

# IMLS Early Learners Collaborative

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*Year Two Evaluation Report, 2013 – 2014*

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## Executive Summary

This report summarizes the evaluation findings of the second year of the Science Beyond the Boundaries Early Learners Collaborative (ELC). The three-year project, funded through the Institute of Museum and Library Services (IMLS), connects science centers and children's museums to enhance early learner programming. In Year Two, the ELC brought together 21 institutions. Five continued as Year One partners, six Year Two partners joined at the beginning of the grant's second year, and ten more started as Year Three partners half way through the second year. The partner institutions collaborated directly through regularly scheduled conference call discussions. During these discussions they shared their program experiences, ideas on early childhood programs, and their thoughts on current early learner research.

This evaluation, conducted by the Research & Evaluation Department of the Saint Louis Science Center, was designed to assess the effectiveness of the Collaborative in Year Two. Although the evaluation takes into account the influences of the larger Collaborative, data and analysis focus on the experiences of the eleven Year One and Year Two partners. The experiences of Year Three partners will be included in the Year Three report. Please see [http://informal.science.org/evaluation/ic-000-000-008-553/IMLS\\_Early\\_Learners\\_Collaborative](http://informal.science.org/evaluation/ic-000-000-008-553/IMLS_Early_Learners_Collaborative) for the complete Year One Evaluation Report.

The main objectives of this evaluation were:

- To gather information about the programs delivered by each partner,
- To look into the characteristics of early learner programs,
- To inform program developers, and
- To assess the Collaborative in Year Two and understand how the Collaborative is affecting the partners and their institutions.

To inform this year's study, multiple forms of data were collected from the Year One and Year Two partners. Data addressing the partners' knowledge and expectations were collected early in the program year from Year Two partners to parallel similar information that was collected from Year One partners in 2013. Partner institutions collected data for approximately a five-month period between January and June 2014. This included program participant feedback and staff self-reflections on delivered programs. All forms of feedback included open-ended questions, which allowed for more in-depth responses than quantitative feedback alone. After the data collection period, both groups completed an online survey and a follow-up interview.

Overall, the Collaborative experienced significant growth in Year Two, first doubling and then quadrupling from the original five partners to 21. This growth also expanded the Collaborative's benefits and challenges.

## **Key Findings**

### ***Early Learner Programs***

Participant feedback indicates that while parents participating in early learner programs are likely to understand the content their children are learning, the program design strongly influences the degree to which parents also recognize how their children learn and that their children are developing skills through the program activities.

### ***The Collaborative***

#### *Diversity:*

The diversity of the Collaborative allowed for a breadth of knowledge and experience that was useful for partners who needed to think beyond the program they were focusing on for the grant. Some institutions were able to increase internal capacity and build confidence in providing programming for early learners. Other institutions may not have had specific needs met because their programs had less in common with those of other partners. For all partners, the Collaborative met their expectations, and in a couple cases exceeded them.

#### *Communication and Connecting Partners:*

One of the biggest challenges for the Collaborative in the third year may be maintaining the sense of the whole, including thinking of the group beyond the individual conference call groups. The size of the Collaborative logistically required multiple conference call groups so that each partner could have time to share, leaving the onus on the partners to communicate outside of the scheduled calls if they wanted to get to know other partners. So far, communication outside of the call groups has not happened widely; however, partners mentioned that the network created by the Collaborative was one of the stronger aspects of the project. They liked that there was a network of museum professionals with similar objectives to whom they could reach out.

Due to the long-distance nature of the Collaborative, it would be beneficial to incorporate communication tools that offer more opportunities for partners to connect and share visually. This could facilitate more familiarity among the partners and ultimately increase the supportive nature of the Collaborative. Overall, however, the resources shared in the Collaborative have been useful tools for the partners.

## **Acknowledgements**

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### ***Project Director***

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Plus, over 40 staff from the partner institutions who assisted with data collection and provided program feedback.

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## Background

The Science Beyond the Boundaries Early Learners Collaborative (ELC), supported by a three-year project grant from the Institute of Museum and Library Services (IMLS), connects science centers and children's museums across the world to enhance early learner programming.

In its first year, the ELC brought together five institutions with programs designed for early learners (more detailed descriptions of each Year One partner's programs can be found in the **Year One Evaluation Report**, [http://informal.science.org/evaluation/ic-000-000-008-553/IMLS\\_Early\\_Learners\\_Collaborative](http://informal.science.org/evaluation/ic-000-000-008-553/IMLS_Early_Learners_Collaborative)):

- The **Center of Science and Industry (COSI)** in Columbus, Ohio – *Early Childhood Workshops*
- The **Imagine Children's Museum (ICM)** in Everett, Washington – *Play Coach*
- The **Museum of Discovery and Science (MODS)** in Fort Lauderdale, Florida – *Family Science*
- The **Saint Louis Science Center (SLSC)** in St. Louis, Missouri – *Discovery Room*
- The **Unizul Science Centre (USC)** in Richard's Bay, South Africa – *Ramble Around the World*

In the beginning of Year Two, six more institutions joined the Collaborative:

- **Bootheel Youth Museum (BYM)** in Malden, MO delivered *Headstart to the Theater*. The program introduces young children ages 3-8 to the stage, building confidence and promoting team work. *Headstart* is free to members of the museum with a fee for non-members.
- *Toddler Town* at the **Discovery Children's Museum (DCM)** in Las Vegas, NV, is a gallery designed for children 5 and younger. In the desert-themed gallery, children learn through play with exhibits that involve role play, fine and gross motor development, sensory exploration, social interaction and more. Parents are also supported in their roles through "parent power" informational labels and resource materials. The gallery is open to visitors free with admission.
- **KidZone Museum (KZM)** in Truckee, CA shared two programs that reach their target audiences of low-income and Latino families and are free of cost with transportation provided. *KidsReach* provides one-hour bilingual science programs at the museum twice a month and at a local elementary school once a month, integrating literacy activities with STEM exploration. Monthly *STEPP (Sierra Teen Education & Parenting Program)* sessions focus on educating teen parents by providing a class on basic art and science concepts specific to the development of their young child.
- Through its secondary location at the Mercer Slough Environmental Education Center in Bellevue, WA, the **Pacific Science Center (PSC)** in Seattle, WA conducts several fee-based programs for the early learner audience to explore and be inspired by nature. *Tadpole Tots* is an eight week, 1.5 hour series where 2-4 year olds and their caregiver explore natural science and take home ideas and activities to support connections to nature. *Preschool Field Studies* allows for visiting preschool classes to engage in hands-on nature exploration both in and out of a lab. *Polliwog Preschool* is a nine month formal preschool program which enrolls children ages 3-5 and incorporates science, art, math, music, language and literacy into weekly nature-based seasonal themes with developmentally appropriate activities.

- The **Sciencenter** in Ithaca, NY helped develop science curriculum for preschool children and provides professional development for teachers at the Downtown Ithaca Children’s Center (DICC). In *Science for Young Minds* Sciencenter staff deliver and model hands-on age-appropriate science activities while DICC educators observe. In the same week, DICC educators deliver their own program consisting of different, thematically-related hands-on science activities which have been created by the Sciencenter.
- **Technopolis** in Mechelen, Belgium focused on its demonstrations *Ekilibro (Equilibrio)* and *Even Zweven (Floating Away)*, programs designed for both early learners in school groups and with their caregivers. Children ages 4-8 carry out experiments with staff during one of the 15 minute demonstrations. The programs are included free with admission.

Each museum partner participated in quarterly conference calls to share program updates and discuss topics about early learning. Overlapping with the end of Year Two, 10 more museums joined the Collaborative as Year Three partners, bringing the Collaborative to a combined total of 21 museums. The ***Early Learners Collaborative Program Directory*** lists all partner institutions and provides descriptions of their programs. This report focuses on the Year Two Collaborative; the experiences of Year Three partners will be analyzed for the final report, although this report does include the experience of the Year One and Two partners after the initial onboarding of Year Three partners.

Normally held in the Spring, this year’s Museum Educators Workshop hosted by the Saint Louis Science Center and open to any of the Science Beyond the Boundaries members, was rescheduled for Fall 2014 due to inclement weather conditions, and will thus be addressed in the Year Three report.



## Methodology

This evaluation takes a multi-method approach examining the Collaborative's effectiveness. Similar to the first year, this report looks at the experiences of the participants in each institution's programs, the experience of program staff implementing the programs, and the experience of the partners within the Collaborative.

### *Program participants:*

During a five-month period, between January and June 2014, staff at the individual institutions collected participant data through feedback forms designed for the adult caregivers taking part in the program. The feedback forms were based on the Saint Louis Science Center's System for Assessing Mission Impact (SAMI).

SAMI was designed to track and report audiences' experiences in educational programs. Program feedback forms, which are completed by participants at the end of a program experience, are a key element of SAMI. The feedback forms incorporate four close-ended questions on a four-point scale that address the aspects of Impact identified in the SLSC's Impact definition. The SLSC defines Impact as resulting "...from a Science Center offering that enables a participant to make a personal connection between the content and experience of the offering and their own knowledge and experiences. In the short-term, this is illustrated by a change in Knowledge, understanding, Attitude, Interest, or Enjoyment" (Heim, 2009). The forms also provide space for participants' comments about their experiences in the program as well as basic demographics. SLSC evaluators created a protocol for data collection at each institution that was modified depending on the frequency and type of program offerings at each site. Some programs had smaller audiences or occurred with less regularity. On average, each partner collected participant feedback once per week during their data collection period.

All questions in the survey remained the same for each institution, although minor wording changes and/or removal of non-applicable questions were made for each institution depending on program specifics. At two institutions, KZM and Technopolis, the participant feedback forms were translated into Spanish and Dutch, respectively. At Technopolis the forms were filled out by participants and then translated into English by staff when the data were submitted for the evaluation. KZM staff gathered verbal and written responses in both English and Spanish, depending on the preference of the program participant; staff either translated oral responses directly into English on the form or translated responses before entering data online. See **Appendix A** for English and Dutch examples of this form.

Each Collaborative partner also tracked their overall program attendance via an excel worksheet, which also collected approximate age information for child participants; see **Appendix B** for an example of this form. For more detailed information about the SAMI system and how it was used for this evaluation, please see ***IMLS Early Learners Collaborative: Year One Evaluation Report, 2012-2013*** ([http://informal.science.org/evaluation/ic-000-000-008-553/IMLS\\_Early\\_Learners\\_Collaborative](http://informal.science.org/evaluation/ic-000-000-008-553/IMLS_Early_Learners_Collaborative)).

*Staff reflections:*

Staff who delivered the programs completed self-reflection forms to indicate what worked well, what was ineffective, and what could be done better. See **Appendix C** for an example of this form. Both the participant feedback and staff self-reflection forms were entered online by program staff and sent to the evaluation team for analysis. On average, program staff completed a self-reflection survey once per week during the data collection period. Similar to the participant feedback forms, Technopolis translated their self-reflection forms for staff use and then translated responses into English when submitting data online. Staff reflections at KZM were not translated to Spanish.

*Partner feedback:*

Staff from each of the partner institutions provided feedback both at the beginning and end of the program year. Prior to active data collection from program participants, institutional partners' needs and expectations were assessed through a group phone interview. At the end of the data collection period, partners completed an online survey in which they reflected on their initial needs and expectations and provided feedback about their overall experience in the Collaborative. Following the online survey, partners were interviewed individually to get more in-depth responses. The interview responses will inform this year's report as well as the summative evaluation of the three-year project. See **Appendix D** for the questions used for the initial interviews and the end of Year Two surveys and interviews.

## Characteristics of the Sample

### Program participants:

During the Year Two data collection period, 22,258 people (9,169 adults and 13,089 children) participated in 789 early learner offerings on- and off-site through the various partner institutions. Data was collected at 168 of the offerings. Overall, 667 feedback forms were partially or fully completed by adult visitors; this is roughly a 7% response rate from adult participants. Please see **Tables 1-3** below for the demographic breakdowns of each institution's program participants.

As **Table 1** shows, DCM collected 33% of the feedback forms, followed by SLSC with 19%. DCM gathered feedback about their gallery, *Toddler Town*, twice each week (a 16% response rate), and SLSC gathered feedback at least once per week from their *Discovery Room* program (the program is open multiple times per day which meant a response rate of 2%). On the form, parents were asked about the ages of the child(ren) in their group. SLSC respondents accounted for 70% of the total number of child participants, see **Table 2**. For COSI, BYM, DCM, and KZM, there were more children in the sample in the 0-2 age range. Sciencenter had more children in the 3-4 age range, and all other institutions had more children ages 5-8 in the sample than other ages. Most institutions had a low percentage of children ages 9 - 17 in their sample compared to the percentage of children in the other age ranges.

**Table 1: Data Collection Totals for Year Two**

| Institution                    | # of programs delivered | # of programs delivered in sample | Total # of adult participants | # of feedback forms collected | Response rate |
|--------------------------------|-------------------------|-----------------------------------|-------------------------------|-------------------------------|---------------|
| <i>Year One Partners</i>       |                         |                                   |                               |                               |               |
| COSI                           | 20                      | 17                                | 136                           | 74                            | 54%           |
| ICM                            | 11                      | 11                                | 42                            | 34                            | 81%           |
| MODS                           | 3                       | 3                                 | 31                            | 24                            | 77%           |
| SLSC                           | 601                     | 13                                | 7,118                         | 130                           | 2%            |
| USC                            | 14                      | 14                                | 57                            | 14                            | 25%           |
| <b>Total Year One Partners</b> | <b>649</b>              | <b>58</b>                         | <b>7,384</b>                  | <b>276</b>                    | <b>4%</b>     |
| <i>Year Two Partners</i>       |                         |                                   |                               |                               |               |
| BYM                            | 1                       | 1                                 | 6                             | 3                             | 50%           |
| DCM*                           | 41                      | 41                                | 1,367                         | 219                           | 16%           |
| KZM                            | 11                      | 6                                 | 45                            | 15                            | 33%           |
| PSC                            | 13                      | 6                                 | 109                           | 42                            | 39%           |
| Sciencenter                    | 6                       | 6                                 | 13                            | 6                             | 5%            |
| Technopolis                    | 68                      | 50                                | 245                           | 106                           | 43%           |
| <b>Total Year Two Partners</b> | <b>140</b>              | <b>110</b>                        | <b>1,785</b>                  | <b>391</b>                    | <b>22%</b>    |
| <b>Overall Total</b>           | <b>789</b>              | <b>168</b>                        | <b>9,169</b>                  | <b>667</b>                    | <b>7%</b>     |

\*Toddler Town is open to visitors while DCM is open. For ease, the number of programs delivered represents the days attendance was tallied.

**Table 2: Child Demographics**

| Institution                    | Total # of child participants | Total # of children between age 0 - 8 | # of child participants in sample | # of children, age 0-2 | # of children, age 3-4 | # of children, age 5-8 | # of children, age 9+ |
|--------------------------------|-------------------------------|---------------------------------------|-----------------------------------|------------------------|------------------------|------------------------|-----------------------|
| <i>Year One Partners</i>       |                               |                                       |                                   |                        |                        |                        |                       |
| COSI                           | 118                           | 118                                   | 87                                | 58                     | 19                     | 10                     | 0                     |
| ICM                            | 206                           | 206                                   | 70                                | 17                     | 25                     | 27                     | 1                     |
| MODS                           | 52                            | 49                                    | 49                                | 17                     | 7                      | 21                     | 4                     |
| SLSC                           | 9,127                         | 8,680                                 | 425                               | 70                     | 60                     | 277                    | 18                    |
| USC                            | 478                           | 478                                   | 478                               | 35                     | 155                    | 288                    | 0                     |
| <b>Total Year One Partners</b> | <b>9,981</b>                  | <b>13,833</b>                         | <b>1,109</b>                      | <b>197</b>             | <b>266</b>             | <b>623</b>             | <b>23</b>             |
| <i>Year Two Partners</i>       |                               |                                       |                                   |                        |                        |                        |                       |
| BYM                            | 10                            | 10                                    | 10                                | 7                      | 3                      | 0                      | 0                     |
| DCM**                          | 1,306                         | 1,306                                 | 365                               | 152                    | 126                    | 55                     | 32                    |
| KZM                            | 113                           | 99                                    | 65                                | 23                     | 17                     | 15                     | 10                    |
| PSC                            | 139                           | 139                                   | 84                                | 1                      | 27                     | 56                     | 0                     |
| Sciencenter                    | 48                            | 48                                    | 48                                | 0                      | 46                     | 2                      | 0                     |
| Technopolis                    | 1,492                         | 1,480                                 | 1,027                             | 9                      | 400                    | 585                    | 33                    |
| <b>Total Year Two Partners</b> | <b>3,108</b>                  | <b>3,082</b>                          | <b>1,599</b>                      | <b>192</b>             | <b>619</b>             | <b>713</b>             | <b>75</b>             |
| <b>Overall Total</b>           | <b>13,089</b>                 | <b>16,915</b>                         | <b>2,708</b>                      | <b>389</b>             | <b>885</b>             | <b>1,336</b>           | <b>98</b>             |

Participants also responded to demographic questions concerning their gender, membership status, and frequency of visitation to the partner institution. The percentages in **Table 3** are organized by demographic for each institution; e.g. of COSI's 74 respondents, 38% were male; 60% were female; and 2% did not provide a response. Visitation frequency is broken down into three categories: infrequent visitors (one or fewer visits to the museum per year), regular visitors (one or two visits per year), and frequent visitors (three or more visits per year).

*\*\* Toddler Town is open to visitors while DCM is open. For ease, attendance was tallied during the hours when data was collected, thus the numbers included are representative of approximately two hours per week of the gallery's overall attendance.*

**Table 3: Adult Demographics in Sample**

| Institution              | Gender     |            | Membership Status |            | Visitation Frequency |            |            |
|--------------------------|------------|------------|-------------------|------------|----------------------|------------|------------|
|                          | Male       | Female     | Member            | Non-member | Infrequent           | Regular    | Frequent   |
| <i>Year One Partners</i> |            |            |                   |            |                      |            |            |
| COSI (n=74)              | 38%        | 60%        | 69%               | 28%        | 47%                  | 9%         | 43%        |
| ICM (n=34)               | 12%        | 82%        | 59%               | 32%        | 41%                  | 15%        | 41%        |
| MODS (n=24)              | 8%         | 92%        | 0%                | 22%        | 67%                  | 29%        | 4%         |
| SLSC (n=130)             | 19%        | 74%        | 35%               | 62%        | 35%                  | 14%        | 48%        |
| USC (n=14)               | 0%         | 100%       | N/A               | N/A        | 86%                  | 14%        | 0%         |
| <b>Total Year One</b>    | <b>21%</b> | <b>74%</b> | <b>42%</b>        | <b>49%</b> | <b>44%</b>           | <b>14%</b> | <b>40%</b> |
| <i>Year Two Partners</i> |            |            |                   |            |                      |            |            |
| BYM (n=3)                | 0%         | 100%       | 0%                | 100%       | 33%                  | 67%        | 0%         |
| DCM (n=219)              | 22%        | 72%        | 43%               | 52%        | 53%                  | 5%         | 37%        |
| KZM (n=25)               | 4%         | 96%        | 100%              | 0%         | 0%                   | 0%         | 100%       |
| PSC (n=42)               | 3%         | 95%        | 14%               | 83%        | 50%                  | 31%        | 14%        |
| Sciencenter (n=6)        | 0%         | 100%       | 0%                | 100%       | 0%                   | 17%        | 83%        |
| Technopolis (n=106)      | 17%        | 79%        | 4%                | 94%        | 65%                  | 23%        | 10%        |
| <b>Total Year Two</b>    | <b>17%</b> | <b>79%</b> | <b>32%</b>        | <b>64%</b> | <b>51%</b>           | <b>13%</b> | <b>32%</b> |
| <b>Overall Total</b>     | <b>19%</b> | <b>77%</b> | <b>36%</b>        | <b>58%</b> | <b>48%</b>           | <b>13%</b> | <b>35%</b> |

*Staff:*

Multiple staff from each partner institutions reflected on their experiences during their program. A total of 119 reflection forms were filled out by program staff.

**Table 4: Staff Reflection Demographics**

| <i>Year One Partner</i>        | <i>COSI</i> | <i>ICM</i> | <i>MODS</i> | <i>SLSC</i> | <i>USC</i> |
|--------------------------------|-------------|------------|-------------|-------------|------------|
| # of staff members represented | 5           | 1          | 1           | 2           | 3          |
| # of reflection forms          | 7           | 5          | 3           | 2           | 6          |

| <i>Year Two Partner</i>        | <i>BYM</i> | <i>DCM</i> | <i>KZM</i> | <i>PSC</i> | <i>Sciencenter</i> | <i>Technopolis</i> |
|--------------------------------|------------|------------|------------|------------|--------------------|--------------------|
| # of staff members represented | 0          | 5          | 1          | 7          | 1                  | 9                  |
| # of reflection forms          | 0          | 21         | 7          | 12         | 6                  | 50                 |

## Findings

The findings of this report are divided in two parts – one addressing feedback collected about the individual partners’ programs and the other examining the overall effectiveness of the Collaborative.

The first section (which references materials in **Appendices E-I**) focuses on the experiences of adult and child participants in programming delivered by the partner institutions. This is supplemented with the experiences of program staff delivering the program. The first section provides context for understanding the partners’ reflections on their experience in the Collaborative, which are discussed in the second section, and illustrates the variety of programs delivered by the partners in the Collaborative.

The second section (which references materials in **Appendices J-K**) ties together the experiences of the partners in the Collaborative and assesses to what degree the Collaborative is actively affecting the partners, their programs, and/or their institutions.

## Part I: ELC Partner Programming

At each partner institution, staff collected feedback forms from adult participants. Similar to Year One, the feedback forms included four open-ended questions that addressed aspects of the program that participants did or did not like, what participants and their child(ren) got out of their experience, and suggestions participants had to improve the program. (See **Appendix A** for examples of the participant feedback form.) This was done to collect information about both audiences' experiences on one form, without having to gather data directly from pre-literate children. The responses were coded for analysis. See **Appendices E – H** for participant comments from each program, organized by code category. The code categories in Year Two are similar but not the same as Year One code categories in order to account for the increased variety of programs. **Figures 1 – 8** are grouped by Year One and Year Two partners to better fit in the report. As the graphs illustrate, there are variations between respondents' comments that are not associated with the year partner institutions joined, but more so by the program's content and structure. Multiple responses from respondents were possible for each of the open-ended questions, thus the total percentage of respondents may exceed 100% for each partner institution. See **Tables 7 – 11** (in **Appendices E – H**) for the percentages of respondents indicated in **Figures 1 – 8**.

Overall Impact Scores are an indicator of the short-term impact a program has on its participants. (See **Limitations** for discussion of sample size and effect on Impact Score.) As seen in **Table 5**, the Sciencenter's *Science for Young Minds* program had the highest Impact Score (16.00), followed by BYM's *Headstart to the Theater* (15.67). The lowest Impact Score was from Technopolis demonstrations (12.72); second lowest was KZM's programs (12.83). Other programs ranged between 13.59 and 15.48. For comparison, other early childhood programs at SLSC between January and June 2014 (the same time period) ranged from 14.42 to 15.83.

