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Information Superhighway or Information Overload? Exploring the Viability of Candidate Web Sites as a Means for Political Learning

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Abstract

Technological advances in communication have always been optimistically welcomed as a means of empowering the average person's ability to hear new ideas and to have their own ideas heard. Eventually, as a new medium becomes widely accepted, control of that medium in terms of information dissemination often becomes narrowed down to a few key players or institutions. In America, authors still rely on publishers for mass distribution; musicians struggle for air-time on radio stations that are owned by a handful of corporations, and television networks charge exorbitant prices for a 30-second commercial. A simple trend has emerged proclaiming that power is the only guarantee for making your voice heard. This trend carried over to the political realm as candidates realized that the key to making their voice heard was how much money was in their campaign war chest. As modern campaign techniques relying heavily on sound-bite information became more and more common, a troubling concern arose from democratic theorists. These theorists began to worry that the American electorate would begin voting solely on images instead of substantive issue positions. Not all of the blame could be placed on voters, though. As V.O. Key explained, "voters are not fools... [T]he electorate behaves about as rationally and responsibly as we should expect, given the clarity of the alternatives presented to it and the character of the information available to it" (Buhr, 2000:204). Laying blame completely aside, a political epidemic was festering as a result of modern campaigns. The candidate who most effectively utilized psychological heuristic devices in campaigning appeared poised to supercede the candidate who had the better ideas, and this was becoming the driving factor in American elections. While this might not have been a problem to campaign consultants who thrived on the new style of electioneering, those who hoped for an ideal democracy cringed at the thought of such campaigns.

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Introduction

Technological advances in communication have always been optimistically welcomed as a means of empowering the average person's ability to hear new ideas and to have their own ideas heard. Eventually, as a new medium becomes widely accepted, control of that medium in terms of information dissemination often becomes narrowed down to a few key players or institutions. In America, authors still rely on publishers for mass distribution; musicians struggle for air-time on radio stations that are owned by a handful of corporations, and television networks charge exorbitant prices for a 30-second commercial. A simple trend has emerged proclaiming that power is the only guarantee for making your voice heard. This trend carried over to the political realm as candidates realized that the key to making their voice heard was how much money was in their campaign war chest. As modern campaign techniques relying heavily on sound-bite information became more and more common, a troubling concern arose from democratic theorists. These theorists began to worry that the American electorate would begin voting solely on images instead of substantive issue positions. Not all of the blame could be placed on voters, though. As V.O. Key explained, "voters are not fools... [T]he electorate behaves about as rationally and responsibly as we should expect, given the clarity of the alternatives presented to it and the character of the information available to it" (Buhr, 2000:204). Laying blame completely aside, a political epidemic was festering as a result of modern campaigns. The candidate who most effectively utilized psychological heuristic devices in campaigning appeared poised to supercede the candidate who had the better ideas, and this was becoming the driving factor in American elections. While this might not have been a problem to campaign consultants who thrived on the new style of electioneering, those who hoped for an ideal democracy cringed at the thought of such campaigns.

In the mid-1990s, a new political tool began to emerge that gave hope to some political theorists. The Internet, which gained popularity as a tool for education, entertainment, and commerce, appeared to be the most exciting new campaign tool since the advent of television campaigning. Furthermore, opportunities in this new medium were not limited solely to the established players of the major political powers. The low startup costs would essentially allow any candidate to create a web site announcing their candidacy, advertising their issue positions, and even raising campaign funds. The Internet's most attractive feature for theorists was the fact that it would not only reach a large audience at a fraction of the price that other campaign techniques cost, but also that the audience would be able to interact directly with the candidates. At the very minimum, voters would be able to read lengthy issue positions that candidates posted on their web sites. This resource would enable voters to sit down on their own time, find the information that mattered the most to them, and vote based on this information.

The focus of this study is to examine if the Internet can be used as such a tool in political campaigns. I refer to the propositions stating that the Internet is and will be used

in this ideal fashion as "optimistic theories." Most studies trying to prove or refute these theories analyze which candidates are actually utilizing the Internet as a campaign tool and how those candidates are utilizing the Internet. These studies provide strong support for the theory that the Internet will be used like any other political tool, not in the way described earlier. I call the hypotheses put forth along those lines "pessimistic theories."

