

More Than Shovelware: A Call for Layered Stories for Online Journalism

Abstract

This paper addresses an issue in the information design for the online stories. While most newspapers adopt a “shovelwear” approach, a new technique—layering—could greatly enhance the reading experience with visual clues of story structure. This paper analyzes the different reading styles of reading a print-copy versus reading online; and based on those differences, the advantages of layering is discussed. A pilot experiment was conducted to check the effectiveness of the layering technique. Results showed that a layered article is less boring to read, faster to read, considered better organized, and adds to the web page’s attractiveness.

Keywords: online journalism; text page design; shovelwear; layering; visual clue; web usability

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Introduction

With more and more people getting news from the Internet, the design of individual story web pages are playing an important role in informing the public (Hindman, 2007). The usability, or efficiency of the information design, directly influences the effectiveness of the reading experience. As noted by the web usability expert Jakob Nielsen, “there is still a lot to do for structured and elegant online articles” (Nielsen, 2009, p.4). The information design of the text news story should consider the web user’s reading habit (Lin, Salwen, Garrison & Driscoll, 2005; Garrison, 2005).

This paper addresses the story page design in online journalism. There has been a lot of research focusing on the use of multimedia in online journalism. However little research has covered the design of text body of online articles. Therefore, the focus of this study is not the multimedia add-on for text. The focus of this study is the presentation of text body of news articles. Specifically, it discusses the limits of shovelwear (presenting the full text body with no revision) and the potential benefits of layered stories (dividing an article into parts and presenting the organized parts). How effectively will the layering approach enhance the web reading experience?

Literature Review

Shovelwear Issue

Usability has been found to positively shape the effectiveness of online activities

(Buente & Robbin, 2008). Currently, most online news articles are presented in a very similar way to traditional print newspapers. Most online journalism websites have an article just shoveled from the newspapers. This approach is called shovelwear—transferring content from newspaper to the webpage with little or no revision (Foust, 2009). This approach assumes that people would read an article online in the same way as they would read a print version. This assumption, however, ignored some crucial features of people’s online reading style (Machin & Niblock, 2008).

People’s Online Reading Habit

According to web usability research by Nielsen (2009), the Internet users don’t read on the web the same way as they read print copies; instead, they scan pages for individual words that attract them. People have less patience in reading long text body from a screen. This might be due to the resolution difference between a screen and a print copy. Because the screen’s resolution (72 ppi) is way smaller than the print resolution (300 ppi), reading an article from a screen is more exhausting to eyes than reading the same article from a print paper (Foust, 2009). A long online article is not likely to attract Internet users, especially future users who grow up with interactive media such as video games (Huang, 2009).

When Internet users scan the web pages instead of reading them, it is necessary to present the information in a more “scannable” way. To help the digestion of the big-chunk text body, bulleted lists subheads and bolding provide quick guides of the main points of the article. The shovelwear approach does not take advantage of online journalism, and the text could be presented in a more structured, elegant way.

Online Journalism's Capacity

The Internet, as a medium, offers a lot of unique advantages in information design (Maier, 2010; Pavlik, J. (2000). One advantage is the greater audience control. Compared to traditional media, the Internet gives its users more power to choose the information they want. As pointed out by Jones (2009), “news on the web is almost entirely chosen by the viewer” (p. 180). Another advantage is the interaction between the user and the information. When the information is desirably presented, users could have easy and fast access to additional information to enhance the main points of story.

Foust (2009) proposed a “layering” approach for online journalism. Layering means “dividing text-based stories into several parts” (Foust, 2009, p.143) and a text online story could be presented in small, easily understandable sections. A layered story is generally created by first breaking a conventional story text into parts, followed by giving each section a heading, and finished by putting the section headings into an icon where users can click and read the whole section.

The major advantage of a layered story is similar to a map. With a layered article, the user sees the structure of the article, thus get a quick idea about the gist of the whole article (Foust, 2009). The section icons function to offer users an orientation to the article as a whole. Each section icon gives online users a clue of the information in that section. Compared with conventional shovelwear, this approach fits the online user's fast, scan-style online reading habit. This structural folding and unfolding feature in reading is unique to the Internet; not feasible for any other medium. Long-term benefits of the layering approach are more efficient information delivery, attracting more online users, and makes online journalism more meaningful. When the visits to online news sites

provides rich gratifications, readers will come to the online news site again and again (Spyridou & Veglis, 2008;Huang, 2007).

