# Collaborative Inquiry at a Children's Museum: Benefits for Student Learning, Museum Outcomes, and Faculty Scholarship

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This case study recounts a collaborative service-learning project involving a children's museum, a university faculty member, and undergraduate students. Students worked with the museum to conduct a visitor study examining community reactions to a new exhibit designed to promote children's health and nutrition. At the same time, students learned about family life education in the field. Benefits of working together on a program evaluation project for the faculty member, students, and the museum are examined. From a faculty perspective, service-learning in the community presents valuable opportunities for collaborative inquiry and public scholarship, benefiting faculty members, institutions of higher education, students, and community agencies. By understanding the needs and challenges for museums and for students involved in field experiences, service-learning experiences can be developed that capitalize on the scholarly interests of the faculty member.

Service is becoming an important component of American college students' educational experience, with 3.3 million volunteering in 2005 (Dote, Cramer, Dietz, & Grimm, 2006) and 33% participating in service, service-learning, and civic engagement activities in 2009 (Campus Compact, 2009). These types of experiences are designed to encourage real-world problem solving, to develop students' interpersonal and civic skills, and to enhance students' understanding of academic content (Eyler & Giles, 1999). From a faculty perspective, service-learning – community-based, cooperative, experiential learning that integrates academic coursework, opportunities for reflection, and social action through participation in an activity that meets a community need (Cress, 2005; Eby, 2001; Eyler & Giles, 1999) – presents valuable opportunities for collaborative inquiry and scholarly work that may benefit faculty members, institutions of higher education, students, and community agencies.

When college students work with faculty and community agencies, they gain exposure to human service organizations, non-profits, communities, and diverse client populations. Service-learning has been found to be a valuable complement to more traditional teaching methods (Galbraith, 2002; Murray, Lampinen, & Kelley-Soderholm, 2006; Whitbourne, Collins, & Skultety, 2001), with high quality experiences producing gains in the personal development and civic engagement of students (Eyler, 2002ab; Eyler, Giles, Stenson,

& Gray, 2001; Giles & Eyler, 1998). Course-related service is particularly beneficial in developing students' academic skills and commitment to service (Astin, Vogelsamg, Ikeda, & Yee, 2000).

Young adults are most likely to volunteer with youth, health care, social service, or religious organizations (Hugo, 2004). The majority of research on service-learning examines the efficacy and learning gains derived from these types of student placements. Less is known about service-learning in museum environments, especially children's museums, and its effects on faculty scholarship. Most published research focuses on service-learning and professional development by students and teachers who explore, curate, and staff programs at art and history museums (Danko-McGhee, 2004; Greiner, 2010; Innella, 2010; Jeffers, 2000; Kalin, Grauer, Baird, & Meszaros, 2007). The goal of this article is to describe a service-learning project at a children's museum carried out by students and a faculty member at a metropolitan university in the mid-Atlantic. The project involved carrying out what has been alternatively called a visitor study, audience research, or action research project (Enos & Troppe, 1996; Kelly, 2004; Screven, 1990). The purpose of this type of inquiry is to assist the museum in learning about community reactions and needs so children and families can effectively utilize a new exhibit, in this case, one designed to promote children's health and nutrition.

This article explores how working with museums may benefit faculty by re-energizing and directing their scholarship, leading to a variety of new theoretical insights and ideas for qualitative or quantitative empirical efforts. To provide a context for the project, background information on children's museums and how they may serve as community partners in service-learning is provided. The project carried out is described and the benefits of working together on a program evaluation project from the perspective of faculty, students, and the museum are considered. Relative to the aims of public scholarship, the project generated information important to the discipline of child development, early childhood education, and museum visitor studies. It also served as a catalyst for further scholarly inquiry on informal learning environments for the faculty member. Lessons learned and recommendations for those interested in working in the museum environment and participating in collaborative inquiry will also be considered, including, more generally, how faculty can plan service-learning experiences with their own scholarly pursuits in mind

### Children's Museums: An Introduction

Mayfield (2005) defined children's museums as "user-friendly, interactive, hands-on, attractive, non-threatening, and stimulating places designed and developed for children" (p. 181). Developed based on the work of Dewey, Montessori, Piaget, and Vygotsky, these settings highlight learning through

play, both independent and through interaction with others (Henderson & Atencio, 2007; Mayfield, 2005). It is thought that play in informal learning environments, such as museums, develops children's cognitive, communicative, and social competencies and that these types of experiences promote creativity, problem-solving, and motivation to learn (Henderson & Atencio, 2007). Several trends and challenges for children's museums were highlighted by Kelly (2004) and Mayfield (2005). They included (1) an increase in the variety of exhibits and programming, (2) the need to collaborate more extensively with community agencies for financial and civic reasons, (3) the challenge of finding new methods to attract and keep their audience at a time when there are more leisure choices, and (4) accountability demands which make it necessary for museums to document what they do and how their programs and services affect users.

