Cyberchase
Phase II Field Evaluation
Spring 2002

The Television Show and the Website

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by

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<div align="center">**EXECUTIVE SUMMARY**</div>

Cyberchase is an animated math adventure Television Series on PBS with an accompanying Website that extends the reach of the program through various interactive activities. The goal of Cyberchase is to improve children's general attitude, and self-confidence about mathematical problem solving, particularly among girls and ethnic minority groups. The focus of this naturalistic study was to explore the enjoyment and appeal of Cyberchase, and its influence on children's attitudes about math, self-confidence about mathematical problem solving, patterns of Website use, mathematical problem solving skills, and content recall.

Highlights of Findings

Cyberchase was very popular with the 3rd and 4th grade children in our sample. The more children engaged with Cyberchase, the more they enjoyed it, and the more they reported that it helped them with math and problem solving skills. Cyberchase is especially appealing to the younger children in the target audience, to girls, and to Hispanic children. Children enjoyed both Cyberchase's animated and the "For Real" segments. One of the strengths of Cyberchase is that the characters think, and that sustains interest in the Series. The Website has great appeal. Nearly two-thirds of site visitors stay an hour or more; the site has extraordinary "stickiness." Highlights of the findings are presented below; all scores are based on responses scored on a 5-point rating scale. All findings presented below are statistically significant. In addition to reporting the average score for these questions, we have converted the relevant scores to a percentage appeal rating (actual score as a percentage of the maximum score of five).

Program Enjoyment and Appeal

Children enjoyed Cyberchase's animated segments (an 82% appeal rating) and "For Real" segments (78% appeal rating). Regular viewers rated it even higher. The more children engaged with Cyberchase, the more they liked the it. Cyberchase skews towards the younger children in the target audience, girls, and children of Hispanic descent. The characters are appealing and children identify with the heroes. Jackie and Matt have a 92% appeal rating, Digit a 90% appeal rating, and Inez an 88% appeal rating.

Attitude About Mathematics
Children had a positive attitude about mathematics overall (4.2 based on a 5-point scale). The more children engaged with Cyberchase, the more positive their attitude about mathematics. Younger children in the study have a more positive attitude than older children, and girls have a more positive attitude than boys. Hispanic children had a more positive attitude about mathematics than Caucasian children. Children who engaged more with Cyberchase had a more positive attitude (Low < Medium < High).

Self-Confidence About Mathematical Problem Solving
Children reported high self-confidence about problem solving overall (4.3). The more children engaged with Cyberchase, the better their self-confidence about problem solving (Low < Medium < High). Younger children have more self-confidence than older children, and girls have more self-confidence than boys in solving mathematical problems. Hispanic children in our sample are more self-confident about mathematical problem solving than Caucasian children.

Website Use
About one-third (31%) of the sample reported visiting the Cyberchase Website, a finding that was consistent across grade and gender. About half of the children report no Internet access at home. When the children visit the Website, nearly two-thirds (65%) of them stay an hour or more, an extraordinary length of time for this age group and this kind of Website content. The more children engaged with Cyberchase, the more helpful they found the Website to be with both math and problem solving.

Mathematical Problem Solving
Of the children who visited the Cyberchase Website, 82% feel that it helped them with their math skills, and 72% feel that it helped them with their problem solving skills. Although we were not able to confirm statistically, there appears to be a trend towards better problem solving skills and increased engagement with Cyberchase.

Content Recall
About two-thirds of the children could identify an episode, 38% could identify the problem that was posed in the Cyberchase episode, and 29% were able to accurately identify how the heroes solved the problem. Students' recall of episode plots seems substantial. We believe that this is consistent with the children's indication that the content was engaging with its focus on the characters and their ability to think of ways to solve problems. Children who were more engaged with Cyberchase were better able to identify the method of problem solving used by heroes in Cyberchase.