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## School Trips as Learning Experiences

### Introduction

A substantial body of research – conducted primarily over the past 30 years – has attempted to identify the kinds of learning outcomes that can result from school trips and the factors that may contribute to such learning. Most of the research has focused on cognitive or conceptual outcomes, but increasing attention has also been paid to affective impacts of these experiences. Research indicates that both cognitive and affective learning can occur as a result of school trips and surrounding experiences, but such learning is fundamentally influenced by a number of factors, including the structure of the trip itself, setting novelty, prior knowledge, social context of the visit, and presence or absence of follow-up experiences.

Researchers have had varying degrees of success in measuring cognitive learning resulting from a school trip, but the evidence generally suggests that such trips can have a positive impact (Anderson & Lucas, 1997; Anderson, 1999; Beiers & McRobbie, 1992; Feher & Rice, 1985; Flexer & Borun, 1984; Gottfried, 1980; Knapp, 1996; Orion & Hofstein, 1994; Mallon & Bruce, 1982; Stonk, 1983; Tuckey, 1992). Such learning gains are often quite small, but small effects are not surprising, given the one-off nature of most school trips.

While cognitive gains from school trips are considered important, affective outcomes – such as increasing visitors' motivation and interest – have also been proposed as a valuable role for museums (Csikszentmihalyi & Hermanson, 1995; Hooper-Greenhill, 1991; Meredith, Fortner, & Mullins, 1997; Rix & McSorley, 1999; Wellington, 1990). However, fewer studies have focused on affective learning from school trips, but those that have point towards the positive impacts that such experiences can have on affective (attitudinal and motivational) outcomes (Finson & Enochs, 1987; Fortner & Lahm, 1990; Javlekar, 1989; Knapp, 1996; Mallon & Bruce, 1982; Sibthorp & Knapp, 1998). In addition, a survey of university students as to why they had chosen their area of study indicated that visits to science centres played a role in the decisions of at least some to pursue science careers (Salmi, 2003).

### Is there a longer-term impact?

In contrast to most of the studies cited above, less research has attempted to look at longer term impacts of school trips, due primarily to the logistical challenges involved in collecting data over

extended periods. However, in one study schoolchildren participated in individual, open-ended interviews about class trips they had taken during the previous two years (Wolins, Jensen, & Ulzheimer, 1992). Based on the elaborateness of the children's descriptions, the authors concluded that high personal involvement, links with the curriculum and multiple visits to the same institution enhanced long term impact. While repeat visits are rarely possible, it would seem that the impact of even a single trip could be enhanced by making the experience more memorable and personal and by building on the trip experience in the classroom. Moreover, it could also be argued that increasing the impact of trips is even more important for pupils who have had few opportunities for such experiences.

### **What factors impact the effectiveness of school trips?**

In addition to attempts to measure outcomes, research also provides insight into the factors which can impact the effectiveness of school trips as learning experiences. One such factor is the novelty of the trip setting, which can detract from students' conceptual and possibly affective learning (Balling & Falk, 1980; Balling, Falk, & Aronson, 1980; Martin, Falk, & Baling, 1981). However, an orientation to the trip setting beforehand can mitigate this impact (Anderson & Lucas, 1997; Orion & Hofstein, 1994).

The social interaction that occurs on a museum visit also seems to be an important feature of the school trip experience for many children (Falk & Dierking, 1992; 2000; Dierking, 2002; Price & Hein, 1991). Research suggests that attention to the social context of the visit is important in order to support both affective and conceptual learning from these experiences (Birney, 1988; Jensen, 1994; Rennie, 1994).