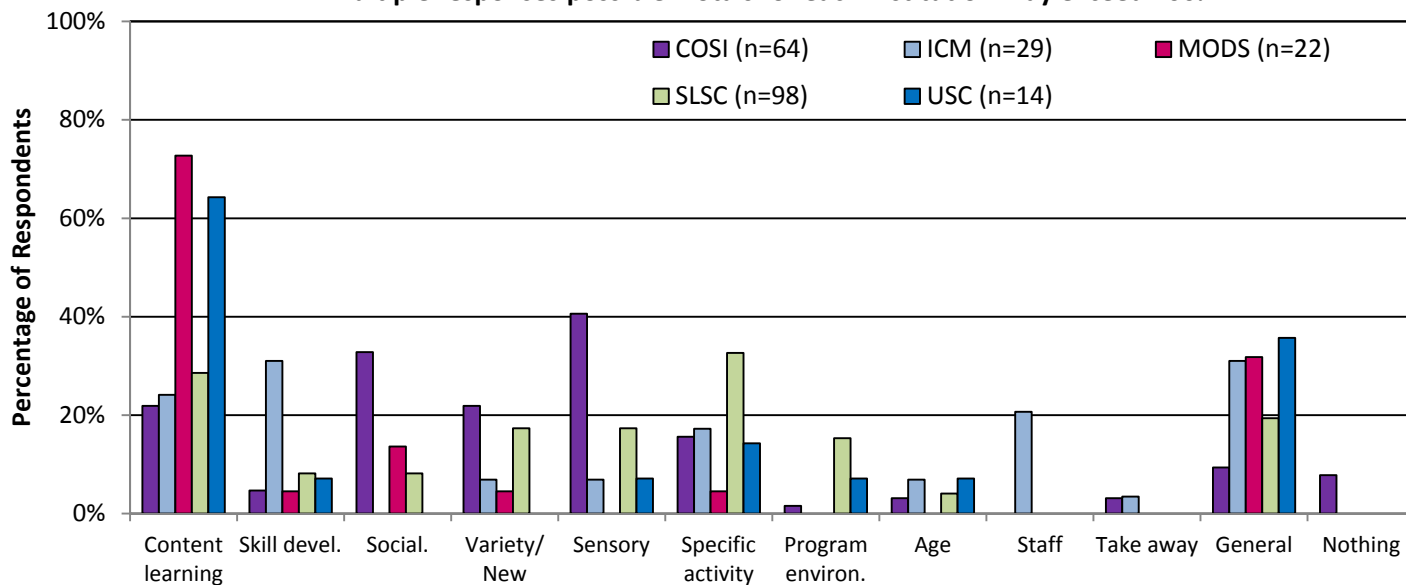
**Table 5: Impact Ratings for ELC Partner Programs**

| Institution              | Knowledge | Enjoyment | Interest | Attitude | Impact Score |
|--------------------------|-----------|-----------|----------|----------|--------------|
| <i>Year One Partners</i> |           |           |          |          |              |
| COSI (n=73)              | 3.60      | 3.74      | 3.51     | 3.41     | 14.26        |
| ICM (n=34)               | 3.67      | 3.73      | 3.67     | 3.55     | 14.61        |
| MODS (n=23)              | 3.87      | 3.96      | 3.83     | 3.83     | 15.48        |
| SLSC (n=127)             | 3.69      | 3.78      | 3.39     | 3.28     | 14.13        |
| USC (n=12)               | 3.75      | 3.75      | 3.50     | 3.67     | 14.67        |
| <i>Year Two Partners</i> |           |           |          |          |              |
| BYM (n=3)                | 3.67      | 4.00      | 4.00     | 4.00     | 15.67        |
| DCM (n=212)              | 3.39      | 3.58      | 3.33     | 3.29     | 13.59        |
| KZM (n=24)               | 3.25      | 3.58      | 3.04     | 2.96     | 12.83        |
| PSC (n=42)               | 3.81      | 3.90      | 3.71     | 3.69     | 15.12        |
| Sciencenter (n=6)        | 4.00      | 4.00      | 4.00     | 4.00     | 16.00        |
| Technopolis (n=101)      | 3.54      | 3.58      | 2.80     | 2.79     | 12.72        |

Although all Collaborative programs reach the early childhood audience, they all approach that audience through different lenses. Through observation with other SLSC programs, audience can affect ratings between programs. In the second year of the Collaborative, there were exhibit galleries, workshops, demonstrations, and programs that were a combination of these, all designed to reach early learners. Within these groups, there is also a difference of the specific age ranges for which the program is intended: infant, toddler, and parent/teacher, with all of the programs including some amount of intergenerational interaction. Through use at the SLSC, a program with an Impact Score under 12.00 is rare and may need to be assessed further to better understand its connection with its audience.

Two programs with similar characteristics are the two galleries: DCM’s *Toddler Town* and SLSC’s *Discovery Room*. *Toddler Town* is a free gallery at a paid children’s museum, which is open when the museum is open and specifically for children 5 and under. The *Discovery Room*, which is at a science center with free general admission, is a ticketed gallery that is open for 45-minute sessions throughout the day, generally serving ages 1-8. As seen in **Figure 3** and **Table 9**, a higher percentage of caregivers attending the *Discovery Room* were more likely to mention liking the *variety/new experiences* (37%) than *specific activities* (6%), and at *Toddler Town* the opposite was true (11% and 34%, respectively). For both, over 20% of respondents commented that they liked aspects of the *program environment*, expressing that they liked having an area in the museum specific to the young age group that offered “Play experience in a safe environment” [*Toddler Town*]. As seen in **Figures 1-2** and **Table 1**, more than 20% of respondents in both also commented that they “got out” experiences related to *content learning*, such as “Cause and effect, how things in nature work together” [*Discovery Room*].

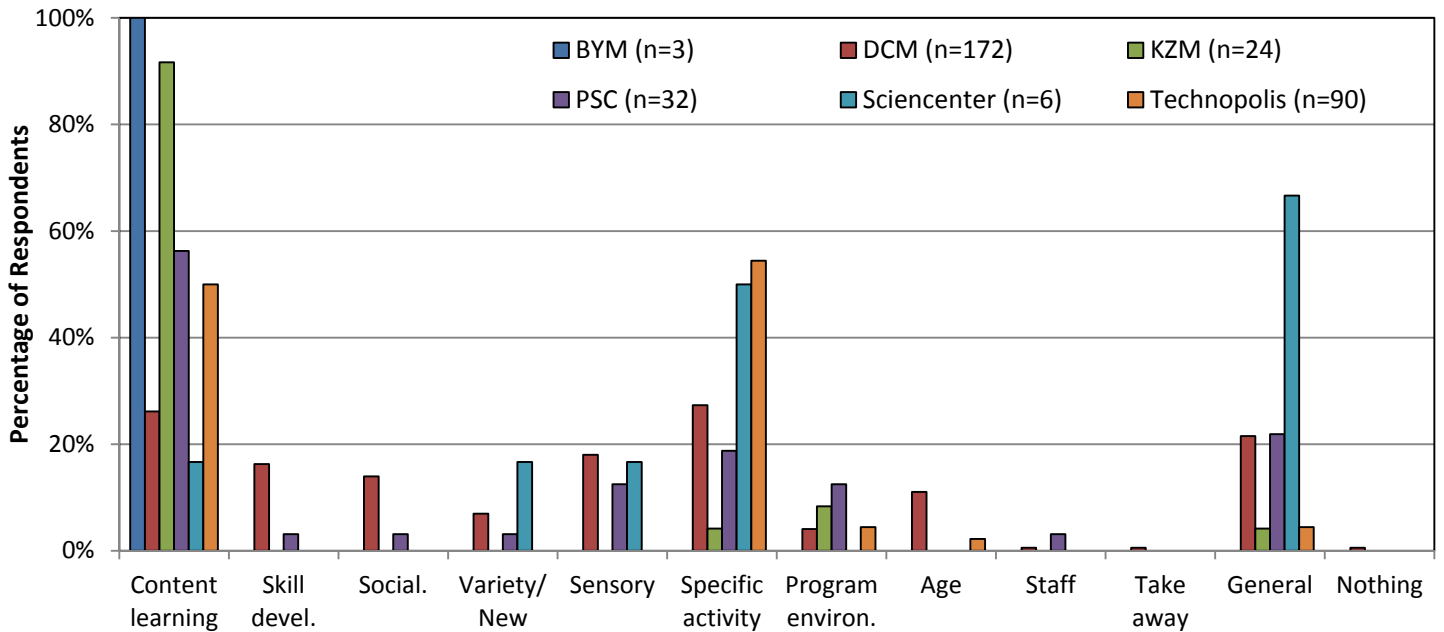
**Figure 1: What Participants "Got Out" - First Year Partners**  
Multiple responses possible. Totals for each institution may exceed 100%.





**Figure 2: What Participants "Got Out" - Second Year Partners**

Multiple responses possible. Totals for each institution may exceed 100%.



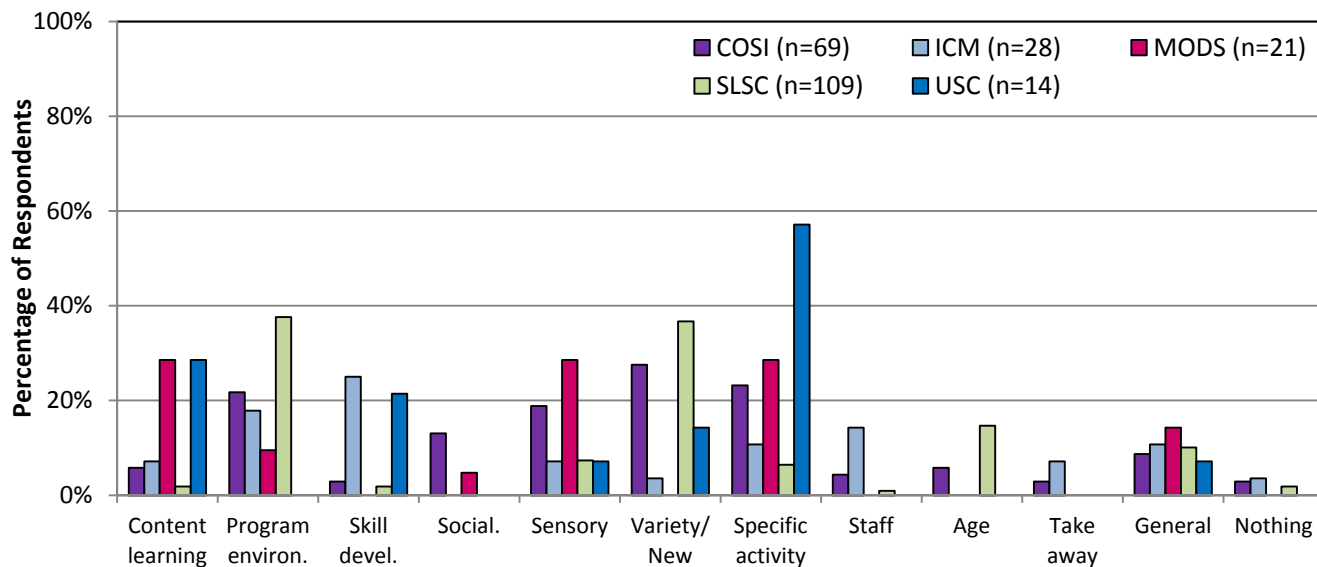
Overall, participants’ comments about what they got out of their program experiences reflected more frequently on what they learned (38% of overall respondents). This suggests that early learner programs with more traditional fieldtrip/workshop approaches (PSC, Unizul, BYM, etc.) or those with specific science component added (MODS, Technopolis, etc.) are strong in communicating the content, which makes the adult participants more aware that children are learning content in the program in comparison to less formalized programs (SLSC, DCM, ICM). For early learners, though, content is not the only learning that should be happening. Building skills related to a child’s physical and social development is key for this audience (Eisenmann and Jovanovic, 2014).

As seen in **Figure 1** and **Table 1**, respondents in the COSI *Early Learner Workshops* commented that they got aspects of *socialization* (41%) and *sensory* (33%) experiences out of the program: “Good sensory and other infant interactions.” This was a higher percentage than for other programs. One of COSI’s programs is specifically for infants and their adults; the other workshop is for children under 6 and their parents. This program is similar to MODS’ *Family Science* in that both programs have a story time and hands-on activity time, but participants at COSI visit a related exhibit gallery and there are stations of hands-on activities, while MODS’ program is off-site at a local library with an additional science lesson and a single hands-on project. MODS’ program also serves families with children ages 3 – 8. *Content learning* was more heavily emphasized by MODS respondents: “We learned a lot about insects, body parts, habitats, etc. very informative.” MODS respondents commented less frequently than COSI respondents that they “got out” *Sensory* (0%) or *Socialization* (14%) experiences.

When asked what they liked most about the program, a higher percentage of MODS respondents (29%) emphasized that they enjoyed the hands-on (*Sensory*) component the most, where COSI respondents enjoyed the *Variety* the most (28%). This suggests that caregivers are aware that their children are socializing or engaging in *Sensory* activities in these programs. Therefore, reinforcing that their children are learning skills through these activities and not just through the content delivered, may help to broaden their thinking as to what their children are getting out of early learner programs.

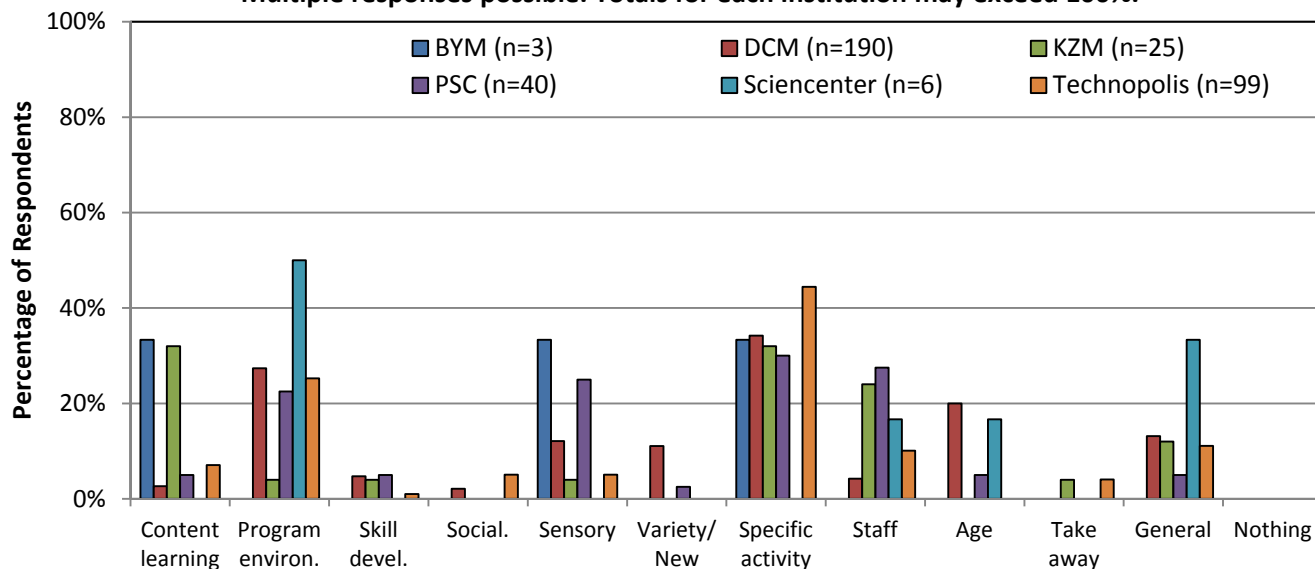
**Figure 3: What Caregivers Liked Most - First Year Partners**

Multiple responses possible. Totals for each institution may exceed 100%.



**Figure 4: What Caregivers Liked Most - Second Year Partners**

Multiple responses possible. Totals for each institution may exceed 100%.



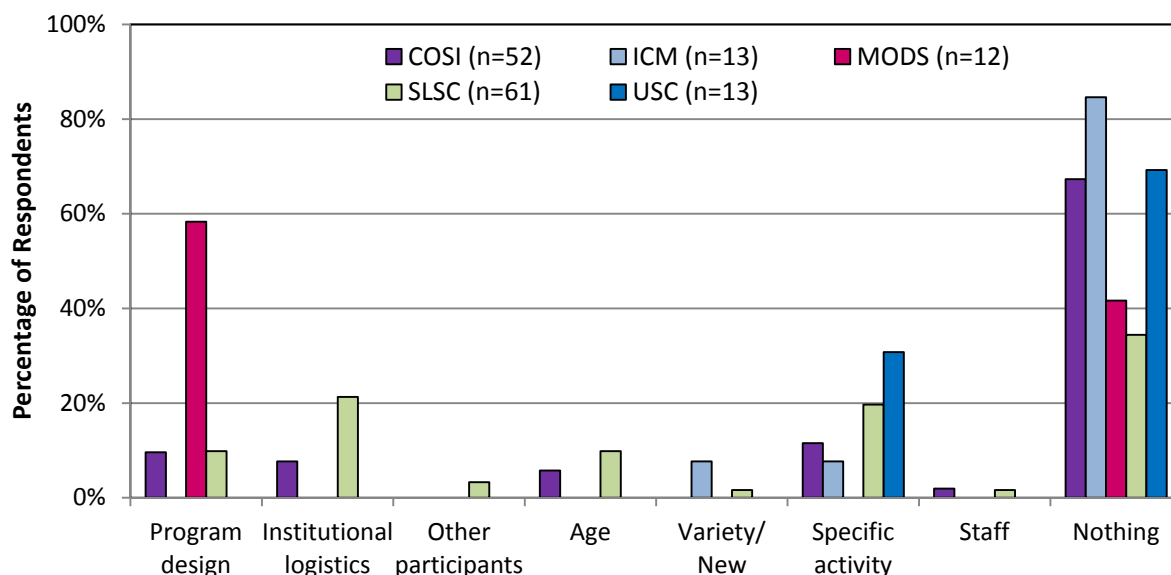
More than 20% of respondents participating in Play Coach at ICM frequently commented on the growth of their children’s developmental skills, as both what they got out of the program (31%) and what they liked most (25%), one respondent comments, “Learning to concentrate to detail and fine motor skill.” This program involves using everyday materials in play; *Play Coach* staff also communicate what children are doing and learning while they are playing.

Comments indicating liking the *Staff* most occurred with less frequency overall, but both KZM and PSC had more than 20% of respondents mention staff: “I thought the presenters did a great job engaging the kids. Great.” [*Field Study: Preschool Prowl*]. These two programs have a distinctive staff presence, where staff guide participants through nature fieldtrips [PSC programs] or through bilingual art and science lessons [KZM]. Other programs, particularly those structured as open-exploration, had a lower percentage of respondents mention staff. For the most part, respondents’ suggestions for improvement related to *Staff*, including asking for additional staff to help in the program or more interaction and explanations of content from staff: “Would like to see more educators to be able to explain more of the sections and items.” [*Discovery Room*].

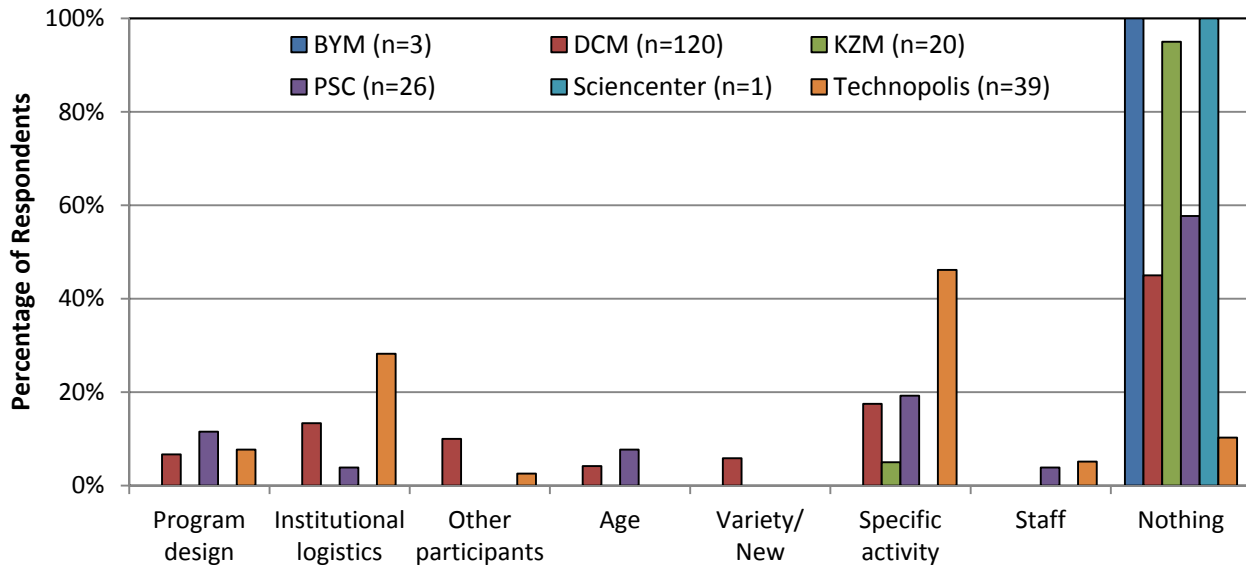
When respondents made comments for improvement or mentioned what they liked least (**Figures 4-8** and **Tables 10-11**), most respondents tended to say, “Nothing.” When there were more substantial comments, however, they mostly addressed issues of *program design*, *institutional logistics*, and/or *specific activities*. Institutional logistics such as cost, space, and noise levels of the area can all be things that program staff have little control over as they are delivering the program, but they are still major factors in the participant experience. A total of 28% of respondents at Technopolis mentioned that they didn’t like aspects of the program related to institutional logistics, “The demonstration took place on a very disturbing location. A separated room would be better.”

**Figure 5: What Caregivers Liked Least - First Year Partners**

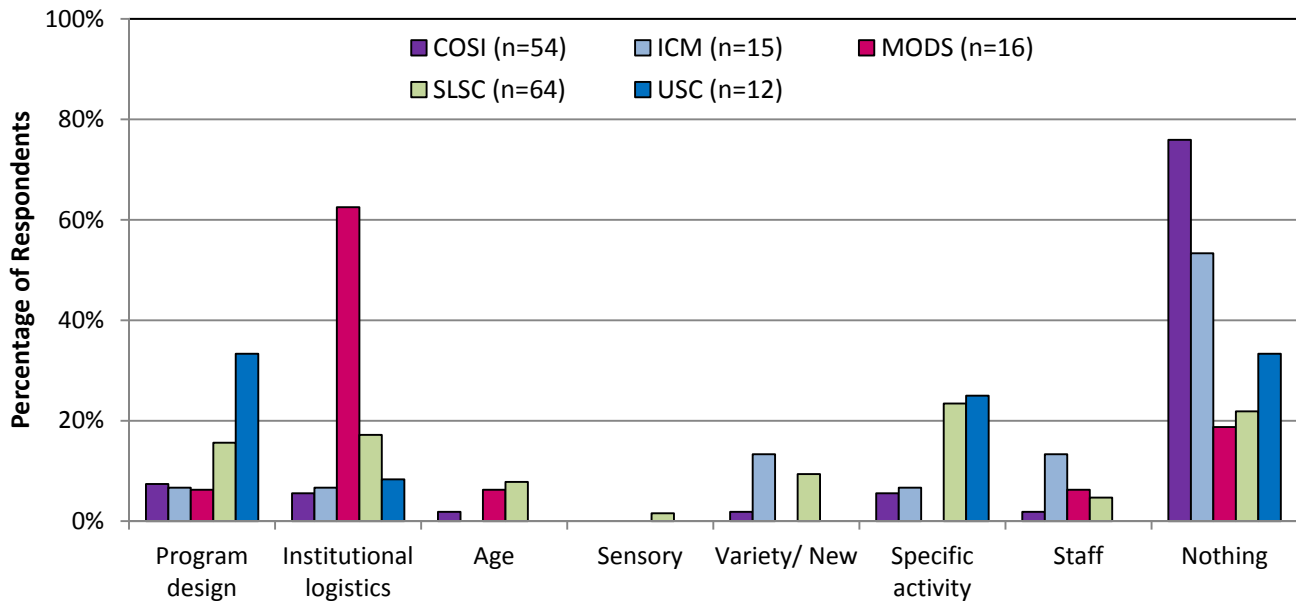
Multiple responses possible. Totals for each institution may exceed 100%.



**Figure 6: What Caregivers Liked Least - Second Year Partners**  
 Multiple responses possible. Totals for each institution may exceed 100%.

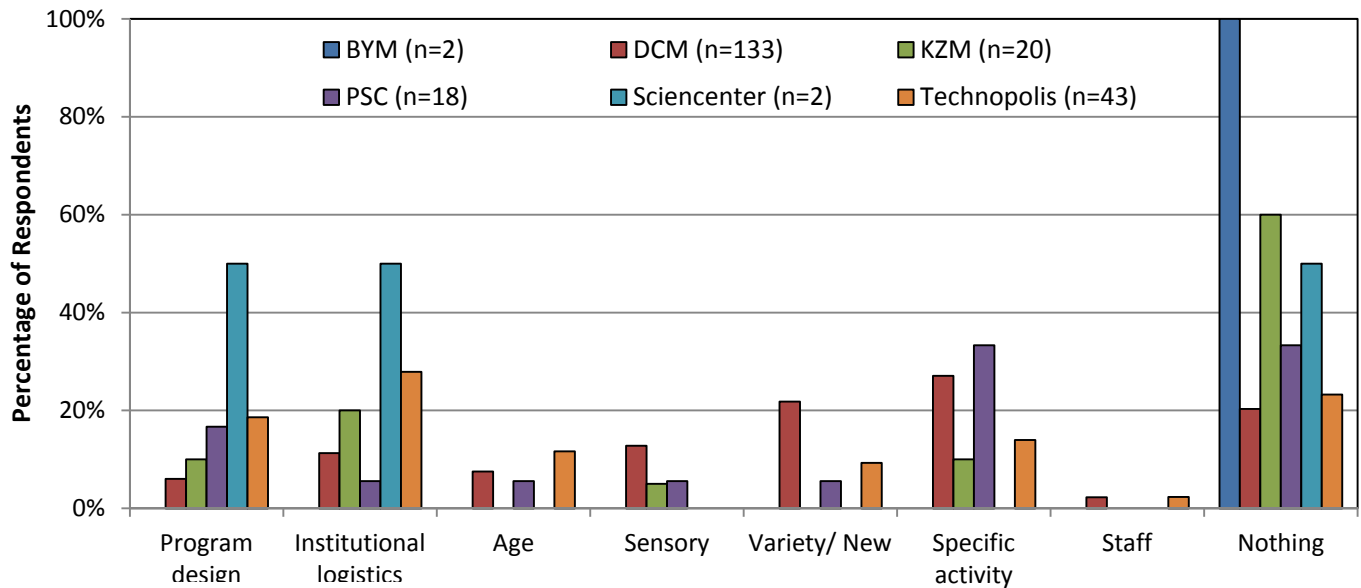


**Figure 7: Caregiver Suggestions for Improvement - First Year Partners**  
 Multiple responses possible. Totals for each institution may exceed 100%.



In addition to collecting participant feedback, program staff provided feedback on their experience delivering the program. This can help provide context for participants' comments. For example, Technopolis staff are aware that comments relating to space and noise level are some of the major complaints of the program, but they are not able to change the location of the program at this time. Some Technopolis staff, however, have thought about what they could do to help the participant experience even with these space restrictions and distractions: "Smaller groups for each presentation. Adapt the group size to the space we have."

