Interest and Effort as Predictors of Reading:  
A Test of the General Value Principle  

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ABSTRACT  
The general value principle suggests that the ratio of benefits/costs predicts visitor choice in museums settings. Thus, increasing the number of words on an exhibit label (increasing the costs) is assumed to decrease visitor reading. The question remains, however, if decreasing costs is more important than satisfying interests (perceived benefits). This study examined the relative impact of interest level and number of words on how much of a text passage was read. Results found that while interest level was a moderate predictor of whether or not participants read the passage, number of words accounted for more of the variance in predicting how much of the text was read. Perceived costs as measured by the reading of long text was a major predictor of reading, more so than ratings of interest in the subject matter.  

INTRODUCTION  
There is a substantial literature on factors that influence visitor reading of exhibit labels (e.g., Bitgood, 1990; 2000; Screven, 1992). Among other things, these findings suggest that: (1) visitors are reluctant to read long text passages, but are more prone to read short ones (Bitgood, & Patterson, 1993; Borun & Miller, 1980); and (2) the probability of reading can be increased by such changes as careful placement of text (Bitgood, Benefield, & Patterson, 1989) and by asking provocative questions (Hirshi & Screven, 19990; Litwak, 1996). Two important questions arise regarding these findings: (1) what theoretical view best explains the outcomes? and (2) how much of visitor reading is the result of person-centered factors (i.e., what the visitor brings to the museum) and how much is influenced by setting factors (exhibit design). The current study suggests that the general value principle (described below) may answer the first question (predictive power of theory). With respect to the relative influence of person and exhibit design factors: exhibit design appears to be at least as important as person-centered factors in influencing visitor reading.
The general value principle

One of the purposes of this study was to test implications of the general value principle (Bitgood, 2006; Bitgood & Dukes, 2006). The general value principle states that the value of an experience is predicted by the ratio of the outcome of the experience (e.g., satisfaction) divided by the costs (e.g., time, effort). The value of an experience will be low if the mathematical ratio (experience outcome/costs) is low. Thus, a high interest object may generate little interest if there is a high cost. Visitor circulation patterns through museums are predicted by the principle. In terms of exhibit labels, the general value principle argues that interest level/text passage length would predict reading. Longer passages would either not be read or only partially read.

Person-centered versus setting-centered perspectives

One of the common perspectives found in the visitor studies literature can be called “person-centered” or “visitor-centered” (see Shettel, 2005). This view argues that entry variables (what the person brings to the situation) is the major predictor of human behavior. For example, Falk and his colleagues (e.g., Falk, 1999; Falk, et al, 2001) have suggested that the “visitor agenda” is the major factor in predicting what visitors do in museums. [Falk and his colleagues have either ignored exhibit variables or given inadequate attention to them]

The person-centered perspective might argue that factors such as incoming interest level are the strongest (or only) predictors of visitor attention to exhibit elements. Thus, if the visitor has a high interest in the objects/subject matter, he/she is more likely to view objects and read exhibit labels than objects/subject matters having a low interest level.

The opposite perspective might be called “setting-centered”—a view that places predominant predictive power on the characteristics or design of the environment. There is little evidence in the literature that this position has actually been taken. The setting-centered perspective would argue that exhibit design characteristics accurately predict visitor behavior. Thus, visitors would read exhibit labels because they are designed to capture attention/satisfy curiosity, not because they represent inherently interesting objects or information.
A third perspective, the interaction-centered perspective would examine both the person (visitor) and setting (exhibit) variables as well as how the two might interact. The general value principle recognizes the importance of both personal and setting factors since it is impossible to separate these two factors when considering costs and benefits. For example, the perceived costs of reading a long label (setting factor) will be influenced by reading skills, interest level, etc. (personal factors).

The current study examined the roles of both person-entry and setting-design factors. A rating of interest represented a person-entry variable and text passage length, a setting variable. A laboratory study simulating an art museum experience was used in order to control for confounding factors and allow interest level to be experimentally separated from perception of label length.

While previous researches have suggested post hoc that the cost-benefit ratio is important in determining exhibit label reading (e.g., Bitgood, 1990; Screven, 1992), the current study appears to be the first to actually empirically test the predictive power of this principle.

**METHOD**

**Participants.** Forty-three participants were recruited from introductory psychology courses at Jacksonville State University during the fall semester of 2005. Participants received extra credit for their cooperation.

**Materials.** Twenty art prints of famous artistic works were used in the study. These prints ranged from DeVinci’s Mona Lisa to Wood’s American Gothic. Text passages of varying lengths (49 to 315 words) were placed on the reverse side of the print.

