

The Effects of Online News Package Structure on Attitude, Attention, and Comprehension

Electronic News

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Abstract

Research has shown that website structure can impact storytelling. Based on theory regarding website interactivity and navigability, this study examined the effects of two online news packages' website designs—a multiple-page, nonlinear, click-through design and a single-page, linear, scroll-through design—on users' attitudes toward the website, factual and structural comprehension of site content, and attention to the site. Results of a 2×2 between-subjects experiment revealed that both types of comprehension were influenced by the interaction between website design and attention. Among participants who spent at least 10 min browsing, users were better able to recognize facts after looking at the scroll-through site, but they showed a deeper understanding of content after looking at the click-through site. Theoretical and practical implications for storytelling are discussed.

Keywords

website structure, comprehension, web design, user control, linearity, usability

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The internet has become a ubiquitous source of information, and individuals rely on websites for valuable activities such as reading the news. In fact, popular social networking sites have become pathways to news (Mitchell, Resenstiel, & Christian, 2012). For example, Facebook users share more than 30 billion pieces of content each month, and the most common genre of shared content includes links to news stories (Baresch, Knight, Harp, & Yaschur, 2011). Because of individuals' reliance on the internet for information, often in the form of storytelling, website designers face the task of developing effective websites for content consumers—websites that users will pay attention to, enjoy, and learn from.

The implications of web design can be serious (Trumbo, 2007) and therefore deserve rigorous attention. Scholars have commented on practical aspects of website design, including its changes based on the medium through which it is delivered (George-Palilonis, 2013) and the moral responsibility bestowed upon web designers and developers (Owens, 2006). Studies have also been devoted to the organization and structure of websites and the subsequent effects on user performance. Scholars have studied the effects of hyperlinks (Waniek, 2012), amount of information (Shang, Chen, & Chen, 2013), presence or absence of multimedia (Berry, 2000), and number of layers in websites (Fajardo, Canas, Salmeron, & Abascal, 2009) on both attitudes (Wojdyski & Kalyanaraman, 2013) and different aspects of comprehension (Eveland, Cortese, Park, & Dunwoody, 2004; Eveland, Marton, & Seo, 2004).

But scholars have rarely examined the differences between sites that are navigated primarily through scrolling and sites that are navigated primarily through clicking. Websites navigated primarily through scrolling tend to have fewer pages and present information in a more linear fashion, whereas websites navigated primarily through clicking tend to include multiple pages with less information on each page, and information tends to be displayed in a nonlinear format. This study examines these two types of website designs.

For the purpose of this study, these website designs are considered in the context of an online news package. An online news package has not been defined in the academic literature and no consensual definition exists among news practitioners, but for the purpose of this study, it is considered to be a website, or portion of a website, produced by a media outlet and devoted to one topic and including stories told by journalists in multiple formats (e.g., text, photos, video, audio, and interactive graphics). Online news packages often focus on one issue and tell the story from multiple angles. These are often given more attention to design and are more aesthetically pleasing than stories published daily on news websites. Examining these two website designs in the context of an online news package is particularly important considering evidence that “younger readers are increasingly dissatisfied with traditional news delivery and prefer non-linear storytelling forms” (George-Palilonis & Spillman, 2011, p. 168).

This study examines whether the type of website structure of an online news package affects users' attitudes toward the site, comprehension of site content, and attention to the site. In other words, which website is more effective—a linear, scroll-through site or a nonlinear, click-through site?

Conceptual Framework and Research Questions

A conceptual difference exists between the two types of website designs examined in this study. In the linear, scroll-through website, all story headlines are published one after another on the home page and the user clicks to view full stories, which appear on that same page. In the nonlinear, click-through website, story headlines are displayed on the home page and the user must click to access full stories on additional pages. Conceptually speaking, these two types of website design differ in that they present content in a different order—an aspect of navigation (Eveland, Cortese, et al., 2004), and they provide users with different levels of control—an aspect of interactivity (McMillan & Hwang, 2002). Therefore, these differences are best described by converging the literature relating to interactivity, navigation, and usability, focusing on user control and linearity.

