

Using Group Interviews to Target a School Visit Program: A Case Study

Carey Tisdal
St. Louis Science Center
St. Louis, Missouri

This case study focuses on the use of teacher response groups in the development of the school visit program at the St. Louis Science Center (SLSC). Interviews with representative groups of teachers from the service area were conducted to answer questions related to program development, materials development, visitor service operations, and marketing. This paper uses a case method to describe: (1) the context of policy and program issues from which the study arose, (2) the reasons this specific method was selected (3) the development of a data base, and (4) how the method was implemented to recruit and interview teachers, (5) an analysis of the limitations and benefits of the methods. Specifically, in the Fall of 1993, elements of a plan were set forth to accomplish two broad goals: 1) to change the "feast or famine" school visitation pattern of low visitation in fall and early spring and overcrowding in April and May; and 2) to improve the quality of school group visits by encouraging more purposeful behavior.

Background and Context

As the internal evaluator at the SLSC, I am responsible for conducting internal studies and for assisting staff in contracting for external studies. I arrived at the center in April of 1992, about five months after a major expansion.

Background

The Expansion. The St. Louis Science Center opened a new building on November 2, 1991, expanding to approximately 75,000 square feet of exhibit space with eleven galleries and about 650 exhibits. Exhibition design reflected the informal science focus of hands-on, interactive learning. The SLSC is supported by a property tax through a Zoo-Museum District in St. Louis City and St. Louis County. Admission to the center is free, providing general public visitors and school groups with access to all eleven galleries. There are three paid areas: the Omnimax Theater, the Planetarium, and a Discovery Room for younger children. Overall, attendance in 1990, the last full year before the expansion, was 1,053,171. Attendance in 1992 was 1,724,019. This increase in the number of general public visitors was immediate and substantial. But in February, 1992 (three months after the opening) there was concern because school group attendance was not increasing at the same rate as that of the general public.

At that point, a study was commissioned from Center for Business and Industrial Studies at the University of Missouri–St. Louis (DePaulo, 1992). It focused on this issue: "Why has there not been a substantial increase in field trips by school groups to the Science Center since the new, expanded facility was opened?"

Telephone Interviews. DePaulo (1992) conducted in–depth telephone interviews with 34 teachers. Respondents were obtained from lists of teachers who had previous contacts with the Education and Visitor Services departments at the center. He had difficulty getting teachers to call back who had not been to the SLSC since the expansion, and difficulty getting teachers to agree to a lengthy interview at school. DePaulo (1992) identified the following factors as inhibiting school visits: 1) "the tendency ... to run the same trips year after year", 2) competition in the area for "science related field trip(s)", 3) the desire of some teachers to postpone visits until the crowds related to the opening diminished, 4) "insecurity about the size, crowding and complexity of the SC"; and 5) "the ...concern that the children do not really learn anything ... by 'playing' with the exhibits" (p.2–3). While in the long–run these findings have proved useful, their immediate impact was slight. In March, 1992 there was a rather dramatic increase in school attendance which shifted the focus away from the original problem which the study addressed.

Staff Observations. In March and April of 1992 as school children flooded into the building, floor staff were beginning to notice that children in school groups tended to break things more frequently than did children visiting with parents or other adults. Children in school groups tended to wander from area to area with seemingly very little focus. The comment that kept going around among staff was, "We wanted to excite and stimulate enthusiasm, but maybe we overdid it?"

Mail Teacher Survey. The first major initiative toward developing school materials after the expansion were the school and family energy backpack materials. The project manager for the backpack programs sent out a mail survey to teachers in March of 1992 (Downs and Tisdal, 1992). The sample was, again, taken from a mailing list of teachers who had requested materials through the SLSC Education and Visitor Services departments. At the time, I had concerns about the bias of the sample. We were sampling from a pool of teachers who had already indicated an interest in the SLSC, and there was a probability that they were more interested in science and science teaching than the general population. What about non–users – teachers who had never been to the SLSC?

School Visit Teams. After the April–May, 1992 surge in school group attendance, the number of visitors in the Fall of 1992 and early Spring of 1993 fell back to lower levels, near, and for some months under pre–expansion levels. Concerns about school visits resurfaced, but this time in a more complicated form. School attendance was low in the Fall and early Spring, and then exploded in April and May (see Chart 1). This

"feast or famine" pattern caused operational problems. The galleries were crowded, and even casual observation would reveal that this was not an ideal situation for learning or fun.

