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Audio Versus Guided Tours at a National Historic Site: What's the Difference?

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ABSTRACT

The purpose of this study was to examine differences in audio and guided tour participants' tour experience at a Canadian National Historic Site. Specifically this paper discusses how the type of tour (audio or guided) in which visitors participate during their visit impacts visitors cognitive load. Cognitive load refers to the burden placed on working memory when extraneous material must be processed. This paper posits that when visitors use a personal media device to take a tour their working memory is overburden thereby reducing their overall learning during their tour. Findings reveal that audio tour participants do experience greater cognitive load than guided tour participants and that this does impact their learning experience. The implications of these findings for site managers are discussed.

INTRODUCTION

Cultural tourism, an increasingly popular component of the tourism industry, typically involves visitors learning about, experiencing or understanding cultural activities and resources (Douglas, Douglas, & Derrett, 2001). The focus of visits to historic sites is often educational and research has shown that cultural tourists are frequently motivated by a desire to learn while visiting cultural attractions (MacKay, Andereck, & Vogt, 2002; McKercher & du Cros, 2002; Poria, Butler & Airey, 2004; Zeppel, 2002). Since learning is an important aspect of visits to heritage sites, visitor education using written material, guided tours, film and audio tours are commonly employed at these sites to make heritage resources meaningful to visitors (Prentice, Guerin, & McGugan, 1998; Tilden, 1977). This type of educational programming, commonly referred to as interpretation, is often intended to communicate a message that destination managers anticipate will educate visitors about the place, help to manage visitor behavior and gain visitor support for the continued preservation of the site. Increasingly sites are using new technology to enhance their interpretive offerings. Cell phone audio tours and MP3 tours are being offered at sites around the globe as alternatives to traditional interpretive guided tours. These emerging interpretive tools offer visitors the freedom to peruse the site at their own pace and provide a novel experience. Managers are able to extend tour offerings by offering audio tours when guided tours are unavailable and hope to attract new audiences for their tours. Regardless of the interpretive tool employed, the goal of the interpretive program is typically to provide a meaningful educational experience however we know very little about how technology based tours affect the visitors' interpretive experience differently than traditional guided tour.

Since learning outcomes from interpretive tour experiences are valued by both visitors and managers it is important to examine the differences in how audio and guided

tours affect learning. Cognitive load theory is used here to understand how audio and guided tours might affect learning differently. Cognitive load can occur when working memory is overloaded during a learning experience (Mayer, 2002). This overload can occur as a result of the instructional techniques used to present material (Sweller, 1999). If a learner must use their working memory to process extraneous material their overall learning can be undermined (Sweller, 1999). Unlike guided tours, audio tours require individuals to not only attend interpretive material but also use a technical device to retrieve the material. It is possible that the use of an MP3 player as a guide requires additional mental processing, which negatively affects visitors' ability to learn from the interpretive material. This study will explore differences in audio and guided tour participants' tour experience and will test the hypothesis that guided tour and MP3 audio tour participants experience different levels of cognitive load.

METHODS

Every summer the not-for-profit Winnipeg Exchange District Business Improvement Zone (BIZ) offers interpretive tours of the Exchange District, a National Historic Site, located in downtown Winnipeg, Canada. Typically an interpreter hired by the Exchange BIZ guides these tours. In an effort to expand tour offerings, increase the availability of tours and appeal to a diverse public, the BIZ decided to begin offering MP3 self guided pre-recorded audio tours using iPod Touch devices during the summer of 2008. Guided and audio tour content was based on the same tour script, visitors took the same route through the historic district and stopped at the same historic buildings. Since the same core information was being provided to both guided and audio tour participants this tour program presented a unique opportunity to compare guided and audio tour participants' experiences.

Data was collected from July to September 2008. Exchange District guided tour drop-in participants were asked by their guide, at the end of their tour, if they would be willing to complete a questionnaire. Audio tour participants were also asked to complete a questionnaire at the end of their tour by the audio tour coordinator. All study participants were given a rebate for their tour. The self-administered questionnaire contained questions about visitor demographics, visitor characteristics, tour experience and cognitive load. Respondents were asked to indicate from 1 = strongly disagree to 5 = strongly agree whether the tour they participated in was informative, interesting, entertaining, fun to do and if they learned something valuable. Respondents were also asked to rate "this tour did not hold my attention at all" on a 5 point Liker-type scale from strongly disagree to strongly agree. Participants were asked to rate their knowledge of the history of the Winnipeg Exchange District, historic district designation, historic preservation and topics discussed in the tour, on a 5 point Likert-type scale from not at all knowledgeable to extremely knowledgeable. The same scale and item were used when visitors were asked about their interest. Cognitive load was measured following the technique suggested by Pass, van Merriënboer and Adam (1994). This measure is intended for use in questionnaire format after exposure to the learning material. Learners are asked to indicate the amount of mental effort required in understanding the presented material. This technique has been used frequently in cognitive load research (Pass, van Merriënboer, & Adam, 1994; Pass, Tuovinen, Tabbers, & Van Gerven, 2003). The specific questions included to measure cognitive load were; how mentally demanding

was the tour, how difficult was it for you to understand the material presented in the tour, and how successful do you think you were in learning something from this tour. Respondents were asked to respond on a 5 point Likert-type scale and could select from not at all, a little, reasonably, very, and extremely.

