

Cyberchase

Thirteen/WNET New York Summary Report of Script Reviews

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I. Executive Summary

Cyberchase is an animated television series in development by Thirteen/WNET New York that uses dramatic adventure stories to inspire an interest in and appreciation for mathematics among eight- to eleven-year-old viewers and to introduce them to important mathematical tools and problem solving strategies. During the scripting phase of production, the producers obtained peer reviews of draft scripts from mathematics educators and teachers. This report is a responsive evaluation of the common themes that emerged from 55 reviews of 26 scripts by 25 experts, focusing on script appeal, content presentation and informal learning approach.

Overall, reviewers found the scripts highly appealing for the target audience, with action-packed adventures, peppered with puns, jokes and slapstick humor, in which the three heroes prevail over the antagonist. Virtually all reviewers agreed that setting, characters, topics, language, and key elements of the stories match viewers' interests and successfully combine learning with fun and excitement. A small number of reviewers questioned specific instances of the use of slang and aggressive actions.

The reviews commended the scripts' mathematical accuracy and the age-appropriateness of the learning objectives. With few exceptions, they described scripts as clearly presenting mathematical tools in incremental, progressive stages with appropriate concept repetition. A limited number of reviews expressed concerns about the instructional pace or missed opportunities to reinforce or extend particular concepts. Some of the reviewers stressed the importance of the visual representation of mathematics in the final show, and raised questions about the use of informal mathematical language in presenting concepts.

Nearly all of the reviewers praised the scripts for including characters that demonstrate mathematical thinking, problem solving strategies, and the value of teamwork and communication. The heroes support learning behaviors by facing challenges with creativity, ingenuity and perseverance. Examples cited included using 'guess-and-check,' estimation, and thinking through problems to "discover" mathematical tools. They also said that the characters teach viewers new concepts and model mathematical thinking. These elements support the informal learning objectives and reviewers projected they will result in motivating viewers' mathematical interest.

II. Summary

Quality of Entertainment

Virtually every review made note of the high entertainment value of the *Cyberchase* script. The most common praise related to the suspenseful storyline and the age-appropriate nature of the setting, language, topics, and humor.

“3rd and 4th graders will eat it up.”

“This is a terrific script! I am confident that students will respond favorably and thoroughly enjoy the adventure in cyberworld.”

Quality of Mathematics

Overall, the mathematics demonstrated in the scripts is accurate, clearly articulated, and age-appropriate for the target audience. Reviewers praised the writers’ educational approach: basic concepts are introduced then built upon in increasingly complex and abstract lessons.

“You did an outstanding job- very clear and well organized.”

- A small subset of the reviewers voiced concern that the scripts moved through this process too quickly for some of the younger viewers to fully grasp the learning, or missed opportunities to repeat and reiterate concepts.
- Of the 55 reviews, 53 felt that there was adequate, compelling, age-appropriate math content.

Mixture of Education and Entertainment

Cyberchase successfully synthesizes the two most powerful elements in children’s educational programming: entertainment and educational value. According to the reviewers, the scripts reflect a fun, suspenseful, exciting handling of compelling mathematical content. Furthermore, the mathematics supports the stories by serving as the heroes’ tools in their adventures.

“I liked that the math was embedded and looked upon as fun as opposed to meaningless.”

Motivation

The program presents math in a motivating manner by integrating it into the suspenseful storyline and by demonstrating multitudes of real-life applications for the skills. By using mathematical thinking and problem solving strategies in a natural, enthusiastic manner, the characters demonstrate the value of math as an everyday skill. Reviewers felt that the potential of this to motivate the target audience was excellent.

“It should get them thinking about the power of problem solving and the usefulness of mathematics.”

“I feel you have taken a very difficult topic and created an exciting and motivating program that models successful problem solving, mathematical thinking and communication.”