But one area that has remained virtually ignored is the study of people who actually look at these web sites. A major blow to the optimistic theories is the fact that the Internet remains a tool for those who stand on the higher rungs of the socioeconomic ladder (Norris, 1999). Yet an in-depth look at the responsiveness of those who are actually exposed to the candidate web sites has not been conducted. This study seeks to fill in a small portion of this gaping hole in order to better understand just how useful the Internet can be as a tool for revitalizing campaigns and voter knowledge.

The central question at hand is the following: When people are exposed to candidate web sites, are they able to make meaningful use of the wealth of information presented to them? It is my belief, based on prior studies of political learning, that on average, the Internet will not facilitate dramatic increases in learning about the issue positions of candidates. Rather, the specifics will be lost in a tumultuous sea of information. Furthermore, as with other forms of political learning, prior political knowledge will be a major deciding factor on a person's ability to process information from a candidate's web site.

Literature Review

Analyzing the power of the Internet as an aide to political learning remains a virtually unexamined area of political science. However, based on the groundwork laid out by research in other areas of political science and an extraordinarily strong interest in the Internet's capabilities as a political tool, it is likely that a synthesis of studies will yield more conclusive evidence about the Internet's impact. Until that time, it is important to look at three areas of study in order to gain a better understanding of the landscape in this field. The first area to review is the information that has already been discovered about political knowledge and which forms of media seem to be most effective as instruction tools. The second area to review is the demographic data about usage of the Internet. Although the same types of studies mentioned in the first area have not been conducted for the Internet, by examining the growing prominence of the online world, a case can be made for such studies to be carried out in the future. The third area of political studies to review is the abundant theoretical and the limited quantitative analyses of the Internet's potential use as a political tool. Taken as a whole, these three areas provide a solid footing on which to conduct the study this paper presents.

The benefits gained from political knowledge have been extensively studied throughout the course of political research. Tami Buhr's look at the New Hampshire primaries succinctly articulated the benefits of political knowledge. As she writes, "better-informed voters make different and more sophisticated decisions. If much of the public has little interest in politics and remains uninformed, American democracy is weaker as a result" (2000: 204). She also points to the extensive studies of Michael Delli Carpini and Scott Keeter (1996), which show that people who are less informed are more susceptible to being swayed by political propaganda than by what the candidate really

stands for. Prior knowledge is one of the key determinants to a person's ability to learn about any subject. As Buhr states, "the information rich get richer while the information poor get poorer" (2000: 207). Her analysis of this idea not only draws upon pure political research, but it also delves into psychological studies that examine general learning techniques. Specifically discussing schema theory, Buhr states, "in essence, schema theory argues that people who have prior knowledge of a subject can more easily process new information. Learning is dependent on political knowledge to provide context" (2000: 208). If the Internet is truly destined to be the great educator for the American electorate, it will somehow have to overcome this basic hurdle of how human beings actually learn.

How to package the candidate's message is another intensely studied area of political science. One of the most definitive articles on the subject is from Just, Crigler and Wallach (1990). They examine the strengths and weaknesses of both political advertisements and political debates in terms of increasing political knowledge. At the heart of the study was the attempt to determine if either one of the televised formats increased political knowledge of the issues or candidate recognition. The study lays out two opposing views that are crucial to this study's research about Internet information dissemination. "According to one school of thought, if debates could attract a wider audience, the electorate's overall level of information would certainly increase. A contrary view, which emerged from information on literature processing, argues that the limits of other intellectual, political, and social resources make it fruitless to press people to pay attention to additional or more labor-intensive information sources." The data they gathered from the study shows that in terms of recognizing a candidate's position on an issue, the latter school of thought prevails.

To begin with, their results showed no varying difference between any of the demographic categories such as age, education, or income. This is important to note since other researchers, including Hedges (1979), have also shown no variance among these different demographic categories in terms of learning. In general, the advertisements and debates showed high amounts of viewer knowledge on **who** was running, while the debates seemed to have registered better in recalling **what** issues were discussed.

However, in terms of **where** the candidates stood on the issues, the advertisements seemed to win out. The researchers attributed some of the lacking knowledge from the debates to the large variety of positions that were put forth in a short amount of time. In general, the researchers showed that brief advertisements still allowed for a great deal of learning on the part of the viewers, despite the limited amount of information provided.