### **What is the impact of the structure of the school visit?**

Another factor that clearly impacts learning from school trips is their structure. Generally, research suggests that in a museum setting, structured experiences – such as guided tours or specific, detailed tasks – can increase cognitive learning but may dampen interest or result in less positive attitudes, depending on the nature of the structure (Flexer & Borun, 1984; Stronk, 1983). Such structure is often imposed by worksheets, which have been criticised for the way in which they are often used (e.g., as a tool for behaviour management, often with many detailed questions that do not allow pupils to explore and engage with the unique experience the museum setting offers) (Kisiel, 2003; McManus, 1985). However, teachers often are comfortable with them, so their use should not be dismissed entirely (Kisiel, 2003). To maximise both cognitive and affective learning, then, it would seem that school trips should provide a moderate amount of structure, while still allowing for free exploration (Falk & Dierking, 1992; Hooper-Greenhill, 1991; Price & Hein, 1991; Rennie & McClafferty, 1995).

Finally, cognitive and affective learning from a school trip can be enhanced by the use of pre- and post-visit activities in the classroom (Anderson, 1999; Anderson et al, 2000; Farmer & Wott, 1995; Finson & Enochs, 1987; Lucas, 2000). Because of the ephemeral nature of school trips, the role of the teacher in extending their impact via preparation and follow-up activities is key.

### **Implications of research findings**

In light of such findings, it is not surprising that research makes explicit recommendations to teachers for how they can maximise the effectiveness of school trips as learning experiences (Bitgood, 1989; Braund, 2004; Griffin, 1998; Koran & Baker, 1979; Leary, 1996; Rennie & McClafferty, 1995; Rudmann, 1994). Teachers are encouraged to: (1) become familiar with the setting before the trip; (2) orient students to the setting and agenda and clarify learning objectives; (3) plan pre-visit activities aligned with curriculum goals; (4) allow students time to explore and discover during the visit; (5) plan activities that support the curriculum and also take advantage of the uniqueness of the setting; and (6) plan and conduct post-visit classroom activities to reinforce the school trip experiences.

However, evidence would suggest that such recommendations are rarely followed by teachers (Anderson, Kisiel, & Storksdieck, 2006; Griffin & Symington, 1997). Nevertheless, teachers do seem to view school trips as an educational opportunity (Kisiel, 2005; Wellington, 1990), and many believe it is important for the trip to fit into the curriculum (Anderson & Zhang, 2003; Kisiel, 2005). Put differently, research on teachers' agendas for school trips reflects that they value such experiences as learning opportunities and aspire to connect them more closely to the classroom curriculum, as well as considering them as opportunities for social and affective learning (Kisiel, 2005). Nevertheless, institutional constraints often hinder their ability to maximise the learning opportunities afforded by out-of-classroom experiences (Anderson et al., 2006).

### **How can we encourage teachers and museum educators to use best practices?**

One issue for the field, then, becomes whether anything can be done to encourage teachers to engage in the kinds of practices likely to support increased learning from school trips, despite the constraints they face. Researchers have begun to examine the role that museums and similar institutions might play in facilitating good practice among teachers. It appears that an important first step is to be aware of current teacher practice on school trips, of teacher objectives for these visits, and of contextual factors which can impact on how teachers conduct such excursions (including what they do before and after in the classroom).

Based on observations of ten primary school groups at a natural history museum, Kisiel (2006) articulated a number of types of teacher actions or behaviours. 'Structured student engagement' (worksheets or other writing activities; or a museum-led tour) was the most common. Kisiel also

identified a number of ‘unstructured student engagement strategies’ – which were essentially ways in which teachers could interact with students during the visit and included explaining an exhibit or object, posing open-ended questions, reading labels, and encouraging free exploration. Perhaps not surprisingly, he observed many actions intended to supervise student behaviour, and notes that structured engagement activities may also serve this purpose. Finally, he found that teachers frequently employed an ‘event documentation’ strategy, capturing students’ experience in photographs or video. Developing an understanding of teachers’ current field trip practices could serve as a basis for the development of resources that could support better teacher practice on school trips.

