

Summit Proceedings

UNIVERSITY
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The Quality Field Trip Research Project
Extreme Field Trips: *LEAD*ing the Way



LEAD
Linking Education and Discovery

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Results from the Quality Field Trip Summit: Extreme Field Trips: *LEADing the Way*

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Table of Contents

- Introduction 1**
 - LEAD Assessment Project*..... 1
 - The Learning Summit Concept*..... 3

- Summit Breakout Topic Explorations..... 5**
 - 1. Embedding the Field Trip..... 5
 - Summary* 5
 - Group Discussion* 5

 - 2. Evaluating and Assessing Field Trips..... 8
 - Summary* 8
 - Group Discussion* 9

 - 3. The Social Dimension of Field Trips 12
 - Summary* 12
 - Group Discussion* 12

 - 4. Aligning Field Trips with Standards..... 14
 - Summary* 14
 - Group Discussion* 15

 - 5. Beyond the Traditional Field Trip and Community Learning..... 16
 - Summary* 16
 - Group Discussion* 17

- Summit Perspectives from the Final Plenary Discussion 18**

- Top Ten Ideas Worth Pursuing 20**

Introduction

University Circle Inc. (UCI) has assumed a leadership role in investigating field trip issues and improving field trip practice in Cleveland through a variety of partnership collaborations. The Linking Education and Discovery (LEAD) program has established many characteristics for quality field trips in Cleveland, and through it, UCI has developed a program structure that is conducive to best practices, joint learning, and improvement for all stakeholders. As well, this program allows UCI the flexibility to transfer its leadership position in the field trip arena to after-school, family, and senior programs. UCI has served as both the “catalyst” and the “glue” for various stakeholders and has extended its communication efforts to include the broader community, including events for families and other activities to stimulate deeper communication and sharing between the organization and the many audiences it serves.

In 2004, UCI’s flagship program, LEAD (Linking Education and Discovery) was in its 32nd year. This program annually serves 20,000+ K-8 students from Cleveland Metropolitan School District schools, providing educational experiences at 15 University Circle cultural institutions. LEAD continues to be a collaborative effort among UCI, the Cleveland Metropolitan School District, individual institutions, principals, and teachers. The goal of the program is to utilize the collections and resources of Circle institutions to enhance classroom-based instruction and provide a unique learning experience for students. LEAD offers K-8 students and teachers opportunities to link their curriculum with activities available through a broad range of informal learning environments. The program is offered throughout the school year and includes educational experiences such as guided tours, studio and gallery activities, outreach programs, and performances.

While UCI is not alone in creating exemplary infrastructures and programs that link schools and out-of-school cultural and learning institutions, its Community Education Department’s role as convener, researcher, and grant-writer has led to some unique collaborative opportunities for its partners. This initiative has enabled UCI to think deeply about best practices and cast a wide net to capture issues surrounding field trip practice. It is this spirit of continuous improvement, collegiality, and service to children and their teachers that inspired UCI’s desire to research key issues. We have uncovered the best thinking of experienced practitioners and teachers and hope to actively connect this body of knowledge with instructional models that can track success in student engagement and learning.

LEAD Assessment Project

When it was time to assess how the LEAD program had served its constituents—including institutions and schools—The Institute for Learning Innovation was engaged to collaborate on a comprehensive study that would benefit not only UCI and its member institutions, but the entire field of museum education. In FY 2004-2005, UCI’s Community Education Department initiated the *LEAD Assessment Project – Redefining the Field Trip*.

The driving forces for this research project responded to the following trends in our field:

- Field trips have been questioned in many school districts due to a lack of understanding about the perceived value of out-of-school experiences for students.
- Numbers of students attending field trip programs are declining each year.
- Standards-based alignment and testing are reshaping how education takes place in K-12 schools over the past decade.
- Field trip practice needs to evolve and better reflect educational practice, including a more purposeful integration into the classroom.
- Training and practices in museum education and cultural education programs are changing.

Evaluation plays a significant role in UCI's work, and to that end, we desired to construct a comprehensive assessment framework consisting of focus groups, observations, and target surveys. Because it has always been challenging for cultural institutions to evaluate the educational impact of single field trip experiences, we decided to take an alternate approach to this work.

UCI's Community Education Department desired to determine the shared quality characteristics that both cultural educators and teachers want integrated into field trips that are offered through the LEAD field trip program. As such, the study's methodologies began with one essential question:

What identifying conditions need to exist or be present for learning to take place during a field trip experience?

The study involved separate focus groups for educators, administrators, museum education directors, and museum educators; pre/post assessments of teacher field trip expectations; and observations by trained graduate students of on-site field trips. The following year (2005-2006), a second companion study was conducted with suburban school districts to account for differences in demographics and variance in teacher expectations. In addition to the survey, UCI conducted a small pilot program that tested how videoconferencing could be used to prepare and follow up on field trips. The study involved two cultural institutions and was assessed through focus groups with participating museum educators and teachers.

Data was gathered over the course of two years from a variety of sources using multiple methods. A comprehensive literature review was followed by a series of eight focus groups with major stakeholders (teachers, principals, educators from various cultural institutions, program directors from these institutions, and researchers) to develop criteria for quality field trips based on local stakeholders' perspectives. The study's scope included 13 University Circle cultural institutions, 25 Cleveland inner-city schools, 92 private and public suburban schools, 490 teachers, 59 museum educators, 10 museum education directors, and eight school principals.

The resulting quality field trip model blended the results of the literature review and the focus group discussions, forming the basis for a pre/post, closed-ended teacher questionnaire. A similar instrument was designed for educators from cultural institutions to assess their field trip offerings. Two independent observers validated teacher and educator self-reported data for a triangulated data set. In the initial urban study, 150 matched pre/post teacher surveys, 59 museum educator surveys, and 28 observations that were linked to matched teacher surveys were collected and analyzed. In the suburban companion study, 92 teacher post-only surveys were collected and analyzed.

The stakeholder analysis (focus group results) revealed that although various stakeholder groups differed somewhat in their priorities and importance of objectives, there was a large overlap in the characteristics of—and the objectives for—quality field trips. Principals focused on creating links between the field trip content and the school curriculum; teachers felt that quality field trips must run smoothly in terms of planning and logistics; while museum educators sought first and foremost to provide experiences that were hands-on and authentic and which reflected their venues.

Teachers strongly indicated that field trips served multiple purposes and that they had multiple goals for the specific field trip they participated in as part of UCI's LEAD program. Teachers rated the affective goals of having a positive, memorable experience higher than learning-related goals, indicating that the affective experience was just as important—if not more important—as having their students learn content related to their classroom curriculum. While there were some differences between teachers and museum educators on the importance of specific goals, museum educators designed their field trip programs to meet multiple goals and generally agreed with teachers about the importance of each of these goals.

Whereas museum educators placed a greater importance on conducting a variety of preparation activities, teachers tended to complete only limited or low-level preparation for both themselves and their students. They conducted activities that were easily available and barrier-free. While preparation activities were often limited, teachers indicated that they provided their students with orientation at a level consistent with what museum educators identify as important. Similarly, follow-up activities tended to be low-level and informal, rather than strongly linked to the classroom and home. In part, this may be due to the limited resources offered by museums for follow-up.