The Impact of User Control on Attitudes and Learning

Researchers have regarded user control as an important aspect of interactivity for decades. Interactivity can be defined as “a style of control” (McMillan & Hwang, 2002, p. 69), and according to Bezjian-Avery, Calder, and Iacobucci (1998), in interactive systems, “a customer controls the content of the interaction, requesting or giving information” (p. 23). Other scholars have considered interactivity to include some aspect of a user’s influence on how the content is presented (Ha & Lincoln, 1998; Lombard & Snyder-Duch, 2001). According to these definitions that recognize user control as a facet of interactivity, both the click-through and the scroll-through website designs in this study possess some level of interactivity. However, neither design is highly interactive because they both lack a dialogue between the user and the interface. In other words, neither design has a “two-way communication flow,” which is necessary for high levels of interactivity (Sundar, Kalyanaraman, & Brown, 2003, p. 35).

The user control facet of interactivity has been defined in part by users’ available choice and effort (Sundar et al., 2003, citing Heeter, 1989). Applying the concept of available choice to the current study, the click-through design is expected to offer more choice because the user can choose from a number of links to click on (i.e., each story, back to the home page, etc.), whereas the user of the scroll-through site has fewer choices, namely, to keep scrolling or click on a limited number of other options such as a video play button. Based simply on the number of options the user has in terms of exploring the site’s content, a click-through design offers more available choice and therefore might be slightly more interactive than the scroll-through design.

In addition to choosing from a number of options, the user of the click-through site has more freedom to choose the order in which he or she views content because the information is not presented as linearly as in the scroll-through site, which guides the user to consume each story one after the other, that is, “giving the user real-time choice over *what* content to view next increases a user’s overall control over the content by allowing control over sequence” (Kalyanaraman & Wojdyski, 2013, p. 5).

A click-through design also requires more user effort because the more choices available to a user, the more effort it takes to execute those choices.

Studies have shown that user control, or interactivity defined more broadly, can affect participants' attitudes, defined here as positive or negative affect. In an advertising context, scholars have found a positive association between consumers' perceived interactivity of a website and their attitudes toward the site (Cho & Leckenby, 1998; Chung & Zhao, 2004; Wu, 1999). Users have reported being more satisfied with websites where they could better control the amount of information they accessed as well as better control the procedures or steps they took to access the information (Zhang, Small, von Dran, & Barcellos, 1999). Kalyanaraman and Wojdyski (2013) noted that "the findings in studies which have operationalized interactivity in terms of user control over information show more consistently strong support for interactivity's effects on attitudes toward the content" (p. 7). This may suggest that users would express more favorable attitudes toward a click-through site than a scroll-through site if the click-through site offered more user control.

However, these favorable attitudes might be tempered by websites that are considered to have low levels of interactivity in that they lack a two-way communication flow. Kalyanaraman and Wojdyski (2013) found that people reported more favorable attitudes toward sites with moderate levels of interactivity than sites with low levels of interactivity. Despite the level of interactivity, Benzian-Avery, Calder, and Iacobucci (1998), who also conceptualized interactivity in terms of user control and number of options, found the opposite effect—that a noninteractive ad resulted in more favorable attitudes because the interactive ad might have inhibited consumers' cognitive processing. In sum, the literature is conflicting in regard to the impact of interactivity on user attitudes. This study attempts to add to the body of literature on this topic by providing an updated look at this complex relationship.

Scholars have also studied the relationship between user control, or interactivity defined more broadly, and learning. Here, too, the findings have been mixed. Bailey and Thornton (1992) studied the impact of an interactive video lesson on student achievement and found no significant relationship. And Shaw, Arnason, and Belardo (1993) found no effect of interactivity on knowledge gain. However, Rafaeli (1988) suggested that interactivity could enhance cognitive processing and therefore result in increased learning. And Chung and Zhao (2004) found a positive relationship between perceived interactivity and memory in an advertising context.

Although research examining the impact of interactivity on learning has produced conflicting findings, research looking at the impact of another aspect of website structure—content linearity—on learning is somewhat more clear.