FINDINGS

In total 228 individuals were invited to participate in the study and 151 agreed to completed a questionnaire, resulting in a 66% response rate. Of the 151 study participants, 95 took a guided tour and the other 56 took the audio tour. A majority of respondents were female (62%), had at least a University education (62%) and were from Winnipeg (60%) and just under half of the questionnaire respondents were over 51 years old (48%). There was no significant difference between visitors who participated in a guided tour or audio tour with respect to sex, education or residence; however there was a significant different between the two types of tour participants with regards to age ($p < .05$). Specifically guided tour participants were older ($M = 48$) than audio tour participants ($M = 42$).

Thorough examination of the data revealed that data did not meet the requirements for parametric testing; therefore nonparametric Mann-Whitney U test was used to examine the differences between guided and audio tour participant responses to the questions described below (Table 1). Table 2 provides a summary of the mean responses by tour type.

No significant differences were found between guided and audio tour participants with regards to existing knowledge in topics covered in the tour and their perception of the tour as informative ($p > .05$). Nor was there a significant difference between audio and guided tour participants with regards to their thoughts on how important it is to preserve areas like the exchange district ($p > .05$).

There was a significant difference between guided and audio tour participants with regards to their perception of the tour as interesting ($p < .05$), entertaining ($p < .05$) and fun to do ($p < .05$). The mean response for guided tour participants to each of these items was “strongly agree” while the average response for audio tour participants for each of these items was “agree” (Table 2).

There was a significant difference between guided and audio tour participants with regards to their opinion about whether they learned something valuable ($p < .05$). While the average response to this question was “strongly agree” for the guided participants, the average response was “agree” for the audio tour participants (Table 2).

Generally visitors agreed that the tours held their attention. On average, guided tour respondents strongly disagreed that “this tour did not hold my attention at all” ; whereas the average response from audio tour participants was “disagree (Table 2).

The difference between the two groups with regards to interest in the various topics discussed in the tours was significant ($p < .05$) (Table 1). Specifically, while audio tour participants indicated that they were “interested” in historic site designation and topics described in the tour, guided tour participants were “very interested” in these same items (Table 2).

The greatest difference between audio tour and guided tour participants appears to be the level of cognitive effort exerted. When asked how demanding participants found the tour, the average response for guided tour participants was “a little”; whereas the

audio tour participant average was “somewhat” ($p < .05$) (Table 2). Difficulty received an average response of “not at all” by guided tour participants; whereas audio tour participants average was “a little” ($p < .05$) (Table 2). Finally, when asked about how successful they were at learning something from the tour the mean guided tour response was “very successful” whereas the audio tour average response was slightly lower indicating “reasonably successful” ($p < .05$) (Table 2).

Table 1
Non-Parametric Test Examining the Differences between Guided and Audio Tour Participants

Variable	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)
I learned something valuable from this tour	2011.5	-2.81	0.01
This tour was fun to do	1469.5	-4.72	0.00
This tour did not hold my attention	1484.5	-4.91	0.00
Existing knowledge of the exchange	2169	-2.03	0.04
Existing knowledge of designation	2241	-1.71	0.09
Existing knowledge of preservation	2586	-0.30	0.76
Existing knowledge of topics of tour	2327	-1.00	0.32
Interest in the exchange	2025.5	-2.60	0.01
Interest in designation	1975.5	-2.61	0.01
Interest in preservation	1965.5	-2.66	0.01
Interest in topics of tour	1608	-4.14	0.00
How demanding	1998	-2.70	0.01
How difficult	1800	-4.38	0.00
How successful	1845	-3.22	0.00
How important preservation	2334	-1.31	0.19
This tour was informative	2070	-2.70	0.01
This tour was interesting	1763.5	-3.90	0.00
This tour was entertaining	1736.5	-3.97	0.00