There was some disparity among museum educators, teachers, and observers about the types and frequency of various activities taking place during the field trip. In general, museum educators were inclined to see their field trips as more varied than teachers, indicating that the ideal design of a field trip program may not always play out in practice. In general, field trips for lower elementary-age students offered more opportunity for hands-on and unstructured activities than those designed for older students.

As stated above, teachers reported a very high level of satisfaction with the field trip experiences provided through the LEAD program. Teachers typically felt that their expectations were being met, that the quality and quantity of material exceeded what was used in a typical classroom experience, that their students were engaged and interested, and that the museum staff was effective at a range of skills. However, the data also indicated some potential areas for improvement, particularly in serving middle school and students with lower academic skills (as identified by teachers).

Chaperones and teachers appeared to be underutilized during field trips, being used primarily as behavior monitors rather than as educators. Field trip practice suggests a large potential for improvement in this area.

The pilot study on using videoconferencing for field trip preparation and follow-up revealed a series of usability and technical issues that need to be addressed if this technology should be made available widely. However, it also provided strong evidence for the enormous potential that technology has to address some of the issues that prevent better integration of field trips into school learning.

The evaluation project resulted in a range of suggestions for improving field trip practices in Cleveland and elsewhere. As such, The Institute for Learning Innovation and UCI felt that addressing the research and layered aspects of field trip practice with colleagues at a summit was a worthwhile endeavor for both organizations.

The Learning Summit Concept

On Wednesday, August 23, 2006, UCI hosted **Extreme Field Trips: LEADing the Way** at the Cleveland Museum of Natural History to discuss the way we think about and plan learning experiences for teachers and their students. The gathering was designed to discuss new models for effective field trips practice. The summit served as an important collegial space for dialogue and reflection prior to the start of another busy school year, and it served as an opportunity to spark a learning community of practitioners nationwide who can participate in our ongoing research and documentation efforts.

The program began with John Falk, president of The Institute for Learning Innovation, who framed our discussion on lifelong learning. What are the roles of cultural institutions and schools in fostering meaningful learning in schools and their communities? Martin Storkdieck, lead researcher for the field trip study, presented its instruments and general research findings. Facilitators from The Institute for Learning Innovation and experienced UCI colleagues then led breakout sessions focused on specific yet related topics. These were

- Embedding the Field Trip into School-based Learning

- Evaluating & Assessing Field Trips
- The Social Dimension of Field Trips
- Aligning Field Trips with Standards
- Beyond the Traditional Field Trip: Other Ways to Spark Lifelong Learning in Children
- Problem- or Inquiry-based Learning during Field Trips

The entire group of 100 attendees reconvened at the close of the summit day to report on the discussions and recommendations from their working groups. Lynn Dierking from The Institute for Learning Innovation synthesized the discussion, recommendations, and challenges from the working groups at a closing summit session. The proceedings of the summit are presented in this document.¹

¹ All summit discussion groups on field trip-related issues struggled in one way or another with these three underlying tensions:

1. **Logistics**—While arguably of minor concern in terms of learning outcomes, the logistics and organizational aspects of field trips are naturally a great concern to all stakeholders. In fact, stakeholders are so focused on getting students to the field trip venue and back and ensuring their safety and happiness while on the trip that these issues can dominate the discourse on quality field trips.
2. **Funding**—The realities of limited funding—equity, access, etc., and thus the larger context that allows field trips to take place—can distract from discussions focusing on education and learning. Engaging administrative leaders continues to be of paramount importance.
3. **Making an impact**—What does it take to effect change? Wanting to do something different and make a difference in the lives of youth get to the heart of the field trip discussion. Why are we taking students out of the classroom and into the world? What experiences can our institutions offer that complement and enhance what takes place in a classroom?

Summit Breakout Topic Explorations

Note: Results from one break-out session, “Problem- or Inquiry-Based Learning during Field Trips” were considered fundamental to learning in informal settings and thus were integrated into the remaining five sections.

1. Embedding the Field Trip

Summary

Embedding the field trip into the classroom emphasizes the educational purpose of the field trip and establishes it as an expansion of the classroom curriculum or an identified unit. The field trip itself then draws upon real-world and authentic experiences to create rich and relevant learning opportunities that complement and enhance classroom learning.

In order to serve this purpose, programs and other field trip experiences offered by cultural institutions *must be aligned with state and/or national standards*. The integration can be made easier through classroom resource materials, videoconferencing, or other blended technologies that provide pre- and post- “visits” in direct support of classroom curriculum. Collaboration between educators at cultural institutions and classroom teachers (in person, or via technology) is critical in linking field trip experiences with classroom learning.

Many school curricula embrace problem- or inquiry-based learning. However, field trips based on inquiry-based pedagogy are challenging for a variety of reasons: Arguing for process-based “inquiry standards” such as “problem solving” or “higher-order thinking skills” is more difficult for teachers than arguing for content standard-based field trips; field trip preparation is more time-consuming since it requires the involvement of students and a different type of time management for the field trip than traditional fact-searching field trips; and learning outcome assessment is more difficult.

However, many cultural institutions still struggle to find ways to best engage schools in helping to design field trip experiences that link to classroom curricula. Technology may aid in bridging classrooms and out-of-classroom learning, but teachers’ attitudes and access to technology need to be assessed before teachers can be encouraged to successfully employ and experiment with new technology. In addition, students need to be encouraged to embrace out-of-classroom learning as an integral aspect of their overall education, while making them individually accountable for their learning during the field trip.

Other ways of achieving closer connections to classroom learning can be accomplished by

- Providing professional development days hosted by cultural institutions
- Developing multiple ways for teachers to access resource support materials
- Offering multiple learning options during the field visit itself
- Better orienting students prior to the field trip itself

These are all ways of achieving closer connections to classroom learning.

Group Discussion

Topic relevance:

- a) Field trips claiming to be connected to the curriculum need to demonstrate relevance to the classroom curriculum. They will have defined learning goals, which are standards aligned and reflective of the learning priorities of the school districts that use their services.

- b) Embedding the field trip in the classroom curriculum increases the likelihood of good preparation and orientation. *Benefits include*
- Increasing the likelihood that the students will have realistic expectations for their field trip visit and look forward to the experience
 - Teachers setting behavioral expectations for their students—that is, they can introduce appropriate conduct in advance of the visit.
 - More field trip time is focused on learning if behavior and orientation are addressed in advance of the field trip.
 - Teachers can provide an educational advance organizer by reinforcing what students already know about the topic, letting them express what they would like to know, and later revisiting what was actually learned during the visit. This advance organizer is useful for the cultural partner as they prepare for individual groups.
- c) Teachers are better able to establish that the field trip is an extension of the classroom; it is not an isolated event, but an integrated learning experience for the students. However, school principals or district curriculum coordinators may make field trip choices for classroom teachers if trips are clearly linked to the curriculum-- a practice that may guarantee that field trips are available to children but that also invariably limits the educational worth of field trips.
- d) When embedded, the field trip can provide students with real-world connections and authentic experiences.
- e) An embedded field trip will be perceived as academically and personally relevant. Academic relevance is established through linkages to classroom learning, while personal relevance occurs through an instructionally well-designed field trip experience.
- f) Embedded field trips are real, rich, AND relevant. Each student should have a significant experience in different ways (social, academic, interest-based, etc.).
- g) Teachers need to be included in every stage of the field trip visit, including the planning and design stage. Ideally, a team relationship should exist between the institution's interpreters or facilitators and the classroom teacher.