The Impact of Content Linearity on Learning

Site navigation and usability are characteristics that differentiate click-through and scroll-through websites (Eveland, Cortese, et al., 2004). A website that presents information linearly has a clear beginning, middle, and end. Scroll-through sites are

typically more linear because content items are displayed one after another from the top of the home page to the bottom of the page. Obvious visual cues guide users to view the stories in the order they are presented and users are expected to succumb to these cues because they are never interrupted by navigating to a new page. Conversely, a nonlinear website provides less guidance in regard to the order in which users view information.

Website structure can predicate how users comprehend content (Eveland, Cortese, et al., 2004). The way a website is structured can affect how users remember and understand content, but how content is *recognized* and how it is *understood* are different concepts. The ability to recognize content can be considered factual knowledge, which is “represented by the nodes of information in a domain of memory,” and the ability to understand content can be considered knowledge structure, which is “represented by the linkages between the nodes in a given domain” (Eveland, Cortese, et al., 2004, p. 210). These types of learning might differ as a result of website structure. Evidence suggests people remember factual content better when information is presented in a linear fashion (Eveland & Dunwoody, 2001). Brown (1998) examined the amount of facts individuals retained after reading information online in various formats, and he found that participants recalled a higher number of facts after reading a long, single-page version of a website (similar to the current study’s scroll-through site) than a less linear site with a table of contents leading to short individual sections on separate pages (similar to this study’s click-through site). A linear site guides the reader, whereas it is easier for users to miss some content on a nonlinear site. In fact, sites with more user control, such as nonlinear sites, have been shown to have negative effects on learners (Niemiec, Sikorski, & Walberg, 1996).

However, memory is not the only measure of comprehension, and studies suggest nonlinear sites are more effective when it comes to attaining a deeper understanding of website content rather than simply remembering or recognizing facts. Although Eveland, Cortese, Park, and Dunwoody (2004) found linear sites increased factual learning, they also found nonlinear designs increased knowledge structure density (i.e., the ability to infer connections from the content). Knowledge structure is a key aspect of learning and one that is particularly relevant in higher order forms of knowledge (Eveland, Marton, et al., 2004). Similarly, Sanchez and Wiley (2009) found that a more linear, scrolling design decreased comprehension, as tested by an essay asking participants to make causal inferences from the website content. The findings that support nonlinear site structure are consistent with user control theory, which maintains that nonlinear design is a better learning aid because the freedom inherent in this type of design allows learners to consume information in a way that best fits their needs (Eveland, Cortese, et al., 2004).

Research Questions

The review of the literature clarified the conceptual differences between a scroll-through and a click-through website design, particularly in regard to each site’s level

of user control and linearity of content. Additionally, evidence suggested effects of website structure on attitudes, attention, and two types of comprehension. This study seeks to test those effects in the context of an online news package.

Additionally, combining the literature on attitude and comprehension effects, research has shown that the amount of time a user spends browsing a website can be an indicator of user interest in terms of involvement or attention, and involvement, in terms of time on task, can affect comprehension (Celsi & Olsen, 1988; Kim & Chan, 2005). This study also seeks to examine this relationship while adding a manipulation of website type. Based on the review of the literature, the following research questions are proposed:

- Research Question 1:** How will site design affect participant's attitudes?
- Research Question 2:** What kind of site design better facilitates recognition, and what kind of site design better facilitates understanding?
- Research Question 3:** Will time spent browsing affect comprehension with respect to the type of website being browsed?

Experiment

Participants

The sample consisted of 84 undergraduate students from a Southeastern research university who received course credit for their participation. The participants were 86% female, 77% Caucasian, and their ages ranged from 18 to 47 years, with a mean age of 20.11 years ($SD = 3.48$). All participants reported high familiarity with the internet, 75% of the sample said they used the internet daily to get news, and 51% said they viewed interactive, multimedia news sites daily.