An additional prerequisite for developing resources likely to be utilized by teachers involves being aware of teachers’ goals or objectives for class trips, which may not be the same as those of museum educators. Kisiel (2005) has identified a number of teacher motivations for school trips, which include connecting with the classroom curriculum, providing a general learning experience, enhancing student motivation and interest in science, providing exposure to new experiences, providing a change in setting or routine, and student enjoyment. Furthermore, teachers also seem to have multiple objectives for museum visits (Anderson, Kisiel, & Storksdieck, 2006), which frequently include both affective and cognitive (curricular) goals, as well as an interest in exposing students to what the settings uniquely have to offer. In addition, it seems that many teachers consider affective goals (such as enjoyment or providing a positive experience for pupils) to be equally, if not more, important (Anderson, Kisiel, & Storksdieck, 2006; Marshdoyle, Bowman, & Mullins, 1982; Richter, 1993; Storksdieck, Werner, & Kaul, 2005).

Although teachers’ objectives are an important influence on how they conduct school trips, context may have an even larger impact. For instance, the curriculum (whether national or more local) is one aspect of the teacher’s context that can be expected to influence decisions and motivations not just in the classroom, but on school trips as well. In addition to the topics included in the curriculum itself, time constraints resulting from an overcrowded curriculum form a further barrier to teachers engaging in certain practices surrounding school trips – such as pre- and post-visit activities, or even taking pupils out of school at all (Anderson, Kisiel, & Storksdieck, 2006; Bartosh, Mayer-Smith, & Peterat, 2006; Jamison, 1998; Kisiel, 2006). Finally, logistical hurdles within the school environment (such as arranging parental consent and filling out safety forms), in the out-of-school setting (e.g., wayfinding in an unfamiliar environment, behaviour issues), and even in between (transportation) are other elements of the teacher’s context that can impact practice related to school trips (Gammon et al., 2002; Jamison, 1998; Mason, 1980).

Despite some of the barriers teachers may face in implementing better practice with respect to school trips, research does suggest that there are steps that out-of-school settings themselves (such as museums and science centres) can take to improve such practice. Not surprisingly, it seems that such attempts – whether via programming or paper- or web-based resources – are more likely to be successful when teachers' perceived needs, current practice, objectives and contexts are taken into consideration.

### Selected Bibliography

Anderson, D., Kisiel, J., & Storksdieck, M. (2006). Understanding teachers' perspectives on field trips: Discovering common ground in three countries. *Curator*, 49(3), 365-386.

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## Has anyone else ever done this?

### *Some suggestions for tackling the literature*

Because research and evaluation related to museums, museum visitors and informal learning can be found within many discipline areas, including psychology, leisure studies, education (science, arts), fine arts, communication, and of course museum studies, the published literature is also scattered among many different journals and publications. Although findings published in peer reviewed/referred journals are typically valued over editor-reviewed works, conference paper presentations or unpublished reports, can still help to inform your evaluation design or data interpretation. It is important to recognize that many evaluation studies are left unpublished, sometimes due to the proprietary nature of the findings.

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Here is a partial list of **journals** (most of which are peer reviewed) that you might consider when conducting a literature search. If you have access to a local university, you may be able to access contents electronically without charge, as many universities now have e-subscriptions to journals. You may also be able to access the publication website directly, although access to a particular journal or article may require a fee.

- Annals of Leisure Research
- Applied Environmental Education and Communication
- Art Education (The National Art Education Association)
- Curator
- Environmental Education Research
- International Journal of Science Education
- Journal for Interpretation Research
- Journal of Communication
- Journal of Environmental Education
- Journal of Environmental Psychology
- Journal of Leisure Research
- Journal of Museum Education
- Journal of Research in Science Teaching
- Leisure Sciences
- Leisure Studies
- Museum Management and Curatorship
- Museums and Social Issues
- Museums and Society
- Public Understanding of Science
- School Science and Mathematics
- Science Education
- Visitor Studies
- World Leisure Journal

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Several **universities** have research programs that specialize in understanding learning in informal settings. They also have **websites** that may include recent publications, or descriptions of ongoing research. Check out these sites.