How effective would this layering approach help the online reading experience? Very few studies, if any, have tackled this question. Therefore, this study will use empirical data to check the usefulness of the layering approach. Below is the research question.

RQ: To what extent does layering approach improve online reading experience?

This study will examine several aspects of effectiveness of layering approach in reading: organization of the article, easiness to understand the story, reading speed, fatigue, boring design, visual attractiveness of the webpage. All these effectiveness measures are taken from a user's perspective.

Hypotheses

H1: The layered article design will be rated better organized than the shovelwear article design.

H2. The layered article will be rated easier to understand than the shovelwear article.

H3: The layered article design will be read faster than the shovelwear article.

H4: The layered article design will be rated more visually attractive than the shovelwear article design.

H5: The layered article design will be read with less fatigue than the shovelwear article design.

H6: The layered article design will be rated less boring than the shovelwear article design.

Method

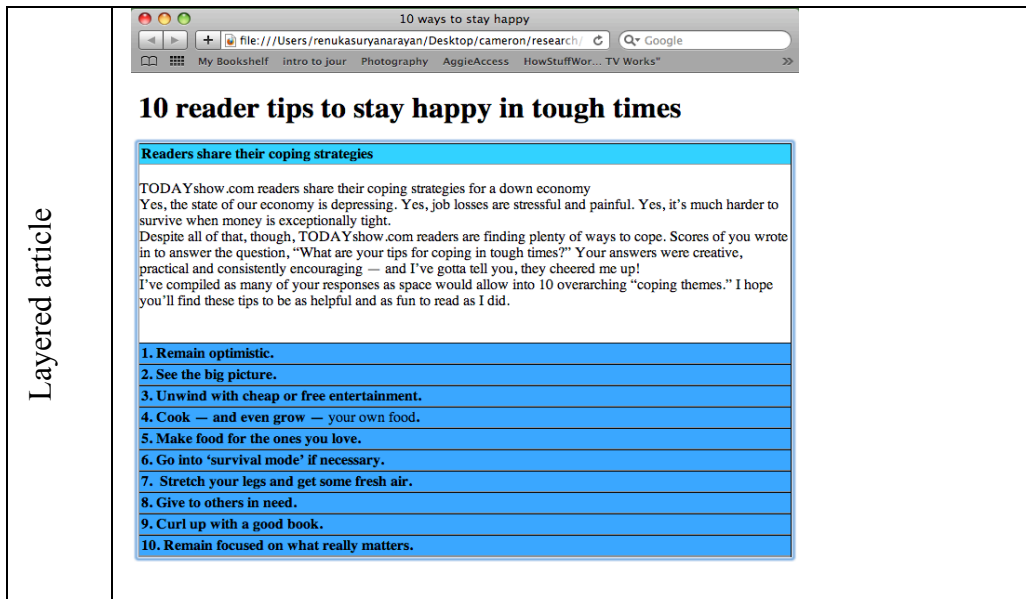
A between-subject experiment was conducted where 63 participants read the same article with different information designs. Participants were randomly assigned into two treatment groups: a shovelwear group read the article in a webpage with shovelwear style, and a layer group read the article with a layered design. A control group read the article in a print version.

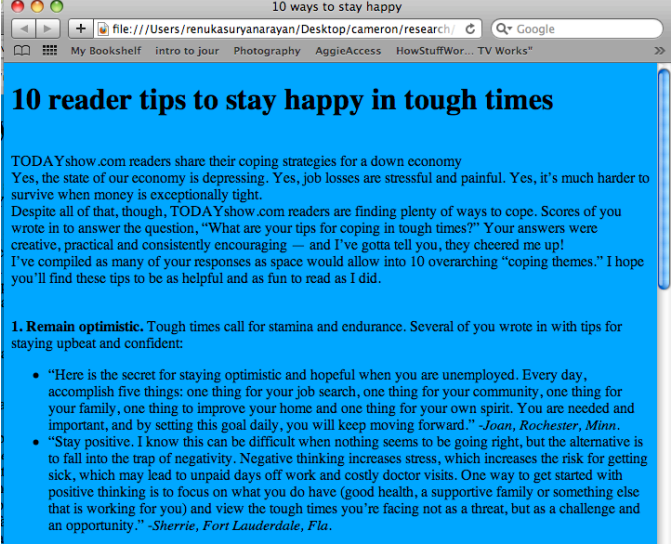
Participants were asked to view the stimuli in a way similar to their daily encounter of news articles. They don't have to finish the whole article. After the exposure, participants indicated their response in a questionnaire.