Stimuli

The two stimulus websites used in this study featured stories about the use of coal as an energy source. They were created from a journalism project called Powering A Nation that was produced by students as part of University of North Carolina at Chapel Hill's News21 initiative. The sites offered identical content but were structured differently. The scroll-through webpage (<http://www.poweringanation.org/coal/>) displayed content in a linear fashion and was structured, so that users could access all stories from the home page. The scroll-through site was linear in that there were obvious visual cues leading users to view the stories in the order they were presented, and users remained on the same page when they clicked on each story. The click-through site (<http://pantest.web.jomc.unc.edu/>) displayed content in a nonlinear fashion and was designed, so that users were required to click on stories that opened in new pages. The click-through site was nonlinear in that there were no obvious visual cues leading users to view the stories in the order they were presented, and users were taken

to a new page when they clicked on each story, interrupting any linear progression of content viewing.

The authors recognize that neither site in this study is highly interactive because they both lack two-way communication. Still, based on the literature described, a greater amount of user control is expected on the click-through site compared to the scroll-through site because the click-through site offered more user control in terms of the number of clickable items and the greater choice in sequence of viewing stories.

Design and Materials

The study employed a 2×2 between-subject factorial design. The experiment required participants to browse a website and respond to questionnaires. The independent variables were website design (click through or scroll through) and motivation (intrinsic or extrinsic). Participants were randomly assigned to one of the four treatment conditions: click-through website and intrinsic motivation, click-through website and extrinsic motivation, scroll-through website and intrinsic motivation, or scroll-through website and extrinsic motivation.

Motivation was considered to provide ecological validity, as it is a practical concern that users visit websites with different goals. Before browsing the website, participants were motivated either intrinsically or extrinsically. Intrinsic motivation “represents an internal desire to engage in a behavior due to pleasure, interest, enjoyment, and/or challenge” and extrinsic motivation “represents an internal desire to engage in a behavior due to external incentives, such as money, grades, and praise” (Moos & Marroquin, 2010, p. 267). Participants in the intrinsic motivation condition were told they received the link to the site from a friend who thought they might be interested. In this condition, participants presumably valued the friend’s opinion and therefore believed they might actually be interested in the website or at least that it was worth checking out to see for themselves; however, the act of browsing the site was not compulsory. Participants in the extrinsic motivation condition were told they received the link from a professor who told them to familiarize themselves with the content, as they would need it for an upcoming assignment. In this condition, participants were presumably less concerned with their actual interest in the content, and browsing the site was compulsory. This motivation manipulation was adapted from Eveland et al. (2004), and following, that study, no motivation effects are predicted.

Dependent variables included attitude toward the site, attention to the site, and two types of comprehension of site content. Attitude was evaluated by using a 7-point Likert-type scale adapted from Kalyanaraman and Sundar (2006). Specifically, respondents were asked to rate the website on a number of statements such as, “The website was engaging,” “I was satisfied with using the website,” and “I would recommend the website to a friend.” Attention was measured as time spent browsing the site. Comprehension was tested through both memory and understanding of site content. Memory was measured through tests of recognition (multiple choice) of site content. For example, participants were asked “Which type of energy source is used

most in the United States to produce electricity? (a) solar, (b) coal, (c) natural gas, or (d) nuclear.” The answer to this question was clearly provided in the introduction video on the website. Understanding of site content was measured through more complex inference questions (multiple choice) asking the participants to identify connections from within the content. For example, participants were asked “Which two emotions were conveyed throughout the site as a whole? (a) love and tension, (b) happiness and conflict, (c) anger and fear, or (d) love and optimism.”

Apparatus

Participants completed the experiment in a small interior room that was quiet, well lit, and free of radio wave interference. They viewed the website on a Lenovo ThinkPad T-Series laptop with a Windows Vista operating system, and they navigated the site with a three-button mouse.

Procedure

Participants were welcomed and asked to read and sign an informed consent form. They were then told they would be asked to spend some time browsing a website and respond to five questionnaires—two before viewing the site and three afterward. Each session lasted about 45 min. After completing the first two questionnaires, which asked general demographic questions and measured their general knowledge about coal, they were primed with their motivation condition and then asked to browse the appropriate version of the site depending on their condition. Participants were stopped after 15 min of browsing if they did not stop on their own accord prior to that time limit. Finally, participants completed the three questionnaires measuring recognition and understanding as well as attitude. Following the postexperiment questionnaires, the researchers answered any questions before thanking them for their participation.

