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Media literacy and information-seeking behavior in the mitigation of the effects of global warming

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Abstract: The urgency to coordinate the behavior of the stakeholders involved in the complexity of climate action -- disaster preparation, risk reduction and mitigation is underscored by the pressing need to properly respond to climate change challenges.

The complexity of climate related data highlights the importance of communication as a crucial anchor to make sense, manage, and direct the flow of these data sets as well as to motivate and influence all stakeholders to move in a coordinated manner in addressing disaster preparedness and mitigating destruction to lives and property.

To be equipped with the right information and to have the proper skill sets to acquire such information, is a pressing need that has to be addressed to prepare the population to respond properly to disasters. Such needs essentially fall within the domain of media and information literacy. Thus, the research developed the Media Literacy and Information-seeking Behavior Guide, a multidimensional guide for the use of policy makers, civil society, and the citizens to assist these stakeholders to arrive and implement a decisive and substantial climate action plan and an ecology-based environmental education. The framework used to develop the Guide was taken from precepts on critical thinking, media and information literacy, communication concepts and value structure.

This study sought to gain insights on how to handle big data sets such as those associated with climate change.

Key Words: climate change; information-seeking behavior; media and information literacy; disaster preparedness; communication; value structure; media use guide

1. INTRODUCTION

Climate change figures prominently in the emerging major concerns for the 21st century. Changing climatic patterns that shift to warmer conditions due to a combination of determinants including anthropogenic factors, mainly fossil fuel burning and loss of forest covers, create a greenhouse effect that induce warming of the planet as sunlight is trapped due to carbon buildup in the atmosphere.

Climate change feedback is important in understanding global warming because feedback

processes may amplify or diminish the effect of a change in the climate system in the direction of either cooling or warming. The geo-feedback system which is far more complex than previously thought suggests an interactive relationship among physical, natural, and social forces interacting in a dynamic manner which have evolved over a long period of time crossing over millions of years across the ages.

Furthermore, the accelerated rate of industrial development in the last two centuries with its attendant environmentally destructive practices spawned a new crisis which exacerbates political-economic challenges as economies struggle to develop its potential.



With the relatively low level of public understanding of the complex problem of climate change given the need for its high development priority, it becomes incumbent upon all to engage in a massive public climate change education movement. Civil society, education-oriented institutions, and organizations play a critical role in this social endeavor.

Given the pressing global warming crises, media and information literacy (the ability to properly discern, analyze, and use information), critical thinking skills, a sound value structure, and an ecologically sound political culture focused on climate change becomes indispensable tools for the government and its citizens to effectively engage in climate action.

The study sought to arrive at a guide on how to handle big data associated with climate change, disaster, and risk reduction. The focus of the guide is to relate the understanding of these big data within the contexts of media and information literacy, political culture, and a people's value structure. This guide to information-seeking behavior is intended for the use of the population in affected and vulnerable communities, concerned government agencies, civil society organizations, and the private sector. Such guide can assist to properly appraise, plan out, and coordinate appropriate actions if and when a natural hazard occurs such as the rise of flood water due to an onslaught of a storm or when agriculture is threatened due to acidification of rain water due to increased CO₂ level in the atmosphere.

To be equipped with the right information and to have the proper skill sets to acquire such information, and to have a guide to gauge contemporary political culture becomes now a pressing need in mitigation efforts of the government and in communicating to the population social preparations regarding how to properly respond to disasters.

2. METHODOLOGY

The framework used to develop the Media Literacy and Information-seeking Behavior Guide

was derived from combining precepts on critical thinking, media and information literacy, communication concepts, and value structure. Media as used in the study although includes traditional media focused primarily on the new media given the proliferation of new media hazards such as media manipulation, trolling, astroturfing (a type of media messaging which mimics grassroots support for certain causes and is designed to manipulate opinion), or fake news, among others.

