July 2021

An Analysis of the Presence of Dialogic Communication Features on Indiana Environmental Organizations' Websites

Jessica Moon

AN ANALYSIS OF THE PRESENCE OF DIALOGIC COMMUNICATION FEATURES ON INDIANA ENVIRONMENTAL ORGANIZATIONS' WEBSITES

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Environmental Sciences

in

The Department of Environmental Sciences

by

Jessica Moon
B.S., Valparaiso University, 2018
August 2021

Acknowledgements

I would first like to thank my advisor, Dr. Denise DeLorme, for sharing her guidance, feedback, expertise, and editorial prowess with me during all aspects of this thesis. I would also like to thank my committee members, Dr. Linda Bui and Dr. Margaret Reams, for their constant support and input during this process. Finally, I would like to thank my fiancé, Timothy Mooney, for his unwavering belief in me, as well as his patience, love, and support as I worked to complete this thesis.

Table of Contents

List of Tables

Abstract

Dialogic communication is a two-way form of communication that allows entities such as organizations and their publics to share their viewpoints and contribute to decision-making processes openly and equally. The Five Dialogic Principles of Public Relations (*ease of use of the interface, usefulness of information, conservation of visitors, generation of return visits,* and *dialogic loop*) is a framework that has been used to examine this form of communication online. Research has shown that organizations' websites have a generally low presence of features related to the Five Dialogic Principles. The goal of the present study was to determine the presence of the Five Dialogic Principles on environmental organizations' websites. This was investigated by employing a previously developed dichotomous Dialogic Coding Scheme (Taylor et al., 2001) to content analyze a sample of 56 total environmental organizational websites for the presence of Dialogic Features. Overall, the results were consistent with prior research in that websites had a low presence of Dialogic Features. The organizations were also surveyed online to gain further insight and determine if they would respond to a message from a member of the public. Approximately one-fifth of organizations in the study sample replied, and there was no correlation between response rate and percentage of Dialogic Principle features on the organizations' websites. Stemming from the findings, this study also proposes a revised Dialogic Coding Scheme focused on website features dedicated to dialogue that aim to show the occurrence of dialogue rather than only capacity for it. Future research on dialogic communication should center on dialogue by organizations and their publics, the views public relations practitioners have about dialogue and their websites, and the formulation of strategies to better employ dialogic communication on environmental organization websites.

Chapter 1. Introduction

1.1. Background

Nonprofit environmental organizations often rely on the relationships they form with the public and their stakeholders because these relationships form the basis for many beneficial interactions for the organization. One major benefit is monetary donations that can be solicited through the relationships formed between the organization and individuals. Another benefit is found in activities, such as volunteer work, that members of the public can complete for these organizations. An additional benefit that is particularly useful for environmental organizations is the local and historic knowledge individuals can hold about the environment the organization is working in. This knowledge and input from stakeholders can positively inform organizational decision-making.

There are many public relations methods organizations can use to interact with their publics. Some of these include in-person methods, where members of the organization can directly interact with stakeholders and the public face-to-face. For environmental organizations, these might be volunteer events, a booth at a local community event, attending a public hearing regarding an environmental issue, or anything else that brings members of the organization, stakeholders, and the public to the same location. There are also more traditional forms of communication that organizations can use to share information, such as mailing newsletters, press releases in the newspaper, or a feature on the local television news station. Increasingly, the Internet has become another tool for organizations to communicate with their stakeholders and the public. An organization's online presence could include websites, social media accounts, videos, e-mail messaging, or any other form of online communication. With so many communication options available to public relations practitioners, it is important to know the

differences in each communication channel and how they can best be used together to add benefit to the organization's mission. Websites of environmental organizations have been selected as the communication channel to study in this thesis to focus its scope. However, further research on other communication channels and the integration of these many options would be valuable in future public relations research.

Further focusing the scope of this thesis, dialogic communication was selected as the theoretical framework to examine. Dialogic communication is a two-way communication method that has been the focus of research in the online setting to help determine how effectively organizations engage with their target audiences on their websites and social media platforms. Several public relations researchers assert that dialogic communication is a valuable tool for organizations to use as part of their public relations strategy for building stakeholder relationships, increasing communication and public trust, effectively engaging with the public, and improving financial viability, (Jo & Kim, 2003; Kim et al., 2014; Levine & Zahradnik, 2012; Watkins, 2017). However, many studies have indicated that organizations do not fully use the communication capabilities of the Internet, preventing them from having the capacity for or engaging in dialogue with the public online (Campbell & Lambright, 2019; Gordon & Berhow, 2009; Greenberg & MacAulay, 2009; Taylor et al., 2001; Taylor & Kent, 2004; Uzunoğlu & Kip, 2014; Watkins, 2017; Wirtz et al., 2013). Reasons that organizations do not fully utilize dialogic communication online are generally assumed to be a lack of the personnel, technical skills, or financial means necessary to achieve this type of communication.

Despite the obstacles that may make it more difficult for public relations practitioners to employ dialogic communication on organizational websites, the benefits listed above show that it would be helpful to use dialogue online. For environmental organizations particularly, leveraging

websites as a tool for stakeholder and public engagement can yield donations, volunteers, valuable feedback, and other benefits. As technological improvements aid the growth, reach, and ubiquity of the Internet, methods to aid public relations practitioners in best using their websites are a valuable research topic. One such method, proposed by public relations researchers Michael Kent and Maureen Taylor, is to use the Five Dialogic Principles of Public Relations. These principles function as a set of guidelines for organizations facilitating the potential for dialogic communication on websites.

The present study investigates these principles through the research question: "What is the presence of the Five Dialogic Principles on Indiana environmental organizations' websites?" To address this question, a quantitative content analysis of Dialogic Features (website features associated with the Dialogic Principles) on environmental organizations' websites was conducted by applying and extending an existing framework from the public relations literature (Kent & Taylor, 1998). This framework includes Five Dialogic Principles that were later operationalized into a series of Dialogic Features (Taylor et al., 2001). These Dialogic Features are specific websites features.

The analysis conducted in the present study provided several research benefits. The quantitative content analysis provided details on the frequency of which specific Dialogic Features were present on Indiana environmental organization websites. It also allowed for direct comparison between the present study and a 20-year-old prior study (Taylor et al., 2001) to observe how the presence of Dialogic Features may have changed over the years. Additionally, organizations included in this study's sample were contacted to gain further insight on the issue, and the response rate allowed the researcher to gauge actual dialogic communication by the

organization, rather than the capacity for dialogue. Finally, this study proposes alterations to the existing methods of research on dialogic communication on organizational websites.

1.2. Study Objectives

The purpose of this study is to examine the presence of the Five Dialogic Principles on Indiana environmental organizations' websites. To do this, a content analysis was conducted to determine whether these websites are currently including Dialogic Features. The content analysis method employed followed the model set by Taylor et al. (2001), and therefore comparisons were made in this study to determine how the presence of Dialogic Features might differ between Taylor et al. (2001) and the present study. Conclusions drawn in the large volume of research previously collected on the subject of dialogue on organizational websites have found that organizations do not fully utilize dialogic features on their websites (Gordon & Berhow, 2009; Greenberg & MacAulay, 2009; Taylor et al., 2001; Taylor & Kent, 2004; Uzunoğlu & Kip, 2014; Wirtz et al., 2013). However, the world is experiencing continued proliferation of the Internet, furthering the utility of web-based communication. This study investigates whether this change in context may have altered the presence of dialogic communication between organizations and their target audience publics on their websites.

1.3. Research Question

The research question for this study was adapted from Taylor et al. (2001) to fit the sample of this study. Taylor et al. (2001) asked: "How effectively do activist Web sites employ dialogic principles?" To focus on the organizations included in this study and the Five Dialogic Principles, the present study investigated the research question "What is the presence of the Five Dialogic Principles on Indiana environmental organizations' websites?" Particular attention was

placed on the frequency of the presence of each Dialogic Principle and Feature on the websites and comparisons to the results of Taylor et al. (2001).

1.4. Thesis Overview

The following chapter of this thesis examines the literature on dialogic communication to define terms, introduces the Five Dialogic Principles of Public Relations framework, and examines the prior research conducted in this field. Chapter Three explains the methodological approach taken in this study, including the selection of the study sample and content analysis and survey procedures. Chapter Four presents the results, along with statistical analysis regarding comparisons to a similar prior study conducted by Taylor et al. (2001). The discussion is in Chapter Five and includes examinations of the presence of Dialogic Features on Indiana environmental organizations' websites, the comparisons of prior research to the present study, and the relationship between presence of Dialogic Principles and survey responds rate. This study also recommends a revised Dialogic Coding Scheme and addresses its limits and recommendations for future research in the discussion. Chapter Six summarizes and concludes this thesis. The following items are in the Appendices: the Institutional Review Board Approval Letter, coding data collected in this study, definitions of all Dialogic Features, and the online survey instrument.

Chapter 2. Review of the Literature

2.1. Defining Dialogue

In scientific communication, dialogue is defined as a type of two-way communication between scientists and the public used to develop a shared understanding of a topic (Suldovsky et al., 2018). Its goal is to create the opportunity for public involvement in scientific processes and outcomes (Suldovsky et al., 2018). More broadly, dialogue is considered an ethical form of communication due to its ability to minimize power relationships, value dignity and self-worth, and involve all participants in decision-making (Taylor & Kent, 2014). In essence, dialogue is a method of communication that allows people of different backgrounds and knowledge bases to collaborate in decision-making processes that impact everyone. Dialogue is not naturally occurring, however. It must be created, fostered, and nurtured (Greenberg & MacAulay, 2009). Those wishing to engage in dialogue must work to build a space that allows for each participant to openly and equally share their views and have a stake in decision-making.

2.2. Dialogic Communication in Public Relations

In the field of public relations, there are two main types of communication. The first, broadcast communication, is defined as a one-way form of communication where one party, for example, an organization, disseminates information or has automatic transaction systems instead of direct interactions with the public (Greenberg & MacAulay, 2009). The second communication method, dialogic communication, is referred to as a theoretical framework allowing public relations practitioners to build relationships between their organizations and the public (Kent & Taylor, 1998). Further, dialogic communication is defined as an exchange of ideas and opinions (Kent and Taylor, 1998) and a process involving two-way discussion that allows all discussion participants (e.g., organizations and their publics) to share their ideas while

valuing each other (Kim et al., 2014). The process of dialogic communication results in dialogue itself, a product of ongoing communication and relationships (Kent & Taylor, 2002). Two principles preside over dialogic communication: (1) agreement is unnecessary for dialogue; and (2) dialogue is about intersubjectivity (an exchange of thoughts and feelings), not objectivity or subjectivity (Kent & Taylor, 1998).

Dialogic communication is theorized by public relations researchers to be beneficial for organizations because it could result in a level of interactivity that is essential for building stakeholder relationships (Jo & Kim, 2003). It also is theorized to increase the frequency of communication, improve public satisfaction, and strengthen public trust (Kim et al., 2014). Dialogic communication can be incorporated into daily public relations activities in three primary ways (Kent & Taylor, 2002). First, dialogic communication can be fostered in interpersonal relationships between public relations practitioners and the publics they are trying to reach. Second, it can be used for mediated dialogic relationships (e.g., interactions on the Internet). Finally, it can be applied procedurally through organizational methods designed to facilitate and encourage dialogue.

The present study focused on mediated dialogic relationships. The research was about environmental organizations' use of their websites to facilitate dialogue with their publics. It is important to note that scholars in science communication research demonstrate a higher level of stakeholder engagement than dialogue, which is labeled participation. The goal of participation is to include more nonscientific perspectives by engaging democratically (Suldovsky et al., 2018). Though this study discusses science communication insofar as environmental organizations are the subject being examined, the primary focus is on the public relations efforts of these

organizations. For this reason, this thesis prioritizes public relations-related research and emphasizes the use of dialogic communication on environmental organizations' websites.

2.3. The Five Dialogic Principles Framework

The Five Dialogic Principles of Public Relations were developed by Kent and Taylor, public relations researchers, as a result of their research into dialogic communication. They suggested the Five Dialogic Principles would help organizations successfully integrate characteristics of dialogic public relations into their internet presence (Kent & Taylor, 1998). These principles include: (1) *ease of use of the interface*, (2) *usefulness of information*, (3) *conservation of visitors*, (4) *generation of return visits*, and (5) *dialogic loop*. The *ease of use of the interface* simply requires websites to be straightforward for the public to use. *Usefulness of information* is directed at the degree to which information available on an organization's website is valuable to both the public and the organization's target audience(s). *Conservation of visitors* suggests that a website not include many links that will lead people away from the organization's website. *Generation of return visits* focuses on features like providing updated information and forums that inspire people to return to the website many times. Finally, *dialogic loop* refers to the opportunity for the public to provide feedback and for organizations to respond to those questions, concerns, and problems in a dynamic cycle (Kent & Taylor, 1998). The dialogic loop is later referenced in the public relations literature as the most important of the Five Dialogic Principles. Taylor et al. (2001) wrote, "even if a site follows the suggestions of the first four dialogic principles, it cannot be fully dialogic if it does not offer and follow through on two-way communication." The dialogic loop is the principle that addresses the public communicating directly with the organization online, so it is required for dialogic communication to exist.

All five Dialogic Principles have been operationalized by public relations researchers (Gordon & Berhow, 2009; Greenberg & MacAulay, 2009; Kim et al., 2014; Rybalko & Seltzer, 2010; Taylor et al., 2001; Taylor & Kent, 2004; Watkins, 2017; Wirtz et al., 2013) into website and social media features to study their utility in creating a dialogue between organizations and the publics they target. Working with William White from the Department of Communication at Rutgers University, Kent and Taylor's operationalization of the Five Dialogic Principles resulted in a 32-question survey instrument featuring 31 website features (Taylor et al., 2001). In the survey composition, three to nine website features were associated with each Dialogic Principle. Each feature could be marked present or absent from the website being examined. Features that were present indicated a higher capacity for dialogue on the site, while features that were not present indicated that the site had a lower capacity for dialogue (Taylor et al., 2001). Capacity for dialogue shows whether it is possible for dialogue to occur on the websites. It does not mean that any dialogue has happened. The 32-question survey instrument of Taylor et al., (2001) was used in the present study and is referred to as the Dialogic Coding Scheme. Website features included on the Dialogic Coding Scheme will be referred to as Dialogic Features.