Results

Attitude and Website Structure

In regard to Research Question 1, website design largely did not affect participants' attitudes. Consistent with the research of Kalyanaraman and Sundar (2006), general attitude was measured by performing a principal components analysis with a varimax rotation in SPSS V22.0 on the 16 attitude items in order to determine the latent constructs in the scale. The exploratory factor analysis specified two factors: website enjoyment ($\alpha = .76$) and website sophistication ($\alpha = .53$).¹ No significant differences were found between either attitude factor and website type. However, it is worth noting that this finding was consistent with anecdotal evidence from a qualitative pretest focus group, in which participants were divided on which site they had more favorable attitudes toward. Participants in the pretest linked attitudes to motivation. Extrinsically motivated participants said they preferred the nonlinear site because the

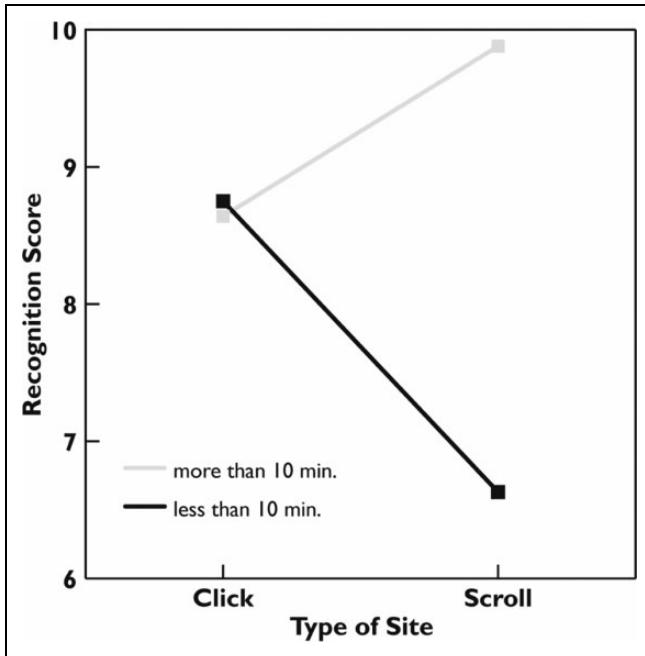


Figure 1. The interaction of website design and time spent browsing on recognition.

structure was more familiar and they could therefore better navigate the site. Intrinsically motivated participants said the linear site was more visually appealing and better for exploration.

An independent samples *t*-test did reveal a significant difference between type of website and amount of user control, supporting the researchers' conceptual distinction between the two types of sites in this study. Levene's test for equality of variances was significant, so an adjusted *t*-value is reported, $t(52.11) = 2.32, p < .05$. Participants navigating the nonlinear, click-through site ($M = 2.17, SD = 1.13$) felt significantly more in control than participants navigating the linear, scroll-through site ($M = 1.35, SD = 1.64$).

Comprehension and Time Spent Browsing

In regard to Research Question 2, the type of site participants browsed did not significantly impact either type of comprehension (recognition or understanding) when each site was tested individually. However, an interaction between type of site and browsing time existed, and it significantly affected recognition and understanding. A multivariate analysis of variance was performed with between-subject factors of browsing time, motivation type, and website type, and an interaction was found

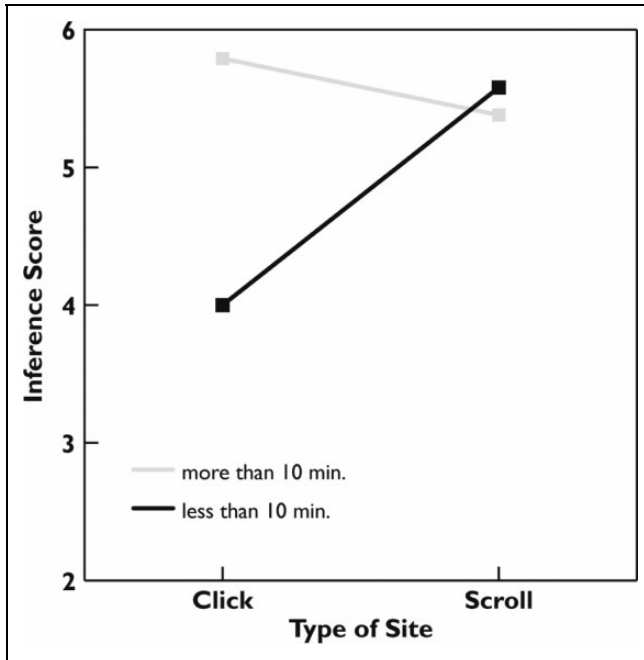


Figure 2. The interaction of website design and time spent browsing on understanding.

