

Executive Summary

During fall 1998, KCTS produced 50,000 “Bill Nye Family Fun Science Packets” that included a family calendar and a ten-minute video. This outreach packet was meant for distribution to families with school-age children and designed to encourage family science activities at home.

KCTS distributed these Packets in sets of 25-1,000 to community organizations, PBS stations, and member agencies of the Association of Science-Technology Centers (ASTC). This study focused on capturing information about family and child involvement in science activities before and after they receive the BILL NYE Family Fun Science Packet and characterizing the use patterns and impact of the Packet.

Evaluation Activities

Partner Organization Telephone Interviews Beginning in November 1998, we contacted 204 of KCTS’s partner organizations for interviews about their distribution of BILL NYE Family Packets.

Questionnaires We sent “before” questionnaires to 38 of the 204 sites for distribution at a parent meeting or event. The parents completed the form prior to receiving the calendar and video.

Approximately two months later, this same group of parents from the 23 sites received a follow-up questionnaire in the mail asking them about their use of the BILL NYE Family Packet to date. We sent the second survey to all those who completed the first survey and had included a legible, complete address—846 participating families.

Focus Groups After completing telephone interviews with parent-outreach coordinators, we selected six organizations in five cities which were willing to help us conduct focus groups. The five cities included: Seattle, Boston, New York, Dayton and Chicago.

Packet Distribution

Organizations received their Family Fun Packets between September 1998 and January 1999. Coordinators noted that with few exceptions, they distributed the packets between September 1998 and August 1999, the peak being between November and February.

More than one-third of the outreach coordinators revealed that they distributed the Packets without prior announcement; their clients came to the site “for other purposes.” Almost half of the coordinators interviewed reported doing nothing to publicize the Packets; they gave out the Packets unsolicited to regular clients.

Although there were exceptions, a typical distribution involved an encouraging pat on the back and handing the packet out to a parent with a brief, verbal explanation. About one-third of the groups played the video during the introduction of the materials or included it

as an aspect of the event itself. *up* In about half of the locations, coordinators said they followed up with their clients after the original Packet distribution.

Packet Use

The expectations of the coordinators were quite high. Two-thirds of the outreach coordinators believed their client families would use the kits once families took them home.

The Video. Use of the video, one of the most popular components of the Packet was very high, with the great majority of respondents viewing at least once. To date, 95% of the families have viewed the video.

The Calendar. Most of the families did one or more experiments from the calendar. More than a third of those receiving the packet, however, did not conduct any experiments by the time our data were collected.

Parents who participated in the project through community centers conducted more experiments, in general, and all of the experiments were tried by anywhere from 7% to 35% of the participants. The experiments modeled by Bill Nye in the video and those for January and February were the most popular. Parents rated each of the experiments that they conducted on average between “good,” and “very good.”

Baseline

Child-initiated family discussions about nature, astronomy and animals are significantly more likely to occur within families who received the packets via science centers, and these parents also report a greater frequency of questions in general from their children.

We also asked a series of questions in an attempt to profile family interactions, especially as they relate to science activities.

We also asked questions about adults experience with science and about science activities instigated by parents. Parents who received the packets at science centers are significantly more likely to engage in science activities themselves than are those who received the packets at community centers.

On average, parents agreed slightly that two impediments to conducting science experiments at home are lack of time and the messiness of science

Those parents with reservations about the video or BILL NYE tended to be more experienced with science in school and in their careers. Those with the most glowing comments often claimed to have disliked science as students and to not be “science people.”

Effect of the Packets

After using the packets, not unpredictably, children more frequently “suggest science activities.” The opportunity to view the video and attempt a few experiments seemed to stimulate more interest in science. Also, our high users find that they agree

significantly less with the statement, "I don't know where to get answers," to children's questions about science. Parents seem to now have a greater sense of available resources and strategies for finding answers to their children's questions. They may also realize that they don't have to know all the answers to their child's questions about science. Among both high-user families (three or more experiments) and low-user families, parents agreed significantly more often with the statement, "Science is messy" after using the Packet.

Highlights of Conclusions and Recommendations

- ◆ Packets were distributed informally and at non-structured events. Overall, one-third of the packets were given out during family and children's programs or daily interactions such as an after-school program.
- ◆ Most people who received the kits used them in some way.
- ◆ Materials needed for experiments were easily located.
- ◆ Families conducted a moderate amount of experiments. By the end of the study period, more than two-thirds of the responding families had conducted BILL NYE experiments at home. Each experiment was tried by anywhere from 5% to 40% of the group.
- ◆ The BILL NYE name encouraged people to try the Packet.
- ◆ The video was a nearly universal outreach tool. Parents offered copious accolades for the video, and the video experiments were the most popular ones, both of these across ethnic and socio-economic lines.
- ◆ Packets were well received. Parents cited both student enjoyment and learning as outcomes from both the video and the calendar.
- ◆ The video moved people from enjoying passive, TV entertainment to active, science experimenting.
- ◆ Time constraints and mess discourage science at home. After using the Packets, parents who tried three or more experiments were significantly more cognizant of how time consuming and potentially messy science can be.
- ◆ The Packets reached many families who had only a modest interest in science because of their educational experiences.
- ◆ Clarify who the intended audience of the Packet is. There is ambiguity about the audience's age level and the level of the parents' science experience, and some wonder, "Are the Packet and its contents for parents or children?"

- ◆ Use established distribution strategies and partners to reach target populations and maximize use of outreach gifts. The current distribution strategy reached a very diverse group of people, socio-economically, ethnically, and in terms of family size, make-up and experience with science.
- ◆ Consider producing materials in other languages.
- ◆ Provide more opportunities to receive official BILL NYE experiments. Many parents who became excited about family science as a result of their experiences with the video and calendar expressed a desire to find more BILL NYE activities.
- ◆ Provide more cautionary messages, especially for parents to join kids in doing experiments.