Collaborations between universities and museums can be beneficial, strengthening community connections and presenting an opportunity for collaborative inquiry regarding program effectiveness. Today, museums have a dual identity as informal educational institutions and cultural institutions. Whereas schools concentrate on formal education, museums provide informal education for the community. Hein (1998) noted that informal educational environments differ from schools in that "they do not have a set curriculum that progresses from lower to higher levels, usually do not require attendance, and do not certify mastery of specific knowledge at the conclusion of a visit" (p. 7). As a result, museums are always in the position of establishing their educational value and their role to the community and funders. Museums are under increasing pressure to justify their existence (Hein, 1998). They must prove that they have an educational value and play an important and unique role in the community in order to ensure public support.

Museums also balance a second identity as cultural institutions, engaging in the intellectual, scientific, educational, or artistic enrichment of people in the communities they serve (Oregon Legislature, 2011). At its core, a cultural institution is a community institution and must reflect the needs of its community to validate its role in society. Children's museums have an additional challenge: proving that play is educational. In addition, over one hundred years since the first children's museum opened, there are still arguments that children's museums "cannot be considered museums if they do not have collections" (Spencer, 2002, p. 3). Thus, children's museums strive to prove themselves as museums and informal learning environments, and not merely playgrounds. In addition, museums compete with other leisure offerings, and staff must be able to communicate to families why they should visit (Lord, 2007).

To define their role in the community and obtain needed funding from outside sources, museums, like similar cultural institutions, must evaluate their

services, including programs, exhibits, and customer service. The evaluation process enables the museum to provide qualitative and quantitative data on their visitors and the role the museum plays in the community. Program evaluation in the form of audience research has become increasingly important to examine visitor experiences and learning (Kelly, 2004). Program evaluation is defined as a set of systematically planned and carried out activities designed to provide information to programs and interventions regarding their implementation, effectiveness, and efficiency (Rossi, Freeman, & Lipsey, 1999). Museums have questions about exhibit planning, formative evaluation during the design phase, and remedial evaluation for existing exhibits (Kelly, 2004; Screven, 1990). Evaluation is important to museums because they are designed to reach a wide range of families using both temporary and permanent exhibits that are interactive and shift to meet the varying needs of the audience (Grenier, 2010; Kalin, Grauer, Baird, & Meszaros, 2007). Museums are resources which can provide inspiration, help integrate visitors' prior knowledge in a unique context, and provide learning opportunities for children, families, and the public (Innella, 2010).

Evaluations can be conducted in three manners: by internal museum staff, by external contracted evaluators, or by a combination of in house staff and external evaluators (Diamond, 1999). Museums can face several barriers to executing an evaluation. The first barrier for many museums in completing evaluations is lack of trained evaluators on staff. The Association of Children's Museums (ACM 2010) reported that 19 of 47 children's museums with operating budgets between \$1 and \$5 million had formal research or evaluation initiatives underway in 2010. Less than 41% of the children's museums they surveyed in this budget category were performing formal research or evaluation. Of those 19 children's museums with a current research or evaluation initiative, 16 had third party evaluators involved in their museums' evaluations.

The second barrier to completing evaluations internally is perceived objectivity. Although there are a multitude of reasons to have internal staff perform museum evaluations, the main disadvantage is perceived objectivity. It can be challenging to have heavily invested staff provide consistently objective evaluations (Diamond, 1999). Having spent months or years on a project, it can prove difficult to step back and take a wider view of the situation and impartially evaluate one's own work. Ultimately, the community and the museum's funders must view an internal staff evaluator's work as objective for the results to be effective.