The media literacy and information-seeking behavior guide is geared primarily for the use of government agencies being the lead in climate change mitigation. The importance of media literacy also applies to other stakeholders like civil society, individuals, and other organizations as social preparations for disaster preparedness and risk reduction of climate change impact is a collaborative effort by all stakeholders. Although the government has the lead role in disseminating communications pertaining to climate action, the receivers of communications are equally active participants in the construction of meaning, thus, play an active and decisive role in the success of a climate action plan. The complex communication demands and challenges in a complex system such as climate change can be addressed if greater participation of other stakeholders is enabled.

Various data types were evaluated and structured in the form of a guide that stipulates the basic tasks a user must do to perform a self-appraisal or an evaluation of information pertaining to climate action. For instance, new media skills such as browsing, discerning and validating information and messages embedded in public communication in the context of climate change action were included under attributes of media literate users. Media literacy precepts such as: 1) all media messages are constructed; 2) Each medium has a unique aesthetic form; 3) Media have commercial implications; 4) Media have social and political implications; and 5) Audiences negotiate meaning were also embedded in putting together the guide.

Basic communication skills such as anticipating information needs for basic action

planning and preparedness were included as part of the basic tasks necessary for disaster preparedness. The need to incorporate media literacy skills with big data sets on climate change is critical because the problem lies not in the data about climate change but rather on attaining the skills necessary in problem solving. Problem-solving requires data appraisal and if government entities, organizations, individuals or civil society do not know how to handle big data, given astroturfing, digital manipulation, fake news, and the prevailing political culture, people will remain misinformed. Thus, government and other stakeholders have to gain and apply skills to effectively use and navigate new media, hone critical thinking skills to discern information, and engage in effective communication in meaning construction.

Equally important is the presence of a sound value structure or moral compass was also included in the media literacy and information-seeking behavior guide.

3. RESULTS AND DISCUSSION

The guide is divided into four different task lists which the user has to perform in order to become familiar with information, processes, and interactions pertaining to climate change (Figure 1). The scheme is based on the idea of competent learning skills such as information chunking and avoidance of incompetent learning methods.

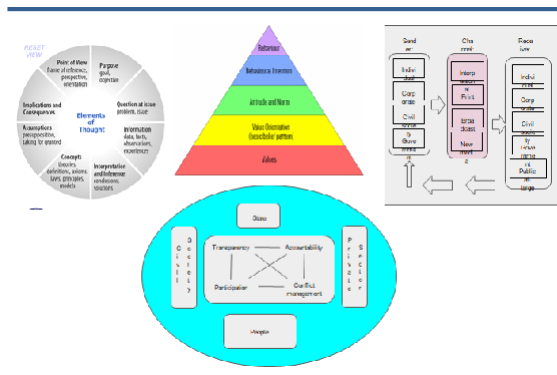


Figure 1. Visual representation of a communicative environmental rubric used in the study

3.1 Task 1: The importance of a value structure

A communicative environmental value structure is designed for the purpose of providing a driver or motivator, full understanding of which is critical in sustainable climate action. Many civil society organizations dedicated to community and public service are guided not only with a set of principles and beliefs but also with a conviction to act on what the user sees as the right thing to do given certain circumstances. A value structure is a powerful motivator of action and a great influence on the behavior pattern of an individual or entity.

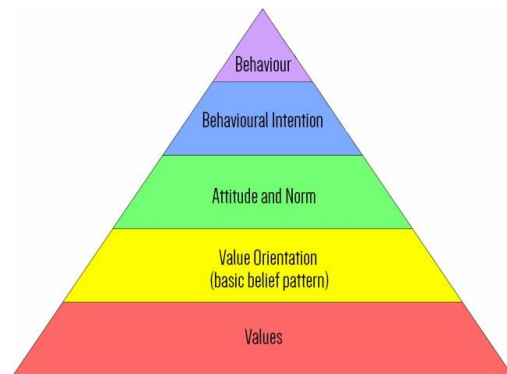


Fig. 2. Values and behavior pattern Source: <http://blogs.ntu.edu.sg/hp331-2014-74/files/2014/11/hierarchy.png>

Basic values referred to in the guide are as follows:

a. Authenticity in purpose

Altruism and transformational action defines the context of authenticity as used in the study. Authenticity remains one of the criteria when dealing with social values which are essentially intangibles but are manifested as a behavior pattern that depend on the value set guiding a person. Authenticity requires honesty as well as conviction. Flip flopping or lying which is one phenomena commonly employed to distort social values, therefore is one indicator of a negative social value

- b. A sense of compassion or sense of otherness

Respect for life and human dignity are the core principles in this task. Caring, nurturing and being concerned with others are some of the ways which people are able to build strong communities rooted on positive actions.