between browsing time and type of site, $\Lambda = .471$, $F(2, 72) = 4.68$, $p < .05$. Post hoc tests revealed that individuals who spent at least 10 min browsing scored significantly higher on *recognition* when using the scroll-through site ($M = 9.88$, $SD = .41$) than the click-through site ($M = 8.64$, $SD = 1.45$). Conversely, individuals who spent at least 10 min browsing scored significantly higher on *understanding* when using the click-through site ($M = 5.79$, $SD = .8$) than the scroll-through site ($M = 5.37$, $SD = .84$). In other words, among participants who spent at least 10 min looking at the website, individuals remembered more facts after using the scroll-through site but gained a more comprehensive understanding of the content after using the click-through site (see Figures 1 and 2).

The data revealed no main effect for time spent browsing; however, participants in the pretest spent more time browsing the linear, scroll-through site than the nonlinear, click-through site. Pretest participants said the linear site was more aesthetically pleasing, and the linear format encouraged them to continue viewing each subsequent story.

Discussion and Conclusion

This study examined the effect of website structure (a primarily click-through site vs. a primarily scroll-through site) on attitudes, attention, and two types of

comprehension. The main effect of website type was not significant for any dependent variable. In other words, when only examining whether users used the click-through or scroll-through site, participants did not differ in their attitudes toward the site, their comprehension of the content, or how much attention they paid while browsing. The lack of significant main effects on comprehension is consistent with past research. Regarding linearity, Lowrey (2004) found that nonlinearity had no significant effect on knowledge acquisition. Regarding interactivity, Berry (2000) found that the design of a news website (in terms of its presence or absence of multimedia) did not impact inference or recall of website content.

However, in the current study, an interaction effect was found in regard to attention and learning in that those who spent more time browsing learned more. This initial finding might stand to reason, but the differences in the type of learning that took place on each site provide the most valuable contribution of this study and deserve further exploration. Among those who spent at least 10 min browsing, the scroll-through site was more effective in terms of participants' recognition of site content. They remembered more facts from the website content when they browsed a site that required them to continue scrolling rather than click to access different pages. Perhaps participants were able to remember more information because they were not interrupted by clicking on multiple pages and likely saw the same information more times because it was presented on a single page. On the other hand, the click-through site was more effective in terms of attaining a deeper understanding of website content. These participants were better able to draw comparisons and make inferences from the content after browsing a site that required them to click on several pages. Perhaps participants were able to attain a deeper understanding of the content because the design offered them the freedom to consume information in a way that best fit their learning needs, which is consistent with user control theory (Eveland, Cortese, et al., 2004). Together, these results replicate Eveland, Cortese, et al.'s (2004) findings and add support that linear web structures increase factual learning and nonlinear structures increase knowledge structure density, which relates to inferential learning. Future studies should examine the mechanisms that might explain these effects.

These outcomes have both theoretical and practical contributions. They offer an updated look at the impact of web content interactivity and linearity on attitudes and comprehension, research that has provided conflicting results in the past. They offer additional support for the difference between factual learning and structural learning and how website structure, particularly with respect to user control and linearity, best caters to each type of learning goal. These findings are also valuable in that they can guide website creators, such as marketers, educators, and journalists, who use websites to spread knowledge and/or run a successful business. For example, a journalist whose primary focus is to provide content that requires deep understanding (e.g., a multimedia package regarding a complicated political issue) should present that information on a nonlinear, multipage website. This type of design may help readers make connections and draw inferences from the content because it has been shown to improve knowledge structure density, which can improve retention and problem-

solving (Eveland, Cortese, et al., 2004)—skills that journalists aim to instill in their readers when reporting on complex or impactful topics. Conversely, a journalist whose primary focus is to provide factual content that is more easily remembered (e.g., sport scores, stocks, or weather), rather than content that requires a deeper understanding of an issue, should present that information on a linear, single-page website. This type of learning results in shorter memory of the content, which is appropriate when journalists are presenting users with facts that lack enduring social significance but are valuable to include in casual conversation (e.g., the forecast calls for rain tomorrow).