The third barrier for many museums is a lack of time that is able to be dedicated to evaluation. Time is an often over-taxed resource in today's workplace. Museums without staff devoted to evaluation often split evaluation as a job duty among several departments where it may not become a priority due to other competing demands. With a lack of time, well-intentioned evaluation plans fall to the wayside in the day-to-day business of running a museum. Often, the staff responsible for the initial design of the program or exhibit is re-tasked once a project is complete, so there is little or no time to reflect and perform a summative evaluation.

The best scenario for museum evaluation is often a collaboration with a staff evaluator and an outside professional (Diamond 1999). Diamond (1999) offered that developing a collaborative, long-term relationship with a professional from a local university is a feasible and mutually beneficial solution. Benefits for universities and faculty include the ability to utilize the museum as a context for service-learning, student development, and scholarly pursuits. Faculty from a variety of different disciplines including psychology, education. business, marketing, communications, and fine arts may find it beneficial to partner with museums. For example, an education scholar may use the experience at the museum to introduce students to action research and to further his or her own scholarly interests in the design of learning environments for children. A marketing faculty member might partner with the museum and work with their students to evaluate promotional materials distributed to those in the community about the museum. At the same time, the faculty members may use the project as a means to further their own research on developing models regarding how to effectively communicate with consumers with children.

For museums, these types of collaborations enable them to obtain cost-effective, external evaluation support from scholars who may bring in new ideas, cutting-edge methods, and a new perspective to their work. By working with college students, the museum also gains the perspective of a new generation of users and the potential to locate and recruit potential museum employees.

# Integrating Service-Learning and Faculty Public Scholarship in a Children's Museum: A Case Study

A collaborative project was undertaken by a family studies faculty member, her undergraduate senior seminar course, and an urban children's museum. As the faculty member, I made a conscious decision to contact the museum because of my own scholarly interest in child development and the role that parent-child interaction in informal learning environments, such as libraries, museums, and drop-in programs (see Hudson & Williams, 1995), has on children's development and well-being. As such, partnering with the museum seemed like means to enable pursuit of my own scholarly interests while at the same time meeting the goals for student learning in one of my courses: to develop students' expertise in family life education.

Family life education is defined by the National Council of Family Relations (NCFR) (2000) as "preventive and educational activities including

program development, implementation, evaluation, teaching, training, and research related to individual and family well-being." As part of the undergraduate senior seminar course, students chose a current issue or trend for families to explore in depth, produced a comprehensive term paper, conducted a needs assessment of the class to learn more about their audience, and designed an hour and fifteen minute in-class workshop. The workshop utilized an active-learning approach, employing a combination of lecture, discussion, and handson learning activities so students could gain experience as family life educators. They also needed to evaluate their in-class workshop to understand the impact of their presentation on their peers' learning outcomes.

While students appreciated the flexibility of developing and evaluating their own family life education programming, a cohesive, unified service-learning component to the course was not included. However, instructionally, it seemed necessary to help better launch students personally and professionally into the field of family life education. As a result, the class project approach to service-learning was utilized (Eby, 2001). A collaborative relationship was forged with an urban children's museum to allow students to gain knowledge of family life education principles and program evaluation in the field and to develop insights on active learning which they may utilize in their own in-class workshop. Working with a full class on a unified project at the museum can develop "camaraderie" among students around a topic of shared discussion (Grenier, 2010). This can be especially important in a course where students are deeply involved in their own independent projects, which, I have observed, often decreases student engagement in the course as a whole and makes it difficult for students to understand the overall learning goals and outcomes of instruction

Students in the course worked with me to provide 15 hours of service to the museum, using both time in and out of class. Meetings with the museum staff helped uncover a need for the museum to evaluate a new exhibit funded by a local convenience store to teach children about nutrition and healthy choices in order to combat childhood obesity. The museum staff needed preliminary data and recommendations regarding the exhibit, entitled "Royal Farms Convenience Store and Fill'er Up Station." The exhibit, a small-scale model of the convenience store stocked with plastic versions of the typical convenience store items, focused on the healthy choices available. Besides the store model, the exhibit also had a gas pump, car, and ATM machine. Signage in the exhibit focused on messages about the food pyramid and smart nutritional choices. The exhibit was designed with several goals in mind (see Table 1). Since the exhibit had only been open for one year, the museum staff was interested in obtaining data to help answer several questions, including (1) how do visitors use the exhibit, (2) is the exhibit meeting its educational goals, and (3) what kinds of supports are needed so that the learning of children and families is optimized?

