



**Westmoreland Library
Network**

**Librarian/Volunteer
and Student Surveys
for the Westmoreland
Library Network's
CCSS/NGSS Pilot for
Summer Reading Club
funded by the Eden
Hall Foundation for
2016**

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Introduction

The Westmoreland Library Network's (WLN™) CCSS/NGSS Pilot for Summer Reading Club 2014-15 introduced Common Core State Standards (CCSS) in mathematics and Next Generation Science Standards (NGSS) into annual children's Summer Reading Club (SRC) programming. The two-year pilot included professional development and workshops for staff in the summers of 2014 and 2015; it was renewed for the 2016 year with a focus on underserved populations and parents, under funding by the Eden Hall Foundation. The WLN thanks the Eden Hall Foundation for its generous support. The project emphasizes "foundational skills necessary to master reading," with a special focus on incorporating mathematics and science, generally for grade levels K-8.

The central purpose of the 2016 project is to train and guide library administrators, staff, volunteers, and 3rd party providers in math/science content and pedagogy and then impart those same skills onto parents through the course of a sequence of parent nights. The project seeks to enrich library capacity and demonstrate and provide math and science learning continuity and sustainability for students between academic sessions, during out-of-school summer months, all embedded in a SRC reading enrichment experience. The Allegheny Intermediate Unit Math & Science Collaborative (MSC) of Western PA, which provides services for 138 public school districts and non-public schools, and is a comprehensive and award-winning organization for advancement of K-12 STEM learning, provided training. The MSC has developed a complex array of training for teachers, administrators, and institutions of education, which has been customized specifically for this library project.

Survey Design

The WLN contracted with the Collaborative for Evaluation and Assessment Capacity (CEAC) to evaluate the impact of the 2016 CCSS/NGSS Pilot for Summer Reading Club program at the five WLN public libraries in Delmont, Greensburg-Hempfield, Monessen, Latrobe (Adams) and New Kensington (Peoples). Two surveys were constructed for parents and librarians to examine the effect of the program on the children, parents, and other training participants, particularly with regard to how their familiarity and understanding of mathematics and science concepts progressed. Survey responses for multiple-choice questions addressed the following evaluation questions:

- *How comfortable were you with STEM topics before and after attending the parent activities?*
- *Generally, how interested would you say your child(ren) was/were prior to attending the STORYTIME STEM-PACKS™ activity? After?*
- *What did you learn during the session that helps you better understand and support your child/children's STEM learning?*
- *Were you satisfied with the STORYTIME STEM-PACKS™ activity?*

Key Findings

Key Findings for the Librarians

- 100% (n= 10) of librarians and associated training participants found the STORYTIME STEM-PACKS activity to be aligned with STEM standards, easy to use and understand, quick to assemble and prepare, fun for kids, and easily connected to home and school.
- 80% of librarians and associated training participants found the program to be *perfectly* suited to their needs.
- 90% of librarians and their associated participants found the two days of professional development to be extremely helpful.
- Comfort with STEM increased from 40% of training participants to have a comfort level of 50+% to 90%.

Key Findings for the Parents

- 100% (n=25) of parents were satisfied with the STORYTIME STEM-PACKS™ activities.
- 92% (n=24) of participants agreed that access to books and library programs were the most important services provided by libraries.
- The number of parents who felt comfortable with STEM increased from 54% (n=14) to 77% (n=20) following the program.
- 46% (n=12) of parents felt that their children were more interested in STEM as a result of the STORYTIME STEM-PACKS™ activities.
- A large majority of respondents (88%, n=23) had some measure of familiarity with STEM concepts.
- Parents' level of education appeared to have no effect on the depth of the impact of the parent nights.

Training Participant Survey

Respondent Characteristics for Training Participants

Ten training participants responded to the survey and all respondents completed the entire survey. Forty percent (n=4) of respondents identified themselves as a library director. The remainder of the respondents included 4 members of children's services, 1 volunteer, and 1 other. Ten individuals attended the April 8th professional development session on the Maisy Playground, and another ten attended the April 15th session on Peg + Cat Racing episode with some overlap between the two sessions. No further demographic information was taken for the survey.