A study done by the Pew Research Center (2000) outlines the growing use of the Internet as the new means of gaining news and political knowledge. While fewer people watch news programs, a trend is on the rise of the usage of Internet as a news medium. While still dwarfed by more conventional media forms, the Internet is gaining ground. "One in three Americans now go online for news at least once a week, compared to 20% in 1998. And 15% say they receive daily reports from the Internet, up from 6% two years ago," This study also shows that the youth of America (defined as under age 30 in this study) go online more often than the older segments of society. However, it also showed that in general, this younger group cares less about following the news.

Specific analyses of the Internet as a campaign tool have shown great variance in topics, as political scientists attempt to analyze this complex new wrinkle in modern politics. Richard Davis's book *The Web of 'Politics* (1999) was an early attack on optimistic theories of online political evolution. Davis asserts that the Internet will merely serve as a means of perpetuating modern campaigns. His argument is based on the idea that the desired interaction between candidates and voters will not take place in cyberspace. Furthermore, Davis refutes the idea that people who are not interested in politics will change their habits suddenly and race online for political information. Nonetheless, Davis clearly showed the Internet has a long way to go as a viable tool, and more importantly, he clearly outlined the major points framing the majority of pessimistic theories concerning online campaigning.

Since the 1996 election, political scientists have had a difficult time quantifying what constitutes a "successful" web site. Most of the studies have resulted in analyses of candidate web sites from different areas, including who actually views the web sites (Whillock, 1997), online fundraising techniques (Dulio, Goffand Thurber, 1999), content analysis of the web sites (Klotz, 1997), and analyzing how well candidates utilized technologies unique to the Internet, such as chat rooms and e-mail (Sadow, 2000). All of these studies pointed to deficiencies in the 1998 and 2000 elections in terms of how candidates use the Internet as a campaign tool. The studies clearly show that while great strides have been made since the 1996 campaign, not all candidates running for political office have the ability to use the Internet to its maximum capacity. Furthermore, indications are growing stronger that it is the established political players (mainly Democratic and Republican candidates) who are using the web, and they are using it in the same fashion they would use any other campaign tool.

However, these studies are missing a much more basic question than whether or not candidates are using the Internet in a way that improves modern campaigning. The style and techniques candidates use on their web sites are inconsequential if the medium itself is not conducive to the model form of campaigning predicted by the advent of online campaigning. This study focuses on one crucial but neglected area: political learning. Stepping away from previous studies that examined political web sites, this study will now examine what is on the opposite end of the computer screen, the users themselves.

Research Method

In order to ascertain the effectiveness of candidate web sites as a means of facilitating political learning, an experiment was conducted between October 30 and November 6, 2000. The experiment focused on newspaper articles about candidate web sites of the two major candidates in the 2000 presidential campaign, Vice President Al Gore and Texas Governor George W. Bush. The experiment, based on the format established by Just, Crigler and Wallach, compared what was learned by two groups of subjects: one group that read articles about the candidate's issue positions and one that explored the candidate's web sites. Newspaper articles were chosen as the medium for comparison because current campaign web sites rely heavily on reading to provide information about a candidate's issue positions. (In the future, audio or video of a candidate explaining their issue positions may become the norm, but until that time,

newspapers provide the best medium for comparison.) The experiment was designed not only to measure how much knowledge a subject would gain from exposure to either of these mediums, but also what types of knowledge the subject would gain.

My study did not shy away from using well-known candidates. In fact, it was not a problem to limit my study solely to the two major party presidential candidates, but in some ways a boon. As earlier reports have shown, candidates with more resources are able to create the most sophisticated web sites. In addition, for a comparison to newspaper articles, I needed two candidates who received a lot of coverage in the press on a variety of issues. Finally, in order to test what effects prior knowledge has on political learning, it was important that a potentially sizable portion of my sample possess such prior knowledge. The details of a lower state house race would realistically only be known by the most extreme political junkie, leaving the remainder of the sample with minimal or no prior knowledge whatsoever. Al Gore and George W. Bush were two natural choices who met all of these criteria for my candidates.

To begin the study, I searched Lexis/Nexis for newspaper articles that were concerned primarily or solely with the issue positions of the two candidates. These articles were edited into a format that fit as closely as possible onto a single typed page. By the end, thirteen articles were assembled that spoke mostly in a comparison format about nine issues of the presidential race. Some topics, such as education and social security, were covered more than once. As will be addressed shortly, the number of issues found in the newspaper articles was far less than the number of issues covered on candidate web sites.

