the topics surfaced issues on climate change and biodiversity.

This indicates that climate change and global warming is the most pressing environmental issue in the 21st century. In the study of Boykoff (2008), they noted that news headlines covering fear, misery and doom describing climate change as sensational, alarming, and harmful is being portrayed to enhance public environmental consciousness. Oppositely, Young and Dugas (2011) recently found, studying longitudinal trends that Canadian media coverage of climate change paid less attention to impacts, instead emphasizing how it intersects with policy and business. Similarly, Lyytimäki (2011) suggests that, after a phase of widespread media coverage, climate issues will shift from highly visible headlines to being

less visible, although more pervasive, background information. Meanwhile, analyses of how specialized news articles frame and cover climate change could give insights into how climate science and policy are communicated to a group of actors pointed out as central for climate change mitigation and adaptation. Framings are here seen as meaning-providing organizing ideas or storylines (Olausson 2009). While quality newspapers have been frequently studied, few have studied media representations of climate change in special-interest magazines. This paper is one contribution to the recent calls for more case-specific and audience-specific research (Moser 2010), including larger social and cultural groupings.

Table 3. Newsworthiness of Selected Environmental-related Articles.

	Novelty	Timeliness and Impact	Negativity and Positivity	Rationalization & Mitigation of speculation	Conversational Interaction Pattern
Article 1	+	+		+	
Article 2		+	+	+	
Article 3	+		+	+	+
Article 4			+	+	
Article 5		+	+	+	
Article 6	+			+	+
Article 7			+	+	
Article 8		+	+		
Article 9	+			+	
Article 10	+		+	+	
Article 11		+		+	+
Article 12		+	+		
Article 13		+		+	
Article 14	+	+		+	+
Article 15	+			+	
<i>f</i>	7	8	8	13	4

Results showed that 5 out of 15 environmental science articles explicitly signal novelty of their contents. The 5 sampled-articles reported new discoveries on weather prediction, climate change awareness, global warming, and discovery of new species in the Philippines (articles 1, 3, 6, 9, 10, 14, & 15). The above-mentioned articles used linguistic resources to express novelty among these are “*new species discovered*”, “*new research shows that dairy farming is viable*” “*breakthrough in environmental science*”, “*novel technology to predict weather*”, “*first time in the decades to experience*”, “*authentic halal goat meat available soon*” and “*advance technology developed to increase climate change resiliency and awareness*”. It can be inferred from the analysis that novelty is evidential among the environmental related articles.

Novelty is an important premium of presenting news along science related articles with the emphasis of reporting products and outputs of science. As an implication, sense of surprise and novelty in news writing about environmental issues without exhaustive manner of discussion through which this information could be meaningfully related to previous research, the public may end up being less informed and less prepared to face environmental crises. Novelty is considered as an important aspect of science and environment related articles. Bednarek & Caple (2014) outline that news value of novelty refers to the newness but also unexpectedness of the article. Likewise, they enumerated the following linguistic realizations of this value: evaluations of unexpectedness through modifiers, comparisons that

indicate rarity; references to surprise as an emotion displayed by social actors involved in the event; and references to unusual happenings and extraordinary events. In this study, the environmental science articles, novelty is expected to be mainly realized with respect to scientific results and discoveries that apparently exceeded scientists' expectations.

As to the timeliness of the articles, 8 out of 15 sampled articles signal timeliness. The selected articles pointed out themes on biodiversity, organic agriculture, climate change, ecosystem, and plant and animal conservation. The following syntactical features were used: *"just recently, findings of the study show"*, *"the latest study reveals"*, *"in the recent study presents"*, *"new available high yielding plant available soon"*, *"the earth atmosphere is warming"*, and *"within this year"*. Analysis of the patterns shows that systematic use of present tense and present progressive tense among environmental related articles can increase sense of urgency immediacy in presenting information making it a strong claim to newsworthiness of the articles. Timeliness, according to Bednarek and Caple (2014), is built by establishing a close relation between the event and the publication through indications of recency, explicit and implicit time references, or references to an ongoing process (e.g. through verb tense and aspect). It can be assumed that considering the need to make readers pay attention to less popular scientific domains and to technical information, some of the science-oriented coverage will be represented as 'the latest developments' that either endorse or contradict previous findings, while the outlet's build-up of recent information in one thematic thread will be represented as 'tracing current scientific progress'.

Referring to the negativity and positivity, 8 out of 15 sampled articles found to have strong emphasis on the positive or negative evaluation of the scientific findings reported. Among the news values overlaid are exemplified in the following lexical and modifiers on negativity such as: *"devastating floods"*, *"polluted environment"*, *"create havoc"*, *"scary enough"*, *"what could be the negative effect of this..."*, *"show no mercy"*, *"exotic fishes are threatening out lake"*.

