

Summative Evaluation of FETCH Season I: *Executive Summary*

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EXECUTIVE SUMMARY

In 2005, WGBH began production of a new television series for children called FETCH. FETCH is a competition-based game/reality show for 6-10 year-old children that includes both animation and live action footage. The show is hosted by a cartoon dog named Ruff Ruffman.

Each week Ruff assigns competitors from the cast of real kids to leave the studio and go out into the world to complete challenges. There are typically two challenges assigned in each show. One challenge per episode requires its contestants to use science or engineering to answer a question or design a solution to a problem. The other challenge features art, sports, or music. Each season of FETCH focuses on three science content themes. The themes for Season One are Animals, Sky and Space, and Inventions.

In each episode of FETCH, some contestants complete challenges while others stay behind in the studio to observe the challenges and compete in the Half Time Quiz Show, a 90-second game in which contestants answer questions about what has happened in the challenges thus far. Quiz questions are designed to encourage audience participation and some are intended to reinforce the science concepts featured in the show.

FETCH is scheduled to begin airing on PBS in May of 2006. In December 2005, WGBH contracted Goodman Research Group, Inc. (GRG), a research firm specializing in the evaluation of educational programs, materials, and services, to conduct an early summative evaluation of the series. Because Season One was still in production, a limited number of shows were available. None of the shows had an opening sequence or final graphics, and the animated sequences were in various stages of production.

GRG employed a multi-method evaluation of FETCH with four 4th grade classes. Each class watched three episodes of FETCH. Students completed a pre-post assessment and participated in individual pre-post interviews. They also completed a feedback survey. The purpose of the evaluation was to:

- Determine the extent to which children's understanding of science content increased as a result of watching the show,
- Determine the extent to which children's recognition and application of scientific process skills increased as a result of watching the show, and
- Gather data on the appeal of the series to children.

KEY FINDINGS

FETCH has high appeal for its target audience, and children plan to watch the series when it airs in May 2006.

The vast majority of students (93%) reported that they *liked* FETCH or *liked it a lot*, the top two ratings on our scale. Similarly, 84% reported that they *liked* Ruff or *liked him a lot*. Most students reported that they will watch FETCH when it airs next summer.

The science and engineering content of the challenges was apparent and appealing to children.

When asked to describe their favorite part of the show, the largest group of students mentioned the science segment. When asked to make suggestions for new FETCH challenges, two of the top three categories mentioned were those related to science and engineering, confirming that students recognized these content areas as central to the series.

FETCH was effective at increasing children's understanding of science concepts.

After watching three episodes of FETCH, students' overall understanding of FETCH-related science content had increased at a statistically significant level. When asked to report what they learned from watching one episode of FETCH, 87% of students reported learning in areas that were closely aligned with the series' Season One content goals. Areas of learning included students' understanding about bacteria, animal diets, the relationship between an animal's physical features and its diet, and the use of enrichment devices at the zoo.

Limited data shows that FETCH was effective at increasing children's application of science concepts.

One question in the current evaluation focused on students' application of science knowledge by asking students to describe how they could determine whether an animal is a carnivore. The percentage of students who applied a FETCH science concept to answer this question more than doubled after watching FETCH. This increase was statistically significant.

FETCH was effective at increasing children's recognition of both science process skills and engineering design process skills.

After watching three episodes of FETCH, students' awareness of both science process and engineering design process skills increased at a statistically significant level. In particular, students showed increases in their awareness of three science process skills (*asking questions, making an hypothesis, and writing down what happens*) and four engineering design process skills (*brainstorming ideas, sharing ideas with other people, building an example, and sharing results*).

Watching three episodes of FETCH increased children's ability to use science process skills in some key areas but did not produce significant change in their overall ability to use science processes.

Students' application of two science process skills – recording results and identifying specific indicators as part of an experimental design – was low to begin with but nearly doubled after watching FETCH. However, these gains were not statistically significant, and there was no significant change in children's overall ability to use science process skills. Paired with other data collected in this evaluation, it appears that children in FETCH's target audience are familiar with science process skills but that they do not know how to apply them.

RECOMMENDATIONS

GRG recommends that WGBH continue with a second season of FETCH that is modeled closely after the episodes created for Season One.

The results from this evaluation indicate that children like FETCH and plan to tune in this summer, suggesting that the show has the potential to create a loyal viewership. The mix of science and non-science challenges is appealing to viewers and should remain part of the series.

GRG recommends that the show become more explicit in its presentation of the use of science and engineering design process skills. Being more explicit will help children recognize these skills as they are being applied to the real world science problems featured in the show.

Results from this evaluation suggest that while students are learning about science process skills in school, they are not learning how to apply those skills to solve science problems. FETCH has the potential to fill an important gap in children's understanding about conducting science by providing real world demonstrations of science. As state tests begin holding schools accountable for students' ability to use science process skills in the 2007-2008 academic year, schools will likely begin focusing more on the application of these skills.

Therefore, FETCH has the potential to help boost students' understanding of how to apply science skills by reinforcing their school-based learning in informal learning contexts. It is noteworthy that while science content was reinforced through words flashing on the screen and by the Half Time Quiz Show, process skills were not of equal focus.

GRG recommends using a longitudinal approach for future evaluations of FETCH.

The current evaluation used three episodes from the show to test the influence of the series on a number of child outcomes. While watching three episodes was effective at increasing students' recognition of process skills, their application of these skills was largely unchanged. Past GRG evaluations of ZOOM demonstrated that regular viewers are those who benefit the most from this type of programming.

A longitudinal study with regular FETCH viewers would take the findings from the current evaluation to the logical next step by demonstrating the extent to which regular exposure to the series is also effective at influencing children's application of science processes.