Stimuli

An article titled "10 reader tips to stay happy in tough times" was designed in three ways. This article has 1996 words and shows a sharp visual contrast between shovelwear design and the layering design. For the shovelwear group, a webpage was created and the whole text content was put on one single page. For the layering group, the article was made with dynamic "spry" function in Adobe Dreamweaver. For the control print group, a newspaper page was created with Adobe InDesign.

In the layered article stimuli, a dynamic webpage was made where the whole text body was displayed by a “Spry Accordion” function in Dream-Weaver. The content of the article consists of a brief introduction with ten tips. In the layered article design, the ten tips were made into small bars, which provided the outline of the whole article. The blue bars could be folded and unfolded at a click. When a reader opens the article page, he only see the introduction part; the rest ten parts of the article are folded in blue bars. Once the reader clicks another blue bar, the current bar will be folded, just like how an accordion would work. The following figures are the screen shots of the stimuli.



<p>Print article</p>	<p>10 reader tips to stay happy in tough times</p> <p>TODAYshow.com readers share their coping strategies for a down economy. Yes, the state of our economy is depressing. Yes, job losses are stressful and painful. Yes, it's much harder to survive when money is exceptionally tight.</p> <p>Despite all of that, though, TODAYshow.com readers are finding plenty of ways to cope. Scores of you wrote in to answer the question, "What are your tips for coping in tough times?" Your answers were creative, practical and consistently encouraging — and I've gotta tell you, they cheered me up! I've compiled as many of your responses as space would allow into 10 overarching "coping themes." I hope you'll find these tips to be as helpful and as fun to read as I did.</p> <p>1. Remain optimistic. Tough times call for stamina and endurance. Several of you wrote in with tips for staying upbeat and confident:</p> <ul style="list-style-type: none"> • "Here is the secret for staying optimistic and hopeful when you are unemployed. Every day, accomplish five things: one thing for your job search, one thing for your community, one thing for your family, one thing to improve your home and one thing for your own spirit. You are needed and important, and by setting this goal daily, you will keep moving forward." -Joan, Rochester, Minn. • "Stay positive. I know this can be difficult when nothing seems to be going right, but the alternative is to fall into the trap of negativity. Negative thinking increases stress, which increases the risk for getting sick, which may lead to unpaid days off work and costly doctor visits. One way to get started with positive thinking is to focus on what you do have (good health, a supportive family or something else that is working for you) and view the tough times you're facing not as a threat, but as a challenge and an opportunity." -Sherrie, Fort Lauderdale, Fla. • "I have always lived frugally so when I lost my job last year, I didn't sweat it so much. It has taught me how much money I <p>improve your home and one thing for your own spirit. You are needed and important, and by setting this goal daily, you will keep moving forward." -Joan, Rochester, Minn.</p> <p>• "If you can't find a job in your own field, take this chance to do something you have always wanted to do. Whether you are short on money or not, cut back to what you need, do less of what you want. Maybe your excess could bless someone who needs some help. Remember what is really important and choose to be happy." -D.G., Pickerington, Ohio</p> <p>3. Unwind with cheap or free entertainment. Several readers talked about the importance of enjoying low-cost forms of recreation and entertainment, no matter how bad things get. Here are some ideas:</p> <ul style="list-style-type: none"> • "Bring back game night for grown-ups. Movies are so expensive (that) we couldn't do it every weekend like we used to, so we invite a few friends over, make some incredible dessert and we play games. Now it's been a challenge who brings the best desserts. (My mom <p>(mortgage, etc.). Being unemployed has helped me to stop and take stock of my life." -Milore, Providence, R.I.</p> <p>• "I go back to everything my grandmother knew. ... In the summer we plant a garden to cut back on the cost of fresh veggies and I've even learned to can and make my own apple sauce, breads and much more. Slowing down and cooking our own food has made a huge change in our family and our finances." -Stacy, Minnesota</p> <p>• "Our family sat down together and planned out a vegetable garden. After I bought the seeds my 2.5-year-old and I planted them together. Now the</p> <p>cials at restaurants during lunch and have water with lemon instead of a drink. I also rent Redbox movies instead of higher-priced ones. ... I try to go out to a movie at least once a month and use my AMC MovieWatcher card for additional savings on snacks. I now have a ticket for a free movie also to enjoy." -Yve, Dallas</p> <p>4. Cook — and even grow — your own food. Food bills certainly concern people during times like these, but many of you are finding ways to beat the system:</p>
<p>Shovelwear article</p>	 <p>The screenshot shows a web browser window with the title "10 ways to stay happy" and the URL "file:///Users/renukasuryanarayan/Desktop/cameron/research/". The article content is visible, including the title "10 reader tips to stay happy in tough times" and the beginning of the text: "TODAYshow.com readers share their coping strategies for a down economy. Yes, the state of our economy is depressing. Yes, job losses are stressful and painful. Yes, it's much harder to survive when money is exceptionally tight." The first tip, "1. Remain optimistic," is also visible, starting with "Tough times call for stamina and endurance. Several of you wrote in with tips for staying upbeat and confident:"</p>