Analysis Overview and Findings for Training Participants

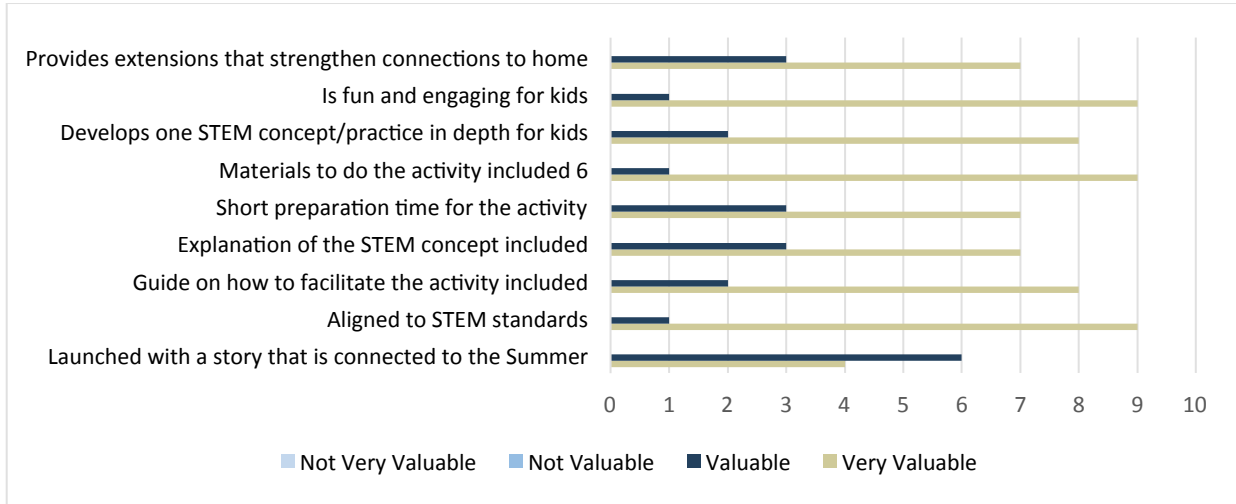
In analyzing the data, basic descriptive statistics were used for scaled questions. Qualitative analysis strategies were conducted on the open-ended questions of the survey. Many of the open-ended questions elicited a wide range of answers, as is evidenced in the statistics and findings below. In forming the report, survey items and responses were organized based on the following evaluation questions:

- *How valuable do you find the following features of STORYTIME STEM-PACKS™?*
- *How well do STORYTIME STEM-PACKS™ fit your needs?*
- *How valuable were the two days of professional development provided on April 8th and 15th?*
- *Where was your comfort level with facilitating STEM activities with children in the library before the STORYTIME STEM-PACKS™ professional development?*
- *Where is your comfort level with facilitating STEM activities with children in the library after the STORYTIME STEM-PACKS™ professional development?*
- *How will you use STORYTIME STEM-PACKS and what you learned during the Professional Development in your work in the library?*
- *Why should librarians and educators use STORYTIME STEM-PACKS and/or participate in the Professional Development Sessions? What would you tell them?*

How valuable do you find the following features of STORYTIME STEM-PACKS™?

100% of training participants found all aspects of the STORYTIME STEM-PACKS™ to be valuable. The most valuable aspects were considered to be the tie-in to the Summer Reading Club theme, the materials, and engagement for kids.

Figure 1. Features of the STORYTIME STEM-PACKS™ Activity



How well do STORYTIME STEM-PACKS™ fit your needs?

100% of training participants considered the STORYTIME STEM-PACKS™ to fit well or very well with the needs of the library. 80% considered it to fit very well with the library, while 20% only considered it to fit well. Some of the comments about the STORYTIME STEM-PACKS™ included that they were a ready resource that fostered a child’s curiosity, made it easier to introduce STEM concepts at a younger age, and foster confidence in young children with regard to STEM concepts.

