Cyberchase at Home
Formative Evaluation of Outreach Activities for Parents and Children

Report for
WNET Thirteen

by
Barbara N. Flagg
Multimedia Research
33 Browns Lane
Bellport, NY 11713

with assistance of
Alice Bernard
Valerie Knight-Williams
Helen Swartwood-Carley

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EXECUTIVE SUMMARY OF *CYBERCHASE AT HOME* EVALUATION
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This formative evaluation gathered feedback from parents and their fourth grade children in response to two activities included in the *Cyberchase at Home* outreach materials. The user-based feedback will assist with the design of new outreach materials. The general goals for the research were to explore reactions to the activity card format; assess appeal and difficulties in implementation of two activities; estimate comprehension of activity content; and evaluate parental interest in further activities and workshops.

Sample. Four parent-child pairs were recruited at each of three national sites in California, Florida and Massachusetts. The parent sample of 12 included 7 females and 5 males, with 3 minority representatives. The child sample of 12 included 6 females and 6 males, with 3 minority representatives. One parent and eight children had seen the *Cyberchase* television series. All but one parent described that they did math or math-related activities with their fourth-grader including homework, card or board games, mental math practice and flashcards. Six parents reported using the web to download a child activity. Thus, this sample represents parents who are positively oriented towards getting involved in their child's math education.

Procedure. Participants reviewed and implemented two activity cards from the *Cyberchase at Home* product: "How much will you spend?…Make an estimation" and "It's magic!…Use numbers to do magic tricks." Parents were interviewed after reading through the *Cyberchase at Home* folder activity cards; parents then implemented the two main activities and optional activities with their fourth grader, completed a parent and a child survey after each activity, and were interviewed after their experience.

Reactions to activity card format. After the initial review of the cards but before implementing activities, three-quarters of the parents reported that they would do at least one of the activities with their child if they had received the cards in the mail. The remainder felt that the mailing would be thrown out as junk mail or that their child would not be interested or did not need such activities. On the initial exposure, half of the parents reported liking the clear presentation of the activities, the attractive layout with pictures, and the content; however, half of the parents felt that the cards should be less busy and less wordy in presentation and text. One-third of the parents were uncomfortable with the orange color, suggesting a different color or more colors.

Appeal of activities. The activities were rated relatively high in appeal both by parents and their children. On a scale of 1 to 5, where 5 means "liked very much," the main estimation activity was rated at 3.8 (parents) and 4.0 (children). and the main magic activity was rated at 4.2 (parents) and 4.4 (children). Appeal related directly to ease of implementation and interest of the child in the activity and content.

With respect to the estimation activities, parents liked spending time with their children making cyberbucks or going to the grocery store. They found the real world application

surprising, informative and creative. Seven parents would recommend the activity and three would recommend it "somewhat," emphasizing the parent-child interaction and the importance of the skills practiced. Of the two parents not recommending the activity, one mother observed that her child felt the activity was work and one father did not understand the usefulness of estimation. On average, children liked the activity – liked making cyberbucks and going shopping, particularly those who got to spend time with their dad. Two children reported liking to estimate. However, there also were children who specifically did not like making cyberbucks (2 kids) or going to the store (2 kids) or estimating (1 kid).

Parents liked the magic activities because their children enjoy magic tricks and the tricks were relatively easy to do. Five parents would recommend the activity and seven would recommend "somewhat," because of the fun of the 'magic' or 'trick' and less because of the math involved. On average, the children liked the magic tricks very much because they like 'tricking' people and the tricks were fun to do.

Implementation of activities. In the pre-activity interview, none of the parents foresaw any difficulties in implementing either main activity; however, some minor difficulties arose in actual practice.

Two-thirds of the parents had no difficulty implementing the estimation activity; however, two discovered that grocery shopping was not a favored activity with their child and suggested using a shopping venue that was more appealing to kids than a supermarket. Also, two parents recommended that the directions clarify that participants use their own shopping list rather than the one pictured in the activity; for them, the illustration confused rather than clarified the activity. One-quarter of the parents reported trying some optional activities without significant difficulties.

Half of the parents noted that they had no difficulty implementing the magic activities. The remaining half mentioned different parts of the directions that confused them or their child. At least half of the parents tried the optional activities, and most felt that "Mind Reader" was difficult for the fourth graders because they could not hold all the various requirements in mind simultaneously.

Comprehension of activity content. All parents agreed that the estimation activity uses math skills, but three of the twelve parents were hesitant to identify the magic tricks as using math skills. Two-thirds of the children could describe some sort of learning from the estimation activity, with three children noting that they learned something about the relationship of estimation and spending money. Most children, when asked to report the most interesting thing they learned from the magic activity, referenced learning "magic" and that the trick(s) were fun.

Interest in future activities and workshops. One-third of the parents were positive about attending a workshop for parents and kids where they could learn how to use math activities at home; another third of the parent sample was positive but described caveats of time and location; and the final third was negative about the idea – either they did not feel their child needed such math activities, they did not have time or the *Cyberchase* activity experience did not encourage them to participate.

Three-quarters of the parents were unequivocally interested in receiving activities to help their child understand about spending, saving and budgeting money, commenting that such activities were important to them to teach their children. The uninterested parents voiced a lack of time and need for these activities.

Prior to participating in the activity evaluation, half of the parents reported having downloaded some kind of child activity from a website but three-quarters suggested that they might download the *Cyberchase at Home* activities, if they knew about them. After participating in the activity evaluation, seven parents preferred to receive activity instructions by mail because of slow downloading time, limited computer availability, more attractiveness in hard copy, and the excitement of kids getting their own mail. Four parents preferred downloading from the web because they feared that a mailing would be tossed as junk mail, unless specifically identified. The remaining parent had no preference either way.