**Figure 8: Caregiver Suggestions for Improvement - Second Year Partners**  
 Multiple responses possible. Totals for each institution may exceed 100%.



Comments on *specific activities* are, for the most part, easier for partners to address and what staff focus on in their comments. Technopolis had a high percentage of respondents (46%) that mentioned liking *specific activities* least in the program, such as “The bursting balloon.” Staff reflecting on the experience of the participants provided many ideas on how to improve specific components of the program such as, “Blowing up the balloon much harder so that it would burst more easily. I won’t jump on the balloon with both feet, but instead I’ll just use one foot to step on it.” Or simply to, “Test out the materials on beforehand.”

All of USC’s improvement comments provided by participants related to specific activities addressing their reading corner: “Add more books in a reading corner for children to have a virety [sic].” For USC, there were no staff comments directed to the reading corner, but there were comments related to *program design*. Similar to many other partner programs, a frequent suggestion for improvement from USC participants was to add more time: “By adding more time for the whole program” [USC]. Reflecting on the programs, USC staff clarified that the lack of time may have been due to the experiment component of the program: “The group was a bit bigger for the experiment therefore we ended up spending more time on 1 experiment.” To alleviate the problem when larger groups book the program staff proposed, “I will either increase time for experiment or sort children into 2 groups.” Staff comments, in this way, can also act as documentation of the fine tuning of a program’s structure.

Separate participant and staff comments may not be helpful to persons outside of the program. It would be advisable to target specific characteristics needed or wanted in a program (such as socialization opportunities), identify programs with similar characteristics from the descriptions included in the **Early Learners Collaborative Program Directory**, and examine the participant and staff comments from those programs to apply that feedback more broadly.

## Part II: Feedback about the Collaborative

In the Year Two Evaluation Report, feedback from partners came from initial discussions when they first joined the Collaborative and then at the end of the data collection period for the second year. Through this process, the partners have provided feedback as to the effectiveness of the Collaborative in supporting their institution, their program, and themselves as professionals. A few of the partner institutions have had staff turnover since first joining, and thus expectations from previous staff may not be the same as current staff. This also means certain Year One and Year Two partners may have different levels of experience in the Collaborative from other Year One and Year Two partners. Therefore, the experiences of the partners are analyzed as a whole, independent of how long they have been part of the Collaborative.

Three major themes emerged that describe how the representatives from each partner institution experienced the Collaborative: 1) the diversity of expertise within the Collaborative, 2) sharing, and 3) connecting the network. Each of the themes is discussed below.

### *Diversity of Expertise*

In the beginning of Year Two, the Collaborative added six new partners, bringing it to eleven institutions. Each institution had at least one staff involved as the main contact. As seen in **Table 6**, these partners came from a variety of backgrounds. All partners came in having some museum experience, some were new to their institutions with less than a year of experience, and some have more than 15 years of experience. The institutions in the Collaborative also have varying experience in working with young audiences: USC is representing the start of South Africa’s first children’s museum; whereas a few institutions in the Collaborative have had early childhood programs for more than a decade.

**Table 6: Expertise of Partners**

|                    | Early Childhood (EC) Degree | Formal Teaching Experience | Experience with EC Programming | Most experience with non-EC audiences |
|--------------------|-----------------------------|----------------------------|--------------------------------|---------------------------------------|
| Number of partners | 3                           | 6                          | 4                              | 5                                     |

Beyond formal and informal teaching experience, partners mentioned other personal and institutional expertise including institutional credibility in early childhood programming, informal science learning, and community outreach and relationship building, as well as theater, science and music backgrounds.

Partners saw the diversity of the group as having both strengths and challenges. Diversity allows for different approaches and perspectives that can enrich discussions, but the overall usefulness of having such breadth of ideas and discussions is dependent on the needs of the partners and their institutions.

The partner from the Sciencenter noted, “Another great strength was also the diversity in the group, people had very different institutions and very different approaches and it gave me ideas of ways we

can do this.” Most partners (73%) joined the Collaborative with a need for new ideas and activities for their early learner programs and diverse insights allowed for discussions that triggered new ideas for the partners. The partner from MODS commented, “I think that the group that you guys have picked is diverse and everybody has something different to add to all of our calls and everything we’re doing.”

With the Collaborative doubling at the end of the second year, partners, program styles and institutions are even more diverse and may increase the ideas and activities shared. With the current breadth of sharing, many partners (63%) mentioned that the Collaborative has impacted early childhood programs in their institutions beyond the specific program they had chosen to share with the Collaborative. For USC, the diversity of sharing in the Collaborative helped to build internal capacity: “when I first came to join, our Centre was not doing a very good job and we were even embarrassed to invite preschoolers in because we didn’t have a proper program. So now ever since we’ve joined, we are very proud to invite people and tell them what we do and tell them about the experiments we do, tell them about our shows.” USC’s needs branched into changes for all of their early childhood programming and this has been supported through the diversity of discussions and items shared.

Sciencenter joined the Collaborative with the program *Science for Young Minds*. The program is a professional development program for preschool teachers at a local community center. In the Collaborative, the Sciencenter has gained insight into other types of programs including workshops for infants and toddlers, galleries, and general activities, however, “our focus for what we wrote for the Collaborative, was on professional development of teachers and maybe we’re the only people with that focus, so at least in my discussions, I feel like we didn’t have a lot of discussion around that.” Similar to other partners, Sciencenter provides a unique perspective that can be used as a resource, but in their case, they do not have or are not aware of other partners in the Collaborative that have programs that directly relate to *Science for Young Minds*.

Although there may be specific needs that may have not been met, this has not negatively affected how partners feel about what they are getting out of the Collaborative. In an online survey, partners were asked to rate how well their experience in the Collaborative has met their expectations on a 4-point scale, where 1 = “Below Expectations” and 4 = “Above Expectations.” Except for one first year partner and one second year partner, who both rated their experiences as a 4, all partners rated their experience in the Collaborative as a 3 out of 4. In general, their expectations were a mixture of working more with their existing programs, creating partnerships across institutions, gaining insight and advice, and better communicating the value of early science learning. In an interview with the second year partner from DCM, she reflected, “Mainly my expectations were to use the Collaborative for professional resources, those expectations have been met through the articles you’ve sent for us to read over, for the monthly activities or experiments we’ve gotten and just through the phone conversations we’ve had for our phone conferences.”

## *Sharing*

When asked about the strengths of the Collaborative, the most frequently mentioned characteristic (63% of partners) was the sharing of programs and experiences and having the resources and ideas that come along with that sharing. Sharing has occurred in the conference calls and when partners have spoken separately. The Collaborative has also shared written resources such as, Experiments of the Month, research articles, last year's *Playing with Science Handbook*, and the *Early Learners Collaborative Directory*. Each partner also received a summary of their program's evaluation data separate from receiving the overall evaluation included in this report.

Although specifically mentioned as a strength by only a couple of partners, most of the partners (82%) acknowledged using the Experiments of the Month to varying degrees. USC used the Experiments as a template for their own activities to fit the curriculum of South African preschools: "When we joined the Collaborative [the project director] sent us experiments of the month and our children enjoyed that a lot such that we have started to develop our own workshops and experiments." With KZM's audience predominantly speaking Spanish as their primary language, staff translated the handouts into Spanish: "Our parents love those... We use it as a staff, we use it when we conduct a class or an activity and we will use that experiment, but when we're done, parents like to take it with them as maybe something they can extend at home or try at home and have a copy, we give them a copy of it."

Similar to the Experiments of the Month, the evaluation has also been a tool used by partners. Only four partners specifically cited it as a strength of the Collaborative, but 73% of partners mentioned using the participant and/or staff feedback when reflecting on their current programs. The partner at COSI reflected in her interview, "I really appreciated the feedback we received from the programs... I feel that was a tremendous tool and while it was necessary from the standpoint of the grant I also feel like it provided me a lot of useful information."

The staff self-reflections, which were intended to be used to gain another perspective on the early learner programs, were also helping partners and their staff to pause and think about the current version of their program and what modifications might be more effective. The partner from Technopolis noted that through the self-reflection forms she, "could really see [that the Edutainers] did it differently, they took a different approach to solve the problem they had the first time, and because of the self-reflection forms they had to really think about their actions and improve their own work so that was really good I think."

For KZM, both evaluation tools made a difference. In KZM's *KidsReach* and *STEPP* programs, bilingual staff helped participants complete feedback forms. The surveys helped KZM staff see ways to engage with their second language learner community: "historically [we've] had a hard time engaging our second language learners in to just coming into the museum, taking classes, attending workshops, things like that. The surveys that we have given the parents have helped me to see where we can bridge that."

The ideas and discussions on the conference calls have helped both small and large museums in the Collaborative. The Mercer Slough site of PSC has a formal preschool and various early learner programs for schools and families. The partner from PSC, who has delivered many of those programs, said that the



Collaborative, "...reinforced that early childhood learning is as much about the young participants as it is about the adult caregiver." At a smaller institution, BYM, the Collaborative helped program staff, "... have a much better notion of how to develop [programs] for early childhood ages. I had always made a focus on kids first grade and older and it has become very clear that the techniques that work for those ages don't work quite well for the toddlers and pre-k age group..."

Partners were also interested in sharing not only activity ideas, but also program logistics. The partner at DCM said in her interview, "I've been able to learn through the written descriptions you've sent us [through the *IMLS Early Learners Collaborative Directory*] about some of the museums on how they run them and the basics, time limit, attendance for these workshops and popular subjects and themes and how to group them in ages. That's definitely been a wonderful resource to help me form ideas to start workshops and my program."

With more partners gaining experience in the Collaborative, there was also more interest in being active contributors. When asked what they have contributed to the Collaborative, 45% of partners felt they could be contributing more. The partner from BYM expressed, "I really don't think that I've been able to give anybody else much this time around. I've been sucking in the information since it's my first time. I'd hope ...that next year I'll be better at sharing and being helpful. Now that I know how it all goes." Other partners had activity or program ideas already in mind for what they would like to share in the third year. The partner at USC said in her interview, "I would like to share some of the science shows that we do... I just feel that we normally talk about the experiments and the workshops but at Unizul we'd like to share we are very strong on the science shows."

To help facilitate the sharing of programs and activity ideas, 45% of partners expressed the need for added visual components before or during conference calls. The partner from ICM commented, "It's really cool because we have such a diverse [group], but then sometimes it's hard, 'oh what is that one doing, or this one.' It would be cool to attach pictures to activities." Using visuals more, in general, was a common thread of comments in the interviews and surveys, mostly as a way to help connect partners.

### *Connecting the Network*

A total of 55% of the partners mentioned that having a network of people to reach out to when needed was a strength of the Collaborative. However, another theme across the interviews and surveys was that most partners did not contact or did not have any conversations deeper than "hello" and "welcome" with partners outside of assigned conference call groups, mostly because they did not have time, did not think about it, or felt like they had no need yet. For 45% of the partners interviewed a challenge with the Collaborative has been relationship building. As one of the Year One partners explained, "I guess it's the connecting and the comfort level of working with people you've never seen, never met, don't know anything about, you can't put a face to, I think that's the most difficult part." Partners know that by being a member of the Collaborative they can reach out to others if they need help, but not many have utilized this connection. Six of the partners (representing both the Year One and Year Two partners) have had only minimal contact, mostly through introductory emails, with other partners outside of the

conference calls this year. Some were waiting to make face to face contact by attending conferences or workshops before contacting people by phone or email. With few partners making connections outside of the conference calls, the split in groups and the time needed to make stronger connections via phone may hinder camaraderie with partners outside of their call group.

As the final year begins, this feeling of a lack of a connection between partners may change through consistent conference call groups. In the first year of the grant, building the relationships was inherent, with only one group call. The partner from SLSC expressed, “the first year partners...we were beginning to build relationships with one another through our regular conference calls, and then almost all of us met at the ASTC conference in October [2013]. [After splitting into different call groups] I kind of miss that relationship that we had built and I understand how we’re supporting the new ones ...but I kind of miss that continued relationship of that small group.” For logistical reasons, in the second year of the grant the first year partners were split with second year partners into two separate calls. Those groups were then split into three calls when third year partners joined in the last half of Year Two. As the partner from the SLSC further pointed out, it takes a while to build relationships. When asked if her new conference call groups have had a chance to build camaraderie she said, “the group we have now is still just trying to remember what name matches with what institution matches with which voice and remembering what kind of programming they do. You have to kind of sort out in your brain what person is doing what kind of program, so when someone talks they’re talking about their infant toddler program, and when someone else talks they’re talking about their preschoolers without parents program.” A Year Two partner pointed out in her interview, “the last call I had was with many of the people were different people than I had in previous calls...I know it makes a lot of sense because you can’t have too big of calls, so now you have to keep splitting, but as a result there is a risk of fracturing the relationship a little bit, instead of building a relationship where you have the same people on the calls for two or three years, every time you get on the calls you’re meeting new people...” With all partners on board for the third year, consistent call groups can help in the relationship building.

Stronger connections between partners may also be supported through face-to-face interaction. Multiple partners, including the partner from MODS, mentioned that meeting face to face can help facilitate the building of relationships. As she commented, “I think that face to face meetings is, if it’s any way possible, is the best, best, best way to get the most out of these things. Just at least initially, to get everybody to just meet everybody. I think it changes completely the dynamic of a group.” Partners mentioned they would like to meet in person by attending conferences and workshops with other members of the Collaborative and if in-person meetings are not feasible, partners suggested meeting face-to-face through technology.

Visual aids, such as sharing photos of programs in action and using video conferencing, can also help partners better understand each others’ programs and get to know each other. Last year, two partners (40%) from the Collaborative mentioned the need for visuals. This increased to five (45%) in the second year. The partner from BYM suggested, “I think it would be very nice if there was a messaging board or something like it... so that we could share documents, slideshows, and pictures easily...” Visuals can help to speed up the process of getting to know something or somebody, which can mitigate some of the challenges of long-distance collaborations.

## Limitations

### *Impact Sample Size*

Impact Scores with less than a sample size (n) of 30, are statistically more likely to be less representative because samples under 30, as a rule of thumb, do not have normal distributions. Basically this rule of thumb means if the sample (adult participants who completed the form) is more than 30, it is more likely that the scores are representative of what the population (all adult participants in the program) would rate the program and that the scores were not by chance. Partner institution programs occurred, however, with varying frequency; in some cases only one or two programs occurred during the data collection period. For other partner institutions, programs were delivered multiple times each day. Therefore, for some programs, there may not have been 30 or more adult participants available to provide feedback. The Sciencenter, for example, only worked with one or two teachers during the data collection period, their sample is representative of the entire population because they surveyed the same persons multiple times. Another example is MODS, which delivered three programs total during the data collection period and thus could only collect 23 feedback forms. Similar situations apply to the other institutions with lower sample sizes. This means the small sample size is representative data, but the results are perhaps not as comparable between programs when looking at percentages of program characteristics.

## Conclusions and Recommendations

For two years, the Early Learners Collaborative has impacted its partners, their programs and their institutions through the sharing of ideas and resources. In its second year, the Collaborative expanded from five institutions to 11 and then to 21 with a total of three international and 18 U.S. institutions, represented by a mix of science centers and children’s museums. Program offerings varied as greatly as the institutions providing them. There were galleries, demonstrations, parent and child workshops, teacher professional development, and more; all with the goal of providing science learning to the early childhood audience. The growing diversity of the group along with other characteristics of the Collaborative provided both benefits and challenges for the partners.

### **Early Learner Programs**

Comparing program data and the list best of practices referenced in *Preschool Checklist, 2014*, indicates that there is a need to communicate to parents that children gain more than content learning out of early childhood programs, that they also build important social and physical skills.

#### *Recommendation:*

- Providing information on child skill development can provide a type of professional development for parents who can then better understand how their children are learning.

Program participants noticed issues with institutional logistics, program design, and specific activities as areas that they liked least or aspects that could be improved.

#### *Recommendations:*

- Using participant feedback in tandem with staff reflections can key in on issues with programs.
- Concerns such as these can also be brought to the conference call groups or to the bigger Collaborative to help partners think through possible solutions.

## The Collaborative

### Group Diversity:

The diversity of the Collaborative allowed for a breadth of knowledge and experience that was useful for partners who needed to think beyond the program they were focusing on for the grant. Some institutions were able to raise internal capacity and build confidence in providing programming for early learners. Other institutions may not have had specific needs met because their programs had less in common with those of other partners. For all partners, the Collaborative met their expectations, and in a couple cases exceeded them.

### *Recommendations:*

- The resources shared in the Collaborative have been useful tools for partners and should be maintained in the third year to support them further.
- During calls, time is needed to share partner-specific program updates or address questions and concerns with the larger group. Asking partners if they have something to share or have topics they want to discuss might help to address specific needs and build a higher level of investment and sense of contribution to the group.

### Communication and Connecting Partners:

The size of the group logistically required multiple conference call groups so that each partner could have time to share. The multiple shifts into separate call groups made it more difficult for partners to get past the “get to know you” phase and build deeper relationships.

### *Recommendation:*

- As many partners expressed, it takes time to build relationships. Maintaining consistent call groups in the third year may help with relationship building between partners.

One of the biggest challenges of the Collaborative may be maintaining the sense of a whole and thinking of the larger group outside of individual conference call groups. With multiple call groups, the full Collaborative is separated into thirds, leaving the onus on the partners to communicate with the other two-thirds of the Collaborative outside of the scheduled calls if they wanted to get to know other partners. Although partners enjoy having this large network as a resource, communication outside of the call groups is not happening widely and mostly occurs at a higher level if the partners have previously met in person.

### *Recommendations:*

- As partners become more comfortable with each other they may communicate more widely to other partners in the group. Sharing or bringing in examples from other call groups may help to connect partners outside of their call group. Using technology other than email for partners to use as a resource might also help to maintain a sense of the larger Collaborative (The use of the ASTC Community of Practice will be looked at in the Year Three report).
- It might also be good to “assign” partners to actively connect with one or two other partners outside of their call group about a common topic.

Similar to when the program staff consider ways to structure their programs, interactions within the Collaborative need to be designed to address the different ways people prefer to learn and communicate. Additionally, although the same articles are discussed in each group's conference calls, different ideas and activities might be shared in different call groups, undoing the benefits of having a larger network of partners.

*Recommendations:*

- The use of more visual means of communication, such as video conference calls or webinar and sharing photos of programs in action, would facilitate partners in getting to know one another and in understanding each other's programs.
- Minutes or key points from each conference call should be shared among the partners.

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## Appendices A - K





- Appendices A – D are samples of instruments used in data collection with program participants, staff, and partners in the Collaborative.
- Appendices E – H contain the comments, organized by category, from each open-ended question on the participant feedback forms.
- Appendix I contains comments from staff self-reflection forms.
- Appendix J includes comments from Year One partners in the mid-year (post data collection period) online survey.
- Appendix K includes comments from Year Two partners in the mid-year online survey.

If code categories were created for the data set, the categories and their definitions are listed in a table above the corresponding comments. Comments are organized by code category or topic. In many cases, comments have been coded into multiple categories, in which case the comments have been organized by and presented under their primary code category. Brackets [ ] indicate evaluator notes.



# Appendix A: Sample Participant Feedback Form (English)

**ADULTS: Please describe your child(ren)'s Toddler Town experience.**

| To what degree...   |  |  |  |  |
|---|---|---|---|---|
|   | Not at all  | Only a little   | Quite a lot   | A whole lot!  |
| ...did your child(ren) get involved with the Toddler Town activities?   | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  |
| ...do you think your child(ren) enjoyed the activities?   | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  |
| ...do you think today's experience will make your child(ren) interested in trying other science-related activities? | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  |
| ...do you think today's experience will enhance your child(ren)'s attitude about science-related explorations?      | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  |

Please tell us what you and your child(ren) got out of your Toddler Town experience.

---



---

As a parent what did you like most about Toddler Town?

---



---

As a parent what did you like least about Toddler Town?

---



---

How could we make Toddler Town better?

---



---

Including today, how often has your family tried a program or visited the Discovery Children's Museum?

- 1st time ever   
  1st time in last 12 months   
  1-2 times/year   
  3-4 times/year   
  5+ times/year

Your gender:    Male    Female    Your ZIP code: \_\_\_\_\_

Number of children in your group in each age range: 0 – 2 \_\_\_\_\_ 3 – 4 \_\_\_\_\_ 5 – 8 \_\_\_\_\_ 9 and up \_\_\_\_\_

Your age: 14 – 17    18 – 24    25 – 34    35 – 44    45 – 54    55 – 64    65+

Does your family have a membership to Discovery Children's Museum?    Yes    No

To receive an invitation to participate in a future survey about this gallery, please give us your e-mail:

---

**Staff use only:**

Facilitators:

Date:

Start Time:

Notes:

# Appendix A: Sample Participant Feedback Form (Dutch)

## VOLWASSENEN: Gelieve te beschrijven wat uw kind(eren) vond(en) van Even Zweven

| In welke mate ...  |  |  |  |  |
|--|---|---|---|---|
|  | Helemaal niet   | Een beetje  | Redelijk veel   | Heel veel!  |
| ... werd(en) uw kind(eren) betrokken bij de activiteiten tijdens Ekilibro?   | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  |
| ... vond(en) uw kind(eren) de activiteiten leuk, volgens u?  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  |
| ... zal de ervaring van vandaag uw kind(eren) aansporen om andere activiteiten i.v.m. wetenschap uit te proberen, volgens u?                   | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  |
| ... zal de ervaring van vandaag de onderzoekende houding van uw kind(eren) ten opzichte van wetenschappelijke fenomenen stimuleren, volgens u? | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  |

Gelieve te beschrijven wat u en uw kinderen onthouden hebben van Ekilibro.

---

---

Wat vond u, als ouder, het leukst aan deze activiteit?

---

---

Wat vond u, als ouder, het minst leuk aan deze activiteit?

---

---

Hoe kunnen we Ekilibro nog verbeteren?

---

---

Hoe vaak heeft uw gezin reeds deelgenomen aan een Technopolis<sup>®</sup>-activiteit/Technopolis<sup>®</sup> bezocht, inclusief het bezoek van vandaag?

1ste keer ooit     1ste keer in de laatste 12 maanden     1-2 keer/jaar     3-4 keer/jaar     5+ keer/jaar

Uw geslacht:    Man    Vrouw                      Uw postcode: \_\_\_\_\_

Aantal kinderen in uw gezin per leeftijdscategorie:    0 – 2 \_\_\_\_\_    3 – 4 \_\_\_\_\_    5 – 8 \_\_\_\_\_    9+ \_\_\_\_\_

Uw leeftijd:    14 – 17    18 – 24    25 – 34    35 – 44    45 – 54    55 – 64    65+

Heeft uw gezin een abonnement op Technopolis<sup>®</sup>?    Ja    Nee

Indien u in de toekomst op de hoogte wilt gehouden worden van verdere onderzoeken in het kader van deze activiteit, geef dan uw e-mailadres op:

---

Enkel voor personeel:

Uitvoerder:

Naam activiteit:

Opmerkingen:

Datum activiteit:

Starttijd:

# Appendix B: Sample Program Attendance Worksheet

(Name of Month) Monthly Attendance Tally Sheet

| Date                     | Start time | Number of schools (pre-K - 12) | Total adult attendance (18 and above) | Number of teachers | Total child attendance (17 and under) | Number of students on field trip | Number of children ages 9-17 | Volunteer hours | Forms collected? (Y/N) |
|--------------------------|------------|--------------------------------|---------------------------------------|--------------------|---------------------------------------|----------------------------------|------------------------------|-----------------|------------------------|
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
|                          |            |                                |                                       |                    |                                       |                                  |                              |                 |                        |
| <b>Total attendance:</b> |            | 0                              | 0                                     | 0                  | 0                                     | 0                                | 0                            | 0               | 0                      |

# Appendix C: Sample Staff Self-Reflection Form

Presenter Name \_\_\_\_\_

Date filling out form \_\_\_\_\_

## Program Staff Self-Reflection Form

After delivering your program, please take a moment to reflect on how it went.

|   |   |   |
|---|---|---|
| <b>Institution</b><br>_____<br><b>Program</b><br>_____<br><b>Date of program</b><br>_____<br><b>Start time</b><br>_____ | <b>Number of participants</b><br>_____<br><b>Audience</b><br><input type="checkbox"/> Early learners<br><input type="checkbox"/> Early learners and parents<br><input type="checkbox"/> Early learners and parents w/<br>older children<br><input type="checkbox"/> Early learners and teachers | <b>Participant age ranges</b><br><input type="checkbox"/> Newborn to pre-k (0-4)<br><input type="checkbox"/> Elementary (5-10)<br><input type="checkbox"/> Middle school (11-13)<br><input type="checkbox"/> High school children (14-17)<br><input type="checkbox"/> Parents<br><input type="checkbox"/> Grandparents<br><input type="checkbox"/> Teachers/Educators |
|---|---|---|

|  |   |
|--|---|
| <b>Which aspects of the program worked well?</b><br><br><br><br><br><br><br><br><br><br> | <b>What aspects of the program were less effective?</b><br><br><br><br><br><br><br><br><br><br> |
| <b>What will you do differently next time?</b><br><br><br><br><br><br><br><br><br><br>   | <b>Other comments:</b><br><br><br><br><br><br><br><br><br><br>                                  |

Thank you for your input!