What we know about embedding the field trip into the classroom experience:

- a) Confirmation and informational packets are valuable. They need to include all logistical information, an introduction for teachers and students to the site, and what to expect.
- b) Worksheets and other materials that will be useful during the field trip and materials that enable assessment and evaluation of learning should be provided.
- c) Pre- and post-visit materials should be provided to teachers in one mailing; materials should be accompanied with practical tips from previous experiences of the program, as well as *educator endorsements* that provide teachers with evidence that the materials are useful.
- d) Materials should be sent well in advance of the field trip (4-6 weeks) so that teachers will have them early enough to plan for pre-visit classroom activities.
- e) Professional development opportunities for teachers should be offered that introduce the venue, its programs, and teaching philosophy, as well as concrete suggestions for embedding field trips into classroom teaching and learning. This could easily be provided via technology.

- f) Embedding field trips into classroom teaching requires teacher buy-in; teachers need to be able to articulate to parents and administrators how the field trip relates to classroom practice.
- g) Field trip programs and experiences must be aligned with content and process standards, and the linkages need to be clear in written materials and on websites. Field trips can address a multitude of standards, many of which may not be content-based.
- h) Outreach visits in person or by videoconference prior to field trips are a powerful way to link the classroom to the field trip.
- i) Videoconferencing for pre- and post-activities is becoming an option as technology advances and becomes more readily available.
- j) Field trip programs and support materials need to be piloted with groups of teachers. These materials should be re-examined and refreshed on regular institutional cycles.
- k) Close collaboration between planning field trip destinations with teachers and school administrators is essential to the successful embedding of field trips.

What needs to be addressed about embedding the field trip into the classroom experience?

- a) Face-to-face meetings with teachers in advance of field trips are valuable but logistically difficult. How can this process become more possible?
- b) Pre-visit videoconferencing involving both students and teachers may provide a viable option for face-to-face time during the preparatory stages. However, pre- and post-videoconferencing availability is inconsistent. DVDs, webcasts/podcasts on web sites, or PowerPoint presentations could be emailed to teachers beforehand and used when videoconferencing is not available; however, they do not allow for interactive real-time, face-to-face experiences.
- c) Teacher packets may direct teachers to respective websites, but what will inspire teachers to make use of them when alerted in this manner?
- d) More broadly, research shows that educators are not utilizing web sites. Why aren't teachers using websites to a larger degree? Is it enough to make schools (and teachers) more aware that this information is readily available, or are other factors preventing teachers from more extensive use of the Internet? Teachers may have limited access to computers or to high-speed Internet connections at school.
- e) In-service professional development for teachers should include the use of videoconferencing, the Internet, and other key communication technology. New communication technology can aid in preparing and following up on field trips. Are teachers resistant to using new technology and HOW can they get training and support? What entity should provide for training and support and WHO should fund it? How can we make time in the professional development calendar to make this happen?
- f) Museums must reach out to teachers by providing teacher in-service days/open houses for teachers with structured instruction and orientations; but will teachers make use of them? If they don't, what prevents them from attending?
- g) Teacher-museum communication must be a two-way process; who initiates and sustains the communication?
- h) More emphasis should be placed on pre-visit materials than post-visit materials, which are often covered through homework assignments. But are homework assignments the best way to follow up on field trips with multiple objectives?

- i) Faculty meetings can be used to provide information about field trips and to strategize about support from administrators. Who will organize them? How can field trip providers get on very tight agendas?
- j) A “one-stop shop” way of organizing field trips would be best for teachers; currently they need to communicate with school administrators, colleagues, field trip venues, and parents. How can a “one-stop shop” practice be extended beyond initiatives like the LEAD program? Where are other good examples for this across the country?
- k) Budget constraints in schools and institutions limit the information flow and availability of field trips. Materials need to be developed, produced, and mailed; field trips need to be financed. Can funding for fields trips be increased? Principals have discretionary funding available to support field trips; some put more emphasis than others on the value of field trips. Who educates the principals?
- l) Student interest in field trips may vary. Teachers need to ensure that a field trip is not considered a chore or a spare time activity. Students should see field trips related to learning and education. Should the term “field trip” be changed to reflect a more dynamic, connected learning experience?
- m) The culture of urban school districts hinders teachers from taking students on field trips; transportation, substitution, and other issues limit field trips.
- n) School principals should have a dedicated staff member or educational liaison in the school; cultural institutions need to have a liaison at the school to communicate with.
- o) Cultural institutions need to keep on top of what is needed in the classroom. Are teacher advisory boards sufficient? How should these groups be structured, maintained, and refreshed?
- p) Multidisciplinary and interdisciplinary content should be integrated into field trips to allow for flexibility for a variety of teachers and school environments. It is the interdisciplinary experiences that make field trips authentic and relevant and DIFFERENT from classrooms.

2. Evaluating and Assessing Field Trips

Summary

The group decided to focus on student assessment, since the underlying problem that needed addressing was accountability: How does the field trip impact students? Many studies show that students enjoy field trips and remember them. However, when assessing field trips and student outcomes, teachers and researchers are faced with several fundamental issues. For example, should they assess immediate or long-term outcomes of field trips? What should be measured, since assessment also needs to take into account that field trips provide for different modalities of learning? Should baseline data be used in pre/post assessment designs? *Who* should be doing the assessment and for *what* purpose? How do you remain objective when doing evaluation and assessment in-house?

Future steps that contribute to promoting meaningful assessment are

- Pre-determined, valid, and reliable rubrics to assess authentic follow-up experiences that are co-designed by teachers and museum educators
- Valid and easy-to-use teacher/observer checklists for documenting students’ learning behaviors during a field trip
- Mechanisms that allow teachers to share information about student learning from field trips with the cultural institutions and field trip providers

Group Discussion

Topic relevance:

The main aspect of assessment and evaluation is accountability: Does the designed activity achieve its instructional or academic objectives? What do students come away with from an emotional and social perspective? These objectives can range from learning something about themselves--such as a new interest to new skills or knowledge in a particular content area, such as environmental studies.

Pre-defined outcomes for field trips may be in conflict with open outcomes—that is, positive outcomes that are not intimately tied to the content of the field trip, but rather with the experience itself, the physical and social environment, and the degree to which skills were developed. Outcomes may not always be aligned with subject categories like reading, writing, science, or math, but can be experiential and social. This opens students up to a wider world, but poses problems when the total outcome or impact of a school field trip needs to be assessed. A visit to a natural history museum or zoo may help students learn how to observe animals and familiarize them with where one can go to observe animals in the community. The question becomes: Are lifelong learning outcomes important? What is the relationship to curricular-based outcomes? Can these academic and lifelong learning objectives be balanced in one assessment?