Studies have indicated that use of the Five Dialogic Principles is necessary if organizations wish to use their websites to build relationships with the public (Kent et al., 2003). In particular, usefulness of information, one of the principles, can influence audience engagement and attitude (Watkins, 2017). It has also been found that organizations have fewer dialogic outcomes if they do not use many dialogic features online (Bortree & Seltzer, 2009). Yet another study concluded that the use of the Dialogic Principles benefited nonprofit organizations' financial viability (Levine & Zahradnik, 2012). This research all indicates the

utility of the Five Dialogic Principles framework for organizations in fostering dialogue on their websites.

2.4. The Use of Dialogic Features on Organizational Websites

Several researchers have applied Kent and Taylor's principles framework and their suggested coding scheme to analyze the online presence of nonprofit, industry, and other organizations to determine if and how they are using dialogic communication on the Internet. These studies have examined dialogic communication on websites (Greenberg & MacAulay, 2009; Levine & Zahradnik, 2012; Taylor et al., 2001; Uzunoğlu & Kip, 2014), social media accounts (Bortree & Seltzer, 2009; Kim et al., 2013; Rybalko & Seltzer, 2010; Watkins, 2017), and online (Campbell & Lambright, 2019; Kim et al., 2014). It has been almost universally concluded that organizational websites exhibit low presence of Dialogic Features. Specifically, some say that websites are far from dialogic (Taylor et al., 2001), environmental nonprofits under-use dialogic communication (Greenberg & MacAulay, 2009), and organizations do not take advantage of online engagement (Campbell & Lambright, 2019).

Public relations researchers have theorized and studied what challenges may prevent organizations from optimizing dialogic features on their websites and social media platforms. Denison and Williamson (2013) suggest six potential challenges organizations should plan to address when constructing and maintaining their websites: (1) strategy, (2) technical knowledge and design, (3) project management, (4) technical support, (5) training, and (6) funding. Funding is a concern because of the expenses associated with training employees and paying them to manage the organization's online presence (Kim et al., 2014). Strategy, technical knowledge and design, project management, technical support, and training are all related to the skills and personnel available to develop dialogue online. Organizations may lack personnel with the

technical, graphical, and corporate web design expertise necessary to create an online platform for dialogue (Uzunoğlu & Kip, 2014). They also may not provide training in these skill sets, cannot plan and manage an effective online presence, or have inadequate technical support.

2.5. Summary of the Literature

The focus of the present study revolves around the concept of dialogue, a communication method that emphasizes interaction and collaboration between organizations and their publics. Dialogic communication is considered by public relations researchers to be a benefit to organizations (Jo & Kim, 2003; Kim et al., 2014; Levine & Zahradnik, 2012; Watkins, 2017). The Five Dialogic Principles developed by Taylor and Kent (1998) provide a framework for examining the use of dialogic communication on organizational websites. Prior research involving this framework in the public relations literature has found that organizations do not fully use the Dialogic Principles on their websites (Campbell & Lambright, 2019; Gordon & Berhow, 2009; Greenberg & MacAulay, 2009; Taylor et al., 2001; Taylor & Kent, 2004; Uzunoğlu & Kip, 2014; Watkins, 2017; Wirtz et al., 2013).

Chapter 3. Methods

3.1. Methods Overview

For this study, a multi-method approach was implemented. A content analysis was conducted using the Dialogic Coding Scheme created by Taylor et al. (2001) to dichotomously code the websites of a sample of Indiana environmental organizations (described below). The decision to focus on websites rather than another aspect of online presence is based on prior research findings that organizations rely more heavily on their websites than on other online platforms, such as social media (Kim et al., 2014). An online survey of these organizations was also conducted to provide supplemental information, as detailed in the "Online Survey Procedures" section below, and to determine the response rate, which contributed to this study's understanding of each organization's dialogic communication capabilities. Approval from the Louisiana State University Institutional Review Board (see Appendix A for IRB Approval Letter) was received before commencing data collection for the survey portion of this thesis project, since that portion involved human subjects.

3.2. Study Sample Selection and Characteristics

An environmental organization directory, eco-usa.net, was employed to select the study sample. Several other studies have used similar types of online directories to identify their study samples (Greenberg & MacAulay, 2009; Kent et al., 2003; Kim et al., 2014; Taylor et al., 2001). The eco-usa.net directory was compiled and updated over the last 21 years by Michael Habeck, a technical environmental specialist for the Indiana Department of Environmental Management. It categorizes environmental organizations by state, with additional categories for national, regional, and other organizations. Besides listing organizations, eco-usa.net provides website addresses for each organization.

A sample size of 59 environmental organizations was selected to include all organizations listed under the Indiana section of eco-usa.net. This sample size was deemed appropriate because previous studies used a range of 43 to 100 environmental organizations in their website coding procedures (Greenberg & MacAulay, 2009; Taylor et al., 2001; Uzunoğlu & Kip, 2014) and because of time and resource limitations. Indiana was chosen to focus the research scope on one geographic area that included enough environmental organizations. It is also the home state of the directory's creator, making it likely that this list is the most complete and up to date.

During the coding process, three organizations were removed from the sample. Improving Kids' Environment was removed because it has merged with the Hoosier Environmental Council, another organization in the study. Indiana CAFO Watch was removed because its status as an environmental organization was unclear. Nature Conservancy of Indiana was removed because it did not have its own website; it only had a page on the national Nature Conservancy site. Therefore, because this study examined whole websites rather than individual pages, it could not be included. The websites of the remaining 56 of these Indiana environmental organizations were dichotomously coded (Table 1).

3.3. Dichotomous Website Coding Procedures

The first data collection method used in this study was content analysis. Content analysis is a systematic examination of a specific body of material (in this case, organizational websites) that converts that material into data (Lune & Berg, 2017). This is an unobtrusive, cost-effective method of data collection that can be used non-reactively to glean information that is not influenced by the research process and objectives, as may happen through interview questions (Lune & Berg, 2017).

Table 1. Study Sample Organizations
The websites of the organizations listed in the following table were examined using the Dialogic Coding Scheme in this study. Also included is the date each website was coded.

Organization	**Website**	**Date Coded**
ACRES Land Trust	https://www.acreslandtrust.org/	4/13/21
Amos Butler Audubon Society	http://www.amosbutleraudubon.org/	4/13/21
Central Indiana Land Trust	http://www.conservingindiana.org/	4/13/21
Central Indiana Wilderness Club	http://ciwclub.org/	4/13/21
Citizens Action Coalition	http://www.citact.org/	4/13/21
Clear Lake Township Land Conservancy	https://clearlakeconservancy.org/	4/13/21
Cope Environmental Center	http://www.copeenvironmental.org/	4/13/21
Eagle Creek Park Foundation	http://www.eaglecreekpark.org/	4/13/21
Earth Charter Indiana	http://earthcharterindiana.org/	4/21/21
Earth Day Indiana	http://www.earthdayindiana.org/	4/21/21
Evansville Audubon Society	http://www.evvaudubon.org/	4/21/21
Friends of Broad Ripple Park	http://www.broadripplepark.org/	4/21/21
Friends of Goose Pond	http://www.friendsofgoosepond.org/	4/21/21
Friends of Holliday Park	https://www.hollidaypark.org/	4/22/21
Friends of Sugar Creek	http://www.friendsofsugarcreek.org/	4/22/21
Friends of the Pumpkinvine Trail	http://www.pumpkinvine.org/	4/22/21
Friends of the St. Joe River	http://www.fotsjr.org/	4/22/21
Friends of the White River	http://www.friendsofwhiteriver.org/	4/25/21
Greenways Foundation	http://www.greenwaysfoundation.org/	4/25/21
Heartwood	https://heartwood.org/	4/25/21
Hoosier Environmental Council	http://www.hecweb.org/	4/25/21
Hoosier Hikers Council	http://www.hoosierhikerscouncil.org/	4/25/21
Indiana Audubon Society	https://indianaaudubon.org/	4/25/21
Indiana Forest Alliance	https://indianaforestalliance.org/	4/27/21
Indiana Karst Conservancy	http://ikc.caves.org/	4/27/21
Indiana Lakes Management Society	http://www.indianalakes.org/	4/27/21
Indiana Native Plant Society	https://indiananativeplants.org/	4/27/21
Indiana Organic Gardeners Association	http://www.gardeningnaturally.org/	4/27/21
Indiana Parks Alliance	http://indianaparksalliance.org/	4/27/21
Indiana Recycling Coalition, Inc.	http://indianarecycling.org/	4/28/21

(table cont'd)

Organization	Website	Date Coded
Izaak Walton League of Indiana	https://sites.google.com/view/iwla-indianadivision/	4/28/21
Keep Indianapolis Beautiful	http://www.kibi.org/	4/28/21
Little River Wetlands Project	http://www.lrwp.org/	4/28/21
Mud Creek Conservancy	http://www.mudcreekconservancy.org/	4/28/21
NICHES Land Trust	http://www.nicheslandtrust.org/	4/28/21
Oak Heritage Conservancy	http://www.oakheritageconservancy.org/	4/30/21
Oxbow, Inc.	http://oxbowinc.org/	4/30/21
Red-tail Conservancy	http://fortheland.org/	4/30/21
Robert Cooper Audubon Society	http://www.cooperaudubon.org/	4/30/21
Sassafras Audubon Society	http://www.sassafrasaudubon.org/	4/30/21
Save the Dunes Council	https://savedunes.org/	4/30/21
Shirley Heinze Land Trust	http://www.heinzetrust.org/	4/30/21
Sierra Club - Hoosier Chapter	https://www.sierraclub.org/indiana	5/1/21
South Bend-Elkhart Audubon Society	http://www.sbeaudubon.org/	5/1/21
Sycamore Audubon Society	http://www.sycamoreaudubon.org/	5/1/21
Sycamore Land Trust	https://sycamorelandtrust.org/	5/1/21
Tippecanoe Audubon Society	http://www.tippeaudubon.org/	5/1/21
Valley Watch	http://valleywatch.net/	5/1/21
Wabash Valley Audubon Society	https://www.wabashvalleyaudubonsociety.org/	5/1/21
Wawasee Area Conservancy Foundation	http://wacf.com/	5/1/21
Wesselman Nature Society	https://wesselmanwoods.org/	5/1/21
White River Alliance	https://thewhiteriveralliance.org/	5/1/21
White River Watchers	http://whiteriverwatchers.org/	5/1/21
Whitewater Valley Land Trust	http://www.whitewatervalleylandtrust.org/	5/1/21
Wildcat Guardians	https://wildcatguardians.org/	5/1/21
Wolf Park	http://www.wolfpark.org/	5/1/21

The Dialogic Coding Scheme developed by Taylor et al. (2001) was applied to dichotomously code the websites of each organization in the study sample (see Appendix B for Dialogic Website Coding Datasheet). Dichotomous codes only have two responses. This code requires the content analyzer to mark “yes” or “no” to the presence of each dialogic feature on organizational websites. For data collection, 0 was marked for “no” and 1 for “yes.” The coding

scheme organizes Dialogic Features into categories based on which of the Five Dialogic Principles (ease of use of the interface, usefulness of information, conservation of visitors, generation of return visits, and dialogic loop) are operationalized by the feature. The usefulness of information principle is further divided into usefulness of information to media publics and usefulness of information to volunteer publics. This distinction is made because each group is targeted by different website features since information useful to one group may not be useful to the other (see Appendix C for a complete list of Dialogic Features included in the present study and the definitions used to code these features).

The coding scheme of Taylor et al. (2001) has been adapted for use in other studies related to the use of the Dialogic Principles on organizational websites, such as activist (Kent et al., 2003), environmental (Greenberg & MacAulay, 2009; Uzunoğlu & Kip, 2014), congressional (Taylor & Kent, 2004), university (Gordon & Berhow, 2009), and religious denomination (Wirtz et al., 2013) organizations. By using this Dialogic Coding Scheme, directed content analysis (Lune & Berg, 2017) was conducted on Indiana environmental organizations' websites. This type of content analysis is considered "directed" because it is based on Kent and Taylor's dialogic principles framework. The content analysis should determine which of the Five Dialogic Principles are being utilized and to what extent they are being used. However, because content analysis cannot prove causality (Lune & Berg, 2017), this method cannot explain why certain Dialogic Principles are or are not being used. It is also important to note that the presence of Dialogic Features indicates the potential for dialogue but does not mean dialogue is occurring (Taylor & Kent, 2014).

3.4. Online Survey Procedures

The second data collection method was a survey conducted through an online questionnaire. The survey was selected as a quick and simple way to collect data and generalize conclusions about all Indiana environmental organizations in the study (Drury et al., 2011). The goal of gathering this general information was to aid in forming conclusions. The literature does not show similar surveys being sent to public relations practitioners. Because of this, the questions on the survey instrument (questionnaire) were rooted in some concepts addressed in previous research but were designed specifically for the present study.

The questionnaire (see Appendix D for Online Survey Instrument) included questions that provide general background information on each organization, including organization type, primary funding source, and whether it is employee- or volunteer-run. It also asked questions to gauge the value that these organizations place on their websites as tools for engaging with the public and communicating and achieving their mission. Responses to the online questionnaire provide a broad understanding of the views that Indiana environmental organizations hold about their websites as a tool for dialogue. This general information helped to determine what factors influence the presence or absence of dialogic communication tools on Indiana environmental organizations' websites.

However, the results of this survey cannot provide a nuanced description of the decision-making process or goals that environmental organization leaders have for their websites (Drury et al., 2011). Besides providing further information about the Indiana environmental organizations in the present study, the questionnaire aided in the assessment of dialogic communication. Like the contact attempt sent by Taylor et al. (2001), this survey also served as a technique to help determine if each organization responded to the messages they receive.

Organizations that respond can be considered more dialogic than those who do not respond because dialogic communication requires two-way communication.

Two methods were employed to invite organizations to take part in the survey, depending on the contact information available on the organizations' website. The first method was to distribute the questionnaire by email to all Indiana environmental organizations in the study sample that provided an email address on their website (n=50). The second method was for organizations that did not have a posted email address but included an option to send a message through their website. These organizations were sent a request (through their website messaging system) for a viable email address to which the questionnaire could be sent (n=4). Approximately two and a half weeks after initial contact was made, the invitation to participate was re-sent to organizations who had not yet responded in order to provide a second opportunity for response. Two organizations, Friends of Goose Pond and Valley Watch, were excluded from this part of the study because their websites included no way to contact them electronically.

Chapter 4. Results

4.1. Dichotomous Website Coding

After dichotomous coding of the 56 Indiana environmental organization websites in this study, Dialogic Principle Indices were calculated for each Dialogic Principle. The Dialogic Principle of usefulness of information remained separated into two categories (usefulness of information to media publics and usefulness of information to volunteer publics) during data analysis. Dialogic Principle Indices were calculated using the analysis methods of Taylor et al. (2001). For each Dialogic Principle, the Dialogic Principle Index was calculated by first multiplying the sample size (n = 56) by the number of dialogic features coded in that category (ranging from 3 to 9) to provide the total number of items in the category. The number of "yes" responses in the category was then divided by the total number of items in that category to determine the Dialogic Principle Index, which is represented as a percentage (M) in Table 2. These indices were used to determine the average presence of each Dialogic Principle on Indiana environmental organizations' websites.