## Appendix D: Initial and End of Year Questions for Partners

### Front-end Interview Questions:

- What expertise, relative to early childhood learning, do you bring to the Collaborative? Both as an individual and as an institution?
- In general, how would you describe your needs with regard to building your knowledge and skills related to early childhood learning? Individually and/or institutionally?
- What do you hope to gain through your participation in this collaborative?

### Mid-Year Survey Questions (via online survey):

- What advice/information would you like to share with the third year partners?
- If the Collaborative were to continue, what would you like to see changed?
- What modifications to your program have you made as a result of information shared through the Collaborative? If you haven't made any modifications, please indicate.
- How did participating in the Early Learners Collaborative affect your thinking about early childhood learning in general / your program specifically?
- How has participating in the Collaborative affected your institution? If it hasn't, please explain.
- What knowledge and/or skills have you and/or your program staff gained by participating in the Early Learners Collaborative?

### Mid-Year Follow-up Interview Questions for Year Two Partners:

- What were your expectations at the beginning of the year? How have they been met or not met?
- To what degree were you able to engage with other partners?
- What challenges do you face at your institution that participating in this collaborative has helped to address?
- What are some examples of things you've learned from the Collaborative that you've applied in your programs?
- What do you see as the strengths of this collaborative? What do you see as the weaknesses or challenges?
- What are you getting out of it, what are you contributing to it?

### Mid-Year Follow-up Interview Questions for Year One Partners:

- How has your continued participation in the Collaborative affected your staff and affected your early learner programs?
- How has the addition of the 2<sup>nd</sup> year partners affected your experience in the Collaborative?
- What recommendations do you have for the third year of this collaborative?
- What do you see as the strengths of this collaborative? What do you see as the weaknesses or challenges?
- What are you getting out of it, what are you contributing to it?

**Appendix E: Please tell us what you and your children got out of your program experience.**

| Code Category       | Code Definition  |
|---------------------|--|
| Program environment | General or specific mention of designed aspects of the program, including structure, schedule, style, as well as less designed aspects such as institutional logistics and location.   |
| Skill development   | General or specific mention of skills improved/ explored during the program. Examples include skills such as problem solving, creativity, observation, motor skills, etc. Skills learned through socialization, such as sharing or teamwork, are included in this code.  |
| Content learning    | General or specific mention of learning/exploring content in the program; science and exploring in general is included in this code.   |
| Sensory             | General or specific mention of the interactive aspects of activities/program. “Hands-on” or the use of other senses with activity materials is included in this code.  |
| Socialization       | General or specific mention of children or families interacting with other children or families.   |
| Variety/New         | General or specific mention of the program providing new/different experiences or activities for its participants.   |
| Specific activities | Specific mention of activities or aspects of activities, including materials, content, or signage/written instruction in the program.  |
| Age                 | General or specific mention of age range or age appropriateness in relation to activities or program.  |
| Staff               | General or specific mention of staff interaction with children/families. This code includes any verbal instructions provided.  |
| Take away           | General or specific mention of ideas or physical items participants took away from the program.  |
| General             | Expression of overall enjoyment or interest in the program. References to enjoyment of a particular content or experiences are included in their related codes. General comments of “holding attention” are included in this code. General comments of “activities” or “everything” are included in this code. |
| Nothing             | Mention of getting nothing out of the program, or a participant’s negative response. Only used if other codes do not apply or if there are “no responses.”   |

**Table 7: What Participants "Got Out" - Percentage of Respondents by Partner Institution**

|                    | Content learning | Skill level. | Social. | Variety / New | Sensory | Specific activity | Program environ. | Age | Staff | Take away | General | Nothing |
|--------------------|------------------|--------------|---------|---------------|---------|-------------------|------------------|-----|-------|-----------|---------|---------|
| BYM (n=3)          | 100%             | 0%           | 0%      | 0%            | 0%      | 0%                | 0%               | 0%  | 0%    | 0%        | 0%      | 0%      |
| COSI (n=64)        | 22%              | 5%           | 33%     | 22%           | 41%     | 16%               | 2%               | 3%  | 0%    | 3%        | 9%      | 8%      |
| DCM (n=172)        | 26%              | 16%          | 14%     | 7%            | 18%     | 27%               | 4%               | 11% | 1%    | 1%        | 22%     | 1%      |
| KZM (n=24)         | 92%              | 0%           | 0%      | 0%            | 0%      | 4%                | 8%               | 0%  | 0%    | 0%        | 4%      | 0%      |
| ICM (n=29)         | 24%              | 31%          | 0%      | 7%            | 7%      | 17%               | 0%               | 7%  | 21%   | 3%        | 31%     | 0%      |
| MODS (n=22)        | 73%              | 5%           | 14%     | 5%            | 0%      | 5%                | 0%               | 0%  | 0%    | 0%        | 32%     | 0%      |
| PSC (n=32)         | 56%              | 3%           | 3%      | 3%            | 13%     | 19%               | 13%              | 0%  | 3%    | 0%        | 22%     | 0%      |
| SLSC (n=98)        | 29%              | 8%           | 8%      | 17%           | 17%     | 33%               | 15%              | 4%  | 0%    | 0%        | 19%     | 0%      |
| Sciencenter (n=6)  | 17%              | 0%           | 0%      | 17%           | 17%     | 50%               | 0%               | 0%  | 0%    | 0%        | 67%     | 0%      |
| Technopolis (n=90) | 50%              | 0%           | 0%      | 0%            | 0%      | 54%               | 4%               | 2%  | 0%    | 0%        | 4%      | 0%      |
| USC (n=14)         | 64%              | 7%           | 0%      | 0%            | 7%      | 14%               | 7%               | 7%  | 0%    | 0%        | 36%     | 0%      |

**Table 8: Overall - What Participants "Got Out"**

| "Got out" Code Category | Percentage of Respondents (n=554) |
|-------------------------|-----------------------------------|
| Content learning        | 38%                               |
| Skill development       | 9%                                |
| Socialization           | 10%                               |
| Variety/New             | 9%                                |
| Sensory                 | 15%                               |
| Specific activity       | 28%                               |
| Program environment     | 6%                                |
| Age                     | 5%                                |
| Staff                   | 1%                                |
| Take away               | 1%                                |
| General                 | 18%                               |
| Nothing                 | 1%                                |

## Appendix E, cont'd.

### **Program Environment**

#### Discovery Room

A room where she could engage in  
A warm play area out of home  
Chance to explore safe environment  
Fun free play and a safe environment.  
I really like the discovery center and what it has  
to offer however i felt that the activities were  
too young for this age group  
Lots of organized educational play  
Plg room  
Small setting able to talk about each thing they  
played  
The availability to play with different toys that  
are in motion or make sounds.  
This is a great opportunity to let their minds and  
bodies explore in their own time.  
Very organized. got them involved in many  
unique projects

#### Early Childhood Infant Workshops

Free Play- Exploring

#### Ekilibro (Equilibrio)

Nice tests in a playfull manner.  
The participation of the children.  
The children liked it a lot that they could stand  
on the balloons and the fact that they could  
help in performing the experiments.

#### Field Study: Preschool Prowl

Sunshine, fresh air & a fun interactive nature  
adventure.

#### KidsReach

You make fun a lot more better.

#### Ramble Around the World

The way you display different areas of activities.

#### Tadpole Tots

Nature! Structure for our baby.

#### Toddler Town

Freedom to explore SAFELY  
Play experience in a safe environment  
SAFE AND FUN PLACE TO LEARN  
She was able to explore and be free with  
toddlers her age

### **Skill Development**

#### Discovery Room

Building skills and imagination  
Independent play as well as opportunities to  
learn how to share and take turns  
She learned how to explore on her own  
Some imaginative play, understanding of cause  
and effect, trial and error, predicting

#### Early Childhood Infant Workshops

Sharing/exploring

#### Play Coach – Paper Tubes

Creative exploring with materials presented  
Learning to concentrate to detail and fine motor  
skill  
Thinking, creativity, building  
Using his imagination to build a race car and  
thinking of other things as well  
Using imagination  
Validation of his creative design

#### Toddler Town

InterAtion + teAmwork with other kids + pArents  
1 year old learned critical motor skills and cause  
and affect. 2 year old learned about animals +  
sounds, fitting shapes together  
Dextarity skills, socialization  
Exploration, mechaniceal skills  
Great hand eye coordination. she loves hands on  
games. I like that its safe.  
HAND EYE COARDINATION AND FUN!  
Hand eye coordination - sand toys and needle  
and threading of lei  
He used new motor skills and interacted with  
others.  
Imaginative play, social skills, hand-eye  
coordination w/ the balls & baskets [referring  
to pulley system on the mining train exhibit]



## Appendix E, cont'd.

Learn to share and love being able to touch and feel everything  
My children work as a team, as well as work as a team with other children  
Pretend play  
PROBLEM SOLVING & FORWARD THINKING  
Problem solving. Teamwork  
Sharing & patience  
Taking turns and exploring new things  
Team work [4x]  
TEAMWORK  
The things she got to do. She used her thought process  
They love creating, pretending and playing with others  
Working as a team. to get the job done. How to share  
Working together

### Ramble Around the World

The children gained confidence, being out of class is fun so they enjoyed a lot.

## Content learning

### Discovery Room

Cause and effect, how things in nature work together  
Exploring  
Found interesting activities where they learned some new and familiar things  
Good learning while playing  
Got to see how things work in a play type of way  
He got to explore different science related topics  
Interest in science  
Learning cause and effect, sharing  
Learning new adventures  
My child loves to explore and learn new things  
Our children learned about science on a first hand basis  
Predict, explore, gravity  
She loved the crutches/wheelchair/medical center; learning more about bones  
Small amounts of exposure to several different experiences.

Tangible science-related observations & interactions. Concrete learning experiences. They were fascinated by the Doctor exhibit and wanted to keep discussing the human body.

### Early Childhood Family Workshops

Being exposed to new animals  
Interest in science  
Introduction to several animals  
Learned about bugs, got a better understanding how butterflies turn into butterflies  
She will be much less fearful of bugs!  
They learned many insect facts as well as how to care for a caterpillar. They really enjoyed painting with the unconventional materials  
We learned about insects, they have six legs

### Early Childhood Infant Workshops

Exploring, science knowledge  
Fun and learning  
Fun, learning, development, something different than we do at home

### Ekilibro (Equilibrio)

It's easier to balance an object (cork, bike) by putting a weight onto it. You can stand on balloons when there are many of them.  
If you put a weight on the bike, it can actually ride the cable above the ground. when you drop a potato on a bunch of nails, it doesn't break. when you put a lot of balloons together, you can stand on them.  
A lot of children could stand on the shelf all together without the balloons bursting.  
Air is strong  
Balloon. Weight down for balance.  
Dividing pressure. You get equilibrium by adding more weight.  
Dividing weight.  
Gravity.  
Keeping equilibrium by adding weights. 1 balloon explodes when you jump on it. This doesn't happen when you have several balloons: weight is divided.  
The equilibrium of the bike, the fact that we could stand on the balloons.  
The fact that a lot of balloons can carry the children.

## Appendix E, cont'd.

That it's difficult to assess the situation.  
That you can stand on many balloons at the same time. That you can use little weights to let something else ride.  
The fact that the balloons didn't burst, even though many children were standing on them at the same time.  
The fact that you actually can stand on a balloon.  
The fact that you can stand on balloons when you put a shelf on top of them.  
The weight and the balloons.

### Even Zweven (Floating Away)

Electricity  
Floating, through hot air.  
Friction, the difference between air and helium.  
General concepts about balloons.  
Hot air balloon, static electricity.  
Hot air is lighter than cold air.  
Helium (gas) is lighter than regular air.  
Hot air makes a balloon go up.  
Hot air makes things float.  
Hot air rises, helium is lighter than regular air.  
Hot air rises.  
Hot gas goes up.  
Static electricity  
That you can use hot air to make a balloon float.  
The difference between air and helium.  
The difference between helium and air.  
The fact that balloons can fly.  
The fact that hot air makes a balloon go up.  
The science behind a hot air balloon. The competition: throwing a balloon filled with air vs a balloon filled with helium.  
When you rub a balloon it becomes sticky. Hot air goes up.  
When you rub a balloon it becomes sticky. Hot air goes up.

### Family Science – Bugging Out

Knowledge about bugs.  
Learned things about bugs that we did not know.  
Learning about new things and that is fun  
We learned a lot about insects, body parts, habitats, etc. very informative.

### Family Science – Oobleck

A fun, family, educational afternoon!  
Have fun as a family and learn new thing in science  
Molecules-how they move  
The wonder of molecules/ science  
To get involved with science  
We have learn that everything is possible and have fun.  
We learn how to relate reading and science.  
We learned about molecular activity

### Family Science – Stomp Rockets

Knowledge about rockets  
Learn new vocabulary words  
Learning about science  
Learning science. Had a lot of fun

### Field Study: Preschool Prowl

A better understanding of the small things in nature  
An appreciation of nature.  
Becoming more curious about nature.  
Exposure to nature and scientific methods.  
Looking at Nature in different ways (through bug eyes, etc), appreciation for outdoors  
Nature  
Saw nature close-up. Able to put names on things.  
Textures, colors, how to treat things in nature.  
That nature is lot more fun than toys.  
They learned to look closely & carefully at nature, be respectful of nature & be scientists!  
To look deeper than the surface to discover more about the ecosystem around us.  
Variety of animals calling the wetlands their home.

### Field Study: Preschool Seekers

A love & excitement for learning about the wetlands!

### Head Start to the Theater

How to be safe during an earthquake  
They learned about earthquake preparedness and how to keep safe.  
This Experience really helped promote earthquake awarness

## Appendix E, cont'd.

### KidsReach

How to make non toxic fun things at home with my child.

Learning different things, activities, to teach our babies.

Making new things from recycled stuff.

They understand more about English and how to learn more to do with my kids.

To interact more with my baby and let her be messy.

We learn much about brain development and how to help our kids grow the brain.

We learn much about how are kids learn and how to make things at home.

We learn new ways to teach our children about important things.

### Play Coach – Paper Tubes

Experience new ways to make or build things.

How to build using simple household items problem solving and creative thinking

Learned to build

Uses for toilet paper rolls

We learned how to recycle toilet paper rolls

### Ramble Around the World

How to play different sound instruments.

Learning about 5 basic senses at this early age is interesting.

Learning abouts music facts and how to play instruments and also make them.

Long is low and short is high.

Making music instruments (They learnt how to make music instruments).

They enjoyed a lot, they learnt about different kinds of music instruments and about the senses.

We got that different music intruments produce different sound, long key makes low sound and short key produce high-pitch sound.

We have developed love of Science, new methods of teaching young kids science.

We learnt about different kinds of sound and music instruments.

### STEPP

Good program to learn how to interact with child.

Good to read to babies.

Good to read to baby's since a very young age.

Introduce science through books.

How to interact with your child.

How to keep our child safe and how to do activity with him.

How to keep your child safe by making non-toxic playdoo.

How to make things with my baby.

How to read and introduce science through book sharing.

I know what I can do to teach my son new things.

I Learned new stuff to do with my baby.

New way to interact with my son.

Teached me way to make home made things for my daughter to play.

That its good to interact with our babies even if they don't know what you are saying.

That reading to your children is good because they learn how to read and explore the world.

### Tadpole Tots

Explore nature and lots of interesting exploration.

Learned about different animal life cycle

She learned to look for insects, reptiles, and birds when we are out. She listens to nature sounds and examines plants. I learned about hiking with a small child, so we are more likely to continue hiking now.

### Toddler Town

Cause and effect

Concept of textures and sounds

Educational fun learning experience

Educational Play

EXPLORING

Increased knowledge of nevada animals and sounds

It was a great learning experience for my toddler and it helped him interact with other children

Learn about the animals and how things roll and dump

Learn sounds/textures [referring to animal interactive wall]

## Appendix E, cont'd.

Learn more about local wildlife and customs  
Learned about animals in nature, coal mining  
Learned how a pulley system worked and reinforced cause and effect  
Learned nevada wildlife  
Learned the sounds different animals make  
Learned to use playdough to create shapes and re-use for more shapes  
Learning & socializing  
Learning about animals  
Learning about different desert animals and experience  
Learning and active  
Learning to build  
She loves to see how things work, especially the pulleys  
They burned energy! They also learned about animal sounds  
They learned about air and bubbles. They also learned about chemical reactions.  
Train Experience.  
VERY EDUCATIONAL, DOING ART WAS FUN

### **Sensory**

#### Discovery Room

Great hands on experience, lots of different activities.  
Hand-touch games and toys  
Interactive exploration  
Interactive play, cause and effect, they really enjoyed the space set.  
Love the interaction  
Playtime  
To interact and try new things that they aren't used to seeing or feeling.  
Fun hands on  
Just had fun exploring/touching!  
SCIENCE IS HANDS-ON!

#### Early Childhood Family Workshops

Hands on experience especially with bugs :)  
Hands on interaction with insects and creating a home for their caterpillar  
Hands on interaction/ learning  
Loved getting to hold the cockroach and to see live bugs

#### Early Childhood Infant Workshops

Enjoyed new textures, new social experiences  
Exploratory and sensory activity ideas  
Exploring senses, interacting with other kids  
Feeling textures.  
Good sensory and other infant interactions  
Hands-on!  
Interaction with objects and other kids  
Lots of hands on experience  
More sensory play. She loves that!  
Play. Different textures. Snack of snow and ice paint  
Sensory learning, interaction with other kids  
Sensory play, fun, cool experiences we can't do at home  
Sensory, communication, social  
She got to touch new things and explore  
Tactile solar experience, interacting w/ other infants  
We discovered various sensory experiences and enjoyed watching turtles and frogs.  
We really enjoyed the sensory activities. He's a little young to get the "science relater" connection.

#### Field Study: Preschool Prowl

Good hands-on science experience. Time in nature

#### Field Study: Preschool Seekers

It was fun for me to watch my daughter explore in a full-sensory experience. The knowledge/class was taught in a simple, engaging & fun process that encourages interest & exploration.

#### Play Coach – Paper Tubes

Fun with hands on activities & learning new things

#### Ramble Around the World

Touching everything, I think was quite exciting.

#### Science for Young Minds

Everyone enthusiastically participated, children got to mix and use different materials.

## Appendix E, cont'd.

### Toddler Town

All the hands on activities that keep him going  
Climbing, exploring  
Climbing, exploring animals  
Enjoyed hands on experience.  
Exploring sounds, touch, feel, reaction  
Great hands on experience  
Hands on activities  
I think the liked the hands on the sack of hacky sack balls. [Referring to the raising and lowering of the mining "coal" in the mining train exhibit] Climbing [Referring to climbing on the steps inside the mining train]  
INTERACTION  
Interaction, learning animal  
Interactiveness  
Lot of hand on activities, they both learned, and saw things they have never experienced before.  
Lots of climbing [referring to steps in mining train], trying to crawl [referring to crawl zone]  
LOTS OF HANDS ON EXPERIENCE, TACTILE ACTIVITIES  
Lots of interactive fun!  
Many different sensory games/displays  
My girls loved all the hands on experiences.  
OPPERTUNITY TO USE SENSES TO GUESS ANIMALS. FEEL & SOUND WAS FUN FOR MY BOYS  
Play time  
Sensory play  
VERY INTERACTIVE [2x]

### **Socialization**

#### Discovery Room

Enjoyed spending time together  
Daughter enjoyed the nursing station  
Friends  
Friends here  
Interaction together; explain science  
Shared interaction with many different interest ie plants, music, water table etc  
They experienced social life play alone and with others  
Time with other kids, new experiences, hands on, not screen time

### Early Childhood Infant Workshops

Exposure to other children  
Good bonding time together; get to meet other kids; new experiences  
Interacting with other children in a learning and stimulating was very good for my child  
Interacting with other kids and new types of toys  
Interaction with other children was great!  
Interaction with other infants and toddlers.  
Exploring the environment  
Play with other children, explore new things  
Social skills, exploration  
Socialization, hands on sensory activities  
Socialization, tactile exploration  
Socialize with children his age  
Socializing, playing with non-traditional things  
Time to see/ be together with other babies.  
Time to explore new things  
Working with other children and new things

### Family Science – Oobleck

My daughter got alot of social experience out of todays activity and it gets my daughter ready for school.  
Sociability

### Family Science – Stomp Rockets

Had fun making the project together

### Field Study: Preschool Prowl

Fun with nature & friends

### Toddler Town

Being able to socialize and remembering that science can be fun and interesting.  
CHANCE TO PLAY WITH OTHER KIDS, TEXTURES AND SIGHTS WITHOUT A LOT OF ADULT INFLUENCE.  
EXPOSURE TO OTHER CHILDREN  
Fun with other kids/new things  
Good interaction w/ other age related kids, color & shape learning  
Great social interactions!  
Interaction w/ others  
Interaction with other kids his age. Exposure to new sounds. [Referring to animal sound wall]  
Other child interaction

## Appendix E, cont'd.

Meeting other little ones her age & playing with mirrors [referring to mirrors in the Crawl Zone]  
She enjoy playing with other kids and sharing ideas.  
Socializing with other children  
We got to bond.

### **Variety/New**

#### Discovery Room

10 months old and first time in ball pit.  
A vast variety of interests  
Exposure to activities they might not normally try  
Lots to do  
Plenty for all ages and motor skills  
She got to play with a variety of educational toys.  
The fact that there are tons of things to discover  
They enjoy having a wide variety of open-ended play areas  
To play with & try new things  
Variety of activities

#### Early Childhood Family Workshops

Got to explore a variety of things.  
Interaction with lots of activities

#### Early Childhood Infant Workshops

New experiences, explored her senses with materials she has not previously encountered.  
Opportunity to explore somewhere new

#### Field Study: Preschool Prowl

We have never been to M. Slough before--very nice.

#### Play Coach – Paper Tubes

Trying a new project.

#### Toddler Town

A lot of different experiences cant wait to come back  
Exposure to non traditional toys  
First visit, mostly exploring  
Interaction w/ tools he normally does not have access to.

He got to experience new activities that were fun and educational, even if he doesn't realize it yet.

### **Specific activities**

#### Discovery Room

Arch build and car race.  
BGells & music, confined area for kids to play in  
Build neat things with magnets, hold bugs, experience wheelchairs, build the arch  
Cars, building stuff  
Cockroach experience  
Enjoyed water table  
He mostly played with the train table  
He really liked playing with the water table  
Liked the crutches, whell chair, ball pit  
Load balls  
Lots of playing with magnets, blocks, lots of rolling/falling objects.  
Loved the car slope  
Loved the magnets + crutches  
Loved the marbles, blocks + water  
Loved the teepee  
Magnets, marble run, fish tank  
Marble Run  
Medical area was a huge hit  
My son enjoyed the current on the water table.  
Balls with ramps.  
Played with intruments and trains and looked at cockroaches and fish  
Sophia played with the doll house, Bobby loved the "predict station" - both loved the teepee.  
Water play - building skills  
Water table, train table, doctor table  
Fun - the magnetic shape pieces are great  
Fun playtime- especially w/crutches and wheelchairs

#### Early Childhood Infant Workshops

He got very into the paint, enjoyed the rice as well.  
Loved seeing the frogs  
New found appreciations for multi colored ball pits  
Rice-spilling into bowl

## Appendix E, cont'd.

### Ekilibro (Equilibrio)

Ball, potatoes, bike.

Balloon.

Balloons [2x]

Balloons on the bed of nails. Standing on the shelf with the balloons with all of us together.

Bed of nails.

Balloons.

Especially the balloons with the shelf on top.

It is nice to stand on the balloons.

Loading an object on one or on many places and what this has to do with looking for equilibrium.

Nice experiments and dividing pressure (nails, balloon).

Spreading weight out on different objects such as balloons under a shelf with children standing on it.

Standing on balloons with a lot of people.

Standing on the balloons all together.

Standing on the balloons.

The act with the balloons

The activity with the balloons.

The balloons

The balloons! Potatoes and the experiment about dividing the weight.

The balloons.

The bed of nails and the balloons.

The bike on the cable, standing on balloons.

The experiment with the balloons. [3x]

The experiment with the cork and the experiment with the potatoe on the bed of nails.

The experiment with the potato was a lot of fun!  
The balloons!

The experiments and the children who were involved.

The fact that the potato fell off a bunch of nails.

The nails: When there is only one, the balloon bursts. When there are many, nothing happens.

The shelf with the balloons.

The things they had to do themselves, e.g. standing on the balloons.

### Even Zweven (Floating Away)

As I heard afterwards, every toddler liked something else in particular.

Balloon - gas

Round - long

Balloon furthest - highest

Balloon helium

Balloon with hot air, static electricity

Helium balloon

The balloon with helium

The balloondog

The hot air balloon

The hot air balloon and the balloon that got stuck onto the ceiling because it had helium inside.

The hot air balloon, helium

The hot air balloons and the little pieces of paper that stack onto the balloon.

The hot air balloons.

### Family Science – Bugging Out

Experiencing bugs - unusual ones!

### Field Study: Preschool Prowl

Children enjoyed props and activities on the nature walk.

Dandelions [child's response]

Loved the hike

Natural & unnatural items, animals in the environment, bird sounds

Observing my favorite was the whole group being silent to listen for a bird.

### KidsReach

The egg experiment was nice and making us try it was great. I want to try it at home.