However, this limitation imitates the filtering role that the news media played in the 2000 presidential election. While a candidate web site may cover an unlimited amount of issue positions a candidate has, newspaper coverage is limited to what the news media decides to cover. These nine issues were the only ones discussed in depth in terms of issue positions. Ergo, it is not crucial that every issue presented on the candidate web site had a corresponding newspaper article for this study.

It is important here to note the difference in the information possibilities between the candidate web sites and the print media. Al Gore's web site had in-depth positions on a total of 32 different topics. George W. Bush covered a total of 30 different issues. The candidates covered the same issue 21 times. Not only is a person more likely to find an issue they personally care about on a candidate web site, but the propensity to become awash in a sea of issues on a web site is also more likely due to the sheer numbers of issues.

A total of 194 subjects were tested over the course of one week. These subjects were all students at Illinois Wesleyan University, a small liberal arts college in Bloomington, IL. The students were drawn from a variety of ages and areas of study at IWU in order to help keep the sample as random as possible.¹ While sweeping generalizations about the public at large cannot be made with this subject pool, the usage of college students is important. As discussed earlier, young Americans are more likely to use the Internet than their older counterparts. If campaign web sites are going to be widely accepted in the future, this younger generation that has grown up with the Internet will be the first to accept them.

The 194 subjects were all volunteers and were tested in groups ranging from one subject to 17 subjects at a time. The stimulus given to the subject (Internet, Newspaper or

Control) varied randomly so that a subject had an equal chance of being exposed to any one of the stimuli. After a group was assembled, the subjects were told that they were going to participate in "a study that examines people's knowledge of politics and their interest in the current political campaigns." After the volunteers gave their consent to participate, they were given a pretest to determine their interest in politics, what means they used to gather political information, partisanship, and a short test to determine their level of political knowledge. It was necessary to determine the strength of the political base each subject had before they were exposed to the stimulus. The key was to determine how much a subject knew about politics in general without driving them towards the specific questions that would be asked later. In order to do this, five questions were asked about politics in general, and twelve general questions were asked about the 2000 presidential election. The five general questions were drawn from Shaw's examination of framing effects (1999), based on the findings of Delli Carpini and Keeter (1996). I devised twelve questions about the 2000 election, making sure to keep them away from issue specifics. They ranged in difficulty from identifying the two major candidates as liberal or conservative to naming the moderator for the presidential debates.²

After the pretests were finished, subjects were exposed to one of three stimuli: the control with no stimulus, newspaper articles, or candidate web sites. The control stimulus consisted of subjects watching a 20-minute sitcom with the commercials removed. There were absolutely no references to any political events or persons in the sitcom, and this represented no exposure to new means of political learning.

The newspaper stimulus consisted of subjects taking one of each of thirteen newspaper articles. They were given 20 minutes to read as many as possible. Subjects were instructed to read them in any order they pleased and find out as much as they could about the candidates. When the 20 minutes had elapsed, they were told to place the articles face down on the floor.

The candidate web site stimulus placed subjects in front of computers equipped with Internet access. They were told to first go to one of the candidate's web sites (the URL addresses were provided to them, and the order was alternated between every group that received the Internet stimulus). They were given 10 minutes to look at that candidate's web site and were given the instruction to "find out as much as you can about the candidate." After the ten minutes had elapsed, the subjects were told to look at the other candidate's web site with the same instruction to find out as much as they could about the candidate. After the second 10 minutes had elapsed, the subjects were told to turn off their monitors.

After experiencing the newspaper and Internet stimuli, subjects were given an open-ended posttest asking them to write down the issues they remembered being discussed and what specific positions were taken on those issues by the candidates. They were given eight minutes to write down as much as they could recall. After that was finished, each subject was given a closed-ended, multiple choice posttest asking 18 questions about issue positions. The possible answers were 'Gore,' 'Bush,' 'Both,' 'Neither,' and 'Don't Know.' The control group was given the closed-ended posttest immediately after they finished watching the sitcom. The pretest and the closed-ended posttest were both scored with either correct or incorrect answers. The open-ended posttest counted the number of correct identifications of issues discussed or issue position specifics. There

was no qualitative difference made between a vague or detailed response, but if a detailed response contained more than one issue position specific within it, then each specific was counted as a point.