Measurement

The questionnaire measured all the dependent variables, including organization of the article, easiness to understand, visual attractiveness of the article, fatigue in reading, boring reading experience, and reading time. Most variables were measured by 5-point

Likert scales where higher number indicate higher scale of the measured variable.

Reading time was measured in seconds.

Results

Altogether, the participants who were exposed to the layered story considered the article to be less boring, faster to read, better organized, more visually attractive, and was read with less fatigue. There was no significant difference in terms of easiness to understand.

H1 posited that the layered article design will be rated better organized than the shovelwear article design. As Table 1 shows, the text organization scores for the three designs are significantly different, $F(60,2) = 47.655, p < .001$. The layered design ($M = 3.91$) was rated better organized than the shovelwear design ($M = 2.33$). H1 was supported. Interestingly, the print version in the control group received the highest rating for organization.

H2 posited that the layered article will be rated easier to understand than the shovelwear article. This hypothesis was not supported, and the data failed to indicate a significant difference in terms of easiness to understand, $F(60,2) = 2.311, p = .128$.

H3 posited that the layered article design will be read faster than the shovelwear article design. This hypothesis was supported. As Table 1 shows, the reading time for the three designs are significantly different, $F(60,2) = 25.899, p < .001$. The layered design ($M = 45.28$ seconds) was read faster than the shovelwear design ($M = 72.52$ seconds).

H4 posited that the layered article design will be rated more visually attractive than the shovelwear article design. This hypothesis was supported. As Table 1 shows, score for visual attractiveness for the three designs are significantly different, $F(60,2) = 17.839, p < .001$. The layered design ($M = 4.14$) was more attractive than the shovelwear design ($M = 3.04$).

H5 posited that the layered article design will be read with less fatigue than the shovelwear article design. This hypothesis was supported. As Table 1 shows, score for fatigue in reading for the three designs are significantly different, $F(60,2) = 24.871, p < .001$. The layered design ($M = 2.43$) was read with less fatigue than the shovelwear design ($M = 3.71$).