- c. Adherence to egalitarian and equitable precepts

A democratic governance system requires an active and enlightened participation and engagement in the social and public affairs. A public sphere characterized by open and thorough discussions on issues motivated by the desire to achieve consensus on a common recourse for the public or the citizens concerned is a necessity.

Although environmental actions are localized many of these concerns have national implications, for example, protecting a river system transcend geo-political boundaries. Likewise, many symptoms of environmental degradation e.g. pollution and loss of biodiversity common to almost all areas in the country have national impacts. Slogans like “Act locally but think globally” is an example of a good reminder for this task.

Citizenship requires an understanding of how a public sphere works and how governance works under a democracy.

In doing task number one, it is expected that users should be able to create their own value structure.

3.2 Task 2: Critical thinking and information chunking

A good reference on the „Foundations for Critical Thinking’ is included in task number 2 (<https://www.criticalthinking.org/ctmodel/logicmodel.1.htm>). The eight elements of thinking is something that a user of the guide will need to familiarize with in order to gain some mastery on critical analysis. Critical thinking enables the user to evaluate a particular issue or concern in

an objective manner which essentially minimizes the chance of believing in something that lacks factual basis or is incoherent.

For task number 2, it is important to note that the critical thinking wheel (Figure 3) represents aspects of thinking that can hone the mind to be discerning and sharp in gaining insights and meaning. This becomes important in latter stages when decision points reached may require committed actions.

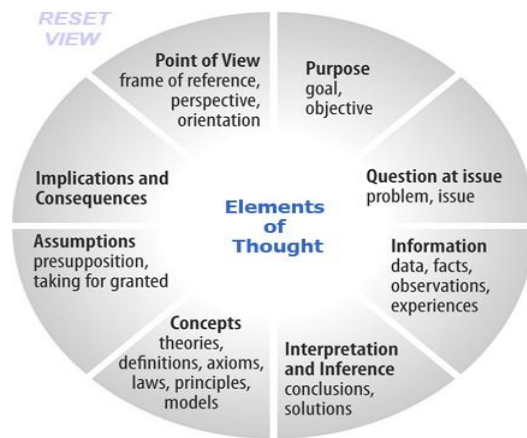


Fig. 3. The 8 elements of thinking

Source: Foundation for Critical Thinking accessed @ <https://www.criticalthinking.org/ctmodel/logicmodel.1.htm#>

Information chunking is a strategy that can be used to reduce long strings of information that can be difficult to remember and involves reducing information into shorter manageable chunks. A sample of information chunking derived from Facebook posts of Project Noah is provided (Table 1).

Table 1. Information chunking in a form of a simple matrix

Communication type	Information Chunks
Weather forecast: predictions on possible weather patterns occurring in different parts of the country for specific period	Either sunny, windy, rainy Atmospheric temperature reading Low tide and high tide Presence of monsoon and location Affected areas
Storm warning	Areas affected Storm details such as name, signal number, location and direction, wind velocity near the center, scope
Storm updates	Updated information of weather systems developments
Advisories and alerts	Information of risks addressed to specific sector and type of risk due to an inclement weather system e.g. maritime risks such big waves and surges due to strong winds.
Press releases	Information on Project NOAH initiatives and activities such as acquisition of new equipment, launching of new program, appointment of new officials, policy statement and other highlights and significant developments in the agency.

After engaging in critical thinking and understanding and analyzing the information chunks, the user of the guide should be able to establish the authenticity and truth value of any statement or idea. The user must be able to validate and confirm an information, discern the meaning embedded in the message and to discard or use the information accordingly.