Findings

From the large variance in areas examined, several general findings emerged from this study. One of these findings is that both newspaper articles and candidate web sites facilitated learning. The posttest scores of both these groups were generally higher than those of the control group. The second finding is that prior knowledge and interest greatly aid in the learning process, thus adding support to previous claims that the information rich will get richer while the information poor get poorer. Other characteristics such as partisanship or gender did not have similar effects. Finally, and perhaps most importantly, the Internet did not produce the information rich results that optimistic theorists would have hoped. Instead, in much of the same vein as political debates, subjects who viewed candidate web sites were able to recall more issue topics but less issue specifics than those who read newspaper articles.

The building block from which to start is the idea that these two stimuli actually facilitated learning. If they did not, then it would be irrelevant to move beyond this point. By examining the correlation between the pretest scores and posttest scores, one can see through logical analysis that learning occurred. As shown in tables 1,2, and 3, in all three groups, the relationship between scores on the pretest and the closed-ended posttest were statistically significant at the .01 level. What is interesting to note, and what supports the idea that learning occurred because of the stimuli, is the **diminished** value of Pearson's *r* in the web and newspaper groups. Because the control group has a higher Pearson's *r* value, it means that higher scores on the pretest and not another factor (the stimuli) created better scores on the closed-ended posttest. A simple comparison of means between these three groups¹ shows that the newspaper group's and the candidate web sites group's mean score on the closed-ended posttest (8.31 and 7.34 respectively) were between one and two points higher than the control group's mean score on the closed-ended posttest (5.92).

Table 1. Correlation between pretest scores and closed-ended posttest scores for the control group

		Closed Posttest Scores	Pretest Scores
Closed Posttest Scores	Pearson Correlation Sig. (2-tailed) N	1.000 . 63	.757** .000 63

**Correlation is significant at the .01 level (2-tailed)

Table 2. Correlation between pretest scores and closed-ended posttest scores for the newspaper article group

		Closed Posttest Scores	Pretest Scores
Closed Posttest Scores	Pearson Correlation Sig. (2-tailed) N	1.000 . 67	.575** .000 67

**Correlation is significant at the .01 level (2-tailed)

Table 3. Correlation between pretest scores and closed-ended posttest scores for the candidate web site group

		Closed Posttest Scores	Pretest Scores
Closed Posttest Scores	Pearson Correlation Sig (2-tailed) N	1.000 . 64	.656** .000 64

**Correlation is significant at the .01 level (2-tailed)

The difference between the two groups is more noticeable in a collapsed form in which the cores on the closed-ended posttest are combined into three ranges. While the two stimuli did not catapult a large portion of subjects into the highest range, there was a sizable difference between the lower range and the medium range. A far higher percentage of subjects in the web site and newspaper groups answered between six and ten questions correctly than did subjects in the control groups. In fact, while 54% of the control group answered no more than five of the closed-ended posttest questions correctly, 75% of candidate web site subjects answered six or more questions correctly, and a whopping 88.1 % of those who read newspaper articles answered six or more questions correctly. The complete results may be found in Table 4.

Table 4. Comparing the scores on the closed-ended posttest between the three stimuli

Closed Ibsttest Scores		Web	Newspapers	Control	Total
0-5 Correct	Count % within stimulus	16 25.0%	8 11.9%	34 54.0%	58 29.9%
6-10 Correct	Count % within stimulus	38 59.4%	45 67.2%	19 30.2%	102 52.6%

11-15 Correct	Count % within stimulus	10 15.6%	14 20.9%	10 15.9%	34 17.5%
Total	Count % withm stimulus	64 100.0%	67 100.0%	63 100.0%	194 100.0%

While it was alluded to earlier as a means of demonstrating how the two stimuli actually facilitated learning, prior knowledge and political interest were shown to have a statistically significant impact on scores, both on the closed-ended and open-ended posttest. Tables 1, 2, and 3 all clearly show that higher scores on the pretest all have a positive effect on the scores of the closed posttest. Furthermore, several relationships showed a positive correlation between pretest scores and knowledge gained. Within the group that read newspaper articles, there was a positive correlation between pretest scores and issue identification on the open-ended posttest that was statistically significant at the .05 level, as exhibited in Table 5. Also within this group, there was a more important statistically significant relationship between pretest scores and correct identification of specific issue positions held by the candidates. This relationship was statistically significant at the .01 level, and these correlations may be found in Table 6.