Table 2
Comparing Audio and Guided Tour Participant Mean Responses

Question	Audio Tour Mean Response	Guided Tour Mean Response
This tour was informative*	4.58	4.79
This tour was interesting*	4.38	4.72
This tour was entertaining*	4.07	4.55
I learned something valuable from this tour*	4.27	4.55
This tour was fun to do*	4.11	4.63
This tour did not hold my attention at all*	2.24	1.46
Knowledge of the history of the Winnipeg Exchange district*	2.05	1.76
Knowledge of historic district designation	2.09	1.85
Knowledge of Historic preservation	2.02	1.97
Knowledge of topics discussed in the tour	2.07	1.94
The history of the Winnipeg Exchange district*	3.64	4.00
Interest in historic district designation*	3.4	3.81
Interest in historic preservation*	3.58	3.97
Interest in topics discussed in the tour*	3.47	4.08
How mentally demanding was the tour*	2.5	2.04
How difficult was it for you to understand the material presented in the tour*	1.76	1.21
How successful do you think were in learning something from this tour*	3.49	3.92
How important do you think it is to preserve areas like Winnipeg's Exchange District	4.56	4.62

* indicates a significant statistical difference between Audio and Guided tour mean responses

IMPLICATIONS

The results presented here suggest that there are important differences between audio and guided tour participants and their experience with the tour. Firstly, participants in this study who took the audio tour were on average younger than guided tour participants suggesting that audio tours might be an effective means of attracting younger market segments to interpretive tour programs. This is important to heritage site managers since it is common for these sites to primarily attract older visitors and managers are becoming increasingly concerned over how to remain relevant to future generations to ensure a heritage site's continued viability as an attraction (McKercher & du Cros, 2002).

Secondly, guided tour participants seem to have stronger feelings about their overall tour experience compared to audio tour participants, as they consistently had higher mean responses when asked about their tour. The reason for this and possible implications can not be extrapolated from the data collected here, however site managers

should be cautious about completely replacing in person guides with audio guides since visitors seem to react more strongly to the personal guided tour.

Finally, audio tours appear to require participants to exert more cognitive effort in order to participate in the tour experience than guided tours. This study provides preliminary evidence that this might undermine overall learning during the tour. Learning to use an audio device may take away from visitors' ability to focus on the material presented, however as personal media devices increase in popularity in the population this may not continue to be an issue since the public may become increasingly familiar with the operation of devices used for audio tours. Furthermore, as personal media device user interfaces become standardized the amount of effort required by visitors to learn how to use these devices should decrease. Based on the results of this study, interpreters should be cautious about simply offering their existing guided tour in audio format if greater learning is the goal of the program. Audio tours likely need to be designed and scripted differently than guided tours to minimize cognitive load and maximize learning.

CONCLUSION

Guided and audio tours offer very different experiences. Guided tours allow participants the opportunity to ask questions and guides can tailor the tour to meet the needs of the particular group; whereas audio tour participants have the opportunity to wander the site at their own pace and control their visit. These differences are obvious but the way in which these types of tours affect visitor learning is less easily observed. This study provided a preliminary insight into how guided and audio tours might affect tour takers differently. Additional research is needed to further examine the outcomes of these different types of tours on the visitor's experience.

REFERENCES

- Douglas, N., Douglas, N., & Derrett, R. (2001). *Special Interest Tourism*. Brisbane: John Wiley & Sons.
- Mayer, R. E. (2002). Rote versus meaningful learning. *Theory Into Practice, 41*, 226-232.
- Mayer, R. E. (2002). *The Promise of Educational Psychology: Teaching for meaningful learning*. Upper Saddle River, NJ: Pearson Education.
- MacKay, K., Andereck, K., & Vogt, C. (2002). Understanding vacationing motorist niche markets. *Journal of Travel Research, 40*, 356-363.
- McKercher, B. & du Cros, H. (2002). *Cultural Tourism*. New York: The Haworth Hospitality Press.
- Pass, F., Tuovinen, J. E., Tabbers, H., & van Gerven, P. (2003) Cognitive load theory. *Educational Psychology, 38*, 63-71.

- Pass, F. G. W. C., van Merriënboer, J. J. G., & Adam, J. J. (1994). Measurement of cognitive load in instructional research. *Percept. Motor Skills*, 79, 419-430.
- Prentice, R., Guerin, S., & McGugan, S. (1998). Visitor learning at a heritage attraction: A case study of Discovery as a media product. *Tourism Management*, 19, 5-23.
- Poria, Y., Butler, R., & Airey, B. D. (2004). How tourists decide which heritage site to visit. *Tourist Review*, 59, 12-16.
- Sweller, J. (1999). *Instructional Design in Technical Areas*. Camberwell, Australia: Australian Council for Educational Research.
- Tilden, F. (1977). *Interpreting Our Heritage*. Chapel Hill: University of North Carolina Press.
- Zeppel, H. (2002). Cultural Tourism at the Cowichan Native Village. *Journal of Travel Research*, 41, 92-100.