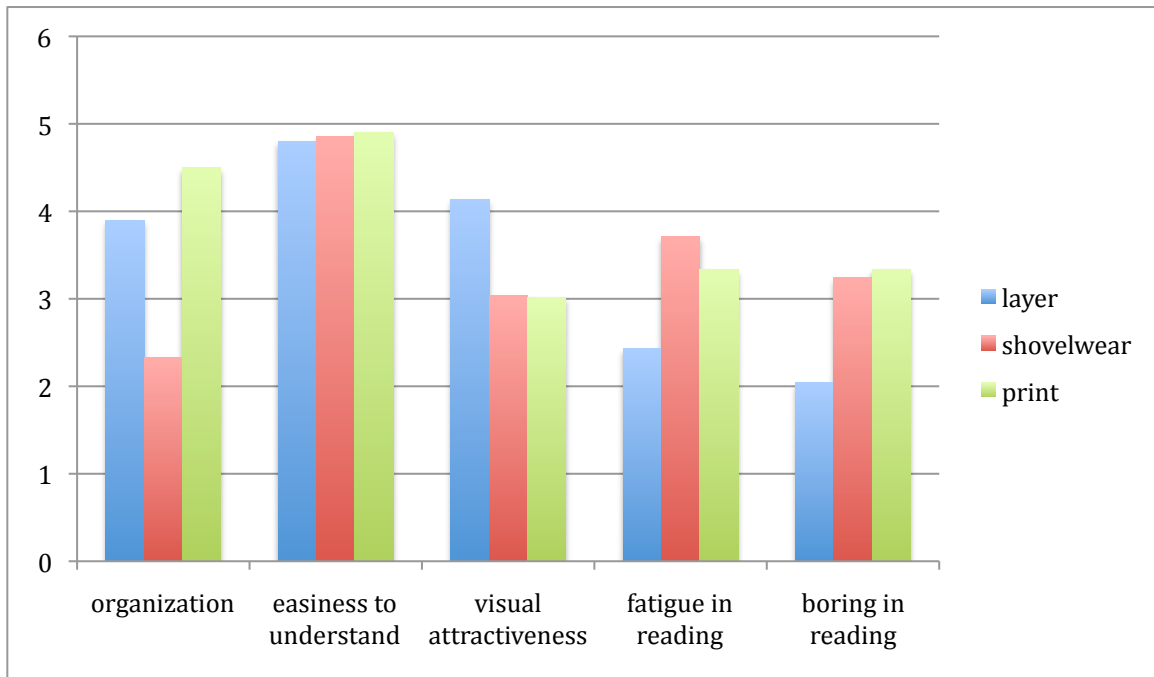
H6 posited that the layered article design will be rated less boring than the shovelwear article design. This hypothesis was supported. As Table 1 shows, score for fatigue in reading for the three designs are significantly different, $F(60,2) = 36.54, p < .001$. The layered design ($M = 2.04$) was rated as less boring than the shovelwear design ($M = 3.23$).

Table 1: Effectiveness of Layered, Shovelwear, and Print Design

Variable	Layering	Shovelwear		Print		<i>F</i>	<i>p</i>
	Mean (St)	Mean	St	Mean	St		
Better Organization	3.90 (.70)	2.33 (.913)		4.52 (.60)		47.66	<.001
Easiness to Understand	4.80 (.40)	4.85 (.35)		4.98 (.05)		2.131	.128

Reading Time	45.29 (9.78)	72.52 (13.79)	59.23 (12.86)	25.90	<.001	
Visual Attractiveness	4.14 (.73)	3.04 (.97)	3.02 (.38)	17.84	<.001	
Fatigue in Reading	2.43 (.67)	3.71	.46	3.33 (.65)	24.87	<.001
Boring in Reading	2.04 (.22)	3.24	.54	3.34 (.66)	36.54	<.001

The figure below shows the mean differences visually.



Discussion

The Internet, as a medium, offers huge potential for journalism. Yet very little literature addresses how to better use the new medium for text information design. To

make the reading more meaningful, the design for journalism online article should consider both the limits and the advantages of the new medium. This study examined online user's scanning reading style and the interactivity and greater user control in online news reading, and discussed the potential of a layering approach for online journalism.

An experiment was conducted to explore the effectiveness of the layering approach. The results indicated a greater effectiveness for the use of layering over shovelwear. Specifically, layering approach helps the reading with (1) a better organization of information, (2) less time to read, (3) added visual attractiveness to the page, (4) less fatigue in reading, and (5) less boring reading experience. However, this study did not find proof that the layered article is easier to understand.

A note needs to be made for the easiness to understand variable. This study did not find statistically significant difference between the shovelwear design and the layered story design. However, this does not necessarily mean there is no difference in the two designs; it only means this study did not provide an empirical indication. A closer look at the scores in the three treatment groups pointed out that all the three groups have a high mean score. This variable did not bring much variance. The reason for the insignificant result for this variable might be due to the fact that the stimulus article selected for this study is, overall, an easy reading. It could be seen that all three groups showed very high scores for the easiness to understand variable. It is possible, in a future study, with a stimulus article that is harder to understand, the difference between the two designs would be observable.

Online journalism is still in its infancy (Foust, 2009). It is important for online journalists to understand the visual principles that underlie online writing, even though these principles are new and sometimes don't jump into our eyes. Online journalists are faced with great opportunities in shaping the future of journalism. The layering approach, with its clean and pleasant design, has strong potential to change the landscape of online journalism into a more meaningful world.

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