Within the group that looked at candidate web sites, only one relationship on the open-ended posttest was statistically significant. Higher pretest scores and specific candidate issue position identification were correlated strongly enough to be considered statistically significant at the .05 level (see Table 7). The relationship between higher pretest scores and the identification of issues on the Internet can be described as weak at best, with no apparent statistically significant relationship.

These results seem to make sense when examining the two media. Because issues and specific positions are embedded within a newspaper article, prior political knowledge helps subjects figure out which issues are being discussed within the context of the story and thoroughly understand the specific plans. Subjects with lower levels of political knowledge will undoubtedly struggle to remember the specifics of Medicare proposals, but they also may not see that a discussion on drilling in the Alaskan Wildlife Refuge relates to both environmental issues and energy issues. The test subjects within the group that examined candidate web sites viewed a different presentation of information. On both George W. Bush's web site and Al Gore's web site, issue topics were merely listed with links to their specific positions on these issues. This was especially true on Al Gore's web site, where a pull-down menu listing all of the issues discussed was found on the front page of the web site. It therefore did not take extensive political knowledge to remember issue topics, but merely a strong ability to recall a list. The web's weaker correlation between pretest scores and specific position identification when compared to the same correlation among subjects who read newspaper articles will be addressed when comparing the two formats.

Table 5. Correlation between pretest scores and issue topic identification on the open-ended posttest within die newspaper group

	Pretest Scores	Issue Topic ID
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Pretest Scores	Pearson Correlation	1.000	.289*
	Sig. (2-tailed)	.	.018
	N	67	67

*Correlation is significant at the 0.05 level (2-tailed)

Table 6. Correlation between pretest scores and specific issue position identification on the open-ended posttest within the newspaper group

		Pretest Scores	Issue Topic ID
Pretest Scores	Pearson Correlation	1.000	.313*
	Sig. (2-tailed)	.	.010
	N	67	67

**Correlation is significant at the 0.01 level (2-tailed)

Table 7. Correlation between pretest scores and specific issue position identification on the open-ended posttest within the web site group

		Pretest Scores	Issue Topic ID
Pretest Scores	Pearson Correlation	1.000	.248*
	Sig (2-tailed)	.	.048
	N	64	64

*Correlation is significant at the 0.05 level (2-tailed)

Table 8. Statistically significant correlated relationships between interest and posttest scores

<i>Group Being Analyzed</i>	<i>Variables Correlated</i>	<i>Statistics</i>	<i>Results</i>
All Cases	Interest and Closed Posttest Scores	Pearson Correlation Sig. (2-tailed) N	.518** .000 194
All Cases (That received open posttest)	Interest and Open Posttest Issue Scores	Pearson Correlation Sig. (2-tailed) N	.201* .021 131
All cases (That received open posttest)	Interest and Open Posttest Specific Scores	Pearson Correlation Sig. (2-tailed) N	.221* .011 131

Control Group	Interest and Closed Posttest Scores	Pearson Correlation Sig. (2-tailed) N	.629** .000 63
Newspaper Group	Interest and Closed Posttest Scores	Pearson Correlation Sig. (2-tailed) N	.503** .000 67
Newspaper Group	Interest and Open Posttest Issue Scores	Pearson Correlation Sig. (2-tailed) N	.350** .004 67
Newspaper Group	Interest and Open Posttest Specific Scores	Pearson Correlation Sig. (2-tailed) N	.379** .002 67
Candidate Web Site Group	Interest and Open Posttest Specific Scores	Pearson Correlation Sig. (2-tailed) N	.552** .000 64
Candidate Web Site Group	Interest and Open Posttest Specific Scores	Pearson Correlation Sig. (2-tailed) N	.272* .030 64

*. Correlation is significant at the .05 level (2-tailed).

**. Correlation is significant at the .01 level (2-tailed).

Somewhat surprisingly, a simple personal gauging of political interest helped solidify Buhr's assertion that motivation and interest in politics increases one's ability to learn about a candidate. In this study, subjects were asked during the pretest to rate their level of political interest as 'Very interested,' 'somewhat interested,' 'not too interested,' or 'not interested at all.' This simple rating system yielded convincing correlations in several posttest areas, including all of the closed-ended posttest groups (the entire sample, the candidate web site group, the newspaper article group, and the control group), as well as recognition of specific issue positions in all appropriate groups (newspaper, web site, and the entire sample that received the open-ended posttest), in addition to issue identification when looking at the sample that received the open-ended posttest and the newspaper group. The listed correlations for each statistically significant relationship may be found in Table 8. It is important to note that prior political knowledge and political interest worked in much the same fashion. These two independent variables are correlated with a Pearson's *r* value of .656, which is statistically significant at the .01 level.