How valuable were the two days of professional development provided April 8th and 15th?

Nine of the ten individuals considered the two days of professional development to be very valuable. One training participant stated that the days were valuable because they demonstrated how the children would feel doing the activities and how the learning process could be more easily facilitated to get the most out of the activities. The directors did not find the professional development to be as helpful, as they were not doing the STORYTIME STEM-PACKS™ themselves. Others found the background presentation to be too long and drawn out. 100% of training participants found all modules of the professional development to be valuable or very valuable.

Where was your comfort level with facilitating STEM activities with children in the library before the STORYTIME STEM-PACKS™ professional development? After?

Four of the ten individuals had more than a 50% confidence level in their ability to run STEM activities prior to the professional development, whereas nine of the ten had more than a 50% confidence level in their ability after the professional development.

How will you use STORYTIME STEM-PACKS™ and what you learned during the professional development in your work in the library?

The most common uses of the professional development discussed were the teaching of the concepts learned to parents during the parent sessions, implementation of the STEM learning practices into the summer reading programs, teaching to children’s librarians who did not attend the session, and the use of STEM in other library programs.

Why should librarians and educators use STORYTIME STEM-PACKS™ and/or participate in the professional development sessions? What would you tell them?

According to training participants, librarians and educators need to stay up to date on STEM concepts to increase interest in STEM, help bridge the summer gap for students, keep individuals up to date on the STEM education innovations, provide a greater number of resources, and give librarians guidance.