The results of this study contribute to our understanding of scrolling versus linear website design by indicating that the most effective design depends on the complexity of the content. Website designers might benefit users by creating non-linear, multilayered sites to convey complicated issues, but they might be doing a disservice to their users by building complex packages for simple, factual information, in which a simply structured site might prove more effective. In reality, however, not all content nicely fits into one category or the other. In these cases, best practices based on this study would suggest that the most effective website design might involve a balance between simple and complex. Lowrey (2004) points to scholars who suggest that “the optimum online experience involves interactions that are not so complex as to confuse the reader, but not so simple and obvious as to become tedious” (p. 85).

In a news context, both remembering content and understanding it are essential in creating an engaging and functional online news experience, and the two types of comprehension are closely related. However, recent professional and technological changes in the field of journalism indicate that reporters might be wise to present their stories more often in a nonlinear format. First of all, journalists’ perceptions of their professional roles have evolved, in that reporters are seeing themselves more of information analysts than information distributors (Beam, Weaver, & Brownlee, 2009). The fact that journalists increasingly feel that it is their job to interpret information rather than simply deliver the “facts” suggests they might more often be telling complex stories that require a deeper understanding from their audiences and would thus benefit from displaying their stories on a nonlinear website. Secondly, as communication technologies have evolved, so have the ways individuals access the news. Some researchers say journalists should use nonlinear storytelling designs to cater to younger audiences (George-Palilonis & Spillman, 2011). This advice makes sense in that young adults, or those who may be considered millennials, are getting their news from both mobile devices and traditional larger screen computers (Westlund & Färdigh, 2015). Because mobile devices are more easily accessed on the go than traditional computers and users likely use mobile devices for shorter bits of time, individuals may be getting their more simple, fact-based news and information from mobile devices, leaving the more complex news stories to be consumed via online news packages best displayed on larger screens and for longer periods of time. If this is the case, journalists would again benefit their audiences by favoring a nonlinear,

click-through website design in presenting their online stories. Scholars should further examine what type of information news consumers prefer on various devices.

This study is not without limitations. An increased sample size might have led to more significant findings with respect to attitudes, site design, and attention. The absence of any main effects due to site design may be a result of insufficient variation in site structure. Future studies may increase the disparity in design structure and functionality or study the impact of other types of sites such as static or mobile websites. Additional factors may have potentially influenced the results of this study. The relevance of the website content, for example, may have moderated the relationship(s) between website structure, attitudes, comprehension, and attention, making website content worthwhile for future study. Similarly, taking into account the type of user and the complexity of the website might influence results, as Eveland, Marton, and Seo (2004) found individuals reaped the benefits of more complex website structures when they were regular web users, but potentially suffered disadvantages if they were not regular web users.

The findings in this study—that a scroll-through website might aid factual learning and a click-through website might aid a deeper understanding of content—lead producers of online content to consider their goals. What is more important for users to remember facts or attain a deeper understanding of the content? Future research should consider the different contexts in which each type of learning is preferred.

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Note

1. The website enjoyment factor had an eigenvalue of 4.14 and explained 34.5% of the variance. It loaded with the following items: I would recommend the website to a friend (.854); I am likely to return to the website (.808); if given more time, I would have continued to browse the site (.739); I was satisfied with using the website (.733); I paid a great deal of attention to the website (.722); the website was easy to navigate (.635); and the website was attractive (.586). The website sophistication factor had an eigenvalue of 1.89 and explained 15.8% of the variance. It loaded with the following items: The website was informative (.669), high quality (.655), complex (.633), interactive (.542), and I felt in control navigating the website (.5).

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