Table 9. Comfort with the medium correlations

<i>Group Being Analyzed</i>	<i>Variables Correlated</i>	<i>Statistics</i>	<i>Results</i>
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Newspaper Group	How many times a paper is read a week and open posttest issue scores	Pearson Correlation Sig (2-tailed) N	.330** .006 67
Candidate Web Site Group	General WWW usage per week and dosed posttest score	Pearson Correlation Sig (2-tailed) N	.177 .161 64
Candidate Web Site Group	Online News usage per week and closed posttest scores	Pearson Correlation Sig (2-tailed) N	.375** .002 64

** . Correlation is significant at the .01 level (2-tailed)

All of these correlations saw improvements on scores for each of the particular posttests. In addition, several other measures helped raise a subject's ability to learn. Two areas can be characterized as comfort with the medium. Within the newspaper group, there was a strong positive correlation between the number of times per week a subject read a newspaper and how many issues they could identify from the issue articles. This phenomenon again points to the fact that it can take practice to be able to identify issues within newspaper articles. Familiarity with the writing style of journalists undoubtedly aided subjects in picking out the issue topics from the newspaper articles. Usage of the World Wide Web was a more complex variable to explore in terms of its effects on political knowledge gained. Within the group that viewed the candidate web sites, there did not exist a statistically significant relationship between general web usage per week and performance on any of the posttests. However, when looking at how many times a subject within this group surfed specifically for news within a week, a fairly strong correlation emerged. A statistically significant relationship at the .01 level existed between the number of times a subject within the web site group surfed for news online and their score on the closed-ended posttest. These three correlations can be found in Table 9.

The final and perhaps most important set of findings pit the usage of newspaper articles against the viewing of candidate web sites. In general, the newspaper articles produced better recollections of specific candidate issue positions, while the candidate web sites fostered a greater memory of issue topics. Before the statistical analysis is presented, it is important to illustrate the form this dichotomy of specific candidate issue position recall took through an example. While scoring the open-ended posttests, a trend emerged that clearly divided these two groups.

Subjects who read newspaper articles consistently provided more detailed descriptions of a candidate's specific issue positions than the web users. For example, when a subject from the newspaper group wrote about George W Bush's stance on abortion, they would often include facts such as his opposition to RU486, his opposition to abortion except in the case of rape, incest, or danger to the life of the mother, and his support for a constitutional amendment banning abortions except for those cases. The

majority of subjects who viewed candidate web sites merely wrote that George W. Bush was pro-life when describing his stance on abortion. This short description was all that was given time and time again, even though Bush's web site clearly outlined the same specific policy proposals that the newspaper articles discussed. While the numbers here do not relate such a vivid story on their own, such context should be kept in mind when examining the following statistical analysis.

The empirical data comparing these two forms of political communication was just as convincing as the anecdotal information. To begin with, there was some indication that in general, subjects who read the newspaper articles learned more than their counterparts in the web group, based on the earlier discussion about the diminishing value of Pearson's r when looking at the correlation between pretest scores and the closed-ended posttest scores. A comparison between Tables 2 and 3 clearly demonstrates that the web group's Pearson's r value is higher, showing that more of the success on the closed-ended posttest in the web group was based on performance on the pretest instead of learning that occurring from the stimulus. In addition, there was nearly a one-point difference when comparing the mean scores of the two closed-ended posttests that favored the newspaper group.

If the Internet is really superior to traditional media because of its rich information, then the key area of analysis is how subjects responded on the open-ended posttest. As hypothesized earlier, the web, much like an information-rich candidate debate, merely served to increase awareness of issue topics. A comparison of means using an Independent Samples Test (a T-test) showed that there was a statistically significant relationship at work. It yielded a 3.55 mean difference between the two groups, while the newspaper group identified a mean of 5.37 issue topics, and the candidate web site group identified a mean of 8.92 issue topics.