Parent Survey

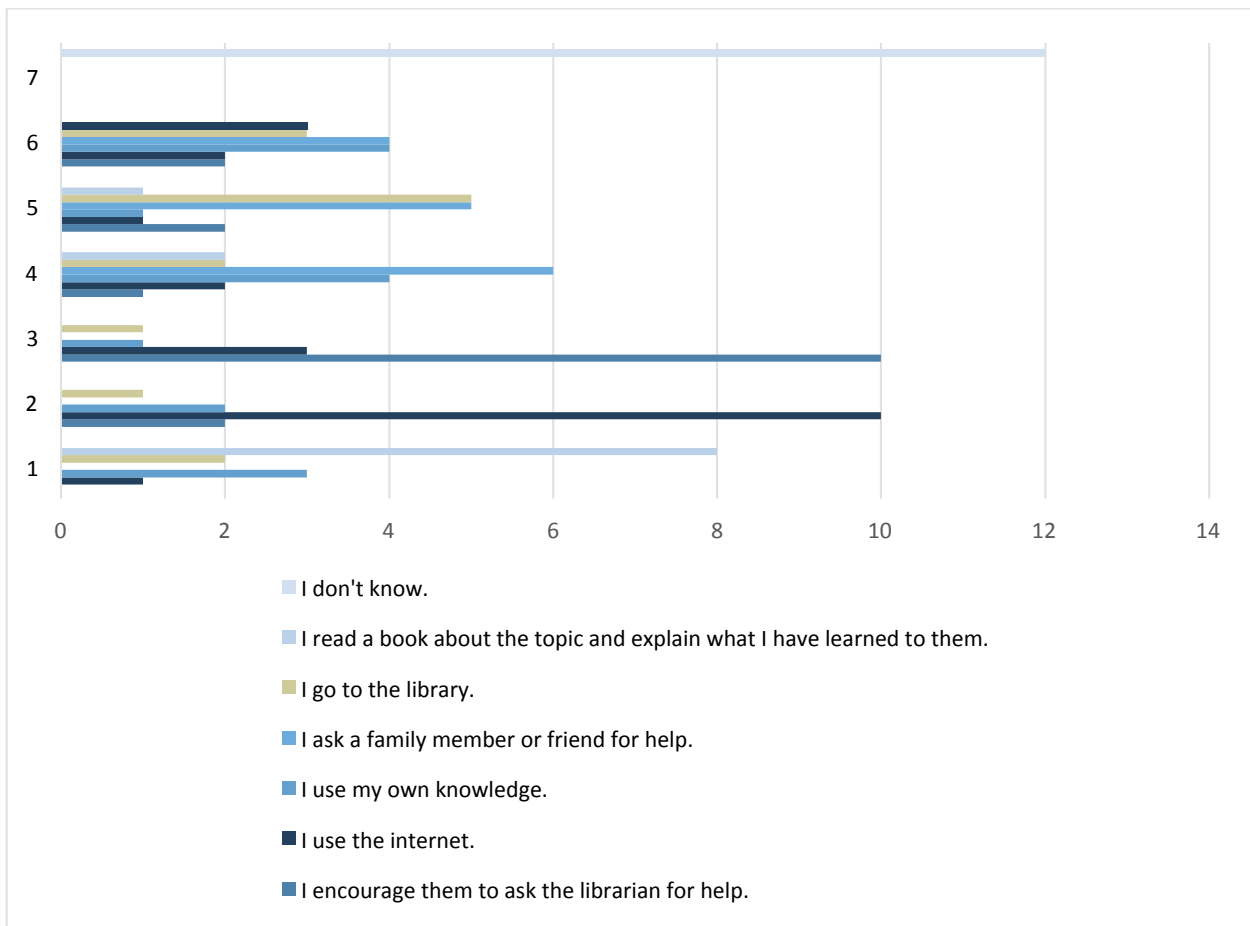
Respondent Characteristics for Parents

An e-mail containing a link to the survey was sent to the librarians of each participating library. They were instructed to print the survey and pass it to all participating parents. Of 26 survey respondents, four attended both nights, nine attended both sessions on night 1, and seven attended both sessions on night 2. Two parents attended only the first and second session each. Two parents attended only Night 2 first session. Eleven parents (42%) went to the Greensburg-Hempfield Public Library, three went to the Delmont Public Library, three went to Peoples Public Library in New Kensington, and nine went to the Adams Memorial Library in Latrobe. Three parents completed only high school or a GED, two parents received associate's degrees, and six completed bachelor's degree programs. One individual completed some coursework toward a Master's degree, while five had actually obtained Master's degrees. Four individuals completed graduate coursework, and five had doctorates. Three parents considered themselves to have no familiarity with STEM concepts, ten parents had completed coursework beyond high school in math and/or science, and twelve parents completed professional development in math or science. All twenty-six parents attended with their children. Eight of the children were in preschool, ten were in kindergarten, nine were in first grade, three were in second grade, four were in fourth grade, two were in fifth grade, and one was in eleventh grade.

Parents were also surveyed for what their children usually did during their summer vacations. Twenty-four parents said their kids played outside, eleven said their kids played on a sports team, fifteen said their kids went to camp, fifteen said their kids went to museums, twenty-three said they visited family, twenty-two said they went on vacation, twenty-four said they swam, nineteen said they played with friends, twenty-three said they went to the library, twenty-five said their kids read, and sixteen said they played computer or video games. Furthermore, one parent said they homeschooled their child during the summer, another said some time was allocated for family, another played piano, another watched movies, and one last parent said they did STEM activities with their kids.

Furthermore, parents were surveyed in order to discover how they encouraged their children to learn. The options were encouraging them to ask the librarian for help, using the internet, using the parent's own knowledge, asking a family member or friend for help, going to the library, reading a book about the topic and explaining what I have learned to them, or not knowing.

Figure 2. How Parents Encourage Children to Learn about Topics



Twenty-four parents responded that they believed libraries were for people to check out books. Twenty-four parents said they were there to have programs and activities for kids. Sixteen parents said they believed libraries were for people to use computers. Eleven parents stated that libraries were for students to get homework help. Twenty parents said they were there to teach kids and adults. One parent said it was to obtain resources online.