The Dialogic Principles ranked from most to least commonly used on websites in this study's sample are usefulness of information to volunteer publics (77%), conservation of visitors (65%), ease of use of the interface (63%), generation of return visits (42%), usefulness of information to media publics (35%), and dialogic loop (34%). Following is a summary of the presence of the specific Dialogic Features composing each Dialogic Principle, as found in the present study.

In the present study, the Dialogic Principle of ease of use of the interface was found to have a Dialogic Principle Index of 63. It was the third most commonly used Dialogic Principle by the websites in this study. This principle was examined through four Dialogic Features.

Table 2. Occurrence of Dialogic Features on Indiana Environmental Organizations' Websites. This table summarizes the data collected in this study for the occurrence of each Dialogic Principle and specific Dialogic Features on websites in the study's sample (n = 56).

Category	n %
Ease of Use of Interface (4 features, 224 items, M = 63)	
Site Map	5
Major Links to Rest of Site	100
Search Engine Box	50
Low Reliance on Graphics	98
Usefulness of Information to Media Publics (6 features, M = 35)	
Press Releases	30
Speeches	0
Downloadable Graphics	2
Audio/Visual Capacity	48
Clearly Stated Positions on Policy Issues	34
Identifies Member Base	95
Usefulness of Information to Volunteer Publics (5 features, M = 77)	
Statement of Philosophy/Mission	100
Details of How to Become Affiliated	91
How to Contribute Money	86
Links to Political Leaders	9
Logo of Organization is Prominent	98
Conservation of Visitors (3 features, M = 65)	
Important Info. Available on 1st Page	95
Short Loading Time (Less Than 4 Seconds)	100
Posting of Last Updated Time and Date	0
Generation of Return Visits (9 features, M = 42)	
Explicit Statement Invites User to Return	2
News Forums (Regularly Scheduled)	4
FAQ's or Q&A's	23
Bookmark Now	0
Links to Other Activist Websites	77
Calendar of Events	68
Downloadable Information	86
Things That Can Be Requested by Mail/E-mail	77
Posting News Stories Within the Last 30 Days	39
Dialogic Loop (4 features, M = 34)	
Opportunity for User Response	55
Opportunity to Vote on Issues	0
Survey to Voice Opinion on Issues	2
Offers Regular Information Through Email	79

Site maps were on five percent of websites in the present study. All sites included major links to the rest of the website on their homepage. Half of the sites included a search engine box, and 98 percent had low reliance on graphics.

Usefulness of information to media publics was found to have a Dialogic Principle Index of 35, making it the second least used Dialogic Principle by the websites in this investigation. This principle was examined through six Dialogic Features. Press releases were found on 30 percent of websites, and no sites included speeches. Two percent of sites included downloadable graphics, and 48 percent had audio and visual capacity. Clearly stated policy issue positions were found on 34 percent of sites, and 95 percent of websites in the present study identified the member base of the organization.

The Dialogic Principle usefulness of information to volunteer publics was found to have a Dialogic Principle Index of 77. It was the most commonly used Dialogic Principle by the Indiana environmental organization websites in this study. This principle was examined through five Dialogic Features. All sites in the present study included a statement of their philosophy and/or mission. Ninety-one percent included information on how to become affiliated with the organization, and 86 percent included information on how to contribute money. Nine percent included links to political leaders, and 98 percent had prominent placement of the organization's logo.

In the present study, the Dialogic Principle of conservation of visitors was found to have a Dialogic Principle Index of 65. It was the second most commonly used Dialogic Principle by the websites in this investigation. This principle was examined through three Dialogic Features. Ninety-five percent of the study sample included important information on the first page of their

website, and 100 percent had a short loading time. None of the websites in this sample posted the date and time the website was most recently updated.

Generation of return visits was found to have a Dialogic Principle Index of 42. It was the fourth most commonly used Dialogic Principle by the websites in this study. This principle was examined through nine Dialogic Features. Two percent of sites included an explicit statement inviting users to return to the website, and four percent had regularly scheduled news forums. Twenty-three percent included FAQ or Q&A sections. No sites in the present study had a "bookmark now" button. Seventy-seven percent of sites included links to other activist websites (e.g., other environmental organizations), and 68 percent included a calendar of events. Downloadable information was available on 86 percent of sites, and 77 percent had items that could be requested by mail (e.g., newsletters). Thirty-nine percent of websites in this study had posted news stories within the last 30 days.

Finally, the dialogic loop was found to have a Dialogic Principle index of 34. It was the least commonly used Dialogic Principle by the websites in this study. This principle was examined through four Dialogic Features. Fifty-five percent of organizations in the present study provided an opportunity for user response on their websites, but none provided an opportunity to vote on issues. Two percent of sites offered surveys for the public to voice their opinions on issues, and 79 percent offered regular information through e-mail.

4.2. Comparing Current Data to Former Research

To determine how the results of the present study compare to the results of Taylor et al. (2001), one-sample proportion tests were conducted using the results of the present study as the observed proportion and the results of Taylor et al. (2001) as the expected proportion. Hypotheses were developed for each Dialogic Principle and Dialogic Feature under the

assumption that the results of the present study would match prior research (ex: $H1_o$: P_sitemap = 0.38 ; $H1_a$: P_sitemap ≠ 0.38). Z-scores were used to calculate the p-values. A 95 percent confidence interval was used to determine significance ($\alpha = 0.05$). For each Dialogic Principle or Feature with a p-value greater than 0.05, it was concluded that the results of the present study and the results of Taylor et al. (2001) are similar. For each Dialogic Principle or Feature with a p-value less than 0.05, it was concluded that the results of the present study and the results of Taylor et al. (2001) are significantly different. Table 3 contains the results of the one-sample proportion test for each Dialogic Principle, with the Dialogic Principle of usefulness of information still separated into two categories (usefulness of information to media publics and usefulness of information to volunteer publics).

According to the one-sample proportion test, most of the Dialogic Principles were found to be in approximately the same proportions on websites of Indiana environmental organizations included in the present study as they were on websites of the activist organizations in Taylor et al. (2001). Five of the Dialogic Principles exhibit p-values greater than 0.05, signifying that the results of the two studies for these Principles are likely similar. The differences between these similarly present Dialogic Principles from Taylor et al. (2001) to the present study are as follows: ease of use of interface (-4%), usefulness of information to media publics (-13%), usefulness of information to volunteer publics (-4%), conservation of visitors (+2%), and generation of return visits (-2%). One Dialogic Principle, dialogic loop, showed a statistically significant decrease of 14 percent from Taylor et al. (2001) to the present study. It is interesting to note that five of the six Dialogic Principles decreased from Taylor et al. (2001) to the present study.

The Dialogic Principle ease of use of the interface is represented by four Dialogic Features on organizational websites. The one-sample proportion test for ease of use of the

Table 3. One-Sample Proportion Test for All Dialogic Principles.
This table shows the results of a one-sample proportion test comparing the results of the present study (observed proportion) to the results of Taylor et al. (2001) (expected proportion) for each of the Dialogic Principles. $\alpha = 0.05$

Dialogic Principle	Observed Proportion(%)	Expected Proportion (%)	Z-score	p-value	Conclusion
Ease of Use of Interface	63	67	-0.574067532	0.565922103	=
Usefulness of Information to Media Publics	35	48	-1.899931218	0.057442147	=
Usefulness of Information to Volunteer Publics	77	81	-0.81873539	0.412937401	=
Conservation of Visitors	65	63	0.337483085	0.735752761	=
Generation of Return Visits	42	44	-0.351834078	0.7249627	=
Dialogic Loop	34	48	-2.033729191	0.041978907	≠

interface features (Table 4) indicated that two of these Dialogic Features were similar between Taylor et al. (2001) and the present study, while two were significantly different. Major links to the rest of the site (+1%) and the presence of a search engine box (+6%) both appeared in similar proportions between the two studies. The presence of a site map (-33%) and low reliance on graphics (+11%) differed significantly between the two studies.

Table 4. One-Sample Proportion Test for Ease of Use of the Interface Features.
This table shows the results of a one-sample proportion test comparing the results of the present study (observed proportion) to the results of Taylor et al. (2001) (expected proportion) for the Dialogic Features representing the ease of use of the interface principle. $\alpha = 0.05$

Dialogic Feature	Observed Proportion (%)	Expected Proportion (%)	Z-score	p-value	Conclusion
Site Map	5	38	-5.032624585	4.8381E-07	≠
Major Links to Rest of Site	100	99	0.752101433	0.451990062	=
Search Engine Box	50	44	0.904534034	0.365712296	=
Low Reliance on Graphics	98	87	2.495366427	0.012582712	≠

The Dialogic Principle usefulness of information to media publics is represented by six Dialogic Features on organizational websites. When comparing the present study to Taylor et al. (2001), all the Dialogic Features for this Dialogic Principle were found in significantly different proportions (Table 5). There was a decrease in the presence of the following usefulness of information to media publics Dialogic Features from Taylor et al. (2001) to the present study: press releases (-30%), speeches (-22%), downloadable graphics (-16%), and clearly stated positions on policy issues (-65%). Significant increases were found in the presence of audio/visual capacity (+43%) and identification of member base (+14%) on the Indiana environmental websites included in the present study.

Table 5. One-Sample Proportion Test for Usefulness of Information to Media Publics Features. This table shows the results of a one-sample proportion test comparing the results of the present study (observed proportion) to the results of Taylor et al. (2001) (expected proportion) for the Dialogic Features representing the usefulness of information to media publics principle. $\alpha = 0.05$

Dialogic Feature	**Observed Proportion (%)**	**Expected Proportion (%)**	**Z-score**	**p-value**	**Conclusion**
Press Releases	30	60	-4.528021222	5.95386E-06	≠
Speeches	0	22	-3.974276261	7.05936E-05	≠
Downloadable Graphics	2	18	-3.158265646	0.001587109	≠
Audio/Visual Capacity	48	5	14.83797202	0	≠
Clearly Stated Positions on Policy Issues	34	99	-48.94031468	0	≠
Identifies Member Base	95	81	2.602435863	0.009256413	≠

The Dialogic Principle usefulness of information to volunteer publics is represented by five Dialogic Features. Four of these Features were found in similar proportions in the present study compared to Taylor et al. (2001) (Table 6). Statement of philosophy/mission and details of how to become affiliated with the organization were found in exactly the same proportions between the two studies. How to contribute money (+6%) and prominent

placement of the organization's logo (+3%) both saw statistically insignificant increases from Taylor et al. (2001) to the present study. One usefulness of information to volunteer publics Dialogic Feature, links to political leaders (-30%), saw a significant decrease from Taylor et al. (2001) to the present study.

Table 6. One-Sample Proportion Test for Usefulness of Information to Volunteer Publics Features.
This table shows the results of a one-sample proportion test comparing the results of the present study (observed proportion) to the results of Taylor et al. (2001) (expected proportion) for the Dialogic Features representing the usefulness of information to volunteer publics principle.
$\alpha = 0.05$

Dialogic Feature	**Observed Proportion (%)**	**Expected Proportion (%)**	**Z-score**	**p-value**	**Conclusion**
Statement of Philosophy/ Mission	100	100	0	1	=
Details of How to Become Affiliated	91	91	0.018677727	0.985098196	=
How to Contribute Money	86	82	1.071305968	0.284031877	=
Links to Political Leaders	9	39	-4.613715946	3.95533E-06	≠
Logo of Organization is Prominent	98	95	1.103650811	0.269744641	=

The Dialogic Principle conservation of visitors is represented by three Dialogic Features. These features were found in significantly different proportions between Taylor et al. (2001) and the present study (Table 7). The presence of important information on the first page of the website (+54%) and a short loading time of less than four seconds (+13%) both saw significant increases from Taylor et al. (2001) to the present study. There was a significant decrease in posting the last updated date and time (-54%) between the two studies.

Table 7. One-Sample Proportion Test for Conservation of Visitors Features.
This table shows the results of a one-sample proportion test comparing the results of the present study (observed proportion) to the results of Taylor et al. (2001) (expected proportion) for the Dialogic Features representing the conservation of visitors principle. $\alpha = 0.05$

Dialogic Feature	**Observed Proportion (%)**	**Expected Proportion (%)**	**Z-score**	**p-value**	**Conclusion**
Important Info. Available on 1st Page	95	41	8.161838192	2.22045E-16	≠
Short Loading Time (Less Than 4 Seconds)	100	87	2.892717769	0.003819243	≠
Posting of Last Updated Time and Date	0	54	-8.107967096	5.14737E-16	≠

The Dialogic Principle generation of return visits is represented by nine Dialogic Features, four of which were similar between the two studies and five of which significantly differed in proportions (Table 8). The following generation of return visits Dialogic Features were found to be in similar proportions between the two studies: FAQ or Q&A (-5%), "bookmark now" button (-1%), links to other activist websites (+4%), and a calendar of events (-8%). There were significant decreases in the presence of four generation of return visits Dialogic Features from Taylor et al. (2001) to the present study: explicit statement inviting users to return (-14%), regularly scheduled news forums (-17%), things that can be requested by mail or e-mail (-17%), and posting news stories within the last 30 days (-15%). Downloadable information (+53%) exhibited a significant increase in presence between the two studies.

Table 8. One-Sample Proportion Test for Generation of Return Visits Features.
This table shows the results of a one-sample proportion test comparing the results of the present study (observed proportion) to the results of Taylor et al. (2001) (expected proportion) for the Dialogic Features representing the generation of return visits principle. $\alpha = 0.05$

Dialogic Feature	**Observed Proportion (%)**	**Expected Proportion (%)**	**Z-score**	**p-value**	**Conclusion**
Explicit Statement Invites User to Return	2	16	-2.901478922	0.003714058	≠
News Forums (Regularly Scheduled)	4	21	-3.202083193	0.001364376	≠
FAQ's or Q&A's	23	28	-0.797619048	0.425091594	=
Bookmark Now	0	1	-0.752101433	0.451990062	=
Links to Other Activist Websites	77	73	0.638114385	0.523399223	=
Calendar of Events	68	76	-1.426784597	0.153641992	=
Downloadable Information	86	33	8.389343336	0	≠
Things That Can Be Requested by Mail/E-mail	77	96	-6.655645652	2.82059E-11	≠
Posting News Stories Within the Last 30 Days	39	54	-2.209313786	0.027152823	≠

The Dialogic Principle dialogic loop is represented by four Dialogic Features. All four of these Features were found in significantly different proportions between the two studies (Table 9). Three of the dialogic loop Dialogic Features exhibited a significant decrease from Taylor et al. (2001) to the present study: opportunity for user-response (-39%), opportunity to vote on issues (-44%), and survey to voice opinions on issues (-44%). The Dialogic Feature of offering regular information through e-mail (+73%) showed a significant increase between the two studies.