To address these issues, several school visit teams were organized in the Fall of 1993. One team was responsible for developing school visit materials which were to be available for groups attending as of Fall, 1994. Another team was responsible for the development of teacher preparation programs, and to devise a plan to inform teachers of a required reservation policy. As an institution with a free general admission policy, the SLSC had no advance "warning" of visits from groups which did not have reservations at paid areas such as the Omnimax theater. This policy of requiring reservations of all school groups was considered to encourage advance planning of visits by teachers, and assist in the dissemination of the school visit materials. There was a hope that children on more focused visits might have a richer experience, behave more calmly, and that some exhibit breakage might be reduced.

Selecting the Method

There were several factors involved in selecting the group interview method to provide front-end information for the school visit program. First, I was concerned with our continuing focus on attendance data without some deeper understanding of the factors involved in the timing and decision making in schools about visits to the SLSC. Patten (1980) points out one reason to use a qualitative method is when you have outcome data, without a clear understanding of the factors producing those outcomes. However, telephone interviews to teachers seemed impractical; DePaulo in the 1992 teachers survey had great difficulty in getting a response to calls, and having good extended interviews over the phone with teachers at school. In addition, previous experience with naturalistic and qualitative interviews, told me that we would have to do a number of interviews to get a comprehensive understanding of school visits. Part of the reason for this is as Bonner (1989) explains, "The fact is some 'informants'—as they're called in the jargon of the anthropologist (and the policeman)—are better informants than others" (p. 218). That is, some teachers could just be expected to be more insightful and articulate than others.

I did some reading on focus group research. I found Greenbaum's Practical Guide to Focus Group Research (1988), particularly helpful. Many of the individual, naturalistic interview principles with which I was familiar seemed to apply. Wolf and Tymitz (1977) described the stages of a naturalistic interview as the process of 1) establishing rapport, 2) stating the purpose, 3) promising confidentiality and setting its boundaries, 4) asking lead or organizing questions, 5) probing to ask for clarifications related to each question, and 6) concluding and establishing the basis for further contact. This structure seemed quite similar to the focus group methods

described in other literature. Another advantage of focus groups is that the client can observe the proceedings and see what is going on. As Greenbaum (1988) notes, "The amount of information clients can obtain by observing the groups through a one-way mirror is dramatically greater than could ever be achieved by listening to tapes or reading focus group reports." (p. ix). With all these factors in mind, we decided to build a data-base of teachers and conduct group interviews internally.

Building the Data Base

Locating Data Files and Lists

The process of discovering and putting together each data file or list far exceeded my expectations for time consumption and difficulty. The process of building the files began in September and had to be completed at least six weeks before the first group interviews to give us time to recruit participants.

Public Schools. After several calls, I found that Missouri public school files were available in computer format through the University of Missouri-Columbia, however; only 1992-93 school year were available. They estimated the turn-over rate at 10 percent from school year to school year. Obtaining the Illinois public school data was much easier. I called the Illinois State Board of Education in Springfield, and they transferred me to the School Data department. Their 1993-94 data was available by the middle of October, and it could be provided on disk in ASCII format.

Parochial and Private Schools. The Catholic Education Office in St. Louis explained that they did not have a list of classroom teachers, but that a list of elementary science coordinators was available. While this was not optimal, it was available and proved useful for interview recruiting. It would have been problematic if we had used this pool for surveys. The Missouri District Lutheran Schools were able to provide a directory of classroom teachers; St. Louis area teachers were identified from this listing. For independent private schools, a list of school representatives was obtained from a cooperative association. Each school was called and I asked the secretary for a list of elementary teachers or secondary science and mathematics teachers. Most schools had such lists already prepared.

Building the Data Base

The first thing I learned was that there would have to be several data bases not just one. Of course, Missouri and Illinois public schools keep different records in different file formats. Plus, the file size was too large to manage elementary and secondary teachers in the same file, particularly in the large list of Missouri teachers I had requested. It also seemed more practical to build three smaller files for Catholic Schools, Lutheran Schools, and Private Schools. Therefore, where I had imagined one large universal pool of data, we ended up with seven files, and a rather complex method by which to obtain a random sample of names.