Conclusions. The following conclusions are based on only twelve parent-child pairs and should be considered tentative in their recommendation power. The activity cards were appreciated by both the parents and their children, although feedback suggests that modifications for future cards might include a reconsideration of color, busyness of layout and density of wording. Parents felt that the activities introduced needed math skills, but a "kid speak" math message might be added so that the participating children come away with a clearer learning outcome, beyond the experience itself. Parents were inclined to do optional activities if the directions were clear and their children were interested in the content. A majority of parents were interested in future money activities but preferred receiving such activities via well-identified snail mail. Resources for math activity workshops are probably better spent on mailing the money activities, because such workshops were not a high priority for two-thirds of the parent respondents.

SUMMARY AND DISCUSSION

Twelve parent-child pairs reviewed and implemented two activity cards from the *Cyberchase at Home* product: "How much will you spend?…Make an estimation" and "It's magic!…Use numbers to do magic tricks." Parents were interviewed after reading through the *Cyberchase at Home* folder activity cards; parents then implemented the two main activities and optional activities with their fourth grader, completed a parent and a child survey after each activity, and were interviewed after their experience.

Reactions upon initial exposure

After the initial review of the cards but before implementing activities, three-quarters of the parent sample reported that they would do at least one of the activities with their child if they had received the cards in the mail. The remainder felt that the mailing would be thrown out as junk mail or that their child would not be interested or did not need such activities. On the initial exposure, half of the parents reported liking the clear presentation of the activities, the attractive layout with pictures, and the content; however, half of the parents felt that the cards should be less busy and less wordy in presentation and text. One-third of the parents were uncomfortable with the orange color, suggesting a different color or more colors.

Appeal of activities

The activities were rated relatively high in appeal both by parents and their children. Appeal related directly to ease of implementation and interest of the child in the activity and content.

With respect to the estimation activities, parents liked spending time with their children making cyberbucks or going to the grocery store. They found the real world application surprising, informative and creative. Seven parents would recommend the activity and three would recommend it "somewhat," emphasizing the parent-child interaction and the importance of the skills practiced. Of the two parents not recommending the activity, one mother observed that her child felt the activity was work and one father did not understand the usefulness of estimation. On average, children liked the activity – liked making cyberbucks and going shopping, particularly those who got to spend time with their dad. Two children reported liking to estimate. However, there also were children who specifically did not like making cyberbucks (2 kids) or going to the store (2) or estimating (1).

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Implementation of activities

In the pre-activity interview, none of the parents foresaw any difficulties in implementing either main activity; however, some minor difficulties arose in actual practice.

Two-thirds of the parents had no difficulty implementing the estimation activity; however, two discovered that grocery shopping was not a favored activity with their child and suggested using a shopping venue that was more appealing to kids than a supermarket. Also, two parents recommended that the directions clarify that participants use their own shopping list rather than the one pictured in the activity; for them, the illustration confused rather than clarified the activity. One-quarter of the parents reported trying some optional activities without significant difficulties.

Half of the parents noted that they had no difficulty implementing the magic activities. The remaining half mentioned different parts of the directions that confused them or their child (see page 13 for specifics). At least half of the parents tried the optional activities, and most felt that "Mind Reader" was difficult for the fourth graders because they could not hold all the various requirements in mind simultaneously.

Perception of math in activities

All parents agreed that the estimation activity uses math skills, but three were hesitant to identify the magic tricks as using math skills.

Two-thirds of the children could describe some sort of learning from the estimation activity, with three children noting that they learned something about the relationship of estimation and spending money. Most children when asked to report the most interesting thing they learned from the magic activity referenced learning "magic" and that the trick(s) were fun.

Potential for further participation in *Cyberchase at Home*

Before participating in the activity evaluation, only one parent had viewed the *Cyberchase* television series but all but one parent reported that they did math or math-related activities with their fourth-grader including homework, card or board games, mental math practice and flashcards; thus, this sample represents parents who are already positively oriented towards getting involved in their child's math education.

In the post-activity interview, parents were asked if they would attend a workshop for parents and kids where they could learn how to use math activities like these at home. One-third of the sample was positive about the possibility; one-third was positive but described caveats of time and location; and the final third was negative about the idea – either they did not feel their child needed such math activities, they did not have time or the *Cyberchase* activity experience did not encourage them to participate.

Three-quarters of the parents were unequivocally interested in receiving activities to help their child understand about spending, saving and budgeting money, commenting that such activities were important to them to teach their children. The uninterested parents voiced a lack of time and need for these activities.

Prior to participating in the activity evaluation, half of the parents reported having downloaded some kind of child activity from a website but three-quarters suggested that they might download the *Cyberchase at Home* activities, if they knew about them. After participating in the activity evaluation, seven parents preferred to receive activity instructions by mail because of slow downloading time, limited computer availability, more attractiveness in hard copy, and the excitement of kids getting their own mail. Four parents preferred downloading from the web because they feared that a mailing would be tossed as junk mail, unless specifically identified. The remaining parent had no preference either way.

Conclusions

The following conclusions are based on only twelve parent-child pairs and should be considered tentative in their recommendation power. The activity cards were appreciated by both the parents and their children, although feedback suggests that modifications for future cards might include a reconsideration of color, busyness of layout and density of wording. Parents felt that the activities introduced needed math skills, but a "kid speak" math message might be added so that the participating children come away with a clearer learning outcome, beyond the experience itself. Parents were inclined to do optional activities if the directions were clear and their children were interested in the content. A majority of parents were interested in future money activities but preferred receiving such activities via well-identified snail mail. Resources for math activity workshops are probably better spent on mailing the money activities, because such workshops were not a high priority for two-thirds of the parent respondents.