Table 9. One-Sample Proportion Test for Dialogic Loop Features.
This table shows the results of a one-sample proportion test comparing the results of the present study (observed proportion) to the results of Taylor et al. (2001) (expected proportion) for the Dialogic Features representing the dialogic loop principle. $\alpha = 0.05$

Dialogic Feature	**Observed Proportion (%)**	**Expected Proportion (%)**	**Z-score**	**p-value**	**Conclusion**
Opportunity for User-Response	55	94	-12.17653415	4.14526E-34	≠
Opportunity to Vote on Issues	0	44	-6.633249581	3.28376E-11	≠
Survey to Voice Opinion on Issues	2	46	-6.638666181	3.16534E-11	≠
Offers Regular Information Through Email	79	6	22.86757614	0	≠

4.3. Online Survey Response Rate

Fifty-four organizations in this study's sample had an e-mail address or in-website messaging service. Seventeen of these 54 organizations responded to the online questionnaire that was distributed via e-mail or the in-websites messaging service, when e-mail was not available. Twelve of these organizations replied to the first invitation to participate. Of these 12, 10 took part in the questionnaire, one declined to participate, and one said they would like to participate but did not complete the questionnaire. Of the five organizations which responded after a second (follow-up) invitation, three completed the questionnaire, one declined to take part, and one said they would like to participate but did not complete the questionnaire.

Dialogic Principle Indices were calculated for two sub-sets of organizations in this study's sample using the analysis methods of Taylor et al. (2001) for each Dialogic Principle. The first set of organizations includes the 39 Indiana environmental organizations that did not reply to the invitation to participate in the online questionnaire. The second set of organizations includes the 17 Indiana environmental organizations that replied to the invitation to participate.

The Dialogic Principle Indices for these two sets of organizations are listed in Table 10. Also included in Table 10 are the results of one-sample proportion tests comparing the proportions of the presence of each Dialogic Principle between organizations that did or did not reply to the message. The Dialogic Principle Indices for organizations that did not reply to the message are used as the expected proportion, and Dialogic Principle Indices for organizations that did reply are used as the observed proportion.

The conclusions for each Dialogic Principle in the one-sample proportion tests summarized in Table 10 were that they were all found in similar proportions. This means that there is no significant difference in the presence of the Dialogic Principles on websites of Indiana environmental organizations that replied to the online questionnaire message compared to those that did not reply. Though the differences were insignificant, the following Dialogic Principles were found in lower proportions on the websites of organizations which responded to the message: ease of use of interface (-6%), usefulness of information to media public (-4%), and conservation of visitors (-3%). Slightly higher presence of Dialogic Principles was found on the websites of responding organizations for usefulness of information to volunteer publics (+4%) and generation of return visits (+3%). There was no difference in Dialogic Principle Index for the dialogic loop principle.

Table 10. One-Sample Proportion Test for Use of Dialogic Principles by Online Survey Respondents.

One-sample proportion test comparing the presence of the Dialogic Principles on websites of organizations that responded to the invitation to take part (observed proportion) to the websites of organizations that did not respond to the invitation to participate (expected proportion). A= 0.05

Dialogic Principle	**Observed Proportion (%)**	**Expected Proportion (%)**	**Z-score**	**p-value**	**Conclusion**
Ease of Use of Interface	59	65	-0.941357449	0.346521712	=
Usefulness of Information to Media Publics	32	36	-0.623609564	0.532884028	=
Usefulness of Information to Volunteer Publics	80	76	0.700876644	0.483380001	=
Conservation of Visitors	63	66	-0.473918696	0.635557886	=
Generation of Return Visits	44	41	0.456454333	0.648063303	=
Dialogic Loop	34	34	0	1	=

Chapter 5. Discussion

5.1. Presence of Dialogic Features on Indiana Environmental Organizations' Websites

The results of the present study indicate that the Indiana environmental organizations in this sample do not fully use Dialogic Features on their websites. The websites did not include many Dialogic Features, leaving a potential for greater dialogic capacity on these sites if more Dialogic Features are employed. Only one of the Dialogic Principles, usefulness of information to volunteer publics, had an average presence of over three-quarters on the websites in this sample. The usefulness of information to media publics and generation of return visits principles were found to have an average presence of less than 50 percent. The ease of use of the interface and conservation of visitors principles also had relatively low average presence. Most significantly, the data indicated a Dialogic Principle Index of only 34 percent for the dialogic loop principle. Because many of the Dialogic Features coded in the present study were used at low levels or not at all, it can be concluded that the Indiana environmental organizations in this study do not fully optimize the Dialogic Principles on their websites. It is important to note that presence of the Dialogic Principles is only an indicator of the capacity for dialogic communication. The presence of Dialogic Features associated with the Principles does not inherently mean dialogic communication is occurring. Still, Indiana environmental organizations wishing to improve their capacity for dialogue have several options for adding more Dialogic Features to their websites.

The finding that the sample of websites in this study averaged only 34 percent presence of dialogic loop features is especially significant in determining the sites' dialogic capacity because the dialogic loop has been deemed the most important Dialogic Principle. Websites cannot be fully dialogic without including features associated with the dialogic loop because they are points of contact for dialogue to occur on websites (Taylor et al., 2001). The average

presence of dialogic loop features was relatively low for the websites in this study. The most common type of dialogic loop feature was for organizations to offer regular information through e-mail (79%), which took the form of a scheduled newsletter or e-mail updates. Though included as a feature supporting the dialogic loop, providing information regularly is considered a broadcast method of communication unless the public is responding directly to the information it is receiving. Because offering regular information by e-mail is primarily a form a broadcast communication, the main benefit this feature has for dialogic communication is the potential for sharing topics for future dialogue. The other three Dialogic Features in the dialogic loop category offer more direct opportunities for the public to voice their opinions to the organization, making these features more dialogic.

Just over half of the sites included an opportunity for users to respond to the organization directly on the website (55%). Only 2 percent offered public surveys, and no websites in the present study provided an opportunity for the public to vote on issues. This very low presence of Dialogic Features associated with the dialogic loop is an indicator of low dialogic capacity of Indiana environmental organization websites in the present study. The finding that dialogic loop features are some of the lowest on organizational websites is also consistent with previous studies (Gordon & Berhow, 2009; Taylor et al., 2001; Taylor & Kent, 2004).

The most common Dialogic Principle on this study's websites was usefulness of information to volunteer publics (77%). With slightly over three-quarters on average, this Dialogic Principle appears to be the most important to Indiana environmental organizations. It is possible that these websites have a larger presence of Dialogic Features attributed to the Dialogic Principle usefulness of information to volunteer publics because many of the environmental organizations in this study rely on the public to participate voluntarily in relevant activities or to

make monetary donations in order to accomplish their organizational mission. This idea is supported because only nine percent of organizations' websites included links to political leaders, while the other four Dialogic Features within this category were present relatively more frequently among the websites: statement of philosophy/mission (100%), details of how to become affiliated (91%), how to contribute money (86%), and prominent placement of the logo (98%). Mission, affiliation, and monetary contribution are all ways to get the public involved and engaged in the organization to support it. As a visual symbol, the logo can be helpful in making the organization easily recognizable and, hopefully, memorable. Meanwhile, since many of this study's organizations are not politically oriented, directing the public to political leaders is not useful for the organizations to accomplish their missions.

5.2. Comparisons with Prior Research

A major foundation of the present study is the work conducted by Taylor et al. (2001). The same coding scheme was used in both studies, 20 years apart, resulting in some interesting comparisons. For each Dialogic Principle, a one-sample proportion test was conducted. The results of this analysis indicated that only one Dialogic Principle, dialogic loop (-14%), differed significantly between the two studies. The results of this analysis also showed that the following Dialogic Principles appeared in relatively similar proportions between the two studies: ease of use of interface (-4%), usefulness of information to media publics (-13%), usefulness of information to volunteer publics (-4%), conservation of visitors (+2%), and generation of return visits (-2%).

The significant difference found in the dialogic loop principle is especially important to the results of the present study because of the vital role the dialogic loop plays in developing the capacity for dialogue on organizational websites. There was a 14 percent average decrease in the

presence of Dialogic Features associated with the dialogic loop between Taylor et al. (2001) and the present study. Large decreases in presence were found for the Dialogic Features opportunity for user-response (-39%), opportunity to vote on issues (-44%), and survey to voice opinions on issues (-44%). These are the only Dialogic Features included in the study (besides regularly scheduled news forums under the generation of return visits Principle) through which individuals can directly voice their opinions and converse with members of the organization and the public. Without these three Dialogic Features, most of the websites in the present study have a very low capacity for dialogue.

It is unclear why Dialogic Features related to the dialogic loop would decrease in usage over time, since public relations researchers contend organizations should use dialogic communication on their websites to help build relationships with the public (Kent et al., 2003), have a positive influence on audience engagement and attitude (Watkins, 2017), and improve the financial viability of nonprofit organizations (Levine & Zahradnik, 2012), among other benefits. It is possible that the observed decrease in presence of these three dialogic loop features result from differences in the type of organizations analyzed in the present study sample compared to those of Taylor et al. (2001). While the present study was focused specifically on Indiana environmental organizations, the Taylor et al. (2001) study sample comprised a broader array of environmental activist organizations (e.g., national and international environmental organizations) that could have placed a higher priority on these three dialogic loop features. It is also possible that in the 20 years since the Taylor et al. (2001) study, organizations moved further away from including these features on their websites.

Though these three key dialogic loop features decreased in presence, the final dialogic loop feature (offering regular information through email) increased significantly. Seventy-three

percent more organizations offer information through email in the present study compared to Taylor et al. (2001). One explanation for this finding is the increase in members of the public who frequently use e-mail for work and in their daily lives. As stated previously, many of the Indiana environmental organizations in this study's sample rely on individual members of the public for donations and as volunteers. Therefore, with more people using e-mail, it seems reasonable to expect these organizations to send newsletters and updates through this digital communication channel to increase information dissemination.

Within the Dialogic Principle of ease of use of the interface, there were significant differences in the presence of a site map (-33%) and low reliance on graphics (+11%) between two studies. While Taylor et al. (2001) found that 38 percent of organizations they studied included a site map, only five percent of organizations in the present study exhibited this Dialogic Feature on their websites. This difference could be attributed to a general decrease in public-facing site maps across most websites, but this potential trend needs further empirical study. The increase in low reliance on graphics between the two studies could result from the organizations studied, specifically because most of the Indiana environmental organizations in the present study's sample featured photos of nature rather than graphics (e.g., digital designs). This could also result from differences in coding method, as the present study did not include the graphic design of the website in determination of coding this feature.

Similarities were also found in some of the Dialogic Features related to ease of use of the interface. Both studies found about half the sites to include search engine boxes. In the present study, all websites included major links to the rest of the site on their homepage, and only one site did not include this Dialogic Feature in Taylor et al. (2001). This ubiquitous influential

presence indicates the importance of including major links on the homepages of organizational websites.

All Dialogic Features associated with usefulness of information to media publics were found to be significantly different between the present study and Taylor et al. (2001). On average, the presence of features showing this Dialogic Principle decreased from Taylor et al. (2001) to the present study. Three significant contributors to this decrease were press releases (-30%), speeches (-22%), and clearly stated positions on policy issues (-65%). It is likely that the type of organizations studied impacted these results. While Taylor et al. (2001) studied an array of nonprofit, advocacy organizations, the present study was limited to environmental organizations. It is likely that the organizations Taylor et al. (2001) studied were more politically involved and therefore more inclined to include these Dialogic Features than the present study. One decrease that was puzzling was the drop in websites offering downloadable graphics (-16%), such as their logo, for the media. To attract media attention more effectively, it would make sense for organization to make their graphics materials more accessible, but that does not seem to be the case.

Despite the general trend of decreasing presence of Dialogic Features in the usefulness of information to media publics category, there was an enormous increase in audio and visual capacity on websites (+43%). Twenty years of technological advances, including easing the process of video creation and upload, are likely a large contributor to this change. The increase in identification of member base (+14%) could result from the type of organizations being studied or a general increase in the amount of information provided by organizations on their websites.

Only one Dialogic Feature representing usefulness of information to volunteer publics was found to change significantly between the two studies. Links to political leaders (-30%)

decreased significantly from Taylor et al. (2001) to the present study. This decrease is unsurprising because Taylor et al. (2001) studied an array of activist environmental organizations that could be likely to include more politically focused organizations than the present study. The more politically active an organization is, the more advantageous it is for that organization to include links to political leaders on their websites. Therefore, the less politically active organizations in the present study would be less likely to include this feature.

Meanwhile, the other four Dialogic Features included within the usefulness of information to volunteer publics principle are more focused on providing valuable information to the public. A statement of the philosophy/mission of the organization (no change), information on how to become affiliated (no change) or contribute money (+6%), and prominence of the organization logo (+3%) are all valuable features in helping to inform and engage the public. They facilitate public understanding, recognition, and participation in the organization, which seems vital for the Indiana environmental organizations in the present study because many rely on support from the public to accomplish their missions.

All Dialogic Features signifying the conservation of visitors principle were found in significantly different proportions from Taylor et al. (2001) to the present study. The largest differences were detected in the presence of important information (e.g., upcoming events, organization mission, membership information, etc.) on the first page of the website (+54%) and posting of the last updated time and date (-54%). As the Internet continues to grow in popularity and individuals' attention spans continue to decrease, the need to ensure that important information is posted on the first page of the website is likely increasing. It is likely that this is at least part of the reason there was such a sharp increase in the presence of important information on the first page from Taylor et al. (2001) to this study. As for the significant decrease in posting

of the last updated time and date, the present study only marked this Dialogic Feature as present if it was located on the first page of the website. The present study also did not include dates posted on the websites' news stories towards this feature. It is unclear how Taylor et al. (2001) defined and coded this feature, so it is possible that a methodological difference could account for the significant variation in the presence of posting the last updated time and date for the website. The significant increase in websites featuring a short loading time (+13%) is likely the result of improved Internet technology developed over the past 20 years.