On the other part of the open-ended posttest, my hypothesis was again supported. Despite the possibility for subjects to list more candidate specific issue positions after viewing the web sites, this was not the case. Instead, newspaper articles focusing on a few specific proposals per issue served as a better medium for learning specific candidate issue positions. When comparing the means once again, another statistically significant relationship emerged, and this relationship showed a mean difference of 3.75 between the two groups. This time, subjects in the newspaper group remembered a mean of 12.42 specific candidate positions, while web users were only able to recall a mean of 8.67. These simple statistical comparisons of the two groups' performances on the varying aspects of the two posttests, in addition to the earlier mentioned abortion example, help us to better understand how people navigate political stretches of the Information Superhighway.

Conclusions and Areas for Further Research

Despite the high hopes many optimistic theorists have for the use of the Internet in the world of politics, there is mounting evidence that a digital revolution will not soon occur. Candidates simply do not know how or do not find it in their best interest to use the World Wide Web in such a Utopian fashion. Further complicating the matter is the possibility that the Internet will not be utilized by a large enough segment of the population to galvanize political action from the presently politically inactive. Yet a

greater issue is overlooked in this arena, and that is if those who view candidate web sites are even able to learn more with this new technology than they would using more traditional means.

Applying earlier findings about political learning, I set forth two simple hypotheses. First, people with prior knowledge of politics will learn more from candidate web sites than those who have little or no political knowledge. Second, the Internet will not enable people to learn a great deal about a candidate from a single viewing because the visitor to the web site will find themselves awash in a sea of information. The findings of this study clearly support both of these hypotheses, indicating that in its present form, the Internet may not be the great teacher that political theorists had hoped.

The data clearly showed that prior knowledge and level of interest in politics are both meaningful determinants of a person's ability to process information. Furthermore, while candidate web sites did seem to have the edge on teaching a person about campaign issues, they did not supercede newspaper articles as a tool for learning about the specific positions of each candidate. The scores on the closed-ended posttest and the specific campaign issue recognition portion of the open-ended posttest support the idea that too much is being asked of the web site visitor. It is my belief that these two web sites, particularly Al Gore's, which is cluttered with information, have too many things going on for a visitor to focus on the overall message. A simple case of information overload may be the reason why-candidate web sites did not yield as many specific responses as newspaper articles did.

Yet these findings do not conclusively slam the door shut on the possibility for a rejuvenation of the American electorate through the World Wide Web. It must be noted that a sample size of just under 200 is not nearly high enough to draw concrete conclusions about these matters, yet the emergence of some fairly strong correlations, even within the small sample size, lends credence to the hypotheses supported by this data. Theoretical optimists and pessimists of the web's potential must both realize that as a political tool, and as a technology development in general, the web is still in its infancy. Only three elections have seen widespread usage of the Internet as a campaign tool. In just four short years, the finesse displayed as candidates built and utilized their web sites has improved by leaps and bounds, so it is imperative that observers of campaign tactics and effects be ready well in advance to analyze the role the Internet can play.

The study of candidate web sites becomes more important as candidates start to put additional resources into developing these web sites. If the Internet in its current form does not facilitate learning as effectively as other mediums, then candidates, especially those with limited resources, should consider other ideas or reorganize their online strategy. While lengthy issue papers may benefit die political junkies out there, they may serve to lose the casual visitor in all of the details. If the trends noted here continue, it may very well be time for political players to rethink how much information they should provide online. This may defeat the idea of the Internet creating a voter who is better able to make decisions based on more detailed information, but as things stand now, it appears that too many details are presented on candidate web sites and voters are getting lost on the Information Superhighway.

¹ A great aid to drawing a sample that was random in terms of age, area of study at school, and most importantly prior political knowledge, was the utilization of IWU's

General Psychology pool. The General Psychology course is a popular one taken by a large portion of the IWU community in order to fulfill a general education requirement. This fact, coupled with there being no prerequisites for the class, draws a wide variety of students from all ages and majors. A sizable portion of my sample comes from the assistance of the General Psychology program. I am indebted to the department faculty, especially Dr. John Ernst, for their assistance.

² All of the tests used here can be found online at <http://mertz.stottsan.com/research/>

³ Despite the relatively small sample size of the three groups, independent t-tests showed that there was no statistically considerable difference in interest and prior knowledge of the subjects between the test groups.

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