Implementing the Method

Logistics

Before recruiting teachers for the interviews it was necessary to complete a good deal of the logistics. The interviews were scheduled from 4:00 to 6:30 p.m. on Tuesday and Wednesday nights, times which had been preferred by teachers attending earlier briefings. Arrangements were made for a box dinner, and modest thank you gifts (a mug and a holiday ornament). Table arrangements were specified as a large "O" with places for fifteen people: twelve participants, two observers, and myself. Audiotaping was arranged.

Recruiting Teachers. The first round of group interviews was scheduled for December 14 and 15, 1994. Recruiting began five weeks before the interviews and took about a week and a half. I did all this recruiting myself. I followed a specific strategy and protocol, but did not yet feel confident enough about it to train anyone else to recruit consistently. Optimal group size for focus groups is ten to twelve participants, so a goal of fifteen teachers per group was set anticipating three no-shows. Targets for geographic, public/private, and grade level representation were set.

A recruiting script was developed and followed. The strategy was to call the school phone number, give my name and position at the St. Louis Science Center, and explain that I was trying to reach a specific teacher. I asked the school secretary for the time of the planning period of a specific teacher. I stressed that I did not want the teacher called out of class. I stated that I would prefer to try to call them at a convenient time so that we wouldn't be playing telephone tag. I did not expect to reach teachers on the first call. I called back during planning periods, and before and after school. The written script made certain each school secretary and each participant received a consistent message about the purpose of the interview. It also made certain that I provided consistent information about the time, place, location of the interviews, and a phone number for any additional questions, easy things to forget in making hundreds of calls.

A contact sheet was used for each teacher called. It listed the teacher's name, school address, school phone, grade taught, and subjects taught. There was a place for the school secretary's name so that I could call her by name when I called back. Two screening questions were used since groups needed to be balanced among teachers who had and had not visited the center. There was also space for me to record notes from these contacts. These contact sheets were crucial in keeping track of the process of calling multiple people, multiple times.

After the teachers were recruited, a follow up letter was sent. This letter restated the purpose and the time, place, and location of the group meeting. It provided specific directions to the building, and instructions

about parking. It also provided a number to call and a request not to send a substitute. The letter was mailed about one week before the interviews and timed as a reminder.

Preparing the Interview Protocol

Several staff members were consulted to get their input about what needed to be covered in the groups. Since both the teams had developed preliminary designs, I asked the team leaders to give me short one-page descriptions of the programs or materials. In addition, the Visitor Programs Coordinator wanted to know how many in these groups had seen the Group Program Guide. This guide contains descriptions of all group programs and describes how teachers and other group leaders can make reservations. The Marketing and Community Relations Director wanted teachers' responses to several specific mailings on upcoming events to see if current mailing lists were reaching teachers.

An Interviewer's Guide was developed. The guide began with a statement of the purpose of the interview, an explanation of why the interview was being taped, and an explanation of ground rules (e.g., one person speaking at a time). Participants were asked to introduce themselves by giving their name, school name and location, grade levels and subjects taught, and to tell a little bit about the personality of their class. These introductions were designed to establish "long response set"; that is, to let each teacher speak comfortably on a topic with which they were very familiar. Next came a series of questions asking teachers to talk about their best and worst things they had experienced or heard about the SLSC. This series of questions was intended (in addition to eliciting specific information) to establish the group expectation that being candid and frank was acceptable and encouraged. These were followed by specific questions about the proposed focus and design of the Teacher Preparation program and School Visit materials. Last came questions about the Program Guide and mailings.

Conducting the Interviews

The group interviews were held from 4:00 p.m. to 6:30 p.m. on Tuesday, December 14 and Wednesday, December 15. On Tuesday 13 participants were scheduled and 10 showed up. On Wednesday, 12 participants were scheduled and 10 showed up. Two-observers, one from each team were invited to attend. The observers were asked to be relatively low key and to try to be neutral in expression. They were introduced at the beginning of each session as staff members who were interested in what teachers had to say. At the end of each interview, the observers were introduced by name and position and asked if they had any specific questions for the group.

I began the interviews by asking for responses to the first two questions going in order, around the table. This established the idea that everyone's

input was valued, and everyone was expected to respond. As the questions built, the interchanges became more of a discussion, with participants reacting to each other's comments. Each group developed a dynamic as the evening progressed, with an outspoken teacher in each group serving as a counter-point for other viewpoints. Efforts were made to start and stop the interviews on time, and the Interviewer's Guide was clearly too long.