Five of the Dialogic Features associated with the generation of return visits principle differed significantly between Taylor et al. (2001) and the present study. Four of these features experienced significant decreases: explicit statement inviting users to return (-14%), regularly scheduled news forums (-17%), things that can be requested by mail or e-mail (-17%), and posting news stories within the last 30 days (-15%). Explicit statements inviting users to return to the site may simply be a feature that website owners do not see as vital and therefore do not use as frequently. The lack of regularly scheduled news forums appears to have two likely causes. One is that many of the sites in the present study do not include the ability to comment on news postings, which is a requirement for a news forum. Another reason is that many sites in the present study post irregularly, according to news article posting dates observed during the research process. This reason is also a likely cause for the significant decrease in posting news stories within the last 30 days. It is possible that many Indiana environmental organizations may not have the personnel or frequent updates necessary to sustain a regular news forum. The significant decrease in things that can be requested by e-mail is perplexing because this feature would be expected to increase as the public increases their use of e-mail. It is also possible that

this difference is related to differences in organizations studied or differences in the way this feature was coded between studies.

Conversely to the previously mentioned generation of return visits features, the presence of downloadable information (+53%) increased significantly from Taylor et al. (2001) to the present study. There are several possible explanations for this difference. Because the present study focused on environmental organizations, many websites included items like trail maps for the public to download, which may not have been present on the organization websites studied by Taylor et al. (2001). Another reason could be that newsletters might be more common now, and most websites with newsletters in the present study offered the ability to download these newsletters. Finally, in the 20 years since the Taylor et al. (2001) study, it is likely that faster download speeds and technological improvements in website capabilities could have fostered easier use of this feature.

Finally, four of the Dialogic Features associated with the generation of return visits principle were found in similar proportions between the two studies. In both studies, the "bookmark now" button (-1%) was practically nonexistent. It was only found on one website in the Taylor et al. (2001) study and on no websites in the present study, indicating that website owners do not see it as a valuable feature. A FAQ or Q&A (-5%) feature was also found in relatively low proportions in both studies, while there was relatively high presence of links to other activist websites (+4%) and a calendar of events (-8%). The similarities in low or high presence, respectively, of these features show their relative importance to nonprofit organizations' websites.

5.3. Dialogic Principles and Survey Response Rates

When comparing organizations that replied to the invitation to take part in the online survey to those that did not reply, no significant differences were found in their Dialogic Principle Indices for any Dialogic Principle. The slight differences that were identified exhibit no particular pattern. Usefulness of information to volunteer publics (+4%) and generation or return visits (+3%) occurred slightly more frequently in organizations that responded to the message, and ease of use of interface (-6%), usefulness of information to media public (-4%), and conservation of visitors (-3%) occurred slightly less frequently. Most notably, there was no difference between the presence of the dialogic loop principle when comparing the two groups of organizations. The overall lack of difference suggests that there is no correlation between the presence of the Dialogic Principles on websites and message response rates for the Indiana environmental organizations in the present study.

In theory, organizations that use the Dialogic Principles on their websites should be more likely to engage in dialogic communication online (Kent & Taylor, 1998). Therefore, it is reasonable to expect organizations with more Dialogic Features on their websites to be more likely to respond to the invitation to participate in this study's survey. However, that expectation did not seem to play out in the present study. Instead, the lack of correlation between Dialogic Principle Indices and responses to the survey invitation is a sign that the present Dialogic Coding Scheme may not be an effective way to measure dialogic communication. As stated previously, the Dialogic Features coded in this study are merely a tool for examining the dialogic capacity of a website (Taylor et al., 2001). Despite this limitation, it is within reason to expect the current Dialogic Coding Scheme to provide some indication of a website's use of dialogic communication. Since this type of sign is not discernible in the present study, capacity for

dialogue may not affect actual dialogue between an organization and its publics significantly. If this is the case, it would not be useful for future studies on dialogic communication on websites to code for Dialogic Features since that information would not show a higher or lower chance of dialogue occurring.

Alternatively, it is possible that throwing out the Dialogic Coding Scheme altogether would be foolhardy. Perhaps some of the current Dialogic Features are simply not well-suited as indicators of dialogic communication and there are other website features that may be a better fit for this type of research. There may also be alternative coding strategies that would be more effective. In the following section of this thesis, other studies, coding schemes, and website features will be examined in order to propose an improved Dialogic Coding Scheme that can be applied in future research.

5.4. Suggested Updates to the Dialogic Coding Scheme

When considering updates to the Dialogic Coding Scheme developed by Taylor et al. (2001), there are a few examples from previous research that can offer guidance. One such example is from Taylor and Kent. When specifically studying the websites of congressional offices, Taylor and Kent (2004) altered their coding scheme in order to fit their study sample more closely. They first changed the structure of categories from the Five Dialogic Principles to a series of indices: ease of use index, usefulness of information index, timeliness of information index, interactivity index, and return visits index (Taylor & Kent, 2004). Mostly, their altered coding scheme merely reorganized Dialogic Features within these sections, perhaps to refine their original coding scheme from Taylor et al. (2001). However, they also added additional features specific to the congressional website sample they were studying. One of the largest changes was adding “citizen” as a sub-section under the usefulness of information index. This

new “citizen” section included the following website features: bilingual and multilingual options, indication of the congressional representative’s committee assignments, a kids’ section, tourist information, and clearly stated positions on policy issues (Taylor & Kent, 2004). These added features allowed the new coding scheme to address the political and public-serving focus of the studied congressional office websites more adequately.

Two other examples of Dialogic Coding Schemes that were tailored to fit the study sample are from the work of Gordon and Berhow (2009) and Wirtz et al. (2013). Gordon and Berhow coded the websites of universities. To better focus their coding scheme, they added features that appealed to prospective university students directly, such as pictures of students or the campus; links to admission information on the homepage; a place to sign up for an appointment or tour; and lists of majors, minors, clubs, and activities (Gordon and Berhow, 2009). The research of Wirtz et al. (2013) was focused on the websites of United States-based religious denominations affiliated with the National Council of Churches and the National Association of Evangelicals. Wirtz et al. (2013) applied the Five Dialogic Principles as their coding categories, like Taylor et al. (2001). However, some of the specific features were altered, added, or deleted. Most significantly for their sample, Wirtz et al. (2013) split the usefulness of information category into three sub-sections that were specifically related to the religious study sample: members and adherents, ministers or pastors, and media.

These examples of altered coding schemes in the literature provide a precedence for changing the organization of the coding scheme and for choosing the specific Dialogic Features to be coded based on the sample. One study on environmental nonprofit websites was found to have done this previously. Uzunoğlu & Kip (2013) examined 50 Turkish environmental nonprofit organizations, and in doing so they altered the Taylor et al. (2001) coding scheme

slightly. They used the same categorization as Taylor et al. (2001) and the present study. For the ease of use of interface principle, they removed low reliance on graphics and added language options and direct press room links as Dialogic Features. For the usefulness of information to media publics principle, they removed speeches, combined audio/visual capacity with downloadable graphics, and added the history of the nonprofit organization and direct links to a representative of the organization. For the usefulness of information to volunteer publics principle, they removed links to political leaders and added publications and a press archive. For the conservation of visitors principle, they removed short loading time. For the generation of return visits principle, they removed an explicit statement inviting users to return and added terms of privacy. The biggest changes in the coding scheme of Uzunoğlu & Kip, (2013) were found in the dialogic loop Principle. Regarding this principle, they deleted surveys and added several Dialogic Features related to the organization's adoption of social media: access to social network accounts, active social network accounts, and opportunities to "like" items and "share" news.

These changes, except for social media adoption, appear to primarily be semantic differences between the coding schemes used by Uzunoğlu & Kip (2013) and Taylor et al. (2001). Unlike the changes made by dialogic coding studies completed on congressional office (Taylor & Kent, 2004), university (Gordon & Berhow, 2009), and religious denomination (Wirtz et al., 2013) websites, Uzunoğlu & Kip (2013) do not appear to have made any alterations that are specific to the environmental organizations they studied. This could be because Taylor et al. (2001)'s original study focused on activist environmental organizations, similar to the Uzunoğlu & Kip (2013) study. However, there are some features that could be added to examine environmental organizations more adequately and specifically. Some examples of features

recommended to include in future studies of environmental organizations are volunteer sign ups, parks information (i.e. maps, amenities, etc.), nature and/or animal photos, campaign or project details, and environmental science facts. Many of these features already exist on the websites in the present study but were not included in the present coding scheme. Adding these to further research on environmental organization websites would help tailor the Dialogic Coding Scheme to include more relevant features.

Ultimately, however, using a different Dialogic Coding Scheme for every type of organization makes it difficult to compare results across different organizations. Many of the Dialogic Features in the various coding schemes mentioned above are focused on how the website is managed or what information is shared. These features help to support dialogue because a readily accessible and user-friendly platform and information about the organization is needed to conduct dialogue, but they are not where the dialogue takes place. As noted by Taylor et al. (2001), the dialogic loop features are most important because if they do not exist, there is no digital location for dialogue to occur. High scores for other features coded in the present study and previous studies are meaningless for dialogue if they are paired with low scores for dialogic loop features.

Together, the findings of the present study indicate a need to develop a universal coding scheme for organizational websites that is dialogue-focused. This proposed dialogue-focused coding scheme has two vital parts. The first part is the Dialogic Features. It is recommended that the following features remain part of the coding scheme: opportunity for user response, opportunity to vote on issues, survey to voice opinions on issues, and regularly scheduled news forums. It is also suggested that online chats, direct contact information for organization personnel, and links to social media accounts be added as features to the coding scheme. All

other features used by Taylor et al. (2001) or other previous studies are recommended to be deleted from the coding scheme. Again, the presence of the features suggested here can be used only to indicate the capacity for dialogue. The capacity for dialogue means little if the features resulting in this capacity are not being used by the organization or the public.

The second part of the proposed coding scheme is to require evidence that these Dialogic Features are used in order to code for the presence of them. For example, when coding for regularly scheduled news forums, the news forum should be present and there should be comments from the public and organization representatives, forming a dialogue about the posted news story. Another example would be to examine the interactivity (e.g., likes, shares, comments, etc.) on social media sites linked to by the website. An additional way to code for actual dialogue would be for the researcher to interact with these features directly and to monitor responses (or lack thereof) from the organization. This procedure should help to ensure that the coded data correlates with the actual occurrence of dialogue on organizational websites.

5.5. Study Limitations and Recommendations for Future Research

One of the main limitations in much of the public relations literature pertaining to dialogic communication, including this study, is that coding scheme studies only show a capacity for dialogue, not the actual occurrence of dialogue. This is because the Dialogic Coding Schemes used in this study and prior research rarely include thorough methods of analyzing the occurrence of dialogue. Additionally, many coding schemes that have been used, including the one in this study, include several features that are not directly related to the occurrence of dialogue, which limit their capacity to focus on examining dialogue deeply.

A next step for this type of research that could help overcome these limitations would be to apply the Dialogic Coding Scheme and method as just described. By only coding for features

that dialogue occurs through (e.g., opportunity for user response, opportunity to vote on issues, survey to voice opinion on issues, regularly scheduled news forums, online chats, direct contact information for organization personnel, and links to social media accounts) and requiring evidence of use of these features, it should be possible to determine the dialogic nature of an organization's website more accurately. The suggested coding scheme must be tested and refined, a process that would involve in-depth examination of each Dialogic Feature and its relationship to the occurrence of dialogue to determine if the feature is valuable for indicating dialogic communication on organizational websites. Once it is tested and refined, this updated Dialogic Coding Scheme can apply to the websites of different organizations (e.g., environmental, political, religious, educational, etc.) as a universal coding scheme to detect dialogic communication and for comparative analysis.

The use of a universally updated Dialogic Coding Scheme, like the one proposed in this thesis, would be especially beneficial in another potential area for further research. A limitation of this study was that only one type of organization (e.g., environmental) was studied as a broad category. Some prior studies have compared the use of dialogic communication on websites by specific types of organizations by separating them by their primary goal, like whether an organization is watchdog or membership-based (Greenberg & MacAulay, 2009). Comparisons such as these could be expanded to a broader array of organization types. For example, within the environmental field, comparisons in the use of dialogue on the websites of nonprofit, for-profit, and government organizations could help determine if there are any patterns based on environmental organization type. Comparisons could also be made between unrelated organization types (e.g., for-profit corporations vs. nonprofits), locations where the organizations operate (e.g., environmentally friendly or not environmentally active communities), or other

characteristics (e.g., organization size). Similarities and differences in dialogic communication found by comparing different organization types would contribute valuable insights to the field of public relations to determine how specific groups' approach interaction with their target audiences. The findings could lead to even further investigation into why these similarities or differences exist and what the most advantageous engagement and communication methods might be for specific types of organizations, depending on their target audience, feedback needs, or other factors.

Another limitation of this study was that is focused entirely on the websites of environmental organizations. No attention was given to any other aspect of their online presence due to time constraints and in order to analyze the websites more deeply and thoroughly. Therefore, another avenue for further research regarding dialogic communication on the Internet would be to examine the use of social media networking sites by organizations. One respondent to the online survey conducted in the present study said in an email, "we often get much more response directly with the public on social media platforms." Many of the Indiana environmental organizations in this study's sample were observed to include links to their social media accounts on their websites. However, collecting data about social media was beyond the scope of the present study.

It is possible that some of these organizations engage in more dialogue with their stakeholders and the public through their social media accounts than they do through their websites. Because of this, it would be interesting to content analyze the social media accounts of the Indiana environmental organizations in this study to see if there is a difference in the number of Dialogic Features used. This could be accomplished by applying the social media coding schemes developed by other researchers, based on the Five Dialogic Principles (Kim et al., 2013;

Kim et al., 2014; Rybalko & Seltzer, 2010) or by developing, testing, and implementing a new coding scheme focused on features that show actual dialogue occurring. As with the website coding scheme, research conducted on Indiana environmental organizations' social media accounts could also be expanded to other types of organizations for comparisons and to advance knowledge in the interdisciplinary and public relations domains.

Building on the idea of researching the use of dialogic communication on social media, there are many avenues of communication that organizations use to reach their stakeholders and the public (e.g., websites, social media accounts, e-mail, in-person interactions, press releases, events, etc.). It would be valuable to study the integration of these various communication channels to see how they interact with each other, how they engage people, and how public relations practitioners choose to use them. Strengths, weaknesses, and relationships between the different communication channels in terms of their utility in creating opportunities for and occurrences of dialogue could be investigated. This type of research would provide guidance to public relations practitioners who want to engage in dialogue, informing them about what methods or communication channels may be best to employ.