What we know about evaluation and assessment of field trips:

- a) Evaluation and assessment can have a program or a student focus: Does one evaluate the program, OR does one assess the student? Is program evaluation possible without student assessment? It is important to adopt a point of view and define it when assessing learning?
- b) No matter what the focus, it is important to document—directly or indirectly—the impact of the field trip on students. Field trip quality (like the quality of any educational experience) needs to be judged against the criteria of whether students are learning or are changed in other ways.
- c) In judging outcomes for students, types of student behaviors are as relevant as apparent cognitive, affective, and kinesthetic learning (learning with head, heart, and hand) and emotional responses to their experiences.
- d) Field trips provide students with lifelong learning experiences: They can give them the opportunity to function in our world by introducing them to community resources for out-of-school learning and identity formation. For example, the art museum may not be familiar to students, and a first-time field trip may succeed simply by introducing students to the institution and helping them feel comfortable and welcomed there. That is an objective of the experience.
- e) On the other hand, field trip destinations can be new, unusual, threatening, or confusing environments. A zoo may provide urban students in particular with rather unpleasant olfactory experiences that teachers need to prepare students to know about in advance.
- f) Students could fill out written surveys or feedback forms after the field trip is over where they write a few sentences about what they have learned. (Alternatives to essay questions include drawing a picture—a method commonly used with younger children.) What incentives are necessary to encourage teachers to conduct the survey and return the information to the museums?
- g) One-time field trips are not conducive to academic assessment focused on specific content. Some stakeholders question the rationale of expecting any learning outcomes after just one visit. This is a continual challenge when it comes to funding for these programs.

Student Assessment: What do we know that can help us?

- a) Student assessment needs to be comprehensive AND focused if it is to capture the whole range of learning experiences.
- b) Students enjoy visits to out-of-school settings. Their enjoyment and satisfaction are an important first “reaction” and need to be captured as part of evaluation, assessment, and feedback.
- c) Students have positive, fond memories of trips IF the field trip is conducted in ways that lead to enjoyment. Research shows that tedious, overly-structured field trips are disliked by students and can lead to long-term negative memories and attitudes toward the field trip setting.
- d) Immediate emotional responses to the field trip experience, while important to record, may not be a true indicator of what the student is actually learning or feeling. Student outcomes should only be documented after some form of debriefing, reflection, or post-visit activity has occurred.
- e) Social aspects and peer pressure can force students to act or express emotions in ways that are not genuine to the individual.
- f) Field trips can guide a student toward a future career choice and open the world, particularly for students from low socio-economic status households.
- g) Repeat visits are most likely to lead to significant learning and deep experiences. One model for repeat visits is the *3 life-step visit*. It involves a child, parent, and grandparent who visit one venue three times in three different combinations of people or social environments.
- h) Field trips allow for discovery and exploration, and they can have a profound emotional impact, particularly on those students who don’t do well within the classroom environment. “Academic” assessment might miss this essential aspect of field trips.
- i) One class of students represents the full spectrum of different learning modalities. This needs to be considered when designing and assessing a field trip experience.
- j) While assessment and evaluation ought to focus on students, teachers and parents could also conceivably be included, especially with assessments over a longer period of time.
- k) Institutionally, all evaluations conducted on field trip programs and generic field trips should be collated and meta-analyzed once a year. While such a comprehensive evaluation of all field trip efforts for an institution can be time-consuming and not possible in every institution, the analysis will provide important and invaluable overall feedback on the programs and their impact on student audiences.
- l) Evaluating programs on the fly (i.e., informally as they occur) can provide staff and educators with a reasonably good sense of how students feel and how they are enjoying the program. However, this type of feedback runs the risk of creating serious bias and is not a replacement for a well-structured and thoughtful assessment and evaluation protocol.
- m) Assessment and evaluation should be conducted not only to assess outcomes, but also to help develop and improve field trip offerings through front-end and formative evaluation.
- n) Program evaluations conducted separately with staff, teachers, and administrators will provide diverse perspectives and should complement student assessment and evaluation efforts.
- o) Children tend to have short attention spans. Evaluations might be inappropriate or ineffectual in sharing student perspectives. Student assessment and student-focused feedback are best done as embedded evaluation or at clearly allocated and defined time slots.

- p) Peer pressure can influence student feedback and needs to be taken into account when setting up feedback mechanisms.
- q) Evaluation and assessment need to distinguish between various outcome levels: satisfaction and enjoyment, attitudes, affective and cognitive learning (awareness, declarative knowledge, conceptual change), skills, and behaviors all form outcome categories. While objectives can inform specific outcome measures, assessment and evaluation need to make room for capturing unintended outcomes and student-defined outcomes as well.
- r) Be aware of reactivity and bias; responses on feedback forms may be overly positive since teachers and students like field trips on general principle. You need to separate the positive attitude for the field trip in general (the fact that there was one) from specific feedback on the field trip experience. Concurrently, teacher bias will support “the institution” and want to ensure that field trips will continue to take place in the future.
- s) Field trips based on inquiry or problem-solving need assessment tools that are portfolio-based and embedded into the overall field trip experience.

What needs to be addressed about evaluation and assessment of field trips?

- a) Additional resources in funding and time to work with school district leadership and classroom staff are important issues.
- b) Linking authentic assessment of student learning to program evaluation needs to be addressed. (Teachers’ needs might be different from the institutions’ needs.)
- c) Baseline data: We need to find a non-threatening approach for assessing prior knowledge and identify study designs that do not bias results. If included in the program design, they can serve two purposes: to encourage learning and to serve as baseline data. What is evaluated? Program quality may differ based on the presenter or facilitator. Many different presenters need to be sampled before one can be reasonably assured that the program, rather than the individual, was evaluated.
- d) Unclear goals or multiple goals: All goals and objectives must be stated clearly and linked to field trip program elements or other lifelong learning objectives. There is no point in testing students or evaluating programs for learning outcomes that are not addressed in the program; if multiple goals exist, all of them should be reflected in assessment and evaluation of the program.
- e) Ethical considerations and professional standards need to be adhered to when involved in assessing or evaluating children.
- f) Decide what to measure and follow through in the assessments. Even if construct variables have been defined to everyone’s satisfaction, identifying or constructing valid and reliable measures is a non-trivial task.
- g) Create enough time for students to respond to their field trip experience. Students may not take the time to complete surveys or may provide poor answers when rushed.
- h) Invent data collection methods that work. Sometimes student photographs taken during field trips, pictures created afterwards, or essays crafted as a result of a field trip might be superior in conveying the value of a program to funders or parents than test score averages. They also provide opportunities to capture outcomes and impacts outside the range of formal assessment and evaluation.
- i) While incentives can be important to increase response rates, the nature of the incentive needs to be considered in terms of its impact on reactivity and bias. LEAD teachers are

required to complete feedback forms, or they do not have the opportunity for trips the following year. Did this bias their answers?

- j) Who should receive feedback--the venue staff or the teacher? And how should feedback be communicated between the staff and teachers? Should it be anonymous?