CILS—Center for Informal Learning and Schools  
(Exploratorium/UC Santa Cruz/Kings College)  
[www.exploratorium.edu/CILS/](http://www.exploratorium.edu/CILS/)

UPCLOSE—University of Pittsburgh Center for Learning in Out of School  
Environments (University of Pittsburgh)  
<http://upclose.lrdc.pitt.edu/>

LIFE—Learning in Informal and Formal Environments (University of Washington)  
<http://life-slc.org/>

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### Other web resources

[scholar.google.com/](http://scholar.google.com/)

This specialized Google search engine focuses on scholarly papers. It produces fairly good results, although many of the sites will charge a fee to download or access the full paper. However, it may give you a good start, after which you can go to a university library and look up the articles by hand

[www.ilinet.org](http://www.ilinet.org)

The Institute for Learning Innovation (ILI) publishes abstracts from recent research and evaluation studies on their website.

— [www.informalscience.org](http://www.informalscience.org)

This site is run by UPCLOSE and serves as a database for numerous published (and unpublished) reports/papers related to science learning in informal/museum settings.

— [www.visitorstudies.org](http://www.visitorstudies.org) <sup>(new)</sup>

The Visitor Studies Association (VSA) publishes a newsletter and proceedings from their conferences on-line. Members will soon have electronic access to other archived VSA publications as well.

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Here is a **collection of books**, some new and some old, which may provide additional background and theoretical perspective when considering examining or evaluating learning in informal settings.

Chittenden, D., Farmelo, G., Lewenstein, B. (2004). *Creating connections: Museums and the public understanding of current research*. Walnut Creek, CA: Altamira Press.

Diamond, Judy (1999). *Practical Evaluation Guide: Tools for Museums & Other Informal Educational Settings*. Walnut Creek, CA: AltaMira Press.

Exploratorium (2005). *Fostering Active Prolonged Engagement: The Art of Creating APE Exhibits*.

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Falk, J. H. & Dierking, L. D. (2000). *Learning from museums: Visitor experiences and the making of meaning*. Walnut Creek, CA: Altamira Press.

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Roberts, L. C. (1997). *From knowledge to narrative: Educators and the changing museum*. Washington, D.C.: Smithsonian Institution Press.

National Research Council (2000). *How People Learn: Brain, mind, experience and school* [expanded edition]. Washington, D.C.: National Academy Press.

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Here are some **recent articles** that may be helpful in thinking about designing or improving experiences for school groups:

Mortensen, M. F. (in press) Free-choice worksheets increase students' exposure to curriculum during museum visits. *Journal of Research in Science Teaching*.

Kisiel, J. (2007) Examining teacher choices for science museum visits. *Journal of Science Teacher Education* 18, 29-43.

Bamberger, Y., & Tal, T. (2007) Learning in a personal context: Levels of choice in a free choice learning environment in science and natural history museums. *Science Education*, 91(1), 75-95.

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Anderson, D; Kisiel, J.; Storksdieck, M. (2006) Understanding teachers' perspectives on field trips: Discovering common ground in three countries. *Curator*, 49 (3), 365-386

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Kisiel, J. (2006) Making fieldtrips work. *The Science Teacher*. 73(1), 46-48

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Griffin, J. (2004). Research on students and museums: Looking more closely at the students in school groups. *Science Education*, 88(Suppl. 1), S59-S70.

Schatz, D. (2004). The field trip challenge: Finding common ground. *ASTC Dimensions*, September/October 2004, 3-5.

Anderson, D., & Zhang, A. (2003). Teacher perceptions of field trip planning and implementation. *Visitor Studies Today!*, 4(3), 6-11.

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Tal, R., Bamberger, Y., & Morag, O. (2005). Guided school visits to natural history museums in Israel: Teachers' roles. *Science Education*, 89(6), 920-935.

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*These **articles** are more position pieces or recommendations—while they don't necessarily provide evidence for 'how to', they may provide some info on 'why'.*

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Institute of Museum and Library Services. (2005). *Charting the landscape, mapping new paths: Museums, libraries and K-12 learning*. Washington, D.C.: Institute of Museum and Library Sciences.