Finally, while public relations research maintains that dialogic communication is an important aspect of an organization's online presence (Kent & Taylor, 1998), studies continue to find that websites exhibit low presence of Dialogic Features (Gordon & Berhow, 2009; Taylor et al., 2001; Taylor & Kent, 2004; Uzunoğlu & Kip, 2013). The content analysis methods used in the present study and prior studies cannot prove causality (Lune & Berg, 2017), and therefore cannot indicate why there is such a low presence of Dialogic Features on examined websites. Additionally, results from this study's survey cannot provide details about the decision-making process or goals that environmental leaders have for their websites (Drury et al., 2011). There are

many possible explanations for why public relations practitioners do not fully use dialogic communication. Public relations research has suggested that a lack of strategy, technical knowledge and design, project management, technical support, training, and funding could all be contributing factors (Denison & Williamson, 2013). Further investigation into these topics would help determine what factors weigh most heavily on an organization's ability to use dialogue on their websites.

In a study by Sommerfeldt et al. (2012), in-depth interviews pointed to a disconnect between public relations researchers and public relations practitioners in that researchers see websites as a vehicle for dialogue and practitioners do not. While the present study is limited because it did not involve in-depth communication with public relations practitioners or researchers to gather their viewpoints on this disconnect, some prior research has already been conducted regarding this topic.

What has been discovered is that many practitioners working for nonprofit organizations see their websites as a place to store information, such as details about the organization or event schedules, but not as a place to engage in dialogue (Sommerfeldt et al., 2012; Uzunoğlu & Kip, 2014). Further investigation is needed to get to gain a better understanding of this apparent disconnect. Perhaps dialogic communication is not a priority for public relations practitioners maintaining their organization's website, perhaps it is a goal that has been unrealized, or perhaps the utility of dialogic communication on these websites is not as beneficial as suggested by the public relations literature. Answers to these important questions will require further studies on the perspectives of public relations practitioners and researchers, including quantitative (e.g., surveys) and/or qualitative (e.g., in-depth interviews) methods as well as further examinations of organizational websites, social media accounts, and previous public relations research.

Chapter 6. Conclusion

The use of dialogic communication online is viewed by public relations researchers as beneficial to organizations (Jo & Kim, 2003; Kim et al., 2014; Levine & Zahradnik, 2012; Watkins, 2017). Despite this perception from researchers, prior research has indicated that public relations practitioners do not fully embrace Dialogic Features as part of their online presence (e.g., websites and social media accounts) (Campbell & Lambright, 2019; Gordon & Berhow, 2009; Greenberg & MacAulay, 2009; Taylor et al., 2001; Taylor & Kent, 2004; Uzunoğlu & Kip, 2014; Wirtz et al., 2013). The purpose of this study was to investigate the question "What is the presence of the Five Dialogic Principles on Indiana environmental organizations' websites?" The websites of organizations in this study's sample were examined through the Dialogic Coding Scheme developed by Taylor et al. (2001). Additionally, organizations with e-mail addresses or messaging systems on their websites were contacted to determine if they would respond to a message (e.g., an invitation to participate in a survey) from a member of the public, which would be an indicator of the occurrence of dialogue. The coding process revealed that Indiana environmental organizations' websites rarely include a high presence of Dialogic Features. Based on survey responses, it was also determined that the presence of Dialogic Features does not appear to have any correlation with the actual occurrence of dialogue by an organization online.

One of the most significant findings of this study was the low percentage of organizational websites that included Dialogic Features related to the dialogic loop principle. The dialogic loop is the most important Dialogic Principle in regards to exhibiting a capacity for dialogue on websites (Taylor et al., 2001). It is these features that allow dialogue to actually occur on the website, and without them the public has little opportunity to directly interact (e.g., comment, vote, ask questions, etc.) with the organization on its website.

Though dialogic loop features were found at low rates on websites in this study's sample, there were a two particular Dialogic Features that exhibited enormous growth in presence between the Taylor et al. (2001) study and the present study. Audio and visual capacity and the presence of downloadable information both increased by approximately 50 percent. This significant change can likely be contributed to improvements in video, audio, and Internet technology. Both studies found major links to the rest of the site and a statement of the organization's philosophy and/or mission on nearly every website. This level of use was rare and shows that these features are important to organizational websites.

A major contribution of this study is a recommended revised Dialogic Coding Scheme. The coding scheme used in this study, created by Taylor et al. (2001), as well as other Dialogic Coding Schemes (Gordon & Berhow, 2009; Taylor & Kent, 2004; Uzunoğlu & Kip, 2014; Wirtz et al., 2013) typically include many Dialogic Features that do not seem to capture the actual occurrence of dialogue. A site map or prominent logo placement, for example, does not allow the public to communicate with the organization. However, other Dialogic Features allow for communication. The recommended Dialogic Coding Scheme includes the following Dialogic Features: opportunity for user response, opportunity to vote on issues, survey to voice opinion on issues, regularly scheduled news forums, online chats, direct contact information for organization personnel, and links to social media accounts. Additionally, researchers applying this recommended coding scheme should look for evidence of dialogue on these features or interact directly with these features to determine if dialogue is occurring through them. This methodological approach should provide coding data with a stronger correlation to the actual occurrence of dialogue on organizational websites rather than only a slight sign of capacity for dialogue, as has been gathered by prior research.

There is a large body of research related to the capacity for dialogue on organizational websites. Now, there is a need for further research into whether dialogue is actually occurring on these sites, which can be done through methods such as those described above. Some prior research has found that public relations practitioners do not view their websites as an avenue for dialogue with the public (Sommerfeldt et al., 2012; Uzunoğlu & Kip, 2014). However, further investigation into the views and goals public relations practitioners have towards their websites is still necessary. This will help researchers to understand the practitioners' points of view, as well as what opportunities and obstacles may exist for dialogue on websites.

Dialogue is an important tool, especially for organizations working directly with or through the support of stakeholders and the public. For environmental organizations particularly, many of which are nonprofit and require monetary donations and volunteer workers to achieve their missions, dialogue should be an integral part of their work. The use of dialogue allows for those outside of the organization to be involved in the decision-making process (Taylor & Kent, 2014) by sharing their views and opinions (Kent & Taylor, 1998). With environmental organizations, many decisions that are made by the organization can directly impact the public health, recreation, and other areas important to the public. By gathering outside views and implementing dialogue-based decision-making processes, environmental organizations can leverage local knowledge and opinions from members of the public to improve their outcomes. Dialogue is theorized to improve public satisfaction and strengthen public trust (Kim et al., 2014). Both of these benefits are useful to environmental organizations looking for support from the public financially and through other activities such as volunteer work. For these reasons, environmental organizations are encouraged to improve their dialogue capacity on both online and in person communication channels, and public relations researchers are encouraged to

continue investigating ways dialogue is currently used and how it could become more effective in all settings.

Appendix A. IRB Approval Letter

LSU | Office of Research & Economic Development

TO:	DeLorme, Denise E LSUAM | Col of Coast and Envir | Environmental Sciences
FROM:	Paul Mooney Associate Chair, Institutional Review Board
DATE:	19-Apr-2021
RE:	IRBAM-21-0485
TITLE:	Challenges and Opportunities in Using Dialogic Communication Methods on Indiana Environmental Organizations' Websites
SUBMISSION TYPE:	Initial Application
Review Type:	Exempt
Risk Factor:	Minimal
Review Date:	19-Apr-2021
Status:	Approved
Approval Date:	19-Apr-2021
Approval Expiration Date:	18-Apr-2024
Re-review frequency:	(three years unless otherwise stated)
Number of subjects approved:	59
LSU Proposal Number:	
By:	Paul Mooney, Associate Chair

Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the

study.

7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.**

** All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/research*

Louisiana State University
131 David Boyd Hall
Baton Rouge, LA 70803

O 225-578-5833
F 225-578-5983
http://www.lsu.edu/research

Appendix B. Dichotomous Website Coding Datasheets

The following datasheet was collected for the Dialogic Principle of ease of use of the interface. A "0" indicates that the Dialogic Feature is not present on the organization's website. A "1" indicates that the Dialogic Feature is present on the site.

Organization Name	Site Map	Major Links to Rest of Site	Search Engine Box	Low Reliance on Graphics
ACRES Land Trust	0	1	1	1
Amos Butler Audubon Society	0	1	0	1
Central Indiana Land Trust	0	1	1	1
Central Indiana Wilderness Club	0	1	1	1
Citizens Action Coalition	0	1	1	1
Clear Lake Township Land Conservancy	1	1	1	1
Cope Environmental Center	0	1	0	1
Eagle Creek Park Foundation	0	1	0	1
Earth Charter Indiana	0	1	0	0
Earth Day Indiana	0	1	0	1
Evansville Audubon Society	0	1	0	1
Friends of Broad Ripple Park	0	1	0	1
Friends of Goose Pond	0	1	1	1
Friends of Holliday Park	0	1	1	1
Friends of Sugar Creek	0	1	0	1
Friends of the Pumpkinvine Trail	0	1	0	1
Friends of the St. Joe River	0	1	0	1
Friends of the White River	0	1	0	1
Greenways Foundation	0	1	0	1
Heartwood	0	1	1	1
Hoosier Environmental Council	0	1	1	1
Hoosier Hikers Council	0	1	1	1
Indiana Audubon Society	0	1	1	1
Indiana Forest Alliance	0	1	1	1
Indiana Karst Conservancy	0	1	1	1
Indiana Lakes Management Society	0	1	1	1
Indiana Native Plant Society	1	1	1	1
Indiana Organic Gardeners Association	0	1	0	1
Indiana Parks Alliance	0	1	0	1
Indiana Recycling Coalition, Inc.	0	1	0	1

(table cont'd)

Organization Name	Site Map	Major Links to Rest of Site	Search Engine Box	Low Reliance on Graphics
Izaak Walton League of Indiana	0	1	1	1
Keep Indianapolis Beautiful	0	1	1	1
Little River Wetlands Project	0	1	0	1
Mud Creek Conservancy	0	1	0	1
NICHES Land Trust	1	1	0	1
Oak Heritage Conservancy	0	1	0	1
Oxbow, Inc.	0	1	0	1
Red-tail Conservancy	0	1	1	1
Robert Cooper Audubon Society	0	1	1	1
Sassafras Audubon Society	0	1	0	1
Save the Dunes Council	0	1	0	1
Shirley Heinze Land Trust	0	1	0	1
Sierra Club - Hoosier Chapter	0	1	0	1
South Bend-Elkhart Audubon Society	0	1	0	1
Sycamore Audubon Society	0	1	1	1
Sycamore Land Trust	0	1	0	1
Tippecanoe Audubon Society	0	1	1	1
Valley Watch	0	1	1	1
Wabash Valley Audubon Society	0	1	1	1
Wawasee Area Conservancy Foundation	0	1	1	1
Wesselman Nature Society	0	1	0	1
White River Alliance	0	1	1	1
White River Watchers	0	1	1	1
Whitewater Valley Land Trust	0	1	1	1
Wildcat Guardians	0	1	0	1
Wolf Park	0	1	1	1

The following datasheet was collected for the Dialogic Principle of usefulness of information to media publics. A "0" indicates that the Dialogic Feature is not present on the organization's website. A "1" indicates that the Dialogic Feature is present on the site.

Organization Name	Press Releases	Speeches	Downloadable Graphics	Audio/Visual Capacity	Clearly Stated Positions on Policy Issues	Identifies Member Base
ACRES Land Trust	1	0	0	1	0	1
Amos Butler Audubon Society	0	0	0	0	1	1
Central Indiana Land Trust	1	0	0	1	0	1
Central Indiana Wilderness Club	0	0	0	0	0	1
Citizens Action Coalition	1	0	0	0	1	0
Clear Lake Township Land Conservancy	0	0	0	1	0	1
Cope Environmental Center	0	0	1	0	0	1
Eagle Creek Park Foundation	0	0	0	1	0	1
Earth Charter Indiana	0	0	0	1	0	1
Earth Day Indiana	0	0	0	0	0	1
Evansville Audubon Society	0	0	0	0	0	1
Friends of Broad Ripple Park	0	0	0	0	1	1
Friends of Goose Pond	0	0	0	1	0	1

(table cont'd)

Organization Name	Press Releases	Speeches	Downloadable Graphics	Audio/Visual Capacity	Clearly Stated Positions on Policy Issues	Identifies Member Base
Friends of Holliday Park	0	0	0	1	0	1
Friends of Sugar Creek	0	0	0	0	0	1
Friends of the Pumpkinvine Trail	0	0	0	1	0	1
Friends of the St. Joe River	1	0	0	1	0	1
Friends of the White River	0	0	0	0	0	1
Greenways Foundation	0	0	0	0	1	1
Heartwood	1	0	0	0	1	1
Hoosier Environmental Council	1	0	0	1	1	1
Hoosier Hikers Council	0	0	0	0	0	1
Indiana Audubon Society	1	0	0	0	0	1
Indiana Forest Alliance	1	0	0	1	1	1
Indiana Karst Conservancy	0	0	0	0	0	1
Indiana Lakes Management Society	0	0	0	0	0	1
Indiana Native Plant Society	0	0	0	0	1	1
Indiana Organic Gardeners Association	0	0	0	0	0	1
Indiana Parks Alliance	0	0	0	0	1	1

(table cont'd)

Organization Name	Press Releases	Speeches	Downloadable Graphics	Audio/Visual Capacity	Clearly Stated Positions on Policy Issues	Identifies Member Base
Indiana Recycling Coalition, Inc.	1	0	0	1	1	1
Izaak Walton League of Indiana	1	0	0	1	1	0
Keep Indianapolis Beautiful	1	0	0	1	0	1
Little River Wetlands Project	0	0	0	1	0	1
Mud Creek Conservancy	1	0	0	1	0	1
NICHES Land Trust	0	0	0	1	0	1
Oak Heritage Conservancy	0	0	0	0	0	1
Oxbow, Inc.	0	0	0	0	0	1
Red-tail Conservancy	1	0	0	0	0	1
Robert Cooper Audubon Society	0	0	0	0	1	1
Sassafras Audubon Society	0	0	0	0	0	1
Save the Dunes Council	1	0	0	1	1	1
Shirley Heinze Environmental Fund	0	0	0	1	0	1
Sierra Club - Hoosier Chapter	1	0	0	1	1	1
South Bend-Elkhart Audubon Society	1	0	0	1	1	1

(table cont'd)

Organization Name	Press Releases	Speeches	Downloadable Graphics	Audio/Visual Capacity	Clearly Stated Positions on Policy Issues	Identifies Member Base
Sycamore Audubon Society	0	0	0	0	1	1
Sycamore Land Trust	0	0	0	1	0	1
Tippecanoe Audubon Society	0	0	0	1	0	1
Valley Watch	0	0	0	1	1	0
Wabash Valley Audubon Society	0	0	0	0	0	1
Wawasee Area Conservancy Foundation	0	0	0	1	0	1
Wesselman Nature Society	0	0	0	0	0	1
White River Alliance	0	0	0	1	1	1
White River Watchers	0	0	0	0	0	1
Whitewater Valley Land Trust	0	0	0	0	0	1
Wildcat Guardians	0	0	0	1	0	1
Wolf Park	1	0	0	0	1	1

The following datasheet was collected for the Dialogic Principle of usefulness of information to volunteer publics. A "0" indicates that the Dialogic Feature is not present on the organization's website. A "1" indicates that the Dialogic Feature is present on the site.