Table 1.

Goals of Royal Farms Convenience Store and Fill'er Up Station Exhibit

General goals	Specific goals for children and families	
To teach children about healthy choices	<ul> <li>Understanding the role of food choice in obesity</li> <li>Understanding the food pyramid</li> <li>Identifying healthy snack ideas</li> <li>Cooperation</li> <li>Turn taking</li> <li>Inquiry</li> </ul>	
To facilitate child development and social skills		
To improve literacy and critical thinking about food and nutrition	<ul><li> Exploration</li><li> Understanding food labels</li><li> Understanding the food pyramid</li></ul>	

The following sections of the case study description present the stages of project development and execution, with special attention paid to how these stages both engaged students in service-learning and laid the groundwork for my own public scholarship.

### **Introductory Stage**

After the students were introduced to the project in class, they made an initial visit to the museum for a tour and to talk to museum staff overseeing the project about the entire museum and the particular exhibit of interest. These introductory steps, such as orienting students to the goals of the museum and connecting the project to course learning objectives, are important. Research by Dreuth and Dreuth-Fewell (2002) suggested that students move through phases in their understanding of how to build rapport with clients and agencies, their understanding of agencies, communities, and their ability to integrate their knowledge during placements. Besides assisting students, this stage in program planning can also be used by faculty members to engage in discussions with museum staff about how they may be able to integrate their own scholarly interests into the project. For example, given my own interest in studying parent-child interaction. I actively discussed with the museum whether they would allow me to conduct naturalistic observations within the exhibit and to what extent I, and the rest of the class, could interact directly with museum patrons.

## **Planning Stage**

After visiting the museum and gaining an overview of their needs, I

worked with students to develop a plan for evaluating the exhibit based on their observations and conversations on-site and a review of documents the museum provided. During the planning stage, we conducted a review of the literature on children's museums to understand approaches to visitor research that had been successfully employed. Students also explored scholarship examining the correlates and causes of obesity in young children and the effectiveness of various approaches to preventing obesity that have been employed to assist parents and their young children. While crucial steps in project planning, this process also was valuable in helping me consider how the project might contribute to the existing scholarship on children's museums, health promotion, and children and parents' understanding of health related issues.

Based on this research, we decided to employ two data collection strategies: a parent survey and observations of the exhibit in action. A parent survey was developed to examine parents' perceptions about the exhibit including how effective they felt the exhibit was, in its current form, in teaching children about nutrition, healthy snacks, the food pyramid, the components of a balanced diet, and about shopping and being a consumer. To assess how parents and children actually utilized the exhibit, students also developed and implemented an observational system to log how parents and children spent their time while visiting different parts of the exhibit.

#### **Data Collection**

On a return trip to the museum, students collected 23 parent surveys and conducted structured observations of the exhibit during an approximately hour and thirty minute period during a busy day at the museum that happened to coincide with the public school's spring vacation period. Students were stationed in different areas of the exhibit and were responsible for recording information about individuals or groups of children and families who were in their quadrant. Observers recorded descriptive information regarding the individual or group observed, the type of activities they engaged in, and the length of time the individual or group observed remained in the area. A total of 63 individuals/groups were observed. This data provided a profile of the most heavily utilized areas of the exhibit, parental involvement with children in the exhibit, and the ways children and families utilized the materials provided. For a faculty member with an interest in developing assessment tools, this process also served as a means to pilot measures in development. The data collected were then taken back to campus and entered and analyzed as part of my own research endeavors

### Results

Parent survey results indicated that while 90.9% of respondents to the survey felt the exhibit was moderately, very, or extremely effective overall, parents and caregivers differed in the degree to which they felt the exhibit was

effective in teaching children specific skills. Parents and caregivers were most likely to report the exhibit to be effective in teaching children about shopping and being a consumer, with 91.3% rating the exhibit moderately, very, or extremely effective. They were least likely to report the exhibit as effective in teaching children about the food pyramid and a balanced diet, with 39.1% rating the exhibit moderately, very, or extremely effective. Observational data also revealed several trends. The majority of observations occurred in specific areas of the exhibit, specifically the "Cooler Area" (31.7%), "Fill'er Up Station" (28.6%), and at the cash register/checkout (25.4%), while other areas were less popular, including the "Veg Out Pod," which contained healthy, fresh choices that children could "purchase."