### Play Coach – Paper Tubes

Built a sailboat

Creating with things we have around the house! bldg. and projecting

### Ramble Around the World

Tissue rolls music instruments [experiment of the month]

## Appendix E, cont'd.

### Science for Young Minds

A quick and easy way to make ice cream.  
The use of 3 simple objects - paper, tape, paperclip - to make a helicopter

### Toddler Town

1 1/2 year old - picking up beanbags  
Arianna got stuck with the Parent Power area.  
[Toddler Town has "Parent Power" signs posted throughout the gallery to inform parents about what their children are learning in each area.]  
Bean bags to load and unload - pulley system  
BiG MUSCLE SMAll MUSCLE ShariNG  
Craft/ Playing with other children  
Enjoyed the train sound and slide  
Hand paint (crafts), motor skills & interacting w/ others  
He loved the animal stuff  
He loves he animal noises, feeling the different animal skins, and the art area. He also likes he train  
He loves the animal sounds and the crawl area.  
It's a place where its all about little learners.  
He really liked the train  
Logan likes the animal sounds and textures.  
Loved the animal sounds. Train and transportation areas.  
Loved the train, animal sounds  
Loved the train. Learned mechanics of how things work  
My children likes all about the animals (Fur, sounds, & pictures)  
My daughter actually likes to look at books and read  
Our granddaughter was able to see and identify different sounds and sights of animals and make a log cabin  
Picking up and dropping off bean bags  
Playing water, shapes, train  
Playtime and art time, sand play [referring to sensory table]  
She liked the pulleys [Referring to the mining train pulley system]  
She Likes the dirt, train and animal noises  
She loves the crafts  
Sounds of animals and the touch & feel sections

Tanner loved building the Lincoln's log cabin.  
The different animals , sounds  
The train, Slide, Sounds of animals  
They are doing this mining exercise (3 boys) and it is taking some skill and a lot of teamwork.  
Loving the teamwork aspect. They are having a blast. [referring to the mining system]  
They learn how to use the wagon and the wheels, they did a lot of art and listen to a beautiful story  
THEY LOVED THE QUARRY AND LOADING THE ROCKS! [Referring to the mining train exhibit - the "rocks" are bean bags that serve as "coal"]  
THEY (TWIN 4YR OLD GIRLS) ALWAYS WANT TO DO THE ART PROJECT AND LIKE THE BEAN BAG RAIL SYSTEM  
Train, pullies, circular baskets [referring to pulley bins]  
We played with sand, puzzles, blocks, and animal sounds  
Wheel Barrow

## Age

### Discovery Room

Enjoyed freedom to explore the room. Great when you have kids of different ages  
Great toddler appropriate activities to explore

### Early Childhood Infant Workshops

He's 5 months old--so don't know yet!  
We really enjoyed the sensory activities. He's a little young to get the "science relater" connection.

### Ekilibro (Equilibrio)

The activity was a bit too difficult for the toddlers, but the act with the balloons was appreciated very much though.

### Even Zweven (Floating Away)

They remember the experiments but they don't understand the science behind it. Concepts such as static electricity and helium are too abstract for them.



## Appendix E, cont'd.

### Play Coach – Paper Tubes

Focused for a long time for a 2 1/2 year old  
Given I have a younger sibling with us it allowed  
my older child to complete a project with some  
help from the coach

### Ramble Around the World

They are still small so they have small  
understanding of words but they enjoyed  
playing.

### Toddler Town

9 month old loved being able to play like his big  
brothers. The older boys enjoyed the train and  
the wheelbarrows and pulley system.  
He is still quite young  
He likes a place to play where the kids are his  
own age  
It was family friendly for all ages.  
It's a great area for smaller children - less  
worried about them getting trampled b older  
children.  
My son is still very young, so he doesn't get  
much more out of this than fun running  
around & exploring.  
Nice to have something to do for babies/toddlers  
Not sure. She's only 13 mos.  
Only 6 months old  
She is only one so she had a good time exploring  
When she was younger the infant section was  
interesting, but now (2 yrs) not much is  
interesting

## Staff

### Play Coach – Paper Tubes

A different positive role model  
Mainly connecting with an adult and following  
basic instruction.  
Positive reinforcement  
She was very kind and patient with kids  
Which ones could do it after watching her

### Toddler Town

Knowledge, and I like the staff

## Takeaway

### Early Childhood Infant Workshops

Some ideas for play

### Play Coach – Paper Tubes

Fun and easy to do at home

### Toddler Town

Different sensory experiences, ideas to do at  
home activities

## General

### Discovery Room

A lot of discovery fun, she always enjoys the  
room!  
Exploration of scientific principles integrated  
w/fun.  
Fun  
Fun and exploration  
Fun! [2x]  
Fun! Exposure to enriching activities. other  
children.  
Good experience-he got to try what he wanted  
Had a lot of fun and good learning experience.  
How to enjoy even more  
Lots of fun and activity to keep him busy  
Lots of fun. Loved the wheelchair!  
They loved all of it!

### Early Childhood Infant Workshops

A good time  
Enjoy it--thank you very much

### Ekilibro (Equilibrio)

Everything [2x]  
Yes

### Even Zweven (Floating Away)

Everything

### Family Science – Buqqing Out

Do something productive  
We had a great time we had fun I really enjoyed  
myself

## Appendix E, cont'd.

### Field Study: Preschool Prowl

Fun. Interesting.

Interesting

They really enjoyed doing all the activities.

### Field Study: Preschool Seekers

Enjoy mother nature =)

I think this is really good one.

### Play Coach – Paper Tubes

Fun, creations.

He enjoyed being able to complete the task with minimum help

It was really fun for them to sit down and do something a little different.

Kept his attention

Loved it!

They had a fun time building and loved the idea that we could do it at home with all recycled materials

### Science for Young Minds

Each of them were involved and the activity held their attention.

Holding their attention, their amazement at what happened during the experiment.

Science grabs their attention and stirs up questions.

### Toddler Town

4 y/o loved it, 10 mo. old really enjoyed crawl zone

AN ADVENTURE AND EXPERIENCE

Burned off some extra energy

Fun [4x]

Fun @ their size!

Fun & learning, art

Fun passtime

Fun time

Fun time learning & interacting w/ other kids

Fun, hands on playtime

Fun, interaction with other children and an interesting perspective to his surroundings

Fun!

Had a good time playing & doing crafts.

He had fun

He had fun :)

In the past he has enjoyed the rice [referring to sensory table] and train sounds

It got their minds working

It was a fun experience he learned while he had fun.

It was a fun time

Kids had fun playing different activities.

Lots of fun

Not sure but she likes it

She had fun, she learned the different noises some animals made. [Referring to Animal Sound Wall]

She was happy

To enjoy and educational

We got enjoyment

## **Nothing**

### Early Childhood Family Workshops

No response [2x]

### Early Childhood Infant Workshops

No response [3x]

### Toddler Town

The kids do not know its science

## Appendix F: As a caregiver, what did you like most about this program?

| Code Category       | Code Definition  |
|---------------------|--|
| Program environment | General or specific mention of designed aspects of the program, including structure, schedule, style, as well as less designed aspects such as institutional logistics and location.   |
| Skill development   | General or specific mention of skills improved/ explored during the program. Examples include skills such as problem solving, creativity, observation, motor skills, etc. Skills learned through socialization, such as sharing or teamwork, are included in this code.  |
| Content learning    | General or specific mention of learning/exploring content in the program; science and exploring in general is included in this code.   |
| Sensory             | General or specific mention of the interactive aspects of activities/program. "Hands-on" or the use of other senses with activity materials is included in this code.  |
| Socialization       | General or specific mention of children or families interacting with other children or families.   |
| Variety/New         | General or specific mention of the program providing new/different experiences or activities for its participants.   |
| Specific activities | Specific mention of activities or aspects of activities, including materials, content, or signage/written instruction in the program.  |
| Age                 | General or specific mention of age range or age appropriateness in relation to activities or program.  |
| Staff               | General or specific mention of staff interaction with children/families. This code includes any verbal instructions provided.  |
| Take away           | General or specific mention of ideas or physical items participants took away from the program.  |
| General             | Expression of overall enjoyment or interest in the program. References to enjoyment of a particular content or experiences are included in their related codes. General comments of "holding attention" are included in this code. General comments of "activities" or "everything" are included in this code. |
| Nothing             | Mention of getting nothing out of the program, or a participant's negative response. Only used if other codes do not apply or if there are no responses.   |

**Table 9: What Caregivers Liked Most - Percentage of Respondents by Partner Institution**

|                    | Content learning | Program environ. | Skill devel. | Social. | Sensory | Variety / New | Spec. activity | Staff | Age | Take away | General | Nothing |
|--------------------|------------------|------------------|--------------|---------|---------|---------------|----------------|-------|-----|-----------|---------|---------|
| BYM (n=3)          | 33%              | 0%               | 0%           | 0%      | 33%     | 0%            | 33%            | 0%    | 0%  | 0%        | 0%      | 0%      |
| COSI (n=69)        | 6%               | 22%              | 3%           | 13%     | 19%     | 28%           | 23%            | 4%    | 6%  | 3%        | 9%      | 3%      |
| DCM (n=190)        | 3%               | 27%              | 5%           | 2%      | 12%     | 11%           | 34%            | 4%    | 20% | 0%        | 13%     | 0%      |
| KZM (n=25)         | 32%              | 4%               | 4%           | 0%      | 4%      | 0%            | 32%            | 24%   | 0%  | 4%        | 12%     | 0%      |
| ICM (n=28)         | 7%               | 18%              | 25%          | 0%      | 7%      | 4%            | 11%            | 14%   | 0%  | 7%        | 11%     | 4%      |
| MODS (n=21)        | 29%              | 10%              | 0%           | 5%      | 29%     | 0%            | 29%            | 0%    | 0%  | 0%        | 14%     | 0%      |
| PSC (n=40)         | 5%               | 23%              | 5%           | 0%      | 25%     | 3%            | 30%            | 28%   | 5%  | 0%        | 5%      | 0%      |
| SLSC (n=109)       | 2%               | 38%              | 2%           | 0%      | 7%      | 37%           | 6%             | 1%    | 15% | 0%        | 10%     | 2%      |
| Sciencenter (n=6)  | 0%               | 50%              | 0%           | 0%      | 0%      | 0%            | 0%             | 17%   | 17% | 0%        | 33%     | 0%      |
| Technopolis (n=99) | 7%               | 25%              | 1%           | 5%      | 5%      | 0%            | 44%            | 10%   | 0%  | 4%        | 11%     | 0%      |
| USC (n=14)         | 29%              | 0%               | 21%          | 0%      | 7%      | 14%           | 57%            | 0%    | 0%  | 0%        | 7%      | 0%      |

## Appendix F, cont'd.

### **Program environment**

#### Discovery Room

A room for little kids to learn and play.

All the students were involved :)

Also, its an enclosed space which appeals to multiple age ranges.

Clean, fun, well organized

Closed in, safe area to explore independently

Closed room, kids can explore

Contained in one area so you can keep an eye on them

Contained room

Enclosed space where kids explore safely

Free play contained

Free play [2x]

Free play - lots of different activities

Free Play!

Freedom for child to explore

Freedom to explore

I like that it is contained so I don't have to worry about them running off.

KEEPING EVERYONE TOGETHER BUT ALLOWED TO EXPLORE

Kids friendly and inspiring

Limited number of children, makes for better enjoyment of all children.

Open exploration

Open play [2x]

Open, free open space for child.

Opportunities for free form and guided play

Safe

Small area where children could play in freely

Small setting

That is not very structure and it allows the child to try different things.

The ability for him to roam and explore by himself

The enclosed area for your children not to get lost or taken.

The free play

The open but secure room

The room offers a safe place for the kids to explore on their own.

The self-containment!

Their ability to explore

They can work independently or with others.

Unique room

#### Early Childhood Family Workshops

Flexible with 2

Freedom to explore the activities, the presentation, lots of information

Small class

Structured program that was engaging

#### Early Childhood Infant Workshops

Freedom to move around, follow child's

interests. Ok to be "messy"

Not cleaning up the mess-thank you!

Not having to worry about clean-up!

Safe play. Something different he can't get anywhere else

She was free to go do as she wanted.

The ability to move at our own pace through multiple activities

The organization and the "just make a mess" attitude to discovery.

#### Ekilibro (Equilibrio)

A guided variation.

Being involved. Playful approach.

Demonstrations with the children.

Taking a break when the group gets nervous.

The fact that children can participate.

The fact that children could participate a lot.

The fact that children were involved.

The fact that the children could participate in the activity.

The fact that the children could participate. [2x]

The fact that children were actively involved. [2x]

The involvement of the children. [2x]

The involvement of the children. Interaction with the children, giving them a reply when they say something.

The simplicity and the enthusiasm of the person who did the activity.

The simplicity. Easy things that young children are able to understand.

## Appendix F, cont'd.

### Even Zweven (Floating Away)

Short and snappy. The experiments were clear. It just took long enough to keep the children's attention.

That our child could participate in one of the experiments.

The children were involved.

The fact that the children were involved.

The involvement

The involvement of the children, the experiment with the hot air balloon and the funny jokes of the presenter Tony Balloony.

The involvement of the children.

### Family Science – Bugging Out

Participation

To involve the children

### Field Study: Preschool Prowl

Being out in nature using all our senses sharing wetlands w/ kids! [she circled "teacher"]

Being outside

Connecting with outdoors has calming effects on all of us.

I loved that the kids were outside. I felt like the teachers were GREAT with this age group (4/5 year olds)

Well organized, kid friendly teachers

### Field Study: Preschool Seekers

The way that kids get involved.

### KidsReach

I really like the activities and that we have 3 tables at each session.

### Play Coach – Paper Tubes

Always creative

Creative engagement with everyday items

Creative, calm and enjoyable

Getting kids involved in activity

This is something I can also do at home.

### Science for Young Minds

Each child got a chance to do a part of the activity and observe the results.

How simple it was

The simpleness of the project

### Tadpole Tots

Being outdoor; getting kids involved in nature and being comfortable with different animals found in backyard.

Structure

### Toddler Town

A safe little kid friendly environment.

Able experience things on their own. youngest could get down and crawl

Breastfeeding corner. maybe it could be bigger & with curtains. more privacy

Clean and not crowded

CLEAN, FRIENDLY STAFF, LOTS TO DO

Clean, organized, a lot of activities

Clean, safe place for baby to crawl

Clean, supervised, older kids under control

Cleanliness [3x]

CLEANLINESS AND EASE OF ALLOWING CHILD TO EXPLORE ON HIS OWN

Enclosed space - could let them play pretty freely

He can touch whatever + do whatever without me saying don't touch

HE COULD EXPLORE SAFELY WITHOUT "BIG KID" WORRIES.

I felt my child would not get hurt

I liked that everything was clean and at their level

I liked that there were several stations where the children had to work together to accomplish one big task.

Indoor activities

It has a friendly environment.

IT WAS A CONTAINED AREA

It was calmer than the other rooms [Referring to the other galleries in the museum]

It was safe and there was a lot of place for him to play

It wasn't as crowded today

It's clean

It's CONTAINED

Large to run and move

Limited to younger kids so not as busy [Referring to the gallery]

Safe & variety – train. water park - so good! [referring to the Water World gallery]

## Appendix F, cont'd.

Safe & interactive

Quiet and allows toddlers to calmly move from activity to activity w/o being run over by big kids.

Safe, clean environment

Safe!

Safety

Safety convenience

Smaller closed in space but enough for them to run around

That he can play safely

That I was able to sit + watch + involve myself

The Different area for my children to explore

THE EASE OF EQUIP [Equipment] OPERATION

There is a lot of space & a lot of different activities.

### **Skill development**

#### Discovery Room

Watching kids figure out things themselves

#### Play Coach – Paper Tubes

Accomplishment

Creativity

Imagination

My child's sense of accomplishment in

completing things himself. "look! I did it!"

Seeing my son use his imagination & create/build things!

Watching my son be creative

Watching my son use his imagination

#### Ramble Around the World

I liked the market place it looks so real, you look at children buying fruits and interacting like in the real world.

It develops them holistically.

#### STEPP

Learning new skills.

#### Toddler Town

CREATIVE WAY OF HAVING CHILDREN DEVELOP MOTOR & PROBLEM SOLVING SKILLS

Enhances Team Work

CREATIVE WAY OF HAVING CHILDREN DEVELOP MOTOR & PROBLEM SOLVING SKILLS

Great place to let them play with their imagination

Interactive toys to build motor skills

Keeping the kiddos happy and its a great team building exercise. very clean in here too. Staff was helpful showing us how mining worked

Teamwork with the carts

Watching my kids problem solve together

Watching my son learn about working w/ other kids

### **Content learning**

#### Early Childhood Family Workshops

Very educational, staff knowledgeable and willingness to take time with individual child.

#### Early Childhood Infant Workshops

Seeing my child engaged with science and learning activities

#### Ekilibro (Equilibrio)

I didn't even know all of this!

It was informative

The children's disbelief.

While busy doing one learns.

#### Even Zweven (Floating Away)

Static electricity

The fact that the balloon sticks on your clothes. [2x]

#### Family Science – Bugging Out

The detailed information

It was educational and fun.

#### Family Science – Oobleck

It is very educational and im big on education, especially for my 3 year old, she loves it.

They are learning so much

#### Family Science – Stomp Rockets

Learning about science

## Appendix F, cont'd.

### Field Study: Preschool Prowl

Exploring nature

Exploring/watching the nature/the presenters were awesome.

### Head Start to the Theater

Children learned while playing. it was interesting for them.

### Play Coach – Paper Tubes

More uses for household items

Having fun with recycling!

### Ramble Around the World

It develops love of science to learners and motivates educators to teach science.

It teaches children about other places they have not seen like New York.

You can make instruments out of anything that you have at home without buying.

### Toddler Town

Fun + educational

I loved that they were learning while playing.

That you can easier watch them learn and explore

Watching my kids explore and enjoy.

## Sensory

### Discovery Room

All the hands on areas, the different age level of learning. All the room, very open and CLEAN.

The young lady was very helpful also. Very involved with the kids.

All the hands on activities

All the interaction for the students

Hands on activities

Hands on learning activities

Interactive

The fun hands on activities to see how things work

Very "hands-on"

### Early Childhood Family Workshops

Hands on interaction

Interactive activities

The hands on activities are great for young ones with a short attention span

The hands on activities, the songs and getting to see the kids touch the live insects

### Early Childhood Infant Workshops

All the hands on fun and the singing

Hands on activities

Hands on, great instructor

I liked that each activity engaged both a visual and tactile sensation.

I love the various sensory play these programs offer.

Interactive workshop

Singing and hands on interaction

### Ekilibro (Equilibrio)

Experiments when the children were actively involved.

### Even Zweven (Floating Away)

Interaction

Interactive and playful.

### Family Science – Bugging Out

Hands on

### Family Science – Oobleck

Hands on activity [2x]

Hands on and informative

The hands on experience.

The interaction w/ activity

They love that they can have contact to every project.

### Field Study: Preschool Prowl

Hands on & well prepared guide

Hands on experiments

How interactive it is

Interactive

Interactive, collecting stuff

The hands on for the kids.

The hands on walk and getting to see everything as we talked about it.

The interaction & activeness of the program.



## Appendix F, cont'd.

### Field Study: Preschool Seekers

Interactive, videos, life experience

### Head Start to the Theater

Watching the children participating in the activity

### KidsReach

I like hands-on activities.

### Play Coach – Paper Tubes

Interaction

### Ramble Around the World

Tasting real apples will make children not to forget about sense of taste and smell.

### Toddler Town

Able to use interactive plays  
All the discovery play  
All the hands on things  
Anything TACTILE  
Everything is concrete and hands -on  
Everything is super interactive and engaging for the toddler  
Hands on exhibits  
How hands on with everything my child could be.  
Interacting & watching my child play and have fun  
Interactive fun for younger kids  
Kids interacting w/acTiviTies  
SAME AS ABOVE, HOW HANDS ON IT IS  
The hands on activities they have available to them.  
The interactive arts and crafts and hands on experience. I love the resources-books and info to help me as a parent  
The interactive displays  
The Sensory exploration  
Watching them interact and have fun

## **Socialization**

### Early Childhood Infant Workshops

Interacting with other babies, learning how to get along with others at a young age.

Interaction w/ other kids & adults  
Interaction with others, the "tummy-time" area.  
Same as above [socialization, hands on sensory activities]

Social aspect, very creative

Socialization

Socialization w/ others in an exploratory environment

The interaction of children

### Ekilibro (Equilibrio)

Interaction with children.

Interaction with the children.

The interaction of the children and their empathy.

### Even Zweven (Floating Away)

Interaction with the children.

### Family Science – Stomp Rockets

Working with my son to make a rocket. seeing how far his rocket would go.

### Toddler Town

Interaction with other children/ Touch & feel  
Sounds of Animaels  
Interaction with staff and children  
The interaction with other kids.

## **Variety/New**

### Discovery Room

A great variety of interests-something for everyone to enjoy  
A lot of toddler activities  
A variety of activities for every age and interest.  
A very varied selection of activities  
All the different stuff to do that enhances their learning experience about the world.  
Different Stations  
Diversity of different types of things to try  
Gives the child many options for play/discovery to see what they're interested in  
Great variety of activities  
Great variety of different stuff to do  
Having many different things to learn as they play

## Appendix F, cont'd.

Its so neat all of the fun/different experiences they got out of it!  
I love all the stations- they're not just playing with toys but being introduced to many different activities and programs.  
Lots of interactive play areas for young children of many ages.  
So many different experiences available  
That they got to play with things they don't have at home. We got to predict a lot of things.  
The mix of activities  
The variety of activities that doesnt "feel like" science  
The variety [2x]  
The variety and the number of stations  
The variety of activities for the children to try/  
The variety of experiences. Age level available  
The variety of exploration that was available  
The variety of play options  
The variety of stations  
The variety of things  
Variety and limited number of children so not crowded  
Variety of activities [4x]  
Variety of centers  
Watching granddaughter explore and try new things  
Wide variety of activities for all age groups  
Would like to see new additions

### Early Childhood Family Workshops

The variety of activities and ability to see live bugs  
The variety of activities they could self-explore  
Variety of activities, well organized, freedom to explore

### Early Childhood Infant Workshops

Creative activities  
Different stations  
Different types of activities  
Exposing my child to new things  
Interactions with new fun things  
Introduction to new things and people  
Lots of activities  
Lots of hands-on!

New activities/things to see that my child doesnt have at home  
The different activities for children  
The new songs  
The set up with a variety of activities.

### Play Coach – Paper Tubes

Children were encouraged to explore new activities

### Ramble Around the World

I like the setting of different learning corners. especially fantasy corner.  
Learners enjoyed to play with different toys and to use allthe areas e.g. quiet area, block area

### Toddler Town

A lot of diff activities  
A lot of different activities for toddler  
Activitys baby crawl area  
I liked that he got to interact with things he might not usual interact with  
She was looking around for more things to discover She had Fun  
So many activities for a vast range of learning abilities  
That there is something educational for every child  
The multiple things/projects to learn with  
The tons of activities in a safe environment  
There is a wide range of activities for different ages. I also like that there is a nursing area.  
There is always a different craft.  
Variety of activities [2x]  
Variety of areas  
Variety, realistic  
Very different things to do

## **Specific activities**

### Discovery Room

Medical  
The Critters  
The doll house  
The live animals  
Thomas the Train  
Water table, marble tracks, race tracks

## Appendix F, cont'd.

### Early Childhood Family Workshops

Seeing live bugs, caterpillars  
The activities and the presentation  
The animals

### Early Childhood Infant Workshops

Making a mess!  
Playing with snow, learning about different textures, like seeing the cloud at the end Sandbox! Great idea & an easy one.  
The pool of rice  
The rice is a great station because we don't get to do that at home.  
Watching him paint was great

### Ekilibro (Equilibrio)

Activity with balloons.  
All the children together standing on the balloons.  
All the children were standing on the shelf with the balloons underneath.  
Balloons  
Standing on the balloons.  
The balloons [5x]  
The balloons + potato + bike.  
The balloons with the shelf on top. [2x]  
The bike on a cable above the ground.  
The bike, the shelf with the balloons.  
The bike.  
The children could stand on the balloons. Some of them were not so sure about the fact that the balloons weren't going to explode. They had their ears covered with their hands.  
The cork with the fork (for extra weight)  
The experiment with the balloons.  
The shelf with the balloons.

### Even Zweven (Floating Away)

Balloon helium  
Hot air balloon [4x]  
Hot air.  
It was entertaining and a lot of fun. One balloon went very high.  
Rubbing the balloons.  
The game 'throwing a balloon'.  
The game with the different shaped balloons.  
The hot air balloon [5x]

The hot air balloon and the helium balloon. [2x]  
The little dance  
The red hot air balloon.  
The variation of the balloons  
Throwing the balloon

### Family Science – Bugging Out

Making the butterflies  
The real bugs. The creative project.

### Family Science – Oobleck

Slime

### Family Science – Stomp Rockets

Making and launching the rockets  
Shooting the rockets

### Field Study: Preschool Prowl

Digging part  
I liked the collection of objects in nature w/ dif. textures  
I liked the exploration best--scoopers and bug boxes. Kids could have kept going longer.  
Hiked looking for homes of animals.  
Tell kid something we don't know in the park eg. jump on the water place [we did a bog bounce]  
The activities along the trail.  
The activities for the kids "bug eye", telescope  
The bug digging part. Snake encounter.  
The hike  
The puppet intro & the walk

### Field Study: Preschool Seekers

Lab thing.