3. The Social Dimension of Field Trips

Summary

Field trips are group events that provide ample opportunities for social interaction. The social nature of field trips can contribute to enhancing a sense of belonging and comfort with institutions that may be unfamiliar to the student. The social nature of the experience can extend beyond the classroom. Field trips can incorporate the family into the child's social and cultural learning by involving family members during the field trip, not only as chaperones, but by extending the field trip into the home environment through follow-up work. Children learn differently when learning takes place in a social or group environment. Different strengths of the child may surface with a different group dynamic. Social interactions can greatly enhance learning, particularly when children are allowed to verbalize to themselves and their peers what they see, hear, and experience during a group learning event. Verbalizing and sharing can enhance critical thinking skills and allow children to practice making their own choices. In a broad community sense, all children deserve the experience of social, hands-on learning in order to improve their ability to become citizens of their own communities.

Group Discussion

Topic relevance:

The topic was broadly defined by the group to include aspects such as "social interaction," "family learning," "group dynamics," and the "social nature of field trips." A major purpose of field trips-- and the one that was seen as most closely related to the social dimension-- was to provide children with a sense of belonging in these institutions; that knowledge and familiarity allow children to feel part of their larger communities. Current research shows that families play a key role in providing this link between community and the child. In the most optimal scenarios, families ought to be involved before, during, or after a field trip into the community.

The topic is relevant for two important reasons:

1. Group learning that involves sharing of any kind is particularly suitable for out-of-school learning.
2. Most out-of-school or free-choice learning that occurs in typical field trip settings is social in nature.

Since lifelong learning goals hope to attract students attending field trips as future visitors, it seems of utmost importance to provide them with field trip experiences that reflect the social nature of their future visits with family or friends.

What we know about the social nature of field trips:

- a) Children, like all learners, learn differently from one another and have their own styles and preferences for learning. Joint learning experiences that build upon the social nature of learning and the individual strength of each member of a group can greatly enhance learning.

- b) Many children learn well by repeating information orally, and children want to discuss what they are experiencing during field trips. They want to express themselves and share their collective excitement and insights with peers, teachers, and educators.
- c) Since children learn differently from one another, they need a variety of learning modalities. While field trip institutions can facilitate many different types of experiences, hands-on and interactive programs have been determined to be particularly effective.
- d) Many children need to be able to verbalize to themselves and their peers what they see, hear, and experience in order to enhance their critical thinking skills and to make their own choices with confidence.
- e) The major objectives of a field trip should not only be communicated clearly to the students, but should also be owned or embraced by them. Ideally, students are involved in determining some of the learning objectives of a field trip so they will be more accountable for their own learning.
- f) Field trip venues can stimulate curiosity and questioning and contribute to what children may want to do in their lives in terms of educational interests and future professions.
- g) Field trips inspire questions with no right or wrong answer. In fact, students feel less intimidated when they understand that it is okay to ask unanswerable questions and to not know answers to questions, but seek to have their questions answered.
- h) Prepared students enjoy field trips because of comfort issues with the surroundings and because of increased confidence in their own prior knowledge. A sense of comfort is extremely important in creating effective field trip experiences for students and teachers.
- i) All children deserve to benefit from community learning resources that field trips can offer. Equity and access need to improve so that all children benefit and experience a sense of belonging in their communities.
- j) Field trips can help children gain an understanding of how to engage with society, but institutions need to feel inviting to children of all backgrounds. Field trips need to be carefully thought through, and all types of groups need to be considered. In the same way schools are seeking to accomplish customization for students, perhaps field trips could do the same by providing specific customized materials in the teacher packet.

What needs to be addressed about the social nature of field trips?

- a) How do we best ensure that field trip venues are accessible to all children and their families?
- b) How do we make field trip experiences more interactive, hands-on, and free-choice while building upon the power of socially mediated learning?
- c) How can we ensure that children feel like they belong at field trip institutions, and how can we ensure that children understand these institutions as places for lifelong learning that is shared with others?
- d) We need to learn more about children's emotive responses to field trip experiences, particularly in terms of the social dimension and the nature of the field trip experience.
- e) Can we communicate better with families about field trip institutions? How can we get family members more involved so these learning experiences not only connect to the classroom, but to the family life of the child and the home environment?
- f) How can institutions involved with field trips expand their programs to include collaborative programs with community groups that are defined as social groups in our communities?

- g) Conduct surveys and studies on children’s emotional experiences with a specific focus on the impact of free- or self-choice and students’ interests. Ensure that studies be conducted with outside researchers to provide students with a forum for expressing their emotions freely.

4. Aligning Field Trips with Standards

Summary

Aligning field trips with state and national standards has become the condition *sine qua no* for field trips. Teachers are under increasing pressure to prove to their principals that any educational activity (in class or out) conforms to and promotes the achievement of standards (and even increases student performance on standardized tests). Field trip venues, similarly, are under increasing pressure to show that their offerings meet those standards if they want teachers to make use of their field trips. In short, if museums and other cultural institutions want to sell their educational programs, they must demonstrate that they meet standards. Linking standards to field trip experiences at each grade level must be communicated to teachers in concise ways, such as written/online teacher materials and during the program itself. Programs should be articulated in “standards language” to ensure that teachers immediately see value without having to check tables or long lists. Programs that meet standards can have parallel objectives that are consistent with lifelong or free-choice learning and introduce students to community learning resources.

Aligning field trip programs to standards raises important issues, the most important of which seems to be how we can prevent standards-based programs from being confused with simply “teaching to the test.” Field trip providers need to find ways to keep pace with changes in standards and testing and decide whether program design ought to map to standards in great detail.

Field trip programs should be designed to align with standards across a wide curriculum and in multiple content areas, not just those most closely associated with the venue or the field trip focus. No matter how standards are served, flexible time and choice ought to be included in the field trip experience in order to spark free-choice learning and to capitalize on the nature of the out-of-school setting. In other words, field trips should as best as possible resemble a family visit. In order to achieve both simultaneously—aligning with standards and supporting a free-choice learning experience—institutions need to develop field trips with standards at the core AND provide an “authentic” experience. This will encourage closer collaboration between teachers and cultural educators.

Group Discussion

Topic relevance:

While field trips increasingly have to meet some form of standards, museum educators and teachers differ in the importance they place on specific objectives for field trips. Classroom teachers may focus on standards, while museum educators and docents might focus on “authentic” experiences. There may also be differences in attitudes toward field trips among classroom teachers. The teacher surveys conducted in preparation for the *Quality Field Trip Study* found that urban classroom teachers placed higher value than museum educators on fun and excitement as objectives for field trips; suburban teachers, on the other hand, stressed curricular ties slightly more than did urban teachers. While school location might influence a teacher’s objective for field trips, all teachers attempt to map a field trip experience to standards, testing, or curricular needs of their schools, and hence they prefer programs that explicitly align with standards. Standards alignment “sells” field trip programs to teachers and schools and contributes to a teacher choosing one program instead of another program. Furthermore, field trip programs in museums and other cultural institutions that reflect multiple

content areas are preferred because they allow teachers to document stronger and more comprehensive ties to classroom learning.

