STEAM Storytime, White Tank Library

Abstract of the Program:

STEAM Story Time is a non-traditional enrichment program for preschoolers aged 3-6 that explores concepts related to STEAM (Science, Technology, Engineering, Arts and Math). We introduce young children to an idea through literature; then they can visit at least three thematic activity stations. Themes have included geology, engineering, biology, arithmetic and many others. Examples of stations include geode smashing (geology), building with marshmallows and toothpicks (architecture), mixing slime (chemical reactions). These activities encourage open-ended discovery through experimentation. The goal is to introduce STEAM to children (and their caregivers, who may not have access to such resources) at an early age. Caregivers are also empowered to observe and discuss scientific concepts that exist in their daily life with their preschooler.

The Problem or Need for the Program:

The early childhood years, birth to age 5, have long been accepted as the most critical point in brain development. Studies by the National Science Teachers Association show that young children learn through active exploration—and the drive to observe, interact, discover, and explore is inherent in their development. Many educators believe that evidenced-based STEM curricula should begin at a preschool age, setting children on a path to develop a love of scientific inquiry. Even so, caregivers may not feel empowered to introduce these concepts or have the resources available. Childcare staff may not always offer active exploration based STEAM curriculum and programs that do are often cost prohibitive. Our STEAM program solves these problems by offering a free program for children before they enter kindergarten.
Not only does our STEAM program support active scientific exploration, it also alerts caregivers of the educational importance of STEAM in today’s society.

**Description of the Program:**

STEAM Storytime is scheduled for one hour every Tuesday of the month. The first 30 half is time for the children to have an open discussion, listen to stories, and explore a scientific concept using non-fiction and fiction books. The second portion of the program includes hands-on, science-based activities. There are three or more engagement stations, which allow the children to experiment with a variety of materials that enhance the concepts introduced and discussed during story time. Literacy is no longer limited to only reading and writing; it includes basic scientific knowledge, the ability to use and understand technology, problem solving and the ability to process information.

One of the objectives for STEAM storytime is to help children learn to be attentive and to follow direction. Children develop basic social skills through cooperation with others in a group setting. Most importantly, we introduce children and caregivers to STEAM concepts. We encourage children to think about problems or ideas and work on ways to solve them. Parents and caregivers actively participate so they can be involved while their child is learning about STEAM through open-ended hands on activities.

Parents, caregivers, and kids can easily recreate the activities at home. Experts say that science instruction improves abilities in subjects outside of STEAM, including literacy, language-learning, math, and executive functioning. Early exposure to STEAM supports children’s overall academic growth, develops critical thinking and reasoning skills and enhances later interest in science careers. Our STEAM program ensures that children become familiar with these concepts before entering kindergarten.
Preparing and implementing STEAM Storytime can take up to two months. First, we choose a concept to explore such as human anatomy. We research and acquire non-fiction and fiction books to use when introducing the theme. These books, as well as other materials, are available for caregivers to take home after the program to extend the activities. We use both print and digital resources from the library, as well as resources and lesson plans available for websites. We then incorporate hands-on activities to reinforce concepts and encourage engagement and discovery. For example, in exploring human anatomy we made skeletons using noodles glues to paper and plastic containers containing cotton balls with different scents.

Cost of the Program:

The cost of the program comes from our programming budget and runs approximately $50.00 for materials and supplies. The books are already part of the library collection so they don't add an additional cost. Staff spends about one hour to set up the program, 45 minutes for the actual program, and one hour to take down the program. Research and gather materials can take up to 20 hours per session.

The Results/Success of the Program

For February 2017, we reached 128 preschool children and their caregivers. The next session in September 2017 reached 152 pre-k children and their caregivers. The most recent session in January 2018 reached 204 pre-k children and their families. We conducted follow-up outcome surveys with the parents and caregivers to collect data and insights about their experience. Statistics showed 97% have a better understanding of the value of doing the STEAM activities they learned with their children from participating in the program. All people interviewed said they used what they learned to do something new or different with
their child(ren), spend more time doing what they learned with their child(ren), and used additional library resources.

Anecdotal evidence from attendees also relates the popularity and success of the program. “We love the activities” and “this is great, we'll definitely have to try this at home!” are just some of the comments we have received.