### Head Start to the Theater

Seeing the children being interested in the reading and roles

### KidsReach

I liked learning how to make play dough and doing science stuff with it.  
The projects we do with different things we have at home.  
The science activities are fun STEPHANIE

## Appendix F, cont'd.

### Play Coach – Paper Tubes

Made with easily renewable resources  
That the materials were things were around my house. My kids seemed to really enjoy  
The one on one activity

### Ramble Around the World

Art corner, It helps the children improve their talent in drawing.  
Make believe corner with houses, babies and other educational toys.  
New york exhibition where you climb up and explore New york city.  
Reading corner  
The music science is nice (Music show is enjoyable)

### STEPP

Making stuff in plato.  
Making things for our kids.  
Talking about the book we like or favorite book.

### Tadpole Tots

The nature hike.

### Toddler Town

A safe place where she wont be run over [referring to the Crawl Zone]  
Animal sounds  
ANIMAL SOUNDS  
Animal sounds and touch guessing  
Art & Books  
Art center  
Art, interactive bean bag pulley [Referring to the Mining Train exhibit]  
Arts & crafts  
Blocks  
Coal dumping  
Crawl zone  
Crawl Zone!  
Everything but I like the sand box [referring to the sensory table] and I like the animals [referring to the animal interactive wall] and the blocks  
I appreciate there being a semi-secluded area for small children to explore & play in a meaningful way [referring to the Crawl Zone]

I really liked how they had a designated crawl area for babies.  
Matches [referring to matching game on the table]  
Mining [2x]  
Mining area  
My daughter loves the train!  
My son sat still for 3 seconds and played with the shape puzzles  
Nevada Animal sounds  
Playdough table [referring to the weekly art craft in the Art Zone]  
Pulleys [Referring to the mining train pulley system]  
Rocks and cranes [referring to mining system]  
That there was a aria that I could put my baby in and he couldn't clime out of.  
That there was a place for a crawling baby.  
The animal noise section  
The animal noises + touch  
The animal sounds  
The animal sounds & textures.  
The art section specialy where they can do stuf with different materials  
The baby area, private family bathroom  
The craft and soft building blocks. I like that it's all self contained too, my child didn't run off.  
The crawl zone [2x]  
The crawl zone/ Train  
The crawling circle/nursing nuck [referring to the crawl zone and the nursing nook]  
The enclosure [Referring to the Crawl Zone]  
The interactive sound and touch station. [Referring to the Animal Zone] He enjoyed trying to guess what the animal was.  
The Nevada wildlife big, magnetic puzzle  
The rock transporter  
THE ROPE/PULLEY  
The screws and bolts [Referring to one of the weekly table games in the Art Zone]  
The soft building blocks  
The soft toys and safe environment.  
The tracks [referring to the mining train pulley system], the animal, the size of the facility  
The train [2x]  
The train sack basket activity [referring to the mining train and pulley system]  
The train- with coal

## Appendix F, cont'd.

The wheel barrels  
They loving the train and the moving/rotating bins [referring to the pulley system on the mining train]. They usually enjoyed a craft Train & climbing station  
Train and Animal sounds.  
Trolley [Referring to Mining Train exhibit]

### Age

#### Discovery Room

Area for small kids; contained; primary kids  
Good for all ages  
Separated area for little ones  
Several activities for all ages.  
That it is age appropriate and fun  
That it is geared towards small children  
The age appropriateness of the activities (2 + 3 year olds)  
The perfect level of activities for my son to explore-some easy to figure out, some more challenging.

#### Early Childhood Infant Workshops

All of the activities were very developmentally appropriate, and engaging!  
Fun age appropriate activities  
Very fun activities even for 5 months old.

#### Field Study: Preschool Prowl

Great for Pre-school kids

#### Science for Young Minds

The enthusiasm of the kids, age appropriate activities

#### Toddler Town

18 months & under area [referring to crawl zone]  
A place for younger children  
A safe area for little ones to crawl  
Activities for the younger kids  
All child level  
Everything - the age appropriate activities  
Everything is toddler sized and I don't have to worry about where he is. NURSING NOOK!  
GEARED TOWARD YOUNGER CHILDREN

#### GREAT FOR YOUNGER KIDS

I think its perfect For the age group  
Infant area  
It's something for just the smaller kids  
It's toddler friendly.  
Lots of fun baby stuff  
No big kids [2x]  
No big kids to worry about with the little ones  
No big kids-little ones could explore  
That's it's designated for the little ones. Age 3 sized; he's not as intimidated  
Things were toddler friendly & educational  
Toddler Town offers activities that toddlers could understand.  
Will be great for 1-2 year olds (walking babies)

### Staff

#### Early Childhood Family Workshops

Instructor is awesome as always!

#### Ekilibro (Equilibrio)

Dieter's enthusiasm  
I'm positive about the fact there was feedback on every experiment.  
Interaction, personal attention, live performance.  
Interaction, personal attention, live performance.  
It was well demonstrated.  
The enthusiasm of the demonstrator.

#### Even Zweven (Floating Away)

The presenter. I liked his style.

#### Field Study: Preschool Prowl

Great teachers!  
How enthusiastic & present the nature guides were.  
I thought the presenters did a great job engaging the kids. Great  
Skill of teachers--capable of relating well to preschool kids.  
Teachers  
The field trip leaders were awesome and engaging. Perfect for our preschools.

## Appendix F, cont'd.

### Field Study: Preschool Seekers

Lots of fun educational activities & that the teachers (Stephanie) were kind and involved.

### KidsReach

I like Brenda and Stephanie and how they speak to our children.

The teacher and the materials.

The teachers and the handouts.

### Play Coach – Paper Tubes

Attention from another adult

Coach's encouragement to create with the children.

Friendly adult time. =)

Your support and redirection

### Science for Young Minds

I like the excitement that comes from the kids when Miriam comes in. The children know that they are about to do something fun and interesting.

### STEPP

How nice the staff is.

How Steph shows us how to do it and explains to us with calmness.

I like how she explained how to share a book with a child.

### Toddler Town

Individual help w/ each kid

Staff attentiveness to children

Staff Supervision did a great job Keeping Kids in line

The "toddler trough" and that the workers are so attentive to the supervision of rules & protecting younger kids.

## **Take away**

### Early Childhood Infant Workshops

Take home ideas, time to play /explore new things

The take home bottle rattle.

### Ekilibro (Equilibrio)

Idea

The fact that we can do every experiment again afterwards in school.

The whole, we can integrate all these experiments in the class.

### Even Zweven (Floating Away)

A lot of fun for the children. One of the other teachers got a balloon.

### KidsReach

New ideas.

### Play Coach – Paper Tubes

Ideas

Various creative ideas that can be used at home as well

## **General**

### Discovery Room

Activities

All the experiences

Child had fun

Everything [3x]

Just about everything

Kids entertaining

Lots to play w/

We like all of it

### Early Childhood Infant Workshops

All the activities

Colorful and fun!

Everything

Everything!

Seeing my child engaged and happy

### Ekilibro (Equilibrio)

A lot of fun!

Everything was very nice. The children were actively involved and they were very interested.

Everything.

The fact that the children were really involved in doing the experiments.

## Appendix F, cont'd.

Smiling children.

The fact that the children were so involved in the activity.

Yes

### Even Zweven (Floating Away)

Everything.

The fact that the children enjoyed the experiments.

### Family Science – Oobleck

Everything

### Family Science – Stomp Rockets

Fun

### Field Study: Preschool Prowl

I liked how you made kids interested in exploring

### KidsReach

Every thing.

### Play Coach – Paper Tubes

Entertainment for the kids

The children enjoying the experience

### Ramble Around the World

All (I liked everything)

### Science for Young Minds

How engaged everyone was, children were having fun and all participating

### STEPP

I liked everything but mostly all the games and activities.

### Tadpole Tots

It was really great--hard to pick anything!

### Toddler Town

Activities [2x]

All [2x]

All of it

Child had fun

Easy fun

Everything [2x]

Everything was awesome!

Fun

Is a neat an interesting experience

KEEPS KIDS OCCUPIED

Keeps my daughter entertained and she likes it

The activities. No big kids

The entire experience

THE EXPERIENCE

The things available

## **Nothing**

### Discovery Room

N/a [2x]

### Early Childhood Infant Workshops

No response [2x]

### Play Coach – Paper Tubes

Needed more kids

### STEPP

How to make thing.

I like learning how to make healthy things to play with.

Learning new activities to do with my child.

Teaching me how to spend time with my son.

Teaching new things.

That we can do science and make our own things for our child.

You could play a lot wit your baby.

## Appendix G: As a caregiver, what did you like least about this program?

| Code Category           | Code Definition  |
|-------------------------|--|
| Nothing                 | Indication that there was nothing participants did not like, uncertainty, or positive feedback.  |
| Other participants      | General or specific dislike of other program participant behavior within the program.  |
| Age                     | General or specific mention of age range or age appropriateness in relation to activities or program.  |
| Staff                   | General or specific mention of lack of staff interaction with children/families. This code includes comments on the verbal instruction/information provided.   |
| Program design          | General or specific mention of designed aspects of the program, including structure, schedule, and style.  |
| Institutional logistics | General or specific mention of possibly less designed aspects of the program such as logistics and location.   |
| Variety/New             | General mention of the program needing to provide more variety (new, different, updated, etc.) in their activities/content/materials. Non-specific comments on “activities” are included in this code. |
| Specific activities     | Specific mention of activities or aspects of activities, including materials, content, or signage/written instruction in the program.  |



**Table 10: What Caregivers Liked Least - Percentage of Respondents by Partner Institution**

|                    | <b>Program design</b> | <b>Institutional logistics</b> | <b>Other participants</b> | <b>Age</b> | <b>Variety/ New</b> | <b>Specific activity</b> | <b>Staff</b> | <b>Nothing</b> |
|--------------------|-----------------------|--------------------------------|---------------------------|------------|---------------------|--------------------------|--------------|----------------|
| BYM (n=3)          | 0%                    | 0%                             | 0%                        | 0%         | 0%                  | 0%                       | 0%           | 100%           |
| COSI (n=52)        | 10%                   | 8%                             | 0%                        | 6%         | 0%                  | 12%                      | 2%           | 67%            |
| DCM (n=120)        | 7%                    | 13%                            | 10%                       | 4%         | 6%                  | 18%                      | 0%           | 45%            |
| KZM (n=20)         | 0%                    | 0%                             | 0%                        | 0%         | 0%                  | 5%                       | 0%           | 95%            |
| ICM (n=13)         | 0%                    | 0%                             | 0%                        | 0%         | 8%                  | 8%                       | 0%           | 85%            |
| MODS (n=12)        | 58%                   | 0%                             | 0%                        | 0%         | 0%                  | 0%                       | 0%           | 42%            |
| PSC (n=26)         | 12%                   | 4%                             | 0%                        | 8%         | 0%                  | 19%                      | 4%           | 58%            |
| SLSC (n=61)        | 10%                   | 21%                            | 3%                        | 10%        | 2%                  | 20%                      | 2%           | 34%            |
| Sciencenter (n=1)  | 0%                    | 0%                             | 0%                        | 0%         | 0%                  | 0%                       | 0%           | 100%           |
| Technopolis (n=39) | 8%                    | 28%                            | 3%                        | 0%         | 0%                  | 46%                      | 5%           | 10%            |
| USC (n=13)         | 0%                    | 0%                             | 0%                        | 0%         | 0%                  | 31%                      | 0%           | 69%            |

## Appendix G, cont'd.

### *Nothing*

#### Discovery Room

Everything was good  
Everything was great  
I don't have anything to put here.  
N/A [6x]  
None [2x]  
Not much  
Nothing [5x]  
Nothing I did not like  
Nothing it was perfect  
Nothing!  
We loved ALL of it

#### Early Childhood Family Workshops

Everything was good. Nothing negative to say  
N/A  
No response [2x]  
Nothing!

#### Early Childhood Infant Workshops

It was great!  
N/A [6x]  
N/A great! [2x]  
N/A love these workshops  
No response [13x]  
None  
Nothing [2x]  
Nothing :)  
Nothing actually. All was good.  
Nothing, we thoroughly enjoy these programs,  
and drive over an hour to get here.

#### Ekilibro (Equilibrio)

I don't know.  
It was all very amusing.  
Nothing, it was very amusing.  
The children found it very interesting, they were  
listening carefully. So I have nothing bad to  
say.

#### Family Science – Bugging Out

I liked everything  
The fun way the kids learn.

#### Family Science – Oobleck

Nothing is the least, I love this program, its full of  
wonderful things and fun to do.

#### Family Science – Stomp Rockets

None  
Nothing

#### Field Study: Preschool Prowl

All good!  
Love everything! Very hands on & interactive for  
the kids. Teachers are enthusiastic, playful,  
knowledgable, caring w/ awesome teaching  
skills. [she circled "teacher"]

N/A

None [2x]  
Nothing [3x]  
Nothing =)  
Nothing to dislike  
There was no least liked part.

#### Field Study: Preschool Seekers

Can't think of anything.  
N/A  
Nothing, I like everything.

#### Head Start to the Theater

Nothing  
Nothing. Everything was positive  
There was nothing, enjoyed the whole thing

#### KidsReach

I like all.  
I love everything about this class.  
I like it how it is.  
Like it all.  
None  
Nothing. [4x]

#### Play Coach – Paper Tubes

?  
I thought it was great  
N/A [5x]  
Not much - it was fun  
Nothing  
Nothing. Loved all of it!  
We had to leave! On a time crunch.

## Appendix G, cont'd.

### Ramble Around the World

None.

Nothing [3x]

Nothing I am impressed.

Nothing, all is good

Nothing, everything is ok

Nothing, everything is relevant to young learners.

Nothing. Everything is educational.

### STEPP

I dont dislike nothing about this program.

I like how it is here.

I liked everything.

None.

Nothing [5x]

Nothing I dislike.

### Tadpole Tots

Nothing

### Toddler Town

?

0 [2x]

Everything was good!

Everything was great [2x]

Have no complaints

I like it

I Liked everthing

I Liked what I saw

It was all good.

It was great no complaints

Loved it all

N/A [4x]

None [7x]

Not sure

Nothing [19x]

Nothing - it was wonderful all around

Nothing everything was fine

Nothing everything was great

Nothing its all great

Nothing my son had a lot of fun playing with other kids and touching everything

Nothing to dislike...

Nothing-its all great!

NOTHING!

There is nothing I dislike. The kids love it.  
Whats not to like

### **Other participants**

#### Discovery Room

More supervision by parents

Toys in the mouth of other children

#### Ekilibro (Equilibrio)

Children of other groups were disturbing the demonstration a little bit.

#### Toddler Town

Adults throwing bean bags

Big kids throwing stuff

Hit with bean bag

Older kids throwing toys into Crawl Zone.

Other parents let their kids push other children

Over controlling parents

Seeing kids older than 5 in here

The crowd, but we came on a weekend.

The lack of parent supervision, too many older kids

There were children over 5.

There were some kids that looked older than 5

### **Age**

#### Discovery Room

Area for "early toddler was missing

I thought the activities were to young for second grade

Need a few more for little ones.

Need more for kids under 2

That it was too young

Too short for a 2 year old. One full hour would be great.

#### Early Childhood Infant Workshops

He's a little old for at 2.5-but had a lot of fun.

N/A - It was great- my daughter was just a little young.

## Appendix G, cont'd.

### Field Study: Preschool Prowl

The kids got a little tired.

Enjoyed the puppets a lot, but the kids got restless--a little long for 4 year olds.

### Toddler Town

More baby friendly things

Need more baby toys

Some things to advanced

The climbing slide thing is not so 36 month friendly

Wish there were more objects for smaller children to play with sometimes this seems to have been addressed.

## Staff

### Discovery Room

It would be neat id staff interacted more with the kids, told a story or sang a song or did a demonstration. Everyone was very friendly though.

### Early Childhood Infant Workshops

Very little leadership

### Ekilibro (Equilibrio)

Involving the quiet children in the demonstration as well.

The explanation about the demonstration, all in the beginning.

### Field Study: Preschool Prowl

Perhaps more emphasis on why we should make connections b/ween humans & outdoor space-  
-why care & study outdoor space

### Science for Young Minds

I cannot think of a dislike at this time.

## Program design

### Discovery Room

# of people in small space

45mins seems like not enough time

Longer play time

Short

Wish the sessions were longer

### Early Childhood Family Workshops

Kids didn't interact with one another much

Would be better to limit to ages -maybe 4 to 6

### Early Childhood Infant Workshops

Lack of a structured learning program

Maybe could have ran a little longer but many toddlers dont have that long of an attention spane.

Sitting on the hard floor.

### Ekilibro (Equilibrio)

The demonstration was so short.

The waiting in the beginning, because they still had to set up all the equipment for the demonstration. [2x]

### Family Science – Bugging Out

"Too short"

Not long enough :)

The short time it should be longer

### Family Science – Oobleck

It was too short.

The mess a little bit.

The program was too short.

Too short! :)

### Field Study: Preschool Prowl

I loved all the things about the program except for it should be little longer.

Distraction from time to time.

### Tadpole Tots

Some of the indoor time could be more carefully planned.

## Appendix G, cont'd.

### Toddler Town

Better grandparent sitting  
Can get a bit crowded  
Crowded at times  
It's a little boring  
Needs some light music - to quiet  
No stairs to the slide [the steps to the slide are located inside the mining train]  
Seems kind of sterile and dark - I'm glad it's clean! But it's also a bit stark. Better lighting.  
Maybe hanging stuffed animals like butterflies - pretend plants- music (softly)  
The colors are very drab. Need more stimulating colors

### ***Institutional logistics***

#### Discovery Room

As a first timer, it was unclear how to get into the discovery room.  
Expensive  
It can get very noisy.,  
N/A (price of parking)  
N/A - maybe the price- I would come more often if the price was lower.  
No bathroom...lol :)  
Noise [2x]  
Noise! lol  
That is costs money  
The adults pay admissions  
The room should be bigger  
There was a charge

#### Early Childhood Family Workshops

Room was a little cold

#### Early Childhood Infant Workshops

Choking hazards. Program price  
AC broken  
Price-- maybe a little cheaper

#### Ekilibro (Equilibrio)

A bit noisy -> background  
Maybe a separate room because of the background noise.

Sometimes there was a lot of background noise, which made it difficult to listen carefully.

The background noise was disturbing.

The background noise. [2x]

The demonstration took place on a very disturbing location. A separated room would be better.

There was a lot of noise so that the children had a hard time to understand what they were being told.

#### Even Zweven (Floating Away)

A different, separate location where there is less distraction.

Disturbing train.

The location: there were children passing through us and the presenter, the spectators got a lot of external impressions, there was a lot of noise. This discouraged the children's attention.

#### Field Study: Preschool Prowl

Temperatures below 60 =)

#### Toddler Town

Didn't see hand sanitizer  
IT HOT IN HERE  
It wasn't very big  
Lots of empty space.  
NEED MORE SPACE  
Needs more space to play  
No restaurant.  
Not a lot of open space  
Not big enough  
NOT BIG ENOUGH  
Not very big  
Taking this Survey  
Too small [2x]  
Would like it to be bigger

### ***Variety/New***

#### Discovery Room

Seems like the same toys as every other time were up here.

## Appendix G, cont'd.

### Play Coach – Paper Tubes

More to do

### Toddler Town

A little more activities

Need more activities

Needs more activities

Needs more interactive activities (maybe even more messy)

Not a lot to do.

Not quite enough variety, unattentive parents.

There are WAY too many older kids coming in to Toddler Town with their younger siblings making it an unsafe environment by rough housing and pushing little ones out of the way.

This is the only area for toddlers -there shouldn't be older children playing in here.

Only one main activity [referring to art activity]

### **Specific activities**

### Discovery Room

Ideas to take home

Life Science

Marbles out at sm child level

Science descriptions to help parents show kids what to learn

Shadow theater

Some activities had missing pieces-couldn't complete puzzles, etc.

Some exhibits had no instructions

Some toys seem to be missing parts - the balls

Spider exhibit

The bugs

The marble station were kind of disarray. which is understandable, but it made it less inviting for the kids to play with.

The water table was high up and my son kept falling off the step stool

### Early Childhood Family Workshops

My daughter getting paint on her shoes more than once.

The paint (my kids are messy)

### Early Childhood Infant Workshops

Paint area

The paint cubes

The painting area-limited smocks, we couldn't do it

### Ekilibro (Equilibrio)

Bike: too difficult for our children.

The bike on the cable didn't work that well.

The bike with the weight on it, riding on a cable above the ground.

The bike. [2x]

The bursting balloon.

The bursting of the balloon made some children afraid.

The bursting of the balloon.

The shelf on the balloons.

### Even Zweven (Floating Away)

Balloon with gas.

Hot air balloon

Rubbing a balloon

Static electricity

The demonstration was less spectacular for the children than the one from last year, when there were some experiments with candles. But this year's experiments are nice to try again.

The experiment about static electricity could be more clear.

The experiment with the scarf.

The friction when a balloon touches hair.

Round-long

### Field Study: Preschool Prowl

Nature Skill

Puppet time

Why did they keep giving us high-5's? To tire them out more? Just found that a bit odd.

[children really wanted to run, giving the adults high-fives was part of a running game]

### Play Coach – Paper Tubes

Like to see more designs, not just horses

## Appendix G, cont'd.

### Ramble Around the World

Durable fantas materila (fantasy area) and block area.

Few books in a reding corner.

Puzzles and shapes

The reading corner had few books

### STEPP

How to find more science books.

### Tadpole Tots

Wish we do more hiking

### Toddler Town

Book (she can't read)

Coloring

I felt bad making a mess with the sand, I wish there was a broom I could use

It's aukward interacting w/ child at slide/train structure. Not easy to navigate if you're a big person!

Lack of activity box for infant area

Maybe having more train noises, as of right now only has a horn [referring to train whistle]

Mining trairiing should have interactive story so kids understand more then a slide

Need more bean bags

No information on how everything works

No padding on crawl area sides

ONE SIDE OF THE MOVING QUARRY WAS

BROKEN [The "quarry" is actually mining buckets that the visitor can load with "coal" from the top of the mining train exhibit]

Sand was back in the sandbox instead of beans

SANDBOX - LOCATION KIND OF HIDDEN - NOT COMFORTABLE FOR CHILD'S PLAY

The crawl area in the middle

The large crawl space area occupying the middle of the space.

The mining zone

There were very few touch and feel options [referring to the animal interactive touch & feel wall]

To many components to be activated for something to work together for the age group [Referring to the Mining Train and the Pulley System]

Very small crawler zone w/ few things

Wheel did not work [referring to the wheel that operates the pulley system on the mining train exhibit]

## Appendix H: How could we make the program better?

| Code Category           | Code Definition  |
|-------------------------|--|
| Nothing                 | Indication the program does not need improvement, offers no suggestions, or positive feedback.   |
| Age                     | General or specific mention of age range or age appropriateness in relation to activities or program.  |
| Staff                   | General or specific mention of lack of staff interaction with children/families. This code includes comments on the verbal instruction/information provided.   |
| Program design          | General or specific mention of designed aspects of the program, including structure, schedule, and style.  |
| Institutional logistics | General or specific mention of possibly less designed aspects of the program such as logistics and location.   |
| Sensory                 | General or specific mention of the interactive aspects of activities/program. “Hands-on” or the use of other senses with activity materials is included in this code.                                  |
| Variety/New             | General mention of the program needing to provide more variety (new, different, updated, etc.) in their activities/content/materials. Non-specific comments on “activities” are included in this code. |
| Specific activity       | Specific mention of activities or aspects of activities, including materials, content, or signage/written instruction in the program.  |

**Table 11: Caregiver Suggestions for Improvement - Percentage of Respondents by Partner Institution**

|                    | Program environ. | Institutional logistics | Age | Sensory | Variety/ New | Specific activity | Staff | Nothing |
|--------------------|------------------|-------------------------|-----|---------|--------------|-------------------|-------|---------|
| BYM (n=2)          | 0%               | 0%                      | 0%  | 0%      | 0%           | 0%                | 0%    | 100%    |
| COSI (n=54)        | 7%               | 6%                      | 2%  | 0%      | 2%           | 6%                | 2%    | 76%     |
| DCM (n=133)        | 6%               | 11%                     | 8%  | 13%     | 22%          | 27%               | 2%    | 20%     |
| KZM (n=20)         | 10%              | 20%                     | 0%  | 5%      | 0%           | 10%               | 0%    | 60%     |
| ICM (n=15)         | 7%               | 7%                      | 0%  | 0%      | 13%          | 7%                | 13%   | 53%     |
| MODS (n=16)        | 6%               | 63%                     | 6%  | 0%      | 0%           | 0%                | 6%    | 19%     |
| PSC (n=18)         | 17%              | 6%                      | 6%  | 6%      | 6%           | 33%               | 0%    | 33%     |
| SLSC (n=64)        | 16%              | 17%                     | 8%  | 2%      | 9%           | 23%               | 5%    | 22%     |
| Sciencenter (n=2)  | 50%              | 50%                     | 0%  | 0%      | 0%           | 0%                | 0%    | 50%     |
| Technopolis (n=43) | 19%              | 28%                     | 12% | 0%      | 9%           | 14%               | 2%    | 23%     |
| USC (n=12)         | 33%              | 8%                      | 0%  | 0%      | 0%           | 25%               | 0%    | 33%     |



## Appendix H, cont'd.

### **Nothing**

#### Discovery Room

I love it the way it is  
I think its great the way it is  
It's great [2x]  
It's great the way it is  
It's great!  
Its great already  
Its ok!  
Just fine  
N/A  
No suggestions at this time.  
Nothing! [2x]  
P.S. You are doing much better than the  
Magic House which doesn't have enough  
parts/pieces for exhibits

#### Early Childhood Family Workshops

?  
Doing a great job now!  
N/A  
No ideas-first one was good.  
No response [3x]  
Very well thought out. Wouldn't change  
anything

#### Early Childhood Infant Workshops

?  
I dont really know. It was very nicely done!  
I think it's great!  
It's great. Thanks!  
KEEP DOING A GREAT JOB!  
Keep offering these-is great!  
N/A [5x]  
N/A Great! [2x]  
No response [18x]  
Nothing, we enjoyed it  
Nothing!  
We love these--Perfect as they are

#### Ekilibro (Equilibrio)

?  
I don't know.  
It is good as it is right now.  
It was a very nice activity!