Organization Name	Statement of Philosophy /Mission	Details of How to Become Affiliated	How to Contribute Money	Links to Political Leaders	Logo of Organization is Prominent
ACRES Land Trust	1	1	1	0	1
Amos Butler Audubon Society	1	1	1	0	1
Central Indiana Land Trust	1	1	1	0	1
Central Indiana Wilderness Club	1	1	0	0	1
Citizens Action Coalition	1	0	1	1	1
Clear Lake Township Land Conservancy	1	1	1	0	1
Cope Environmental Center	1	1	1	0	1
Eagle Creek Park Foundation	1	1	1	0	1
Earth Charter Indiana	1	0	1	0	1
Earth Day Indiana	1	1	1	0	1
Evansville Audubon Society	1	1	1	1	1
Friends of Broad Ripple Park	1	1	1	0	1
Friends of Goose Pond	1	1	1	0	1
Friends of Holliday Park	1	1	1	0	1
Friends of Sugar Creek	1	1	1	0	1
Friends of the Pumpkinvine Trail	1	1	1	0	1
Friends of the St. Joe River	1	1	1	1	1
Friends of the White River	1	1	1	0	1
Greenways Foundation	1	0	1	0	1
Heartwood	1	1	1	0	1
Hoosier Environmental Council	1	1	1	0	1
Hoosier Hikers Council	1	1	1	0	1
Indiana Audubon Society	1	1	1	0	1
Indiana Forest Alliance	1	1	1	0	1
Indiana Karst Conservancy	1	1	1	0	1
Indiana Lakes Management Society	1	1	0	0	1
Indiana Native Plant Society	1	1	1	0	1

(table cont'd)

Organization Name	Statement of Philosophy /Mission	Details of How to Become Affiliated	How to Contribute Money	Links to Political Leaders	Logo of Organization is Prominent
Indiana Organic Gardeners Association	1	1	0	0	1
Indiana Parks Alliance	1	1	1	0	1
Indiana Recycling Coalition, Inc.	1	1	1	0	1
Izaak Walton League of Indiana	1	0	0	0	1
Keep Indianapolis Beautiful	1	1	1	0	1
Little River Wetlands Project	1	1	1	0	1
Mud Creek Conservancy	1	1	1	0	1
NICHES Land Trust	1	1	1	0	1
Oak Heritage Conservancy	1	1	0	0	1
Oxbow, Inc.	1	1	1	0	0
Red-tail Conservancy	1	1	1	0	1
Robert Cooper Audubon Society	1	1	1	1	1
Sassafras Audubon Society	1	1	1	0	1
Save the Dunes Council	1	1	1	0	1
Shirley Heinze Environmental Fund	1	1	1	0	1
Sierra Club - Hoosier Chapter	1	1	1	0	1
South Bend-Elkhart Audubon Society	1	1	1	0	1
Sycamore Audubon Society	1	1	1	0	1
Sycamore Land Trust	1	1	1	0	1
Tippecanoe Audubon Society	1	1	1	0	1
Valley Watch	1	0	0	0	1
Wabash Valley Audubon Society	1	1	0	0	1
Wawasee Area Conservancy Foundation	1	1	1	0	1
Wesselman Nature Society	1	1	1	0	1
White River Alliance	1	1	1	1	1
White River Watchers	1	1	1	0	1
Whitewater Valley Land Trust	1	1	1	0	1
Wildcat Guardians	1	1	1	0	1
Wolf Park	1	1	1	0	1

The following datasheet was collected for the Dialogic Principle of conservation of visitors. A "0" indicates that the Dialogic Feature is not present on the organization's website. A "1" indicates that the Dialogic Feature is present on the site.

Organization Name	Important Info Available on 1st Page	Short Loading Time (Less Than 4 Seconds)	Posting of Last Updated Time and Date
ACRES Land Trust	1	1	0
Amos Butler Audubon Society	1	1	0
Central Indiana Land Trust	1	1	0
Central Indiana Wilderness Club	1	1	0
Citizens Action Coalition	1	1	0
Clear Lake Township Land Conservancy	1	1	0
Cope Environmental Center	1	1	0
Eagle Creek Park Foundation	1	1	0
Earth Charter Indiana	0	1	0
Earth Day Indiana	1	1	0
Evansville Audubon Society	0	1	0
Friends of Broad Ripple Park	0	1	0
Friends of Goose Pond	1	1	0
Friends of Holliday Park	1	1	0
Friends of Sugar Creek	1	1	0
Friends of the Pumpkinvine Trail	1	1	0
Friends of the St. Joe River	1	1	0
Friends of the White River	1	1	0
Greenways Foundation	1	1	0
Heartwood	1	1	0
Hoosier Environmental Council	1	1	0
Hoosier Hikers Council	1	1	0
Indiana Audubon Society	1	1	0
Indiana Forest Alliance	1	1	0
Indiana Karst Conservancy	1	1	0
Indiana Lakes Management Society	1	1	0
Indiana Native Plant Society	1	1	0
Indiana Organic Gardeners Association	1	1	0
Indiana Parks Alliance	1	1	0
Indiana Recycling Coalition, Inc.	1	1	0
Izaak Walton League of Indiana	1	1	0

(table cont'd)

Organization Name	Important Info Available on 1st Page	Short Loading Time (Less Than 4 Seconds)	Posting of Last Updated Time and Date
Keep Indianapolis Beautiful	1	1	0
Little River Wetlands Project	1	1	0
Mud Creek Conservancy	1	1	0
NICHES Land Trust	1	1	0
Oak Heritage Conservancy	1	1	0
Oxbow, Inc.	1	1	0
Red-tail Conservancy	1	1	0
Robert Cooper Audubon Society	1	1	0
Sassafras Audubon Society	1	1	0
Save the Dunes Council	1	1	0
Shirley Heinze Environmental Fund	1	1	0
Sierra Club - Hoosier Chapter	1	1	0
South Bend-Elkhart Audubon Society	1	1	0
Sycamore Audubon Society	1	1	0
Sycamore Land Trust	1	1	0
Tippecanoe Audubon Society	1	1	0
Valley Watch	1	1	0
Wabash Valley Audubon Society	1	1	0
Wawasee Area Conservancy Foundation	1	1	0
Wesselman Nature Society	1	1	0
White River Alliance	1	1	0
White River Watchers	1	1	0
Whitewater Valley Land Trust	1	1	0
Wildcat Guardians	1	1	0
Wolf Park	1	1	0

The following datasheet was collected for the first five Dialogic Features related to the Dialogic Principle of generation of return visits. A “0” indicates that the Dialogic Feature is not present on the organization’s website. A “1” indicates that the Dialogic Feature is present on the site.

Organization Name	Explicit Statement Invites User to Return	News Forums (Regularly Scheduled)	FAQ's or Q&A's	Bookmark Now	Links to Other Activist Websites
ACRES Land Trust	0	1	1	0	0
Amos Butler Audubon Society	0	0	0	0	1
Central Indiana Land Trust	0	0	0	0	0
Central Indiana Wilderness Club	0	0	0	0	1
Citizens Action Coalition	0	0	1	0	1
Clear Lake Township Land Conservancy	0	0	0	0	1
Cope Environmental Center	0	0	0	0	1
Eagle Creek Park Foundation	0	0	1	0	0
Earth Charter Indiana	0	0	0	0	1
Earth Day Indiana	0	0	1	0	1
Evansville Audubon Society	0	0	0	0	1
Friends of Broad Ripple Park	0	0	0	0	0
Friends of Goose Pond	0	0	1	0	1
Friends of Holliday Park	0	0	1	0	1
Friends of Sugar Creek	0	0	0	0	1
Friends of the Pumpkinvine Trail	0	0	1	0	0
Friends of the St. Joe River	0	0	0	0	1
Friends of the White River	0	0	0	0	1
Greenways Foundation	0	0	0	0	1
Heartwood	0	0	0	0	1
Hoosier Environmental Council	0	0	0	0	1
Hoosier Hikers Council	0	0	0	0	1
Indiana Audubon Society	0	1	0	0	0
Indiana Forest Alliance	0	0	1	0	1
Indiana Karst Conservancy	0	0	0	0	1
Indiana Lakes Management Society	0	0	0	0	1
Indiana Native Plant Society	0	0	0	0	1

(table cont’d)

Organization Name	Explicit Statement Invites User to Return	News Forums (Regularly Scheduled)	FAQ's or Q&A's	Bookmark Now	Links to Other Activist Websites
Indiana Organic Gardeners Association	0	0	0	0	0
Indiana Parks Alliance	0	0	0	0	1
Indiana Recycling Coalition, Inc.	0	0	1	0	1
Izaak Walton League of Indiana	0	0	0	0	0
Keep Indianapolis Beautiful	0	0	0	0	1
Little River Wetlands Project	0	0	0	0	1
Mud Creek Conservancy	0	0	0	0	1
NICHES Land Trust	0	0	0	0	0
Oak Heritage Conservancy	0	0	0	0	1
Oxbow, Inc.	1	0	0	0	0
Red-tail Conservancy	0	0	0	0	0
Robert Cooper Audubon Society	0	0	0	0	1
Sassafras Audubon Society	0	0	0	0	1
Save the Dunes Council	0	0	0	0	1
Shirley Heinze Environmental Fund	0	0	0	0	1
Sierra Club - Hoosier Chapter	0	0	0	0	1
South Bend-Elkhart Audubon Society	0	0	1	0	1
Sycamore Audubon Society	0	0	0	0	0
Sycamore Land Trust	0	0	1	0	1
Tippecanoe Audubon Society	0	0	0	0	1
Valley Watch	0	0	0	0	1
Wabash Valley Audubon Society	0	0	0	0	1
Wawasee Area Conservancy Foundation	0	0	0	0	1
Wesselman Nature Society	0	0	0	0	1
White River Alliance	0	0	1	0	1
White River Watchers	0	0	0	0	0
Whitewater Valley Land Trust	0	0	0	0	1
Wildcat Guardians	0	0	0	0	1
Wolf Park	0	0	1	0	1

The following datasheet was collected for the last four Dialogic Features related to the Dialogic Principle of generation of return visits. A "0" indicates that the Dialogic Feature is not present on the organization's website. A "1" indicates that the Dialogic Feature is present on the site.

Organization Name	Calendar of Events	Downloadable Information	Things That Can Be Requested by Mail/E-mail	Posting News Stories Within the Last 30 Days
ACRES Land Trust	0	1	1	1
Amos Butler Audubon Society	1	1	1	1
Central Indiana Land Trust	1	1	1	1
Central Indiana Wilderness Club	1	1	1	0
Citizens Action Coalition	0	1	1	1
Clear Lake Township Land Conservancy	0	1	1	1
Cope Environmental Center	1	1	1	0
Eagle Creek Park Foundation	1	1	1	0
Earth Charter Indiana	0	0	0	0
Earth Day Indiana	1	0	0	0
Evansville Audubon Society	1	1	1	1
Friends of Broad Ripple Park	0	0	1	0
Friends of Goose Pond	1	1	1	0
Friends of Holliday Park	1	1	1	0
Friends of Sugar Creek	1	0	0	0
Friends of the Pumpkinvine Trail	1	1	1	0
Friends of the St. Joe River	1	1	0	0
Friends of the White River	0	1	1	1
Greenways Foundation	0	1	1	0
Heartwood	0	1	1	0
Hoosier Environmental Council	1	1	1	1
Hoosier Hikers Council	1	1	1	0
Indiana Audubon Society	0	1	1	1
Indiana Forest Alliance	1	1	1	0
Indiana Karst Conservancy	0	1	1	1
Indiana Lakes Management Society	0	1	0	0
Indiana Native Plant Society	0	1	1	0

(table cont'd)

Organization Name	Calendar of Events	Downloadable Information	Things That Can Be Requested by Mail/ E-mail	Posting News Stories Within the Last 30 Days
Indiana Organic Gardeners Association	0	1	1	1
Indiana Parks Alliance	0	1	1	1
Indiana Recycling Coalition, Inc.	0	1	1	1
Izaak Walton League of Indiana	1	1	0	0
Keep Indianapolis Beautiful	1	1	1	1
Little River Wetlands Project	1	1	1	0
Mud Creek Conservancy	1	1	0	0
NICHES Land Trust	1	0	1	1
Oak Heritage Conservancy	1	1	1	0
Oxbow, Inc.	1	1	0	0
Red-tail Conservancy	1	1	1	1
Robert Cooper Audubon Society	1	1	1	0
Sassafras Audubon Society	1	0	1	0
Save the Dunes Council	0	1	1	1
Shirley Heinze Environmental Fund	1	1	1	1
Sierra Club - Hoosier Chapter	1	0	1	1
South Bend-Elkhart Audubon Society	1	1	1	1
Sycamore Audubon Society	1	1	0	0
Sycamore Land Trust	1	1	1	1
Tippecanoe Audubon Society	1	1	1	0
Valley Watch	1	1	0	0
Wabash Valley Audubon Society	1	1	1	0
Wawasee Area Conservancy Foundation	1	1	1	0
Wesselman Nature Society	1	0	1	1
White River Alliance	1	1	1	0
White River Watchers	1	1	1	0
Whitewater Valley Land Trust	0	1	0	0
Wildcat Guardians	0	1	0	0
Wolf Park	1	1	1	0

The following datasheet was collected for the Dialogic Principle of dialogic loop. A "0" indicates that the Dialogic Feature is not present on the organization's website. A "1" indicates that the Dialogic Feature is present on the site.