Most parents stated that they went to the library either two to three times a month or once a week. Similarly, their kids went to the library either two to three times a month or once a week. 100% of parents said that their kids checked out books when they went to the library. Seven parents (27%) said their kids played computer games at the library, but only a single parent said their child went to the library to use the computer for homework. 50% of parents said their kids read at the library, and 50% said they did not. Six parents stated that their kids went to the library to see friends, but no parents said that their kids went to the library to do homework. Twenty-five parents (96%) said that their kids went to the library for programs. Three parents stated that their kids went to the library to check out movies, and two went to the library to play with toys.

Three parents stated that their kids read 3-5 books each summer, a parent stated that their kids read 6-10 books each summer, and twenty-two students stated that their kids read more than ten books each summer.

Four parents stated that they were entirely uncomfortable with STEM prior to professional development, but none said that they were entirely uncomfortable afterwards. Six parents said that they were somewhat comfortable with STEM prior to professional development, and the same number stated they were only somewhat comfortable afterwards. Fourteen parents said that they were very comfortable prior to professional development, and twenty said so afterwards. Two stated that they were unsure prior to professional development, but none said as much afterwards. Eight parents said that their children had an extreme interest in STEM prior to the STORYTIME STEM-PACKS™ activity. Ten parents said that their children had an interest in STEM prior to the activity. Two parents expressed no interest in STEM prior to the activity, and six were unsure. Ten parents said that their kids' interest in STEM definitely increased as a result of the activity, while fourteen parents said that their kids' interest probably increased. Two parents said that their kids might or might not be more interested as a result of the activity. Overall, all but one parent believed that educational programs at the library improved their kids' progress in school. The favorite topics during the session were the growth mindset, the importance of spatial awareness for later learning, giving praise, and encouragement.

Analysis Overview and Findings for Parents

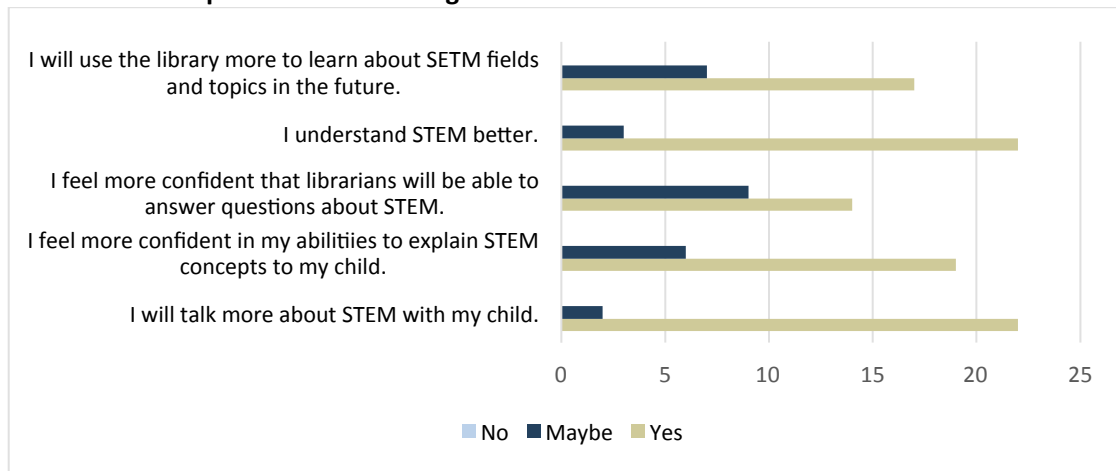
In analyzing the data, basic descriptive statistics were used for scaled questions. The primary evaluation of the survey was geared toward the effect of the parent nights on interest in mathematics and science. In forming the report, survey items and responses were organized based on the following evaluation questions:

- *After participating in the parent night activities, which of the following do you believe is true of yourself?*
- *After participating in the parents' professional development activity (the parent-only hour of each night), which of the following do you believe is true of yourself?*
- *After participating in the STORYTIME STEM-PACKS™, which of the following do you believe is true of your child?*
- *After participating in the STORYTIME STEM-PACKS™ activity, which of the following do you believe is true of yourself?*

After participating in the parent night activities, which of the following do you believe is true of yourself?