It was very good. Nice activities.  
Keep up the good work. [2x]

#### Even Zweven (Floating Away)

Is good.  
No, ok.  
No

#### Family Science – Bugging Out

Continue educating our youth, and promote  
continued exploration.  
I don't know

#### Family Science – Oobleck

It doesn't need much improvement, its fine  
the way it is. Love you guys, keep the great  
work :)

#### Field Study: Preschool Prowl

Doing very well now  
It's an excellent program, thanks for keeping  
it part of our city.  
It is great!  
Nothing

#### Field Study: Preschool Seekers

I really enjoyed the way Stephanie got  
everybody involved.  
Not sure.

#### Head Start to the Theater

Not sure. I thought it was terrific  
Wish we had had more children here to  
participate for the earthquake drills. (didn't  
have a full class)

#### KidsReach

I love it.  
It is good how it is.  
Nothing, great!  
None

#### Play Coach – Paper Tubes

?  
I think yor doing a great job already.  
N/A [4x]  
Nothing  
You are doing great

## Appendix H, cont'd.

### Ramble Around the World

It is already good  
It is good as it is.  
Nothing [2x]

### Science for Young Minds

Keep coming up with great ideas for the younger ages.

### STEPP

Don't know. [2x]  
Everything is fine.  
Everything is good.  
I am not sure.  
It is great how it is.  
Its good.  
Like.

### Toddler Town

?

I can not think of anything that would improve it.  
I felt good about this area. Clean, safe & fun.  
Helpful staff. No complaints at all  
I thought it was a great experience  
I thought it was great!  
It is good how it is  
It is great  
It's great!  
It's perfect!!!  
Its already good.  
Its fine  
Its good the way it is  
Its pretty great!  
KEEP IT UP  
None  
Not sure [2x]  
Not sure. We like it.  
Nothing [5x]  
Nothing was a lot of fun  
Nothing. It's perfect.  
We love everything

## Age

### Discovery Room

"See above" [area for "early toddler was missing]  
See above [Need a few more for little ones.]  
See above [need more for kids under 2]  
Some activities for babies. We came with a 3 year old and a 9 month baby. I see some other babies too.  
There needs to be an area for older siblings who have come with younger siblings.

### Early Childhood Family Workshops

Split infant/preschool

### Ekilibro (Equilibrio)

Adapt the presentation to the level of the toddlers. The science behind the experiments was too hard to understand.  
Adjust the language to the children, e.g. weight: heavy / not heavy.  
Maybe taking into account the different age categories of the children who are present.  
Simplify language.

### Even Zweven (Floating Away)

The target group is too young to understand helium.

### Family Science – Oobleck

Less complex for kids

### Toddler Town

Add more stuff for younger kids  
Add more things for The age group of 1  
More baby 1-2 year old stuff  
More infant areas  
Some hard surfaces can be "baby proofed" more/or better

## Appendix H, cont'd.

### Staff

#### Discovery Room

More "talks" about sci related things from the discovery room worker.  
More interaction from staff  
Would like to see more educators to be able to explain more of the sections and items

#### Early Childhood Family Workshops

Another helper/ leader. More hands on guidance, only because the children tend to listen more to you than parents here.

#### Ekilibro (Equilibrio)

Reducing the explanation in the beginning.  
Taking care of children who have a hearing aid.

#### Family Science – Oobleck

I loved the program however I would have like a little more explanation.

#### Play Coach – Paper Tubes

More visits! (by the "Play Coach")  
Possible helpers

#### Toddler Town

Add more staff  
Ensure parents look after their own kids.  
Include attendant who helped with activity playgrounds.

### Program design

#### Discovery Room

A full hour  
Add color to the walls (pics etc.)  
Benches for parents  
Give parents a place to sit with glass to watch  
Longer time [2x]  
More places for parents to sit

Once in a while have a guess and demonstration of simple concepts of cause and effects to kids between 2-5.  
Storytime? Demonstrations? It would be nice to have some staff lead activity.  
You may already do this but regular sanitizing of materials is always good

#### Early Childhood Family Workshops

This one was 1 1/2 hours. we could have stayed for 2!

#### Early Childhood Infant Workshops

Longer  
Mats to sit on.  
Was great. More playtime

#### Ekilibro (Equilibrio)

One more experiment?  
Smaller groups -> more possibilities.

#### Even Zweven (Floating Away)

Extend the demonstration.  
Give the children a bit more time to play first, before they have to come see the demonstration. Now they only had 15 minutes before the demonstration started.  
We can try and discuss the experiments again in the class afterwards. Integrate more interaction with the children, get them do the talking. E.g. the experiment of throwing different shaped balloons: let them explain what they see and what happens.

#### Family Science – Stomp Rockets

Longer

#### Field Study: Preschool Prowl

Maybe more sitting breaks for this age group  
Time to get wiggles out maybe 5 min. to move around.

#### KidsReach

I would like more time to talk with the teachers about my child.  
More time in class - books for parents and to learn more.

## Appendix H, cont'd.

### Play Coach – Paper Tubes

A better set up, chairs and tables.

### Ramble Around the World

Add more time to the program  
By adding more time for the whole program.  
For now its kinda excellent, rather increase more time.  
Increase time, maybe 3 hours for a visit.

### Tadpole Tots

Longer session

### Toddler Town

Brighter colors? More toys?  
Coordinated activities to get the children interacting with each other  
Let siblings play in the crawl zone with brother/sister  
Light music, extra stroller parking spots  
More natural light (windows) [referring to the shades drawn]  
More secure [referring to the swinging "saloon" style entrance/exit doors  
More signs to keep big kids out of crawl zone  
more sanitization of toys/mats

## **Institutional logistics**

### Discovery Room

Bigger  
Bigger Room  
Bigger! More things to do!  
Free to kids  
Its too hot in the small space  
Make it bigger! :)  
No bathroom/sink in room.  
Open earlier  
Parking  
Quieter  
Would love birthday parties to be available

### Early Childhood Family Workshops

Offer an Astronomy course!

### Early Childhood Infant Workshops

Is there a workshop like this for infants (0-6 months) only?  
Schedule more of them

### Ekilibro (Equilibrio)

A bigger space because of the huge success.  
A separate room so that there is less background noise.  
A separate room.  
Better promotion, by hanging up an information board in front of the pizzeria to announce the next demonstration.  
Maybe a separate room, more space. The demonstration may take some more time, it was relative short. 30 to 40 minutes is very possible.  
Organise the demonstration in a separate room, on another location.  
Separate room where they can experiment and experience during 30 minutes.

### Even Zweven (Floating Away)

Another location for the demonstration so that the pupils are less distracted. More interaction, involving everybody.  
Find a location that is more quiet to give the demonstration.  
Find another location.  
Taking care of the disturbing background noise of the train.  
The location of the demonstration. There are people walking by and standing in the way..

### Family Science – Bugging Out

Have it every day at the library that would be great  
Have more workshops  
Having more of this program at libraries  
Offer more free progrms.

### Family Science – Oobleck

Allow the community to visit the museum one day a month at no charge  
Do more of these classes  
Have more classes like this.  
More than 3 programs! All summer long :)

## Appendix H, cont'd.

### Family Science – Stomp Rockets

Do it every week  
Have it more

### Field Study: Preschool Prowl

Dog are kept on leash [the group came into contact with a dog not on leash]

### KidsReach

More visits.

### Play Coach – Paper Tubes

I had no idea it existed. Advertising.

### Ramble Around the World

According to me it is well organised, pls [please] include learners meals and charge them per meal

### Science for Young Minds

Keep it coming. More science, more visuals. I would like our school to be able to take more trips to the Sciencenter. Maybe a year pass!

### STEPP

Bigger space. [2x]  
Make the room bigger

### Toddler Town

BETTER ADVERTISING  
Better lights  
Bigger  
Hand sanitizer  
Larger area! [2x]  
Larger gym space with easier components  
Longer hours during the weekend  
Make it a little bigger  
Make it Bigger  
MAKE IT BIGGER  
More demonstrations often.  
More space  
More space, more exhibits  
Open a restaurant inside.

## Sensory

### Discovery Room

More hand on things to do

### Field Study: Preschool Prowl

It's great, but perhaps more hands on & less verbiage in beginning. kids are super tactile =)

### KidsReach

Maybe more music.

### Toddler Town

A bouncy/jumping area would be fun. More interactive activities  
More hands on exhibits.  
MORE HANDS ON FOR 3-4 YEAR OLD  
More hands on table stuff like dough.  
More hands-on crafts/building stuff  
More interactive activities for kids  
More interactive toys  
More science exhibits that are hands on.  
Similar to the nevada desert animals on the wall  
More touch & feel  
Music  
Music maybe?  
Music time or dance time  
Play music [2x]  
To make more hands on activities  
TODDLER tunes (music)

## Variety/New

### Discovery Room

Add an addition new stuff. Volcanoes  
dinosaurs  
More variety of activities  
Need new toys/activities or rotate frequently  
New activities  
Transition new activites in every few months

### Early Childhood Infant Workshops

More! More! More!

## Appendix H, cont'd.

### Ekilibro (Equilibrio)

Maybe one more experiment.  
More experiments! [2x]

### Even Zweven (Floating Away)

A couple more experiments.

### Play Coach – Paper Tubes

Add more activities  
More please!

### Tadpole Tots

More activities

### Toddler Town

A few more toys and textures in the crawl area on the walls  
Add more activities  
ADD MORE ACTIVITIES  
Have a little more creative sections  
Have more activities - my daughter got tired playing in this area really fast.  
May a little more activities not sure what  
Maybe more activities  
More activities [5x]  
More activities for a two year old, wasn't alot  
More activities, another slide  
More crafts/toys to play with  
More discovery elements in 0-18 months section in the middle [crawl zone]  
More games [2x]  
More items, especially on the back wall.  
More play structures  
More projects  
MORE SCIENCE ACTIVITIES  
More stuff  
More things to play with.  
More toddler activities  
More toys or more things to do  
New variety for toddler activities, reading area, more toddler learning activities

## Specific activity

### Discovery Room

Better hospital/health area - not a whole lot to do other than crutches and wheelchair  
Have a corner thats a changing activity/exhibit.  
Ideas at the stations to give some directions  
Include a catepillar to butterfly exploration  
Live animals demonstrations, robot demonstrations  
More animals  
More animals!  
More bugs  
More ideas posted about how to make use of some toys.  
Multiple water tables - busy area  
Please investigat BROWN RECLUSEspider display; inaccurate? Spider indicated as brown recluseis far too large/wrong...  
Please investigate Brown Recluse spider exhibit b/c specimen looks like the Southern Hopuse Spider instead. He's too big and not correct back markings. This is misleading.  
Possibly more guidelines for sanitation and toy sharing  
Put more signs and directions up.  
We already love it! I did miss some of the music activities this time.

### Early Childhood Family Workshops

More live bugs, maybe some worms added, too.

### Early Childhood Infant Workshops

More COSI member support; move paint under "paintlen" sheet so it could be moved easily: less choking hazard!! add music to sing alongs.  
Sending home at home materials such as a newsletter with at home activities based on the theme.

### Ekilibro (Equilibrio)

Announcing a balloon is about to burst.  
Less complex experiments, e.g. with mirrors.  
Let them ride a bike on a cable above the ground themselves.

## Appendix H, cont'd.

### Even Zweven (Floating Away)

Give all children a balloon themselves so that all of them can participate in the experiments, like the one with friction.

More balloons

Why can you throw the long balloon further away?

### Field Study: Preschool Prowl

Bird calls, more time to find species, live animal observations (frog, lizard)

If we could let them meet more animals, that would be great.

Let the kids find a plant seed then bring home  
Maybe bring the puppets to show where each animal live.

More animal to see

Perhaps examples from nature, like the bird nest that was found.

### Play Coach – Paper Tubes

My sons seem really interested in the horn  
I wish we could have made one to keep

### Ramble Around the World

Add more books in a reading corner for children to have a variety.

Add more books in a reading corner.

Must add a picture book

### STEPP

Doing more interesting fun things that are messy.

### Toddler Town

Before I could only find 2 carts  
[wheelbarrows] and now there are 4

BETTER/MORE PHOTOGRAPHY

Bigger toddler art area.

Bracing the pole bumper [Referring to the protective bumper around the metal pole]

Bubbles. :)

Crayon.

Expand climbing structure [referring to train]

Have maybe more than one "toddler trough" to keep them interested and contained.

Get more bean bags

GOOD QUESTION THAT WILL TAKE SOME THOUGHT BECAUSE IT'S ALREADY SO GOOD. STORY TIME?

I don't know maybe more stuff about mine danger and safety around them

I'm looking forward to seeing the "activity boxes" [These are currently in development. Parents will be able to check out boxes that contain appropriately leveled books and activities for their child. The boxes will have to stay in the Toddler Town Gallery during use.]

IT'S GREAT - MAYBE FIX BROKEN THINGS?

Just minimize the crawl area

Leave it like it is but more animal sounds

Make it possible for smaller kids to climb up to slide. My son had a hard time getting up and I had to help

Make the slide easier for toddlers to get to, so parents can help if need be.

Maybe a few more toys in the crawler area

Maybe a taught craft where an employee helps teach/build with the kids.

Maybe more toys in the crawl zone

More block to built

More climbing areas

More colors in the baby crawl section

More variety of color for paints [Referring to the paint color selection at the arts & crafts table in the Art Zone]

Move the infant area in the corner out of the way to help keep the little ones safer from the older kids

Moving picture [movie] of passing scenery out of the train window

Play movies

See above [Sand was back in the sandbox instead of beans]

Stairs for the slide [the steps to the slide are located inside the mining train]

The train engine. there is only one button that does something yet there are switches and other buttons that does nothing.

[Referring to the buttons and switches in the train]

UPDATE THE MINING ACTIVITY

Videos of trains, and videos of animals as well

We miss bubbles from prior location

## Appendix I: Staff Feedback

### What Worked Well

#### Discovery Room

Many of the children and parents were engaged with one another. The insects in the room were a big interest.

Parents and children were engaging in interactive learning, and visitors seemed to be enjoying themselves.

#### Early Childhood Family Workshops

Open exploration activities, light experiments, children and families engaged in activities

#### Early Childhood Infant Workshops

Families and infants really enjoyed trying the interactive activities. They liked feeling real snow, rice and being able to measure/pour, and be messy. They loved being able to freely explore the areas and interact with peers. Loved music and songs!

Lots of babies and lots of baby interaction & socialization. All activities were explored and enjoyed at a child's own pace. Variety of activities were noticed by parents.

Open exploration. They loved the rice and comb painting.

Overall the program was great.

Pool of colorful balls

colored rice

light tables with cellophane and pompoms

songs with shakers (intro)

songs with parachute (goodbye)

comb painting

Singing the welcome, 5 speckled frogs while participants shook noise makers, the jello sensory pond station, the tunnel and box exploratory station, the natural materials (i.e. rocks, leaves, pine cones), the parachute ending activity.

#### Ekilibro (Equilibrio)

All the experiments. The interaction.

Everything was ok.

Everything went according to plan.

Everything went according to plan.

The balloons with a shelf on top. The interaction with the children.

The balloons with a shelf on top: the children liked this a lot. One of the teachers wanted to try the experiment herself afterwards.

The children and the teachers both liked the experiment of the balloons with a shelf on top a lot. The teachers also came to stand on the shelf.

The children were listening carefully and all the experiments went well.

The children were very smart. Sometimes they could explain the experiment themselves.

The demonstration itself.

The end.

The execution of the experiments.

The experiment of the balloons with a shelf on top. The interaction with the children.

The experiment with the bike and the one with the balloons with the shelf on top.

The experiments and the interaction with the children

The experiments, the children were enthusiastic.

The experiments.

The experiments. The interaction of the children. [2x]

The experiments. We changed the scenario of the demonstration. Instead of dropping a potato on respectively one nail and a bed of nails, from now on we will use a balloon. This is a lot better.

The grown ups came to stand on the shelf with the balloons underneath and they liked it a lot.

The interaction with the children [2x]

The interaction with the children. Equilibrium point when riding a bike on a cable above the ground. Balloons with a shelf on top.

The interaction with the spectators. The children were very enthusiastic.

The number of children was ideal. They were very enthusiastic and cooperated really well.

The shelf with the balloons. The bike. Involving the children. The interaction with the spectators.



## Appendix I, cont'd.

The welcoming, the introduction, the interaction, the explanation.

The whole demonstration went very well. The children were very enthusiastic.

While performing the experiment with the balloons with the shelf on top, the children were very enthusiastic.

While performing the experiment with the bed of nails, one of the children was very enthusiastic.

### Even Zweven (Floating Away)

Balloon/helium.

Enthusiastic audience. The children wanted to participate actively.

Everything [4x]

Everything went well.

Interaction A variation of experiments. The final experiment

Ok. [4x]

The children were enthusiastic and participated very well.

The demonstration as a whole.

The experiments. The progress of the demonstration. The storyline.

The involvement of the children. Throwing balloons. The hot air balloon floated really high. Enthusiasm of the audience.

Throwing balloons, with for the first game the difference between a round balloon and a long and for the second game the difference between a balloon filled with air and another one with helium. Static electricity by friction.

Throwing the balloon. Hot air balloon.

Throwing the balloon. Hot air balloon. Getting the children's hair rising by the balloon

### Family Science – Bugging Out

Parent participation at this location was excellent. the library was very involved in making sure the program went well. The kids loved the bugs we brought with us.

### Family Science – Oobleck

Everything worked really well.

### Family Science – Stomp Rockets

Kids loved launching the rockets. They also got better as time went on with waiting their turn in the line. The older children even began helping some of the younger children figure out where to stand to wait in line.

### Field Study: Preschool Prowl

Array of sensory activities. Really good activities around touching, movement, seeing and learning what a wetland is. Arrival activity rounds out other senses except smell.

Educator to student interaction went very well-- children were engaged, laughing, and participating. The texture/touch collection activity was a highlight. Weather!!! Sunny!

Finding colors and animal homes in nature.

Picking one plant to all share, and pass around.

Having time to observe things in nature--look for different colors and animal homes. Different textures--searching for different types of "feels". Stopped to listen to bird calls.

It was great having such a small group size. Each child participated and was able to receive lots of attention. It worked well to have a program designed to be so flexible, with lots of options for activities.

Kids loved the puppet show, walking around like animals, touch trays--pretty much everything

Spending time outside searching for animals & different colors & textures in nature--good structure/guidance for making observations of nature instead of just walking & running around.

Very flexible--able to tailor program to student interest. Students enjoyed finding different textures in nature

### Field Study: Preschool Seekers

Kids loved the search for the shadows on the hike & acting out the dragonfly life cycle. Bug tv.

Using magnifying glasses to look up close to bark and dirt to imagine what being a spider or bug would be like worked really well today. Kids used a lot of different senses (listening, touching, observing).

## Appendix I, cont'd.

### KidsReach

I really enjoy integrating both our Latino and non-Latino community. I see the language integration in that English Language learners are learning and English Language speakers are picking up Spanish.

In this class we always have three or four table activities for the parents and their children. I showed them how to make home-made play-dough and they loved it.

Parents really enjoyed the new Spanish language songs. I integrated hand-puppets and they really enjoyed that.

The parents like the break down of three to four activities, one at each table. We include information sheets at each activity table to encourage parent extension of the activity at home.

We have added more music and singing at the end of class and the parents are very happy with that addition.

### Play Coach – Paper Tubes

Inviting children to participate as they arrive in the lodge.

Helping children to build their ideas utilizing questions such as "What's next?", "Would you like to add another straw?"

Supporting the children's ideas as they explored the rolls and straws

### Ramble Around the World

Children enjoyed learning about senses while doing an actual experiment, they also enjoyed tasting apples and different juice. So the experiment of the month worked well.

Communication and interaction between myself and children was very good.

Experiment of the month worked very well.

Children enjoyed making their own music instruments out of familiar materials.

The experiment of the month worked well because SENSES is what they do at their pre-schools. Children understood all basic senses, they were interacting, discussing and responding to the questions.

The science show (Music show) was much enjoyable by children. They even learnt that long keys make low sound and short keys give high-pitch sound. I found that the show worked well.

They were listening and participating when asked to volunteer they jumped up to the stage.

### Science for Young Minds

Children enjoyed being able to make "ice cream" from scratch, and teachers were pleasantly surprised that we were able to make ice cream with these young children and with simple materials - I was asked for the recipe so they could do the program in the future, in various settings.

Children enjoyed how they could move lightweight objects (packing peanuts and cotton balls) around with their breath. They also enjoyed putting together the "wind machine". Also, this was not planned into the program, but the comparison of what objects moved best with their breath or the wind machine was good for children to make comparisons and observations.

Children were very engaged because both sections of the activity were very hands-on and allowed for repeated experimentation and trying new techniques. The materials used - ketchup, molasses, oil - were also fun for children to use, and they were allowed to be messy. Finally, the children were fascinated by how water droplet behaved on nonabsorbent surfaces like pennies and sheets of plastic, and the effects they created were really beautiful.

The children really enjoyed flying their paper helicopters - they could have flown them for much longer than the time I allotted, I think. They also enjoyed flying and decorating parachutes.

The water droplets on a plastic sheet not only worked well and kept children engaged, but also looked beautiful! Children also enjoyed painting.

## Appendix I, cont'd.

The experimental results were really dramatic and children could see very well what was going on and identify accurately what was happening. I switched out molasses and used chocolate syrup in its place, because we already had some at the museum, and it worked just as well and children enjoyed using chocolate syrup more. Children also liked placing different objects in the jars. Having them stir materials together was also something they liked and which they did joyfully for a long time.

### STEPP

Demonstration of making play-dough and gak went well. Parents are requesting to be shown how to make home-made finger paints. They are loving the tactile experience.

Presented on home-made finger paints. Parents loved the use for both bath time and table time. I connected the science concepts, but still they are not seeing the connection to science concepts.

This is a shy group and I have found that music really brings them out.

I have added more songs that relate to the science activities.

### Tadpole Tots

The balloons with the shelf on top! The sound is a lot better now that we can use a microphone again.

It worked well to have most of the session taking place outside--hiking, at the pond, or in the grass. The activities that were the most successful all had the kids engaged in nature--using their senses to explore by looking closely.

### Toddler Town

Animal Interactive Wall - Children enjoyed the magnetic animal habitat puzzle

Animal interactive wall - the children spent time working on the animal habitat magnet wall

Animal magnetic puzzle

Animal Sounds

Art Zone - the sand in the sensory table was popular

Art Zone/Sensory Table - The guests really liked the sand in the sensory table.

Crawl Zone - some parents got into the crawl zone with their babies

Interactive Block Wall - The children liked building tall towers with the soft blocks.

Mining Train - the children and parents were working together to operate the mining train

Mining Zone - Children in the gallery worked together to operate the mining train

Mining Zone - great collaboration between parents and children

Mining Zone: The children loved to toot the horn.

Parents liked the toys in the crawl zone.

Reading Zone - Kids were drawn to the books on the bookshelves

Reading Zone - some older siblings were reading to their younger siblings

Reading Zone - The puppets were popular.

Textured crawl space. Balls Bead Bar Mirrors

The Art Zone: Craft - Peace doves were pre-cut and the trays were pre-set with materials for each child

The craft in the Art Zone

The parents liked the presidents' day books in the reading zone that corresponded with the Lincoln log cabin art craft

The reading zone area was popular.

## What was Less Effective

### Discovery Room

Some guests commented on the noise of the room.

The large number of visitors in the room may have been overwhelming for some.

### Early Childhood Family Workshops

Meet the scientist experience felt disorganized.

The oobleck in a bag was unpredictable without measurements and the desired effect was lost. Some repetition of experiences and content was okay but next time I will adjust with a better understanding of his designed group experience.

## Appendix I, cont'd.

### Early Childhood Infant Workshops

Contact paper and pompoms. The pompoms did not stay stuck to the contact paper because they were too large (non-choking hazard sized)

Large motor area

N/A- Format, activities, and interaction flowed smoothly.

N/a, room was warm so this may have affected a few's experience.

Not into the contact paper, although I thought it looked super inviting. Hard to see light through the premade tables.

Reading the "Jump, Frog, Jump" book at the beginning--the participants were a little too young to focus on the book. Previous weeks have enjoyed more because they were a bit older.

### Ekilibro (Equilibrio)

Balloons with a shelf on top: not enough space.

Balloons with a shelf on top: There wasn't enough space. The children were too packed and sat way too close to the shelf (too many children).