Data Analysis

Transcription. A temporary secretary was hired to transcribe tapes. There were severe problems with the tape recordings caused by multi-directional microphones which picked up the air handling system in the room at the same level as participant voices. The transcription took twice as long as expected, and cost twice what was budgeted.

Analysis. About a week after the interviews, during transcription, I went back over the Interviewer's Guide, and listed my initial interpretation of the answers to each question. These were brief, simple statements, about what I thought I had heard. After transcription, I went back over the responses to each question and identified categories of responses. I was looking for several different things. First, was there general consensus about the questions? For example, almost all the teachers in each group were concerned about crowding when their students came to the Science Center. But there were some important reasons given for why it was a problem: competition to use exhibits, the distractibility of students, and safety. These categories were compared to my "initial" conclusions. Sometimes the conclusions remained the same, but frequently they were deepened and expanded.

Findings

Findings paralleled the questions posed in the study, and were presented in both written form and in stand-up presentations to various groups. What follows is a brief summary of the findings.

Perceptions and Attitudes about SLSC Visits. The best aspects of the visits mentioned included the hands-on exhibits, the Omnimax Theater, the Discovery Room, and the School Partnership program which provided a structured environment for school groups visiting the center. The worst aspects of the visits included the crowding and the volume of people perceived to be at the center, children being overloaded with choices and teachers' difficulties in keeping classes focused during a visit, teachers lacking adequate time to develop activities, and broken exhibits. Despite attendance figures to the contrary, teachers believed that the center was always crowded.

Planning/Selecting/Timing a Field Trip. Teachers described St. Louis as a rich environment for field trips and noted that there was competition for science field trips from the St. Louis Zoo, Missouri Botanical Gardens, the

Wolf Sanctuary, Little Creek as well field trips related to other disciplines such as the Arch and Saint Louis Art Museum. Their expectations about what services institutions should provide seemed to be formed from the competition. Services and materials included: docent led tours, pre-visit videos, teacher organizations, newsletters for teachers, on-site resource rooms, and staff members to welcome and orient groups. They gave three reasons why so many groups come in April and May. First, both Missouri and Illinois have state achievement tests. These are given in late February and March. Teachers are reluctant to bring students on field trips before these tests. Second, the SLSC has no place to bring brown bag lunches. Teachers said that they waited until after the weather changed to plan field trips. Participants indicated that they thought "it was always crowded," and were unaware that the fall months and January and February were uncrowded times at the center.

Responses to Plans and School Policies for School Visits. The reservations policy was received positively because it was perceived as a way to control crowding; however, teachers stressed that phone lines need to be open before and after school hours to allow access for teachers making reservations. Plans for teacher briefings were critiqued and participants stressed that they needed to emphasize science teaching, not just the logistics of visit planning. Little interest was shown in a school pre-visit video guide for teachers, but enthusiasm was expressed for a student video guide. Plans for a speaker and slide show for teachers' meetings were received with no enthusiasm. The groups were enthusiastic about the overall focus and design of the visit materials, and gave recommendations on grouping, length, and treatment. The current 1993 Program Guide listing SLSC programs and describing reservations policies was critiqued. The format (folding out to poster size) was cited as awkward, impractical, and overwhelming.

Probably, the most important finding from the groups related to a more complete understanding of the school group attendance curve. Staff perceptions tended to explain the April/May visit boom with the logic that teachers saved a visit until the end of school as a reward, but did not take it seriously as a learning experience. This staff perception was supported by the DePaulo study which reported teachers' doubts about what students learned "playing" with exhibits. Yet in the December, 1993 groups enthusiasm was expressed for the hands-on exhibits. The following exchange, which took place in the December 15 group, gave us a deeper understanding of this pattern. This quoted exchange was preceded by an explanation of the Missouri and Illinois state achievement tests, and the importance of the state objectives in teaching.

(Interviewer): "Basically, what you're saying is if those tests are offered in February/March or March it's [the school visit material] got to tie into that test if you want people to come before the test."