The value structure in this case serves as the internal compass of behavior and becomes important when an action requires a thorough

decision or judgment call. Another premise of task 2 is that a value structure not supported with critical thinking can be prone to fanaticism and blind beliefs.

3.3 Task 3: Communicating and using the Internet

The use of the Internet such as a social media site enables a person to become a creator or a source of a message. Having an internal value compass combined with critical thinking prepares a user of this guide to create their own message, to express their views and what they think about a particular issue or concern. Sharing information in the web requires an assumption of responsibility that an entity or an individual is not perpetuating a lie or an erroneous information.

Elements of the communication process is presented in Figure 4 and can aid the user in examining the exchange of information or message from the sender to the receiver. Various channels or media platforms such as a cell phone or social media such as Facebook should likewise be studied in terms of its unique codes employed in constructing a message.

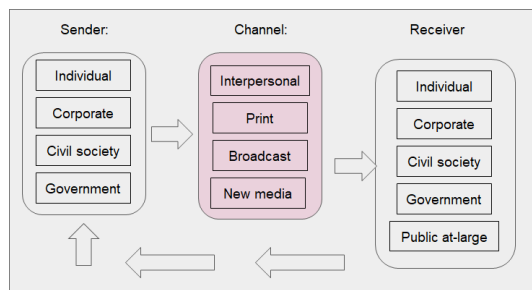


Figure 4. A generalized communication model

3.4 Task 4: Governance and social engagement

Proactive approaches, progressive advocacy and social organizing are ways to engage people and entities in social and governance concerns. Suffrage for example, is a commonly democratic



exercise related to governance. Other considerations pertaining to democratic governance such as the relationship between the state, civil society, the private sector and the people in general defines the characteristics of governance in a given society.

According to the Philippine constitution, prior consultation is a prerequisite in any government undertaking which has a significant effect on the community. Provisions on people's participation as defined in the Local Government Code underline the need for social organizations which can serve as critical instruments of participation in governance. Studies show that experiences of successful people's initiatives to achieve meaningful and relevant changes happened because of a wide participation of people and their communities in the advocacy towards desired changes in policy or on what projects ought to be prioritized as an effect of a healthy political culture.

4. INSIGHTS ARISING FROM CREATING THE GUIDE

Some insights that arose from the study are the following:

1. Contentious issues as well as media hazards are major considerations in communicating climate action

2. Basic information seeking behavior pattern needs to be elicited from the public if climate action is to become grassroots and part of the cultural makeup of the people and their communities.

3. A value-based motivator of action is as important as basic information on climate change, governance and public discourse, climate change impacts, social organizing and media types.

4. Basic social movement strategies and techniques are essential in a communication design

5.

Current media technologies can be effectively and maximally employed for a massive public education campaign.

6. A guide in critical thinking or social learning and communication are essential tools to create an effective climate change advocacy and mobilization.

5. REFERENCES

- Boles, Derek. Center for Media Literacy. Retrieved September 21, 2017 from <http://www.medialit.org/reading-room/language-media-literacy-glossary-terms>. Accessed 21 September 2017
- Foundation for Critical Thinking. (2007). Elements of Thought. Retrieved January 20, 2018 from <https://www.criticalthinking.org/ctmodel/logic-model1.htm>
- Hernandez, Butch. (2017). More on 21st Century Skills set. Retrieved February 11, 2017 from <http://opinion.inquirer.net/101564/21st-century-skill-sets>
- Magno, F. A. (2017, February 14). Participatory Local Governance and the Protection of Vulnerable Sectors, Retrieved November 27, 2017 from www.dlsu.edu.ph/research/centers/sdrc/magno.pdf
- Santos, CA. L. (2017). Collaborative environment in new media communication: Development. Conference Paper presented in AMIC Conference held on September 27, 2017 at Miriam College.
- UNESCO. (2013). Global Media and Information Literacy: Assessment Framework: Country Readiness and Competencies. Retrieved September 5, 2017 from <http://www.medialit.org/reading-room/language-media-literacy-glossary-terms>.