What we know about aligning standards to field trips:

- a) It is important to make links to standards explicit and to market the standards to school administrators and teachers.
- b) We realize that schools have tight schedules and often cannot stay at the museum beyond the field trip lesson. However, one of the most compelling discoveries in the *Quality Field Trip Study* is that teachers would like their students to have more free time to explore venues for students' personal enrichment and enjoyment. A well-structured field trip program mapped to standards is desired, but the other extreme is fostering independent learning.
- c) A pre-visit orientation is very important for teachers and students and can often determine the overall success of an experience.
- d) The standards build from grade to grade, and field trip providers should be familiar with any current set of standards which typically are altered every five years.
- e) Student testing typically occurs in May. Field trip venues need to consider the end-of-year testing as an external constraint in scheduling field trips.
- f) Students transfer information from their field trip experiences to the school and home environment. Educators and teachers can capitalize on that transfer in many ways to allow for horizontal learning (mutually reinforcing learning across different learning experiences and contexts).
- g) Urban middle school students tend to have low test scores in reading, science, and mathematics.
- h) Field trips are often used as motivation for students or as rewards. Field trips should only be discussed as educational experiences.
- i) Hands-on engagement and the structure of a visit are key components to a good field trip experience.
- j) Field trip venues need to understand that students can be graded on the activities that took place during the field trip itself. Field trip assessments can make use of the specific experience and the specific learning afforded through these experiences.
- k) No matter what the standards say, field trips should always provide opportunities for free-choice learning similar to those provided during non-school field trip visits to the same venues.
- l) Cultural institutions should expand beyond their specialty to incorporate a thematic approach (i.e., math can be taught in a history museum and science during a symphony visit). For example, since listening skills are part of language arts standards, appropriate field trip programs, no matter where offered, ought to include these standards when characterizing their field trip programs.
- m) Programs should be kept simple in matching standards across a wide range of academic fields and then marketed to specific grade levels or subjects.
- n) Programs cannot cover all the standards, but the more standards they meet, the more flexibly teachers can make rationales for incorporating the program into their curriculum.
- o) When students ask questions, it supports the social aspect of learning and helps children to build confidence when their questions are acknowledged and answered by teachers and museum educators.

What needs to be addressed about aligning standards to field trips?

- a) How specific should field trip programs be when aligning to standards? How frequently should institutions review and refresh mapping to standards to meet the changing needs of schools?
- b) Is it possible to cut expenses and raise attendance at the same time? Can technology address this challenge? One solution proposed takes broad concepts and develops spoke programs that are tweaked to individual grade levels.
- c) Since field trip programs are typically interdisciplinary in nature, how many content standards does a museum align to? How much is enough? And how do you make these choices?
- d) What is the best structure for teachers to work collaboratively with institutions to accomplish standards alignment? Is it a teacher advisory committee or compensating teachers for their consulting time? Could it be that we need to consider all of these paths as means to the goal?
- e) Content standards can and should be complemented with process standards. In fact, field trips provide ample opportunity for fact-finding, problem-solving, critical thinking, or inquiry-based learning in general, and national and state standards tend to cover these through cross- or trans-disciplinary process standards.
- f) Once programs are mapped to standards and accepted as such, is the next step to have the school districts we work closely with add these field trip options to pacing charts or scope and sequence curriculums?

5. Beyond the Traditional Field Trip and Community Learning

Summary

There are other means than traditional field trips for learning outside of the classroom. At the same time, classrooms could potentially play a larger role in promoting lifelong learning. In order to make stronger connections between various formal and informal educational institutions and to more explicitly connect school and community learning experiences, the field needs to find ways to engage families in field trips and involve them in the cultural institutions that provide field trip experiences. Innovative outreach programming within schools should enhance learning opportunities in classrooms, but not compete with traditional field trips. Field trip providers should be customizing their resources and offerings to the needs of individual students and schools. Schools repeatedly state that they want field trips to accomplish something that cannot be offered in their classrooms. The question remains: How can institutions offer field trips that not only connect to the class curriculum, but also extend into potential community learning experiences for families, provide opportunities for self-directed learning, and collectively promote education as a community value?

Many questions remain when going beyond the traditional field trip model:

- How can institutions best engage parents?
- How can they work with teachers to offer programs that complement curricula in a creative way that maintains the institutions' own unique sense of excellence?
- How can some of the challenges that have long plagued field trips be eliminated (transportation, risk and insurance, cost, traditional teaching methodology, and the current focus on testing that takes away from learning time)?
- How can field trips serve the interest-based needs of individual students?

Future steps to address these issues include working as educational collaboratives to address community educational needs. Encouraging communities to invest in education--both in formal

systems (i.e., schools) and free-choice learning (i.e., cultural institutions, libraries, community organizations)-- should benefit all people interested in learning.

Group Discussion

Topic relevance:

What other avenues exist for learning outside of the classroom? Can classrooms play a larger role in support of lifelong learning? Today the recommendation is a more seamless school-advanced learning-life transition. These questions propose that traditional field trips may compete with other out-of-school learning resources (or develop them). Could classroom instruction lose its dominance in the future if it cannot re-invent itself as part of a lifelong learning process? Many educational experts are predicting that outcome as taking place with educational choice today. Schools must form the basis for 21st century skills and knowledge that learners can use throughout their lives, rather than simply providing content knowledge that is standardized and can be tested.

Lifelong Learning Centers in the near future may offer what schools and traditional museums cannot-- the opportunity for a pinnacle learning experience that combines social, experiential, and self-directed learning of great personal relevance and customization to learners. Teachers are constantly looking for viable alternate ways to meaningfully engage students with cultural resources other than through traditional field trips. In some systems with the appropriate leadership, technology can bring the outside world into a school in authentic and engaging ways, especially if planned together. Perhaps incorporating technology and using community learning resources in deliberate and focused ways are approaches we should all be considering in addition to traditional field trips.

A solution that addresses almost all issues discussed in this document is that students need to be more involved at all stages of field trips—in designing field trip experiences or their alternatives, in planning trips, and in taking responsibility for their own learning. From the child’s perspective, most classroom learning is highly external: The topic is decided by curricula and standards, and the learning process and assessment are determined by the teacher. Students do not learn to learn, do not learn how to decide what needs to be learned, and do not know how best to acquire knowledge and skills; yet mastery of these basic tasks is essential for success in this knowledge age. Field trips can be used by teachers and educators to help students practice and hone these skills by providing students choice and by involving them, even if some choices may lead to less than optimal field trip experiences as judged by traditional standards of increased content knowledge.