**Procedures.** Participants were shown one of the prints and asked to rate it (from “1” lowest to “10” highest) in terms of how interested he/she would be to see information about the print. The rating for each print was obtained before participants actually viewed any text passages. Once the rating was obtained and recorded, participants were instructed either to turn the print over (no choice condition) or they were given the choice of turning the print over to see the passage or go on to the next print without viewing the text passage (choice condition). If viewing the length of the text passage influenced reading, then the no choice condition was expected to result in more reading of short text passages, but not longer ones.
Dependent measure. The dependent variable was reading of the text passage. One of three outcomes was recorded: read all of passage; read some of passage; or read none of passage.

Independent variables. The rating of interest for each print and the number of words in the passage served as the dependent variables.

RESULTS

Overall Impact of Interest and Number of Words

Table 1 contains the overall findings for each art work, with number of words, amount of reading, and interest rating. Note that the art work is in ascending order from fewest to most words and that the text passages are divided into three groups: under 100 words, 100-199 words, and over 200 words. Number of words per passage was strongly related to reading all of the passage (31.9% read all of the passages under 100 words; only 12.0% read all of the passages between 100 and 200 words; and only 4.5% read all of the passages when the number of words exceeded 200 words.

Figure 1 is a scattergram of the percentage of participants who read all of the passages as a function of the number of words. Figure 2 is a scattergram of percentage who read all of the passages and interest ratings. It is evident that there was a strong relationship between reading all of the passage and the number of words, but not between reading all of the passage and interest rating. Very few participants read passages longer than 100 words. A multiple regression analysis found number of words significant (t=6.533; p = .0001) in predicting reading all of the passage, while interest rating was insignificant. This model accounted for 71.8% of the variance.

Figure 3 is a scattergram of the percentage of participants who read some of the passages as a function of number of words. Figure 4 graphs the relationship between reading some of the passage and interest level. It is clear from inspection of this graph that there is no relationship between reading some of the text and number of words. A multiple regression analysis found number of words significant (t=4.382; p = .0004), but interest level only approached significance (t=1.964; p = .0662). This model accounted for 58.7% of the variance.
Figure 5 graphs the relationship between percentage of reading any of the passage and interest rating. Interest level did not predict when participants would read all of the passage. Figure 6 graphs the relationship between reading some of the text and interesting rating. This graph shows a strong relationship between some reading and interest level.

Table 2 contains the results of multiple regression analyses computed with Y = no read, Y = some read, and Y = read all; and with the X-variables of interest rating and number of words. When Y = No Read, interest rating was the only significant predictor (t-value = 2.714, p = .0147). This model only predicted 31.3% of the variance. When Y = Read Some, Number of words was statistically significant (t-value = 4.382, p = .0004), and Interest Rating was close to significance (t = 1.964, p = .066). This model predicted considerably more of the variance (58.7%). Finally, when Y = Read All, Number of words was significant (t-value = 6.533, p = .0001). This model accounted for 71.8% of variance.

**Viewing text: Option versus No Option**

In the Option condition, participants were given a choice of turning over the art print to reveal the text materials or not turning it over and going on to the next print. In the No Option condition, participants were instructed to turn the print over to reveal the text. Both conditions included an instruction to read all, some, or none of the text once the text passages were exposed. In the No Option conditions (participants were instructed to turn the print to reveal the text, participants were more likely than those in the Option condition to read short labels, but not long ones. These findings are summarized in Table 3.

**DISCUSSION**

The major finding of this study is that interest level predicted whether participants did any reading, but number of words predicted how much reading occurred. Short labels were much more likely to be read than long ones. Interest level, on the other hand, was a stronger predictor (than number of words) of whether any of the passage would be read. Both text passage length and interest significantly influenced reading, but interest ratings accounted for a much smaller amount of the variance than the length of the passage. Clearly, the interaction perspective was supported by this study. In addition, the passage length appeared to have a stronger impact than interest level on how much of the passage was read.
The study suggests that people control the cost of reading passages by reading only part of long passages. This conclusion parallels visitor movement through museums and shopping malls (Bitgood, 2006; Bitgood & Dukes, 2006) where people appear to save steps by refusing to backtrack in exhibitions, by turning right if they are on the right-hand side of a walkway, by viewing only one side of an exhibition, etc. If exhibitions are designed with visitors in mind, the outcome could benefit both visitors and museums. Visitors would not be faced with the choice of reducing the extra effort (cost) of viewing poorly designed exhibits, and museums would have the satisfaction of knowing that a greater proportion of their exhibits will be given attention, a pre-requisite for greater learning.

REFERENCES