Organization Name	Opportunity for User-Response	Opportunity to Vote on Issues	Survey to Voice Opinion on Issues	Offers Regular Information Through Email
ACRES Land Trust	1	0	0	1
Amos Butler Audubon Society	1	0	0	1
Central Indiana Land Trust	0	0	0	1
Central Indiana Wilderness Club	0	0	0	1
Citizens Action Coalition	0	0	0	1
Clear Lake Township Land Conservancy	1	0	0	1
Cope Environmental Center	0	0	0	1
Eagle Creek Park Foundation	0	0	0	1
Earth Charter Indiana	1	0	0	0
Earth Day Indiana	1	0	0	0
Evansville Audubon Society	1	0	0	0
Friends of Broad Ripple Park	1	0	0	1
Friends of Goose Pond	0	0	0	1
Friends of Holliday Park	1	0	0	1
Friends of Sugar Creek	1	0	0	1
Friends of the Pumpkinvine Trail	1	0	0	1
Friends of the St. Joe River	0	0	0	0
Friends of the White River	1	0	0	1
Greenways Foundation	1	0	0	1
Heartwood	1	0	0	1
Hoosier Environmental Council	0	0	0	1
Hoosier Hikers Council	1	0	0	1
Indiana Audubon Society	1	0	0	1
Indiana Forest Alliance	1	0	0	1
Indiana Karst Conservancy	1	0	0	1
Indiana Lakes Management Society	1	0	0	0
Indiana Native Plant Society	0	0	0	1
Indiana Organic Gardeners Association	0	0	0	0
Indiana Parks Alliance	0	0	0	1

(table cont'd)

Organization Name	Opportunity for User-Response	Opportunity to Vote on Issues	Survey to Voice Opinion on Issues	Offers Regular Information Through Email
Indiana Recycling Coalition, Inc.	1	0	1	1
Izaak Walton League of Indiana	0	0	0	0
Keep Indianapolis Beautiful	1	0	0	1
Little River Wetlands Project	1	0	0	1
Mud Creek Conservancy	1	0	0	1
NICHES Land Trust	1	0	0	1
Oak Heritage Conservancy	0	0	0	1
Oxbow, Inc.	0	0	0	1
Red-tail Conservancy	1	0	0	1
Robert Cooper Audubon Society	0	0	0	1
Sassafras Audubon Society	0	0	0	1
Save the Dunes Council	0	0	0	1
Shirley Heinze Environmental Fund	1	0	0	1
Sierra Club - Hoosier Chapter	0	0	0	1
South Bend-Elkhart Audubon Society	1	0	0	0
Sycamore Audubon Society	0	0	0	0
Sycamore Land Trust	0	0	0	1
Tippecanoe Audubon Society	0	0	0	1
Valley Watch	0	0	0	0
Wabash Valley Audubon Society	1	0	0	1
Wawasee Area Conservancy Foundation	1	0	0	1
Wesselman Nature Society	0	0	0	1
White River Alliance	0	0	0	1
White River Watchers	1	0	0	1
Whitewater Valley Land Trust	0	0	0	0
Wildcat Guardians	1	0	0	0
Wolf Park	1	0	0	1

Appendix C. Coding Definitions of Dialogic Features

The following definitions were developed for the present study due to a lack of clarity and consistency of definitions of coding terms in the prior literature. They are primarily based on the researcher's interpretation of how coding terms were used in the Taylor et al. (2001) and Uzunoğlu & Kip (2013) studies. The following definitions were used to code for the presence of Dialogic Features on the websites of Indiana environmental organizations in this study. If the features on the website met the specifications listed below, the site was coded as having the feature.

Site Map: The site map was required to be present and labeled or featured as a link on the homepage of the website.

Major Links to Rest of Site: Links to other pages must be centrally located, obvious, and exist on all webpages, not just the homepage.

Search Engine Box: This feature must be plainly accessible, either as a full search bar or an icon directing the user to a full search.

Low Reliance on Graphics: Graphics were defined as computer-generated images, graphs, tables, etc. and did not include the graphic design (e.g., layout) of the website.

Press Releases: Any article labelled as a press release could count for this feature. However, news articles or updates that were not labelled as a press release did not count because those are addressed by other features.

Speeches: These included typed speeches as well as audio and/or video recorded speeches.

Downloadable Graphics: This feature included organization logos and images. It did not include other items (e.g., trail maps, newsletters, etc.) because these were counted elsewhere.

Audio/Visual Capacity: This was noted by video or audio directly embedded into the website. Links to YouTube videos were not counted.

Clearly Stated Positions on Policy Issues: To be considered clearly stated, positions on policy issues had to be found within a specific section of the website (e.g., its own page, about the organization, etc.), not buried within old news stories that were not readily accessible. This is because it was unrealistic within the time constraints to examine every news article published by each organization on their website.

Identifies Member Base: Some indication of the composition of members was evident either in membership webpages or the about section of the site.

Philosophy/Mission: The philosophy or mission of the organization, labelled as such, had to be presented somewhere on the website.

How to Become Affiliated: A clear and detailed explanation of how an individual could become involved with the organization as a member and/or volunteer had to be present.

How to Contribute Money: A clear and detailed explanation of how to contribute money, outside of membership dues, had to be present.

Links to Political Leaders: Political leaders was defined as politicians at any level, local to global. The links had to work and be readily accessible, not buried in old news stories. This is because it was unrealistic within the time constraints to examine every news article published by each organization on their website.

Logo of Organization is Prominent: Prominent placement of the logo was defined as being at the top of the webpage and large enough to catch the user's eye.

Important Information Available on the First Page: Important information included details about the organization, upcoming events, ways to get involved, and more.

Short Loading Time: "Short" was defined as four seconds or less, which is the standard that was set in the Taylor et al. (2001) study.

Posting of the Last Updated Date and Time: The time and date of the most recent updates to the actual website needed to be posted for this feature to be coded as present. Times and dates of the most recent news story were not counted toward this feature.

Explicit Statement Invites user to Return: This type of statement had to be located on the homepage or clearly visible on any other page of the website to be marked present.

News Forums (Regularly Scheduled): To be counted as a news forum, the articles posted were required to include a comment section where discussion could occur. Additionally, to be considered "regularly scheduled," the news forums needed to include the date they were posted and exhibit some sort of pattern in posting dates.

FAQ's or Q&A's: There must be a direct link to a separate webpage for an FAQ or Q&A. If not, these features could be included on other main pages of the website.

Bookmark Now: This feature was coded as present if there was a "bookmark now" button on the homepage of the website.

Links to Other Activist Organizations: Links to other activist organizations could include partner organizations, related organizations, or any other activist organization. The links had to work for this feature to be counted present.

Calendar of Events: Calendars in both calendar-grid and list forms were accepted for this feature. The calendars needed to be up-to-date to be counted.

Downloadable Information: This feature included any information that could be downloaded, such as maps, brochures, newsletters, etc. It did not include graphics or photos, as those were coded under another feature.

Things That Can Be Requested by Mail/E-mail: This feature was coded as present for websites that explicitly stated certain items could be requested, such as newsletters, regular informational updates, and more.

Posting News Stories Within the Last 30 Days: News articles needed to be posted with a date to ensure they were from the last 30 days. The 30-day time period ended the day the website was coded and started 30 days prior to that.

Opportunity for User-Response: This feature included opportunities for the public to send messages to the organization directly through the website, news forums, and other areas where the public could voice their views.

Opportunity to Vote on Issues: Voting opportunities were required to be clearly labeled, prominent, and current.

Survey to Voice Opinion on Issues: Surveys needed to be clearly labeled, prominent, and current. It was not required for the surveys to be completed directly on the website. Survey results from many years ago were not accepted as enough to indicate the presence of this feature.

Offers Regular Information Through Email: Regular information was deemed to include newsletters or general updates. There also must be a way for people to access this regular information, whether it is through membership, sending a request to receive it, or any other way.

Appendix D. Online Survey Instrument

Questionnaire for Indiana Environmental Organizations

1. Organization Name: _____
2. Organization Type (conservation, education, etc): _____
3. Primary Funding Source: _____
4. Primarily Employee- or Volunteer-Run? _____
5. Your Job Title: _____
6. How <u>important</u> is your website in your efforts to communicate your organization's message to the public? (check one)

   ____ Very ____ Somewhat ____ Not Very ____ Not At All ____ Don't Know

7. How <u>effective</u> do you believe your organization's website is in communicating your organization's message to the public? (check one)

   ____ Very ____ Somewhat ____ Not Very ____ Not At All ____ Don't Know

8. How <u>important</u> is it to your organization to interact with the public through your organization's website, such as providing comments and feedback? (check one)

   ____ Very ____ Somewhat ____ Not Very ____ Not At All ____ Don't Know

9. How <u>effective</u> do you believe your organization's website is in allowing the public to interact with your organization? (check one)

   ____ Very ____ Somewhat ____ Not Very ____ Not At All ____ Don't Know

10. How <u>effective</u> do you believe your organization's website is at meeting the goals you have for the website? (check one)

    ____ Very ____ Somewhat ____ Not Very ____ Not At All ____ Don't Know

11. Does your organization have someone in charge of regularly managing the website? (check one)

____ Yes ____ No ____ Don't Know

12. If "No," why not? (please specify) _____

Thank you for participating!

References

Bortree, D. S., & Seltzer, T. (2009). Dialogic strategies and outcomes: An analysis of environmental advocacy groups' Facebook profiles. *Public Relations Review*, *35*(3), 317–319. https://doi.org/10.1016/j.pubrev.2009.05.002

Campbell, D. A., & Lambright, K. T. (2019). Are you out there? Internet presence of nonprofit human service organizations. *Nonprofit and Voluntary Sector Quarterly*, *48*(6), 1296–1311. https://doi.org/10.1177/0899764019852673

Denison, T., & Williamson, K. (2013). Website management issues for community-based, non-profit organizations in rural and regional areas. *Information, Communication & Society*, *16*(7), 1072–1092. https://doi.org/10.1080/1369118x.2012.687005

Drury, R., K. Homewood, and S. Randall (2011). Less is more: The potential of qualitative approaches in conservation research. *Animal Conservation*, 14(1), 18-24.

Gordon, J., & Berhow, S. (2009). University websites and dialogic features for building relationships with potential students. *Public Relations Review*, *35*(2), 150–152. https://doi.org/10.1016/j.pubrev.2008.11.003

Greenberg, J., & MacAulay, M. (2009). NPO 2.0? Exploring the web presence of environmental nonprofit organizations in Canada. *Global Media Journal -- Canadian Edition*, *2*(1), 63–88.

Jo, S., & Kim, Y. (2003). The effect of web characteristics on relationship building. *Journal of Public Relations Research*, *15*(3), 199–223. https://doi.org/10.1207/s1532754xjprr1503_1

Kent, M. L., & Taylor, M. (1998). Building dialogic relationships through the world wide web. *Public Relations Review*, *24*(3), 321–334. https://doi.org/10.1016/s0363-8111(99)80143-x

Kent, M. L., & Taylor, M. (2002). Toward a dialogic theory of public relations. *Public Relations Review*, *28*(1), 21–37. https://doi.org/10.1016/s0363-8111(02)00108-x

Kent, M. L., Taylor, M., & White, W. J. (2003). The relationship between Web site design and organizational responsiveness to stakeholders. *Public Relations Review*, *29*(1), 63–77. https://doi.org/10.1016/s0363-8111(02)00194-7

Kim, D., Chun, H., Kwak, Y., & Nam, Y. (2014). The employment of dialogic principles in website, Facebook, and Twitter platforms of environmental nonprofit organizations. *Social Science Computer Review*, *32*(5), 590–605. https://doi.org/10.1177/0894439314525752

Kim, D., Kim, J.-H., & Nam, Y. (2013). How does industry use social networking sites? An analysis of corporate dialogic uses of Facebook, Twitter, YouTube, and LinkedIn by industry type. *Quality & Quantity*, *48*(5), 2605–2614. https://doi.org/10.1007/s11135-013-9910-9

Levine, H., & Zahradnik, A. G. (2012). Online media, market orientation, and financial performance in nonprofits. *Journal of Nonprofit & Public Sector Marketing*, *24*(1), 26–42. https://doi.org/10.1080/10495142.2012.652908

Lune, Howard and Bruce L. Berg (2017). *Qualitative Research Methods for the Social Sciences*, NY, NY: Pearson, 84-96.

Rybalko, S., & Seltzer, T. (2010). Dialogic communication in 140 characters or less: How Fortune 500 companies engage stakeholders using Twitter. *Public Relations Review*, *36*(4), 336–341. https://doi.org/10.1016/j.pubrev.2010.08.004

Sommerfeldt, E. J., Kent, M. L., & Taylor, M. (2012). Activist practitioner perspectives of website public relations: Why aren't activist websites fulfilling the dialogic promise? *Public Relations Review*, *38*(2), 303–312. https://doi.org/10.1016/j.pubrev.2012.01.001

Suldovsky, B., McGreavy, B., & Lindenfeld, L. (2018). Evaluating epistemic commitments and science communication practice in transdisciplinary research. *Science Communication*, *40*(4), 499–523. https://doi.org/10.1177/1075547018786566

Taylor, M., & Kent, M. L. (2004). Congressional web sites and their potential for public dialogue. *Atlantic Journal of Communication*, *12*(2), 59–76. https://doi.org/10.1207/s15456889ajc1202_1

Taylor, M., & Kent, M. L. (2014). Dialogic engagement: Clarifying foundational concepts. *Journal of Public Relations Research*, *26*(5), 384–398. https://doi.org/10.1080/1062726x.2014.956106

Taylor, M., Kent, M. L., & White, W. J. (2001). How activist organizations are using the Internet to build relationships. *Public Relations Review*, *27*(3), 263–284. https://doi.org/10.1016/s0363-8111(01)00086-8

Uzunoğlu, E., & Misci Kip, S. (2014). Building relationships through websites: A content analysis of Turkish environmental non-profit organizations' (NPO) websites. *Public Relations Review*, *40*(1), 113–115. https://doi.org/10.1016/j.pubrev.2013.06.001

Watkins, B. A. (2017). Experimenting with dialogue on Twitter: An examination of the influence of the dialogic principles on engagement, interaction, and attitude. *Public Relations Review*, *43*(1), 163–171. https://doi.org/10.1016/j.pubrev.2016.07.002

Wirtz, J. G., Ngondo, P. S., & Poe, P. (2013). Talking with us or at us: How U.S. religious denominations use organizational web sites to communicate with their constituents. *Journal of Media and Religion*, *12*(4), 165–180. https://doi.org/10.1080/15348423.2013.845022

Vita

Jessica Moon grew up in East Moline, IL. She earned her Bachelor of Science in Biology and Communication at Valparaiso University (May 2018). She then taught middle school science in Baton Rouge, LA for two years through the Teach For America program. During this time, she earned her teaching certification (May 2019) and began taking courses at Louisiana State University for her Master of Science in Environmental Sciences (anticipated August 2021). Her research and career interests include science communication and education.