Beforehand, when I was preparing for the demonstration, and afterwards, when I was cleaning up, the children kept on asking questions. Potato on a bed of nails. This experiment about the distribution of weight was a little bit too difficult.

During the experiment with the balloons with a shelf on top, one of the children's parents went to sit down again.

Jumping on a balloon to make it burst. One of the children was a bit too enthusiastic, she wanted a lot of attention.

Nothing, the demonstration went smoothly.

Riding a bike on a cable above the ground.

The beginning, since there had been some changes in the script.

The bike on a cable above the ground. It didn't work out as it should have, because the materials we work with are old and start to get worn out.

The children were a bit too shy. I really had to excite them.

The experiment with the bike

The explanation of pressure points on a bed of nails.

The interaction with the children. The children were very quiet and almost didn't dare to say anything.

The transition between two experiments (from bike to cork and then back to bike).

There was a bit of chaos because there was a lot of background noise.

There was a group of foreigners who didn't always understand me quit well. Therefore I needed to repeat a couple of rules (to sit down, don't come too close etc.)

There was one girl who didn't understand me even though I've tried to explain her in Dutch, French and English. She was very disturbing as she wanted to bake pizza's all the time (at Technopolis®, the demonstration for early learners takes place in a pizzeria).

There was only 1 child attending the demonstration.

When I was jumping on the balloon, it didn't burst right away.

The children were very well-behaved. I had to motivate them a bit to make them cooperate.

### Even Zweven (Floating Away)

I forgot to explain one of the experiments.

Interaction with the audience was difficult.

The hot air balloon didn't go that high.

It didn't really work out that well to get people's hair rising by the static electricity of the balloon.

It takes very long to launch the hot air balloon.

Singing a song while waiting for the hot air balloon to start flying. There were children from The Netherlands and they didn't know our songs.

Static electricity by loading the balloon

Sticking a balloon onto a scarf by static electricity

The experiment with the hot air balloon takes a while.

The hot air balloon didn't go high enough.

The start: the teachers had a difficult time collecting their pupils. There was a lot of noise.

The storyline. The explanations were reduced to the minimum because of the young age of the children.

## Appendix I, cont'd.

### Family Science – Bugging Out

None, everything went very well.

### Family Science – Oobleck

Two of the participants didn't want to touch the slime but we let them make it in a baggie and they were fine with that.

### Family Science – Stomp Rockets

The demo could be revised a little to be more exciting.

### Field Study: Preschool Prowl

Didn't find a place to stop and look for birds nests. Mainly insect homes.

Going left on the trail led to many stinging nettles and less "obvious" wetland views. (No kids were stung.)

It was a pretty warm day--can be hard/challenging to get this age to focus on leaders for directions.

Kids got tired, but there isn't much time for a break...

Puppet show could be a little shorter--tended to wind kids up a lot

Puppet show was a bit long, but the children seemed to love it. Unfortunately, we didn't see any animals, heard birds, saw tracks.

Short distance of hiking trail makes it hard to really explore the wetlands and space activities well. More activities around smell sense would be good.

The puppet show (although fun for the presenter) =) was difficult to do by myself. I could have had the other 2 adults help, but I hadn't read the script before!

### Field Study: Preschool Seekers

Kids searching through bins was very hit & miss. Hard for them to discover anything. [macro-invertebrate search]

The field where we play games was wet and a little slippery which caused a few trips during the game but the kids were pretty fall-resistant and no injuries.

### KidsReach

I need more dual language songs for our circle (English/Spanish).

I need more infant activities for the youngest ones in class.

I still need to translate the parent feedback forms. currently, Brenda translates orally with the parent and assists in the written response. Sometimes the translation gets confusing, but mostly it goes great.

### Play Coach – Paper Tubes

Participants under 2 years

### Ramble Around the World

For the newborns it was difficult to understand some of the terms. So it will help to separate groups according to age groups next time.

Grouping of children didn't work well, I found 3 groups to be a lot of groups.

The children did not pay much attention to the puzzle corner. so it was a bit neglected.

The children were very active such that the quiet area was neglected, nobody wanted to sit quietly.

The group was a bit bigger for the experiment therefore we ended up spending more time on 1 experiment.

The understanding was not that impressive. The learners were too young to understand some of the concepts of the show.

### Science for Young Minds

A better explanation of how to do the first part of the activity (putting different types of liquids on a ramp and watching how they rolled down the ramp) would have been better. Also, it was hard to bring the children back in after cleaning up the first experiment to do the second experiment.

Because oil and water were the same color, it was a little hard for children to differentiate between the two. The jars I used were so small that they got crowded with objects and we couldn't put everything in. Since I didn't use molasses, the bok I was planning to use (which was about molasses) didn't work anymore.

## Appendix I, cont'd.

Oil paint and water paint did not layer as well as hoped.

Putting strings on each child's parachute as they were decorating them turned out to be rather complicated. As a result, some children were done decorating before everyone's strings had been attached, and children did not receive uniform instructions on how to fly their parachutes.

Some (very few) children were either too lacking in motor skills, or too shy, to be able to shake the ice cream bags on their own. The other activity, which also involved ice, didn't work as well because the ice wasn't cold enough. This was because I was planning on taking over a cooler filled with the ice, but when I arrived on Monday morning the cooler was gone. As a result, the ice was a little melted by the time we got to the activity.

Using quart-sized bags for the wind machines made them less effective.

### STEPP

I need to connect more the concepts around home-made dough, gak paint etc. to science concepts. They seem to not be seeing the connection.

Some language and translation issues. Need more translated material.

Still need to find a way to help the parents see mixing and measurement as a science based concept.

### Tadpole Tots

There were only a few children attending the demonstration.

It was sometimes difficult to alter the lesson plans to be more appropriate for a class of 2 year olds instead of 5 year olds. Some of the more fun activities had to be cut due to logistics, and I had to creatively think of alternatives that could be done with my group-- which was sometimes hard.

### Toddler Town

Animal sounds

Art Zone/Sensory Table - The children were using the shovels to shovel the sand onto the floor.

Children over the age of 18 months were climbing in.

I did notice that the kids rather run up the slide than slide down.

Interactive Block Wall - Some of the younger children were taking the blocks from the towers and putting them in the wheelbarrows. This upset the children building the towers.

Many parents did not notice the "no shoes in the crawl zone" sign

Mining Zone - Younger children were easily discouraged when they couldn't reach the chute and load the "coal."

Nobody was reading with/to the kids, so they lost interest

Parents didn't always notice the books that correlated with the craft

Reading Zone - The children played with the puppets, but they did not act out a particular story from the reading zone library.

Some children were too small to climb the steps inside of the train

Some guests were using the reading zone for nursing purposes, opposed to using the nursing nook

Some of the kids were fighting over the buckets and shovels

Some of the parents had a hard time getting in the small entrance to the Mining Train

Some of the younger guests were startled by the animal sounds on the wall

The books in the Art Zone that supported the theme of the craft

The books on the reading table

The books placed on the table in the art zone were not read.

Under 18 month restriction on crawl space.

Visitors were taking extra collage materials from unattended trays.

## Appendix I, cont'd.

### What Staff can do Differently

#### Discovery Room

Monitor the teepee area better to make sure the toys are being used properly.

N/A

#### Early Childhood Family Workshops

Better communicate with the Floor team facilitator responsible for meet the Scientist. Found out after the fact that the repetition of activities was due to a logistical problem with the plug in our space not matching the planned light cart exploration.

#### Early Childhood Infant Workshops

Add more songs to the beginning/end.

Have contact paper lay flat on the ground instead of on the wall

Maybe more group time. Sing more songs/books.

More science explanation, sensory science?

N/a- all activities were great and was helpful to bring in bugs and animals in at the end of the program to wrap everything up.

Perhaps read less of the book or paraphrase some to allow other time for activities. Allow for more parachute time at the end of the workshop.

#### Ekilibro (Equilibrio)

Accompany the children's supervisor.

Advertise the demonstration more beforehand to attract more people.

Blow up the balloon a bit harder so that it bursts more easily. Maybe having a teacher standing on the balloons while the pupils are still there.

Blow up two balloons more.

Blowing up the balloon much harder so that it would burst more easily. I won't jump on the balloon with both feet, but instead I'll just use one foot to step on it.

Checking out if parents and children are interested in seeing a demonstration before setting up the all the equipment.

I would change my explanation of pressure points on a bed of nails and see if it's more clear and easier to understand for the young children.

I'd put away the bed of nails a lot sooner. The children continuously put their hands on the bed of nails and I was worried that they would hurt themselves. Explain the experiments in a more effective, easier way.

Keep an eye on the structure of the presentation.

Looking at which children are part of the group who made the reservation for the demonstration and which ones aren't so that I only let those with reservation take part in performing the experiments, answering questions etc.

Maybe a short introduction to stimulate the children and make them less shy / more awake.

Nothing [2x]

Smaller groups for each presentation. Adapt the group size to the space we have.

Test out the materials on beforehand.

Use a headset (I couldn't find it).

Use a microphone, I couldn't find it.

Use a new bike because the material is very worn out.

Wear a protective glove when performing the experiment where I let a balloon burst on a nail.

#### Even Zweven (Floating Away)

Explaining the experiment with the hot air balloon a little more.

Explanation about friction and static electricity  
Location

Nothing really [2x]

Reading the scenario one extra time beforehand.

Rubbing the balloon on its side to let it stick onto the scarf.

Use smaller balloons for the experiment with the scarf.

While a volunteer is rubbing a balloon, also rubbing one myself. That way, I'm sure that at least one is loaded enough to explain static electricity.

## Appendix I, cont'd.

### Family Science – Bugging Out

Choose a shorter book to read. It was difficult for the littler ones to sit through it after a few minutes.

### Family Science – Stomp Rockets

Change the demo a bit.

### Field Study: Preschool Prowl

Do bug hunt with students. Hands-on, engaging activity & really ties in why you leave nature back in nature when done exploring then.

I hadn't hiked this trail before. Would scout out the route next time.

Maybe include a slower placed/sitting activity to give kids a break. Also, shorter puppet show.

Next time I wouldn't pack an extra backpack and I would make sure to keep the backpack I did use really organized. There are lots of materials to keep track of!

This time I did not use magnifying glasses to "inspect" bug homes, etc. Probably will add magnifying glasses next time.

Try an area of trail with less stinging nettle.

Trying to keep the kids a little calmer during the puppet show.

Would be fun to incorporate song.

### Field Study: Preschool Seekers

Tell kids, before playing the game, that hula hoops can be tripping hazards.

Try to draw in chaperones more.

### KidsReach

Add more infant activities and integrate more puppets at circle.

Add more music and dual language songs.

I need more translated material and more culturally appropriate material.

Translation of the forms. More parent/education related books available to look at and more parent handouts.

### Play Coach – Paper Tubes

Try setting up on the Roof Top

### Ramble Around the World

I will either increase time for experiment or sort children into 2 groups.

I will try to think in the childrens level (age). Also try and introduce fun ways of explaining things.

Increase time for experiment to 40 minutes instead of 30 minutes.

Look at the group's behavior if they are as active as this one never force them to go to a quiet area. so I'll spend more time with them on other corners like Fantasy

Next time we will divide them into 2 groups and attend them seperately.

Seperate children according to their age.

### Science for Young Minds

Next time, I would either dye the water or use a yellow-colored oil (vegetable or olive). Use larger jars. Research another book to use, either about chocolate or mixing.

Perhaps put the strings on the parachutes ahead of time. Explain before the decorating process begins how to fly the parachutes.

Secure a cooler! Demonstrate to children how to shake the ice cream bag, and strategize ways to help children with this aspect of the program that don't involve educators doing it for the child. Figure out a way to better explain the science behind ice cream making, and present this information before children become distracted by ice cream.

Explain and demonstrate the ramp activity first before passing out any materials, and do not mention that there will be ketchup until after the explanation and demonstration, since that seemed to be distracting. I would also consider doing the absorbing activity first, since that is the less exciting activity and it might prove easier to clean up and move on from that.

Test oil paint and water paint ahead of time to try out different techniques to observe the oil-and-water phenomenon.

Use pint-sized bags for the wind machines so that the sponges inside them don't move around so much.



## Appendix I, cont'd.

### STEPP

I will add more science based language and connect the activities with more discussion around the science concepts.

More discussion on blending literacy, science and language development around science concepts.

More translated material. Trying to find science concepts that take a cultural approach: for example: the science behind tortilla making.

### Tadpole Tots

More and better promotion to attract more audience

Next time I would take more time to carefully alter lesson plans to fit the age group. Maybe sitting down and making changes to the whole curriculum at once would be helpful instead of doing it week by week.

### Toddler Town

After the visitor has worked on the animal magnetic puzzle and the animal touch and feel, introduce the animal sounds

Art Zone/Sensory Table - I would replace the shovels with sand molds and encourage them to build sand castles.

Encourage guests to read the books on the art zone table, because they correlate with the weekly art craft theme.

Encourage guests to read the books on the table that correspond with the craft

Encourage parents to go inside the train to assist their children on the steps

Encourage the nursing guests to use the nursing nook area

Encourage them to take turns with the shovels and buckets or add more buckets and shovels to the sensory table

I would allow the parents to climb up the slide to gain access to the train

I would let the parents know that when their child pushes the button on the animal sound wall, sounds will come out of the speakers near the button

I would send a volunteer to the top of the train to assist the younger children in loading the "coal."

I would try to catch the parents/children and tell them to take their shoes off before they entered the crawl zone

Interactive Block Wall - I would encourage the children who were taking blocks from the towers to load "coal" in their wheelbarrows instead. I would explain how the mining system worked so that they would be more likely to want the "coal" instead of the locks.

Let parents know as soon as they enter that the crawl zone is for children 0-18 months only.

Mention that the books on the table near the craft correspond with the craft.

Offer to read to them, or give them puppets to make the experience better

Place one pre-set tray out as guests arrive at the table.

Reading Zone - I would read a short story aloud and ask them to reenact it.

Show them how to slide down the train.

Station a volunteer near the puzzle to encourage conversation related to the exhibit

Try to get the kids to read the books with me.

Try to meet visitors at entrance and tell them the age limit on crawl space.

## Appendix I, cont'd.

### Extra Notes from Program Staff

#### Early Childhood Infant Workshops

Activities for stations are awesome! Good connection to other COSI exhibits, but could use more talking points or activity for down at Lily Pad.

Families were interested and excited to learn about activities that are easy to try at home.

I did not read the "colors" book at the beginning because we had a very active group that wanted to get going. I introduced the parachute as a closer to sing songs and shake--- worked great!

I need to work harder at making sure I interact with all the kids more.

I was disappointed to see so many mixed reviews. I explained all the activities and how they are good experiences for the child. Maybe it was just the group though.

#### Ekilibro (Equilibrio)

Apparently, right before I started the demonstration one of the children had taken the bike which we normally use for one of the experiments. I couldn't find it, so I thought I had to use the paper bike (the spare one). But with this one, the experiment usually doesn't go that well. Luckily I found the normal bike on time, so that I could use it at the end.

A little bit too difficult for those around the age of four/five. They liked the experiments with the balloon and one with a riding bike on a cable above the ground. There were plenty of children, which made it difficult to keep them at a safe distance.

The children all loved it to take a balloon back home with them.

#### Even Zweven (Floating Away)

For the experiment with the scarf, it's better when you blow up the balloon just a little bit. Smaller = lighter.

There was a lot of disturbing background noise coming from a miniature train that passes by, there where we give the demonstration.

#### Field Study: Preschool Prowl

Finding a bird & listening to bird calls was great? Engaged kids!

Great to spend time outside w/ this age group. It's nice to have groups of this age out to see them look a little more closely at the "outdoors"

Kids were very excited about finding birds nests! And a "sticky" plant!

School showed up half-hour late, so skipped the introductory puppet show. Just straight to the hike portion.

#### Field Study: Preschool Seekers

It was a really great hike, talked about a lot of animals & homes (shelters). Kids were very happy during "Bug TV".

#### STEPP

Infuse more science based language. Leave more time to discuss the science concepts as a group.

#### Tadpole Tots

Overall, I think this program was successful for both the children and their parents. We had a balance of hiking/activities to fit the needs of individuals (some loved hiking and wanted more, but others wanted to do more activities and hike less). I think we had a good balance.

#### Toddler Town

Had one parent ask for "soft puzzles" for the crawl zone.

## **Appendix J: Year One Partners' Evaluation Responses from Online Surveys**

### **What knowledge and/or skills have you and/or your program staff gained by participating in the Early Learners Collaborative?**

Participating in the collaborative helped us as a centre gain skills of designing shows and workshops that the children enjoy and learn from. Adapting and understanding children's behaviours, strengths and weaknesses.

It is great to hear what other institutes are doing and how activities we have done here translate to others and how they expand those.

Networking capacity and the ability to connect with individuals and institutions with experience addressing a like minded goal.

I have enjoyed learning from the short papers that we discuss on the conference calls.

I feel much more comfortable about our audience getting the most out of our programs. Through this collaborative, we have seen what other facilities are doing and re-evaluated our offerings. Through these changes we have made our programs better and on par with some of the best Museums in the country.

### **How has participating in the Collaborative affected your institution?**

Participating in the collaborative helped us a lot improve our Ramble around the world program, when we joined the collaborative Jennifer sent us experiments of the month and our children enjoyed that a lot such that we have started to develop our own workshops and experiments.

It has allowed us to bring our Educators to the Museum at large and participate in early learning activities with both children and parents.

The resources to collaborate with a community of practice organized around the same objectives.

We have used survey data to inform our practice, implementing some of the visitor suggestions.

This collaborative has enabled us to focus more specifically on our early childhood programs. We have since expanded our early childhood offerings and trained more teachers to work with this specific age group.

### **How did participating in the Early Learners Collaborative affect your thinking about early childhood learning in general / your program specifically?**

Whenever we design a science show or experiment we put ourselves in the children's shoes, we think like children. We now use familiar materials that children see everyday, we also ask open-ended questions, we allow children to ask questions as well.

Participating in the ELC has had us adapt our thinking to include making the activities we do as replicable and transportable as possible. When working on Play Coach we constantly keep the focus on how can the parents take this home and see that they can lead/work together with their child and that there are learning opportunities all around.

It is interesting and effective for our program planning to consider the other institutions and their programs and audiences. It has specifically helped impact future program planning.

The papers that we discuss on the conference calls have given me new things to think about, specifically the most recent one, Science in the Air, where it discusses creating an environment that promotes science learning.

## **Appendix J, cont'd.**

My participation in this collaborative has enabled me to look at early childhood curriculum differently.

Learning for this age group can be as simple as sorting and matching, putting out a bunch of materials and letting them discover what to do with them on their own or just asking age appropriate open ended questions to activities already happening. Learning for them is essentially everywhere.

### **What modifications to your program have you made as a result of information shared through the Collaborative?**

We now have our own experiments of the month (linked to the South African pre-schools curriculum) that we designed after seeing that children enjoyed doing the ones that Jennifer send every month.

The modifications that we made to our program mainly dealt with finding the right fit of our activities for our audience. We asked how can we engage rather than invade Museum play. We chose to theme activities around a household item and turn them into different learning tools and activities.

Modifications to our preschool programming were already being considered but through collaboration in the network we were able to feel more informed in our decision making.

Visitors suggested art projects, and we had an opportunity for visitors to build cardboard playgrounds for our cockroaches using paper tubes and boxes.

We have changed our program by asking questions in a different manner to promote discussion and a deeper understanding of what they are working on. We also work more closely with the parents to give them the confidence to interact with their children and become active participants in their learning experience.

### **If the Collaborative were to continue, what would you like to see changed?**

Nothing must change but I would encourage all the members of the collaborative (including myself) to submit required documents on time and to continue sharing ideas.

If we are able to continue I would like to see maybe online postings/pictures of what others are doing. I'd like to see a component that helps facilitate the partnership with the individuals we are mentoring better...not a requirement but a component that adds more to the conversation than, "give me a call if you need anything."

I get the most out of the workshops where we are all in the same location, so I hope that would still be an option.

I truly feel that if there is some way to include travel in the grants it makes a huge difference in the dynamics of the group. Partners are more likely to reach out and collaborate on ideas when they have met each other.

### **What advice/information would you like to share with the third year partners?**

Being in the collaborative helps us improve our centres through sharing of ideas. By so doing we are helping our children by the information shared in the collaborative. I would encourage every partner to share whatever useful knowledge they have with other partners.

I think that this is a great way to connect and share what those in the Early Learning field has done and are doing.

Be intentional about networking. You will gain more from the experience if you invest in getting to know the other programs you are partnered with.

Attend the workshop if you are able. Don't hesitate to call someone with a similar design/program to ask for advice.

Pay attention to your feedback from the evaluations and be willing to make changes accordingly and reach out to others in the collaborative if you ever need help.

## **Appendix K: Year Two Partners' Evaluation Responses from Online Surveys**

### **What knowledge and/or skills have you and/or your program staff gained by participating in the Early Learners Collaborative?**

I have gained more insight on effective teaching tools and methods for younger audiences.

It is inspiring to hear what others are doing, especially because we are a small rural museum.

Ability to look closely at programming and adjust/adapt.

The conference calls gave us an opportunity to learn from others about what did and didn't work in their institutions. The articles we read, and the discussions that followed were excellent professional development and allowed time for reflection.

We liked the experiment of the month sheets: cheap ideas for easy to do interactions with the children

We have gained so many valuable resources through the collaborative. We especially liked the shared monthly experiments.

### **How has participating in the Collaborative affected your institution? If it hasn't, please explain.**

This is my first year in the Program Coordinator position, so this collaborative has helped train me a little more and give me more practice and sources for developing my own programs for the museum.

We have made needed changes based on the parent feedback forms that we used. I know that this partnership encouraged us to get this vital feedback from parents that we may have otherwise neglected.

It has helped us to take a closer look at our ECE programs, especially in terms of evaluation and program delivery.

Our participation in the Early Learners Collaborative affected our institution by formalizing our program of professional development for preschool teachers. The evaluation we were asked to complete as part of the collaborative gave us the format and tools to ask for feedback. This formalized gathering of feedback has helped to strengthen our program and our partnership with the childcare center.

Sharing articles helped us to describe the significance of early learning and best practices in order to get buy-in from our staff.

It was interesting to do the deeper evaluation of our demos for youngsters

I really enjoyed the research articles that were shared, and I shared them with my staff as well.

### **How did participating in the Early Learners Collaborative affect your thinking about early childhood learning in general / your program specifically?**

It certainly changed the way I planned activities for smaller children. Before I had kind of assumed this way or that way would work but after working on an activity meant to target the younger ages in particular and having gone through the trial and error process I have a much better notion of how to develop for early childhood ages. I had always made a focus on kids 1st grade and older and it has become very clear that the techniques that work for those ages don't work quite so well for the toddlers and pre-k age group. The articles and information from other groups have really made me realize that educating on the younger kids as well is very important, but also that the programs we have already prepared will need to be altered drastically.

Specifically, we have worked to better support our Spanish speaking families by translating material and providing additional support staff.

It reinforced that early childhood learning is as much about the young participants as it is about the adult caregiver.

## **Appendix K, cont'd.**

Sharing articles and best practices with others in the field helped to validate some of our practices and think about ways to incorporate new activities into existing programs.

It was wonderful to learn how many museums are working together to provide a high quality experience for little learners.

### **What modifications to your program have you made as a result of information shared through the Collaborative? If you haven't made any modifications, please indicate.**

I have changed the way Headstart to the Theater works in a classroom. Instead of focusing on having them on a real stage or being an audience I have decided that having them act out a story with educational material inside of it and then asking them questions in the end is much more effective.

The time that is spent on the activities has been shortened to keep the children's interest.

We have modified some of our material that we hand out to parents in the sense that we now translate all of it. We have also simplified some of our material.

We gathered surveys from participants.

We have not made modifications, yet. We are now discussing with our childcare partner how to make the program more sustainable.

We regularly renew our demos for the young children, with the development of the next one we take into account what we learned from the surveys as well as idea's we got from the experiment of the months sheets and the phone calls

I have made modifications based on the adjusting feedback from the guest surveys, with great success!

### **If the Collaborative were to continue, what would you like to see changed?**

I think it would be very nice if there was a messaging board or something like it. Where we could post open general questions. Or perhaps something like Basecamp, so that we could share documents, slideshows, and pictures easily and have a group calendar. I love the articles that we have received and the calls when we are able to share with the group and get feedback.

I would love to see some photo images of the partners conducting activities. Getting a visual on what each of us are doing would be fun. It is great to talk about our programs and the activities that we do within them, but actually seeing some images would help bring it all together.

I am new to this process, only just recently stepped in on behalf of Karen Lennon.

Nothing. It is helpful to be reminded of professional resources on an ongoing basis

I would have liked someone from our SC to attend one of the meetings with the partners. I am not sure how this could be made more realistic (considering time and money) for the partners further away, maybe combining with a conference?

I am quite happy with the current structure.

### **What advice/information would you like to share with the third year partners?**

I am not sure really what advice I have to share! I have really just been trying to soak up the advice and information from everyone else.

Collaboration is vital to program growth and sharing ideas is what helps us to provide excellent programs. Learning from others is key!

Nothing at this time.

If possible, face-to-face meetings are very helpful. So ACM and ASTC are both worthwhile.

Be open for new ideas

I would encourage them to contact members of the collaborative for support and for the purpose of sharing resources.