Twenty-two (92%) parents stated that they would talk more with their children about STEM concepts. Nineteen (76%) parents believed they would feel more confident in their abilities to explain STEM concepts to their children. However, only fourteen (61%) parents felt more confident about librarians answering questions about STEM. Twenty-two (88%) parents said they understood STEM better, and seventeen parents believed they would use the library to learn more about STEM fields and topics in the future.

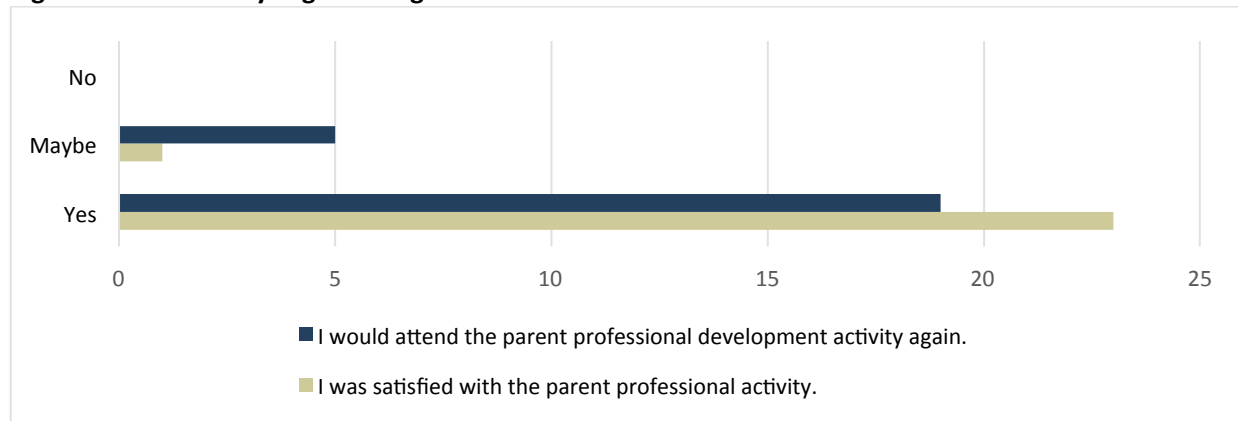
Figure 3. Parents' Responses to Parent Nights



After participating in the parents' professional development activity (the parent-only hour of each night), which of the following do you believe is true of yourself?

Twenty-three (96%) parents said that they were satisfied with parent professional activity, and nineteen (79%) parents said that they would attend the parent professional development activity again.