(Illinois Teacher/Public): "No, that's not what I'm saying. What I'm saying [is that] no matter how good your program is here, no matter what incentives you have going on over here, the normal classroom teacher is going to stay in her classroom teaching the curriculum that's required, the textbook that's required, the hands-on, whatever her district requires of her. They're going to pack as much information in a sit down environment because field trips get kids wound up. No matter how good the program is or how much they're going to learn when they get here, a teacher is not going to bring them until those tests are over. It's going to wait until those tests are over and you're talking about that end of the school year. . . ."

(Missouri Teacher/Public): ". . . in public schools that I've been in any state there's so much pressure on the teacher for how their children perform on all those tests that you spend a lot of the time getting all of the information that you think will be on that test and you're frightened to take a field trip 'til those tests are over."

(Transcript , December 15, 1993, p. 40)

From my perspective, these teacher provided one of the best contrasts I have heard to hands-on learning in her description of "a sit down environment." The influence of state objectives and standardized achievement tests on science teaching in formal science learning becomes very clear. They both provided some insight into how difficult it may be to form successful linkages between formal and informal learning institutions.

How Well Did the Method Work

Limitations of the Method

Time. Group interviews are a time consuming method compared to a quantitative survey. Recruitment, data analysis, interpretation, and report writing are labor intensive. However, it is a less time consuming than individual qualitative interview with extensive field notes. The opportunity for divergent views to emerge among participants, giving insights into differences between public and private school and between city and suburban schools was in this instance, a time saver.

Skills. The group interview method fits well with the interviewing and data analysis skills I already had developed doing individual qualitative interviews. However, applying the method would have been a much greater challenge without a substantial background in formulating and sequencing open-ended questions, developing categories from narrative data, and watching for clues to meaning in voice tone and body language.

Perspective Shifts/Change in the Power of the Inquirer. To do group interviews, the inquirer needs to be somewhat comfortable with the subtle, but very real interpersonal differences that surface and differentiate this

method and formal, quantitative interviews. The participants are just that, participants in the inquiry, not subjects in control of the inquirer. People have opinions and points of view which, to be understood, must be accepted on the basis of their own logic, not the inquirer's.

Benefits of Using the Method

: *Different Perspectives Among Staff Groups and Visiting Groups.* This method is useful when you have an audience that has a very different perspective than staff or administration. In this case, staff had explanations about why teachers behaved in certain ways that were not grounded in direct experience. A good indicator that these differences in perspective are occurring is the emergence among staff of the Mr. Spock hypothesis: "that's illogical." That is, the visitors' behavior seems so illogical to the staff member, administrators, or even to you that the only explanation that can be found is irrationality by the "other" group. One thing qualitative methods do is make you take people seriously who view things differently than you do. While "their" behavior seems irrational to you, it is logical to them. The goal is understanding that logic.

Findings. Using this method, it was possible to draw conclusions directly applicable to the operation decisions being made by staff. Changes in the Group Program Guide, bus parking, and materials design can all be traced to the teacher's perspectives expressed in this study. The proposal to require reservations for School Groups was not adopted. Concerns about the impact of this policy beyond the perceptions of teachers entered into this decision. Focus group research is useful, but should be considered as part of an on-going series of inquiry, both quantitative and qualitative. It provides a very rich, useful picture, but it does not map the whole territory.

References

- Bonner, J. (1989) Formal versus naturalistic evaluation in the museum context. In Bitgood, S., Benefield, A., and Patterson, D. (Eds.). Visitor studies: theory, research and practice volume 2 (pp. 211-224). Jacksonville Ala.: Center for Social Design.
- DePaulo, P.J. (1992) Teachers' survey. UM-St. Louis School of Business Administration. Unpublished Report
- Downs, D. and Tisdal, C. (1992) Teacher surveys for energy backpacks. St. Louis Science Center. Unpublished report.
- Glaser, B. G. and Strauss, A. L. (1967) The discovery of grounded theory. Chicago: Aldine Publishing Co.
- Greenbaum, T. L. (1988) The practical handbook and guide to focus group research. Lexington: D.C. Heath and Co.
- Patton, M.Q. (1980) Qualitative evaluation methods. Beverly Hills, CA: Sage.

-
- Wims, E. W. (1994) Membership Focus Groups. Conducted by Marketing Horizons for the St. Louis Science Center. Unpublished.
- Wolf, R. L. and Tymitz, B. (1977) Things to consider when evaluating museum programs. Paper presented at an evaluation meeting at the Smithsonian Institution.