Likewise, positivity is also pointed out with the use of the following: *"small group promotes food safety"*, *"tropical fruit extracts control crop diseases"*, *"Good agricultural practices"*, *"helping Filipino farmers increase rice production."* The finding implies that given the current environmental crises, we may expect a predominance of negative information in environmental science articles, which might be responsible for a sense of fatigue or alienation with respect to this thematic domain. However, even if the overall findings are worrisome, the nature of scientific coverage is such that new research reports may give a sense of security by offering knowledge, explanation, warning or remedy, which can be evaluated as positive. The oscillation between negativity and positivity in science coverage is an important stylistic pattern that characterizes science journalism (Molek-Kozakowska, 2016), which is why in this project the news value of negativity will be analysed vis-a-vis its counterpart – positivity.

Consequently, referring to rationalization and mitigation of speculation, 13 out of 15 articles involve rationalization instantiated with various stylistic patterns. Most of the articles used numbers, figures, and graphs to show quantitative data to present factual claims in the content. It can be inferred that the use of technical specifications and concrete data are used to strengthen the credibility of the reports. Another pattern of rationalizing the coverage is through presenting logical relationship between prepositions such as the use of *"because"*, *"due to"*, *"attributed to"*, *"caused by"*, *"it is the effect of"*. Molek-Kazakowska (2016) noted that rationalization is the realization of rhetorical logos, as opposed to the evaluative (ethos) and emotive (pathos) features realizing news values, as discussed earlier.

In line with the conversational interaction pattern, 4 out of 15 articles show used conversational stylistic pattern. Among the language resources used are: *"what can you do to mitigate climate change?"*, *"how will you respond to the environmental problem?"*, *"are you aware of the disasters coming"*, and *"What is this climate sensitivity business about anyway?"*. The data shows that most of the sampled articles have

limited conversational interaction pattern which could help engage readers as well as increase their environmental consciousness. According to Asplund, Hjerpe & Wibeck (2012) they noted that environmental communicators should pay attention to how these frames may be interpreted by different target audiences. Hence, research is needed on how specialized media reports environmental -related issues are understood by different groups and which other factors influence awareness, engagement, mitigation and adaptation. In the study of Magulod (2018), it was confirmed that there is a significant relationship between climate change awareness and environmental attitude. Suggesting that the higher awareness on climate change, the higher environmental attitude being exhibited. Likewise, in a related study, Magulod (2018) further concluded that there is a significant relationship between the environmental literacy and epistemological beliefs indicating that the higher the environmental literacy the more likely to exhibit sophisticated belief about environmental knowledge.

Further, in the context of science communication, the mediating organization is often said to have 'social responsibility' to facilitate the public understanding of science (Moirand, 2003). According to Perez-Llantada (2012), Science communication includes various forms and formats of interaction between scientists, educators or journalists and the public. Science communication specialists make use of verbal and visual resources to make scientific data clearer and easier to understand, to explain scientific concepts and involve the public in consuming that information via different media channels and modes of communication (Trumbo, 1999).

Conclusion

This study aims to characterize the common stylistic patterns of selected environmental- related articles in the Philippine setting by analyzing the conventional devices used to enhance their newsworthiness to the Filipino audience. It employed a mixed method research, for the quantitative aspect, descriptive presentation of the topics using frequency and percentage was used. For the qualitative aspect, it used

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Recommendations

Based from the conclusion of the study, the following recommendations are offered: (1) news articles in the Philippine setting should consider other stylistic devices that can increase the newsworthiness of texts which includes the foregrounding of novelty (of surprising results), superlativeness (of extreme environmental phenomena), timeliness (of very recent publications), impact (in terms of scale and consequence of revelations) and negativity/positivity (in terms of threat to Earth, ecosystems and humans, and hope in new technologies preventing disasters); (2) news articles should adopt to the shifting social expectations and requirements to survive on the market cultivating publics who want to be informed but also entertained; (3) news articles in the Philippine setting should consider their focus on local impacts and individual farmers' responses to climate change, which follows recommendations of climate change communication research emphasizing that messages perceived as containing information of personal relevance to the individual receiver are more likely to motivate the individual to think about the message; (4) there is a need to segment target audiences and tailoring messages to the audiences' interpretative frames is necessary. (5) Environmental communicators need to match the content and

framing of the message to the knowledge level of their audiences and to their interests, values, and concerns.

(5) There is a need for further studies to validate findings of this study.

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