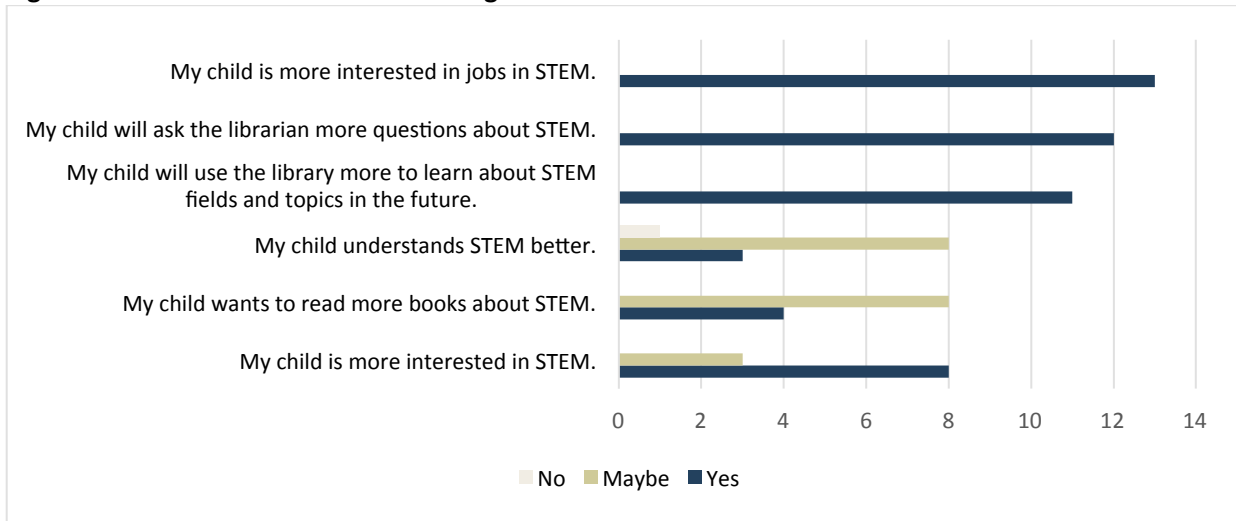
Figure 4. Parent-Only Night Thoughts



After participating in the STORYTIME STEM-PACKS™, which of the following do you believe is true of your child?

Seventeen parents said that their child was more interested in STEM, while six were uncertain. Thirteen parents believed their child wanted to read more books about STEM, while ten were uncertain. Eleven parents believed their child understood STEM more, twelve were uncertain, and one believed their child would not understand STEM more. Sixteen parents said that their child would use the library more to learn about STEM fields and topics in the future, while seven parents were uncertain. Eight parents said that their child would ask the librarian more questions about STEM, while fourteen were uncertain and one believed their child would not. Only seven (30%) parents were more interested in jobs in STEM, but fourteen parents were uncertain and two believed their children would not be.

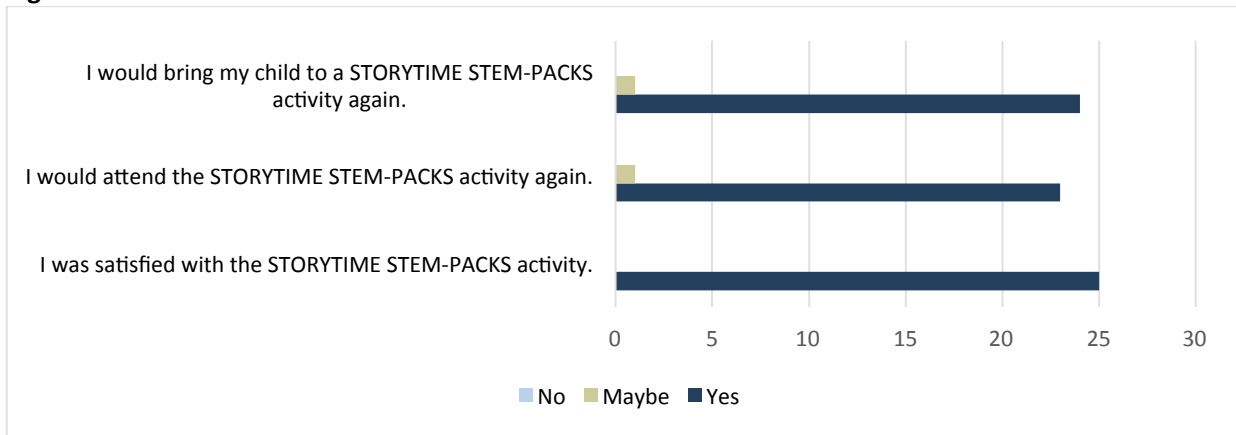
Figure 5. Effect on Child After Parent Nights



After participating in the STORYTIME STEM-PACKS™ activity, which of the following do you believe is true of yourself?

Twenty-five (100%) parents were satisfied overall with the STORYTIME STEM-PACKS™ activity. Twenty-three parents said they would attend the activity again, but one stated that he/she was uncertain. Twenty-four (96%) parents stated that they would bring their child to a STORYTIME STEM-PACKS™ activity again, but one was uncertain.

Figure 6. Satisfaction with STORYTIME STEM-PACKS™



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