What we know about community learning:

- a) Current ways to satisfy community learning goals within the school include offering high-quality school-based outreach. The Cleveland Museum of Art’s *Art to Go* program brings museum educators with themed suitcases to the classroom to lead lessons and discussions about collection artifacts in the cases. Objects in the suitcases most often include original art, which children are encouraged to handle using white curator’s gloves. Alternatives to the site visit are distance learning videoconferences transmitted via the Internet or statewide telecommunications networks.
 - The question in all outreach and distance learning programs invariably is whether these programs replace visiting the institution in person. Teachers tend to see it as one or the other, while many cultural institutions are not sure what is needed more--visiting schools or bringing students to their sites. Some museum educators feel visiting schools denies students a sense of place and ultimately a memorable visit. Clearly fiscal choices need to be made, and programs need to be available for a variety of wide-ranging school districts and their funding scenarios. It appears the best thing

field trip providers can do is offer a wide range of programs: on-site visits, outreach programs, videoconferencing, teacher resource centers, and professional development opportunities to serve the broadest possible audience.

- Some institutions worry that increased distance learning opportunities might reduce actual visitation, while many others feel that distance learning can supplement site visits rather than replace them. In fact, school outreach visits can teach additional lessons in hands-on ways that site visits might not permit. Videoconferencing enables stunning details under the document camera and video of objects behind the scenes (i.e. conservation studios) that students would never have access to in the galleries.
- b) Society is rapidly moving away from an industrial-age model of education to one that provides individualized learning and customization. Field trips are still traditionally mass-produced for all students, though more museums honor teachers' requests to personalize visits toward their classroom curriculum, to provide individualized experiences for smaller groups of students, or to create various types of field trip experiences for differing goals during a single field trip based on students' needs.

What needs to be addressed about community learning?

- a) Schools do not necessarily need to organize traditional "school field trips" during which entire classes of students visit museums or other venues during school hours. Schools with strong home-school connections may organize family field trips on the weekends or create opportunities and incentives for parents or neighborhood organizations to bring children to the museums. Teachers could still offer pre/post activities, and the visit could still be linked to the classroom and provide structured components; however, the visit would occur within a more natural visiting environment, ideally with children of different ages.
- b) Field trip venues need to reach out to parents through after-school and evening presentations about the availability of learning experiences for their children. *Museum Nights* with free parking and bus service from place to place could serve as the equivalent of a teacher open house for parents and make them more comfortable. Community and church organizations could be partnered with institutions to organize trips to museums. Institutions could offer free family passes or discount vouchers as a follow-up to field trips so families have lifelong learning options in their communities.
- c) School districts could create *Family Community Engagement* departments for ongoing meetings with parents. Parents could be trained in how to offer additional out-of-classroom learning experiences to their children, while learning about the out-of-school educational resources available to them in their community, including museums and other cultural entities.
- d) Offering programs for parents and children when they spend part of the time together and other time with their peers may have many community learning advantages. However, intergenerational groups, in which all ages share similar experiences, have significant value since they allow for unique interactions between people.

Summit Perspectives from the Final Plenary Discussion

Clearly, untangling the many issues surrounding field trips ought to start with its primary audience: the child or student. While much has been written about teachers' perspectives and experiences on field trips, less is known about those of the children. Much in the same way that we engage teachers, we need to include children in conversations about field trips, their expectations, their fears, and their motivations. Admittedly, access to students for evaluation and research purposes is extraordinarily difficult and

costly; this is the main reason researchers shy away from including students in field trip studies and one major reason why the UCI Quality Field Trip Study focused on observation and teacher feedback only.

How is field trip time and--for that matter--any structured time outside the classroom best utilized? Many studies and many authors and experts have discussed this issue at length, but no matter what has been theorized, only systematic assessment and evaluation will ultimately allow the field to determine the right balance between free exploration and structured learning or time on task and time for individual discovery and enjoyment.

In tackling the field trip phenomenon, we can learn by exploring other well-studied models such as after-school programs. Unlike field trips, these programs generally have more funding available and generally enjoy more freedom to engage children creatively because they are usually not beholden to standards and testing. Other models take the traditional field trip a step or two further. For example, UCI has developed an out-of-classroom engagement program. By partnering with Case Western Reserve University, the Cleveland Metropolitan School District, UCI museum partner institutions, and the Cleveland Clinic's *Science in the Circle* program (initiated in 2007), it provides a program that enables longer involvement, multiple institution visits, and more free-choice time for students. *Science in the Circle* is part of an \$18 million research initiative entitled "Academy for Young Scientists." This program is funded by the National Science Foundation to study the effect of after-school programs on upper elementary and middle school students' motivation to pursue science, technology, engineering, or mathematics (STEM) in high school and beyond. In turn, the "Academy for Young Scientists" funds 16 local partnerships between teaching institutions, school districts, businesses, and informal settings and is designed to compare these 16 models across a variety of characteristics and outcomes.

There is much debate over who is and is not doing "it" right. Society changes all the time, and these changes (i.e., the focus on accountability in education) have implications for how schools are embedded into an overall education and learning infrastructure. Both formal and informal educators are then forced to respond to these changes and hence constantly struggle to reinvent an ever-changing system. No easy answer or significant "truth" can be found.

Educators at field trip venues and classroom teachers need to collaborate on a deeper level. One way to ensure communication and collaboration between the formal and informal stakeholders might be to add formal reflection time and efforts on both sides and share these reflections with each other on a regular basis.

Deeper and sustained communication between program providers and audiences has been identified as an important element in the museum world, and it forms the basis for a "new" trend that has been followed by mostly small institutions for decades: customizing the experience for visitors. Personalization and customization are ways to provide visitors who enter an institution on a field trip or a family visit with *options* and *choice*. Both of these qualities have been shown in a variety of research studies to increase satisfaction and learning. However, providing choice requires resources and new models for interacting with the public, and thus tested models are needed to guide the field in these directions. Personalization also includes another new trend in museum education: extending learning experiences to everyone and into other aspects of people's lives, such as home, work, school, or clubs. In this way, learning becomes one continuous stream of experiences that builds upon and informs each other, naturally leading to more independent free-choice learning.

Museums and other cultural institutions can also make use of another current trend in learning: citizen science education. The Citizen Science Model involves lay people (including students on field trips) in large-scale scientific data collection efforts. These efforts provide authentic science experiences, adding individual and collective value and purpose to field trips.

Two more points were mentioned at the summit. First, there was considerable excitement about technology and its potential to better prepare audiences before they arrive at institutional doors.

Technology is often not the obstacle in an educational system; but rather the challenge is how to overcome technical or organizational barriers. Creating and sustaining two-way connections, providing information, and raising awareness about common issues are far more important outcomes than the technology itself, which may more easily allow for them. It needs to be reiterated here: Connections between people and institutions are even more essential than being on the cutting edge of technology. Bridging the gap between institutions requires patience, trust, and a willingness to listen and respond to one another. Technology may assist in that regard.

Finally, standards and curricular alignment have simultaneously become the engine of both change and inertia. The field trip system is most often determined by a top-down approach in education that relies increasingly on a “stick” approach toward education reform (i.e., penalizing those who don’t deliver constant improvements on standardized tests). Test results are viewed as the indicator of success, and hence, preparing for tests becomes an obsession within education that institutions providing field trips cannot escape. The increased emphasis on standards need not be all bad for field trips; they can be used productively and inventively to advocate for exciting field trip experiences. However, museums and classroom teachers, as well as everyone concerned with evaluation and learning, need to question the standards and push for higher ground. Good standards and authentic assessment can benefit learning experiences and serve as guidance. Everyone needs to get involved in determining what the standards should be, what it is that we value in any given community, and what it is we want students to learn.