Moreover, the structure of the groups observed differed. The majority of the groups observed were comprised of a child or children with an adult companion (60.3% a Female Adult w/Child/ren, 4.8% Male and Female Adults with Child/ren, and 3.2% a Male Adult with Child/ren). However, 31.7% of the children observed did not have an adult accompanying them and were observed while alone (14.3%), with a group of children (9.5%), or working with one other child (7.9%). The majority of children observed were school-age (74.4%); fewer were preschoolers (12.8%), or toddlers (12.8%). The average length of time individuals or groups were engaged in activity with the part of the exhibit they were observed in was 2.41 minutes (Range = .08 - 11.5 minutes). The most frequently observed activities in the exhibit were shopping, gathering food and putting it away (41.3%), utilizing the car in the exhibit (27%), and working the cash register or produce scale (15.9%).

I devised a formal report that summarized the data collected and noted recommendations made by students in a follow-up class session where they reviewed the data. Student recommendations focused on strategies to encourage more varied and richer parent-child interaction and to highlight the aspect of the exhibit concerned with food choice and nutrition. One idea was to provide parents and children with a quest or activity to complete while in the exhibit. For example, recipe cards could be used to guide children's shopping experience. This type of activity would help parents learn about healthful options they can prepare for their children. For children, this type of activity would allow them to more clearly see how items from the food pyramid can be used together to create nutritious snacks. Another idea was to have shopping lists available with items for a healthy breakfast, lunch, or dinner explicitly listed.

# Benefits of the Service-Learning Project for Student Learning, Community Partner Needs, and Faculty Scholarship

### **Benefits for Students**

Pre- and post assessment of students during the course of the semester was carried out using the Community Service Attitudes Scale (CSAS) (Shiarella, McCarthy, & Tucker, 2000). Students involved in the service-learning course were assessed and compared to students engaged in service-learning in two other courses on campus, one focusing on art education and another providing community support in the form of Spanish translation. Data displayed in Table 2 shows that students engaged in the group-based service-learning project at the museum experienced greater gains in connectedness or perceived responsibility to help others through service and their sense of how serious it is to help, respond, and serve. By viewing family life education efforts in the field and increasing their awareness of social problems such as poor nutrition and obesity in children, students came to feel a greater commitment to serving, perhaps in an effort to affect social change. Since the museum also made a commitment to trying to enact some of the changes to the exhibit students suggested, students may have also left the experience feeing empowered in their ability to make a tangible difference. Students who participated in service-learning at the museum also experienced decreases in their perception of the costs of helping and more positive views of service, including a desire to participate in the future. This may have occurred since the class time was used to conduct the project and there was a direct link between the methodology utilized to carry out the project and the methodology they were learning in planning, implementing, and evaluating family life education in the course and in the field

In reflections provided by students in class and on a final exam question there were differences in students' disciplinary knowledge of family life education. Students who participated in the project at the museum had broader and more inclusive views about the nature of family life education and an understanding the role of informal learning opportunities in the community than those students in another section of the course without the service component. They also developed comfort in the setting and came to better understand the value of museums to learning (Jeffers, 2000). Additionally, they learned to "think on their feet," an important skill in field-based investigation. For example, in the context of doing observations, students noticed that shopping, gathering food, or putting it away were the most frequent activity observed in the exhibit, accounting for 41.3% of our observations. It made them wonder if they were shopping for healthy, nutritious items in the exhibit, which is a goal of the area. In the field, students then made a decision to log the contents of any shopping baskets the children used to see what they shopped for, engaging in cooperative problem-solving in the field (Eyler & Giles, 1999).

Table 2.

Change in Scores on the Community Service Attitudes Scale across the Semester (CSAS)

CSAS subscales	Museum-service group (n= 7-10)	Other service group (n= 83-91)
Awareness		
Need to respond	-3.70%	0.55%
Actions to respond	1.40%	-0.20%
Ability to respond	1.80%	-3.55%
Connectedness/responsibility	5.00%	-1.40%
Moral Obligation		
Normative views of helping	-4.90%	-1.45%
Empathy	1.30%	-2.15%
Reassessment		
Cost of helping	-24.20%	5.00%
Benefits of helping	-6.00%	-1.25%
Seriousness of need to respond	8.50%	-2.35%
CSAS subscales	Museum-service group (n= 7-10)	Other service group (n= 83-91)
Helping		
Intent to help	21.10%	-0.55%

#### Benefits for the Museum

The partnership between the museum and the university filled a needed role for the museum. First, the museum did not have a professional evaluator on staff or the resources available for an outside evaluation. Second, the summative evaluation of the Royal Farms exhibit executed by higher education students and faculty provided an outside source of feedback to museum staff. Furthermore, as a member of the community, the museum benefitted from the insights that undergraduate students offered about programming as members of the community (Kalin, Grauer, Baird, & Meszaros, 2007).