Top Ten Ideas Worth Pursuing

As the previous sections show, the UCI Field Trip Summit generated lively debate and a host of questions about field trips, but also provided participants with a variety of ideas on how to address some of the major field trip challenges. In the following, the authors have chosen to feature ten “solutions” that emerged from the summit discussions and the research that led to the summit. These “top ten ideas worth pursuing” are admittedly broad in scope and may not address a specific field trip, or even issues of particular concern for any one field trip setting, school, or school district. Yet, we believe that they address in most general terms the essence of the field trip system.

1. Provide a complete package.

Field trip materials should be developed in conjunction with a teacher advisory team. If this is not possible, find some way to ensure that teachers can provide input early on in the development of field trip programs. Packaged field trip experiences should be developed in close collaboration with teachers and students and pilot-tested before implementation, and the benefit of this process should be made explicit to all stakeholders.

Evaluation and assessment should be embedded into the field trip experience, and teachers and students should be informed in advance on the degree to which they will be part of the experience. Teachers should be given student assessment materials that address their needs, and evaluations should be conducted in an enjoyable and playful way. Procedures should be established that simplify the exchange of information among stakeholders.

Teachers should receive the following items 4-6 weeks before the program:

- Teacher letter about the program along with pre/post activities and classroom kits. The teacher letter should include suggestions for when the activities should be used in relationship to the program. If this information is on a website, specify where they can be found. Teachers prefer that the letter be sent in hard-copy form (vs. email) and accompanied by other supporting materials.

- Assessment & evaluation materials for the program. This would be a good place to include teacher testimonials about the scheduled program. These materials should motivate teachers to complete the assessments in a timely manner.

2. Align field trips to district curricula.

Work with local school districts and teacher committees to align field trips to the curriculum (i.e., correlate field trips with curriculum units, pacing charts, or scope & sequence frameworks). This is the best approach to maximize learning for the students and planning for the teachers. In addition, such preparation can be planned for well in advance and makes a compelling case to funding sources and school administrators. The alignment between field trips and curricula should be made explicit and should be comprehensive across a variety of subject areas. Teachers must be able to easily identify where and how a field trip aligns, since most have to provide this information to school authorities before permission for school field trips is granted.

3. Embed assessment and make it useful for teachers and informal settings.

Assessment instruments should be part of field trip preparation and follow-up. They should be tied to clear and tested coding rubrics, as this will facilitate the reporting process for teachers and encourage them to use the assessment instrument. Coding rubrics also enable teachers to better assess student learning. The institution would only need to sample from existing teacher data to evaluate the program itself. When deciding what type of data they should provide institutions, teachers should consider that raw data can be analyzed according to institutional needs, whereas coded data, while less time-consuming, may not be coded to satisfy the institution's requirements.

4. Enable students to become more involved in the field trip selection process.

The *Quality Field Trip Study* found that students are rarely involved in actively planning the field trip, selecting topics they would like to know more about, and formulating questions prior to their on-site visits and projects following their visits. Field trip providers are encouraged to think more about how to inspire teachers to involve students in this process and promote greater accountability for individualized student learning.

5. Technology can be used to maximize a program's impact.

The *Quality Field Trip Study* introduced a demonstration of how videoconferencing technology can frame the learning experience as part of a pre-visit orientation and post-visit activity once students had attended the field trip and completed the learning experience with a classroom project. This concept proved quite successful. Most significantly, teachers and educators observed that students arrived at their on-site field trip poised and ready for learning because they not only had prior knowledge of the content area, they were familiar of the institution, its purpose, and the museum educator whom they already had met via videoconferencing. As a result, they accomplished a great deal more in content depth. The post-conference experience was equally energizing. The quality of students' post-conference questions demonstrated that their interest in the subject was heightened as a result of this three-stage, tiered learning exposure.

Simple technologies such as podcasting, webcasting software, and DVD's can also be effectively used in the pre/post visit arena. An important aspect to consider when applying technology is to make the learning experience interactive on some level. If real-time synchronous videoconferencing is not possible, seek ways over the Internet to elicit a response from another

class, the museum educator, or another expert. This will make the students more accountable for their own individualized learning and presentations.

6. Capitalize on the field trip experience through follow-up.

While solid preparation ensures that a field trip is planned and conducted effectively, the field trip follow-up enables teachers to capitalize on the educational and motivational aspects of the experience itself. To this end, the study revealed that teachers felt there should be a greater emphasis of activities and structured projects *after* the field trip, especially at the middle school level. These should be projects that take advantage of authentic problem-based experiences at the field trip venue and develop or suggest follow-up activities in the classroom.

Where possible, field trip providers should follow up in the classroom with suggestions for additional out-of-school resources, such as kits from a teacher resource center, other types of museum loan programs, or museum outreach programs that could deepen learning and create closer links between the classroom and field trip provider. Summit participants saw this as something that could be quite easily implemented by consciously linking internal program resources.

7. Connect to partner organizations and family learning as a natural extension of community learning.

Create events that are tied to field trips, but are connected to lifelong learning opportunities in your community with partner organizations and families. Ensure that each family or community organization that services the school is personally invited to revisit the field trip destination. This can be tied to existing events, or signature events can be created in collaboration with other field trip providers in the community.

8. Host a “field trip summit” in your community.

Hold a meeting in your community at the end of the school year or right before the start of a new school year and invite local field trip providers, classroom teachers, students, foundations, and school administrators to discuss what might be the best approach for effective integration of field trips in your own community. This type of collaboration can generate ideas that support research goals for quality field trip practice, expand program opportunities, deepen relationships with the school districts, and provide credibility for why these community learning experiences are essential.

9. Involve stakeholders and form partnerships.

“Don’t develop programs for teachers without involving them; it just doesn’t work.” This somewhat paraphrased quote from a school district coordinator summarizes an important aspect of quality program development: the involvement of stakeholders, not only those who are served by the program (students and teachers), but also those who may otherwise influence field trips (school administrators, educators, parents, funders, donors). Standing or *ad hoc* teacher advisory committees, parent focus groups, and meetings with key stakeholders all help to create valuable experiences and should therefore be welcomed and supported by the community.

Partnerships require time to cultivate, but they are a great way to involve stakeholders while also achieving program goals. Cultural and educational institutions cannot only reach a greater and more diverse set of audiences when they partner with each other; they can craft rich, multi-perspective programs for their field trip participants. For example, a natural history museum could

partner with a botanical garden or a history museum to develop programs along common themes. This type of partnership leverages the expertise and resources of the different institutions and allows them to combine their knowledge to present different views and treatments of a topic to their visitors. It is never too early or too late to start a partnership!

10. Pilot-test program offerings.

Programs are not often created perfectly, and rarely are good ones developed in isolation. Testing a plan, learning from users, and improving the program based on feedback will result in a well-designed offering that provides greater utility to those it serves. Always test your programs with enough time and flexibility to make improvements. Front-end and formative evaluations are essential elements of program development that should never be ignored.