After receiving the evaluation report, museum management staff met to discuss the results and its effect on the museum and visitors. It was decided to pursue further research into the development of supplemental education activities to support the exhibit's goals. Museum education staff decided to work on an activity where children would have the opportunity to use a shopping list with an individual mission to make decisions on healthy food choices and search for specific foods in the store. The shopping list missions would provide

children with educational benefits – practicing reading skills, problem solving, following directions, and searching for required components. By adding this dimension, museum staff hopes to highlight the exhibit's message on the healthiness of certain foods and their relationship to the food pyramid. These changes demonstrate the role that collaborative inquiry between university faculty and museums can have on programming and cultural institutions such as museums.

### **Benefits for Faculty**

There are many benefits of developing a relationship with a community partner for collaborative inquiry, especially if the relationship has relevance to one's own scholarly interests. As a child development researcher interested in informal learning and supports, the role of community resources in the lives of children and families, early childhood education, and program evaluation, I found the partnership with a children's museum ideally suited to my interests and scholarly goals. Being in the community can reinvigorate faculty and serve as source of new ideas for scholarly projects and examples, which then can be used to illustrate concepts and trends in the classroom. A project such as the one described here can increase faculty members' interest and knowledge base in not only service-learning, but in a substitutive scholarly area they would like to pursue.

While providing a valuable service to the university and a rich educational experience to students, the project also helped generate questions and insights for a variety of research and writing projects. For example, after reviewing the literature on program evaluation techniques in children's museums, the idea was born to collaboratively write an article reviewing assessment tools and strategies that may be employed with parents and children at different ages and stages of development. A conference presentation was also developed with museum staff to introduce faculty from a variety of different disciplines to the culture of museums and the service and research needs of different departments. Future scholarly work which may result from this project includes in-depth examination of observational data collected at the museum to examine the nature and quality of interaction between caregivers and children in informal learning settings and gender and age-related differences in activities. This type of research will fill a gap in the existing disciplinary literature on parentchild interaction in museums (Haden, 2010; Mayfield, 2005; Shine & Acosta, 2000).

### **Lessons Learned**

This service-learning project is an example of a collaborative effort between a university and a museum that was mutually beneficial. While successful, it is crucial to also remember that strong service-learning and commu-

nity research partnerships do not happen by accident. Research highlights the importance of strong partnerships between college faculty and service-learning site staff, including full collaboration around the conceptualization of servicelearning projects, managerial issues, including supervision and evaluation, and legal and ethical issues (Peacock, Bradley, & Shenk, 2001). A barrier to higher education-museum collaborations can be differences in what museums and the academic community mean by the term "service-learning" (Kessler, 2003). This challenge was overcome by establishing clear expectations of the roles each institution would play at the beginning of the partnership and by re-examining them as the partnership developed. A great deal of time was committed to meetings prior to the project to help each partner get to know one another. Further, those interested in pursuing a collaboration similar to the case presented here are advised to establish a relationship with an individual or department in a museum, college or university, as opposed to attempting a partnership at the top level. At its core, a community partnership is a relationship between people, so it is important to find someone who shares similar goals and work styles. Finding a good fit at the individual level will provide a strong foundation for a partnership between the institutions.

A successful community partnership must provide benefits to both institutions. While much research has focused on the effects service-learning on students and faculty, it is just as crucial to remember that information on field experiences from the perspective of sites is limited. Thus, universities have much to learn about how to best work with community agencies to ensure that both partners obtain maximum benefit from the collaboration. Understanding the needs and challenges for museums, student learning needs in the context of field experiences, and the scholarly interests and intellectual needs of the faculty member can produce opportunities for collaborative inquiry which facilitate the development of museums, students, and faculty.

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