MULTIMEDIA RESEARCH

Formative Evaluation
of *CYBERCHASE*:
Castleblanca Leica Reel

Report for
WNET

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With support from the National Science Foundation, WNET has produced a pilot for a math television series for children. Entitled *Cyberchase,* the animated series presents a team of kids using mathematics to overcome challenges in the course of their travel through cyberspace. This formative evaluation gathered feedback from third graders in response to a Leica reel, which is a filmed storyboard with dialogue. The 22 minute video focused on using surveys to gather, organize and analyze data. The research goals were to assess viewers' comprehension of the survey process as presented in the video; their understanding of what a survey is; their perception of being able to do a survey themselves and their interest in doing a survey.

Sample and procedure

A sample of 70 third graders from Delaware participated, including 53% females and 24% minority students. After viewing the videotape in their intact classrooms, 22 students answered written questions (55% female; 18% minority) and 48 students (12 per class) were interviewed individually (52% female; 27% minority).

Results

A substantial number of third graders
recalled the survey process that the team of kids used,
demonstrated some understanding about what a survey is,
felt confident about being able to do a survey,
and were interested in doing one.

The major findings are summarized below. No statistically significant relationships were found with respect to the classification variables of gender or ethnic group. The term "surveyed students" refers to those who answered the written questions only; "interviewed students" refers to those asked individually a set of oral questions; "full sample" refers to both surveyed and interviewed students when they had been asked the same questions.

Comprehension of survey process. The problem facing Jackie, Matt and Inez in the video was how to find and save Dr. Marbles who was kidnapped by the evil Hacker. The team's problem-solving process included first -- doing a survey to find Hacker; second -- realizing that they found Dracula instead because they each asked different survey questions; and third -- doing a second survey with each team member using the same question.
Almost all interviewed students could recall the team's three activities:
   96% of interviewees reported that the team asked people questions to locate Hacker;
   92% described that the kids found Dracula first because they asked different questions;
   83% recalled that the kids persisted and asked the same question to find Hacker.
Almost one-fifth of the sample provided many details and needed no prompting, but many in their initial response shortened the story to the second survey and the final discovery of Hacker. One-quarter of the students used the word "survey" in their story retelling.

Comprehension of what a survey is. Interviewed students described a survey.
Three-fifths of interviewed students had some idea of what a survey is:
   27% reported that a survey was asking people questions to find something out;
   25% answered more specifically as what one does to locate someone or something;
    8% simply said a survey was asking people questions; and
   40% could not describe a survey.

Did students think they could do a survey? The full sample was asked if they thought they could do a survey, whereas only interviewed students were asked to explain why or why not.

   More than two-thirds of the full sample thought they definitely could do a survey:

 69% of the full sample said they could do a survey;

 23% did not feel that they could do a survey; and

  8% said 'maybe.'

Of interviewed students who felt they could do a survey, most suggested that if they lost something, they could find it by asking questions. Some interviewees simply expressed a feeling of comfort with being able to carry out a survey. Others suggested that they could do some part of the survey process - that is, either thinking up questions, asking questions or writing answers. Interviewed students who felt <u>un</u>able to do a survey asserted that they would have difficulty doing some aspect of the survey process - that is, either thinking up questions, finding people, asking questions or writing answers.

Interviewed students were also asked if there was something in the video that made them feel that they could or could not do a survey. One-third of respondents said "no," 17% said "I don't know," and 8% felt they could already do a survey before seeing the video. The remaining students, who were more positive about the video influencing them, mentioned variously that the kids made a survey look easy; that their use of the maps helped; that the kids were same-aged, smart, organized, persistent, helpful and worked together.

Did students think they could do a survey after seeing Jackie, Matt and Inez do one?
The full sample was asked if seeing the kids do a survey made them feel like they could do one also, and interviewed students were asked to explain why or why not.

   Three-quarters of the full sample felt that seeing the kids do a survey
     made them feel that they could do a survey also.

In the explanation of the interviewed students, half mentioned the kids in the video in some way: they focused on the kid-age of Jackie, Matt and Inez or described how they might do something similar to what the team did or recognized that the team showed the viewers how to do a survey; a few interviewees responded by recalling how the team found Hacker, and a few simply asserted that they could do a survey if the kids could. Interviews revealed that those few students who were not so responsive to the kids' role-modeling felt that doing a survey was too hard for them or that doing a survey in cyberspace was unrealistic.

Did students want to try doing a survey? The full sample was asked if they wanted to try doing a survey, and interviewed students also were asked to explain their choice.

   Two-thirds of the full sample were interested in trying a survey themselves:

 64% of the full sample expressed an interest in doing a survey;

 26% were definitely not interested in trying a survey; and

 10% said 'maybe.'

Interviewed students who were interested in doing a survey thought it would be fun or just thought they could do it. They also felt that a survey would be useful for finding someone or something lost. A few compared a survey to another activity they had done like voting or petitioning. One-quarter of interviewed students did <u>not</u> want to do a survey because they were nervous about doing one or thought it might be too difficult. Those interviewees who were not interested in doing the survey were just as able (or unable) to recall the various parts of the story and tell what a survey is when compared with interviewees who were interested in doing the survey.

Age appropriateness of doing a survey. Surveyed students were asked to choose if doing a survey would be easy, just right or hard for kids their own age.

   Three-quarters of surveyed students felt that doing a survey would be
     easy or just right for kids their own age.

 32% of surveyed students felt that doing a survey would be "easy" for kids their own age;

 41% responded it would be "just right;" and

 27% felt doing a survey would be "hard."

Learning from the video about doing a survey. Surveyed students were asked to estimate how much they learned from the video about doing a survey.

<center>

**Two-thirds of surveyed students thought they
learned a lot from the video about doing surveys**.

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64% of surveyed students felt they "learned a lot" from the video about doing surveys;
18% "learned some;"
14% "learned a little;" and
 4% "learned nothing."

What was liked and not liked about what the kids did. Viewers liked how the team went into cyberspace; how they worked together; how they did the survey; found Dracula first and then didn't quit but tried again. They liked how the kids tried successfully to find Hacker, convinced the castle owner to let them in and finally saved Dr. Marbles. Most students could not think of anything they did not like about what the kids did; however, 16% (of the 31 who were queried) did not like that the kids made mistakes and found the wrong castle.

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INTRODUCTION

With support from the National Science Foundation, WNET is developing an animated adventure series for 7-10 year olds. Entitled *Cyberchase,* the series involves a team of kids who use problem solving and logic to save the day on a dangerous and fun mission in cyberspace. This formative evaluation gathered feedback from third graders in response to one 22 minute VHS Leica reel, which is a filmed storyboard with dialogue. The video content focused on using surveys to gather, organize and analyze data. The research goals were to assess viewers' comprehension of the survey process as presented in the video; their understanding of what a survey is; their perception of being able to do a survey themselves and their interest in doing a survey.

METHOD

Sample

In Milford, DE, four third grade classes of 13 to 21 students each participated. The total of 70 students included 53% female and 24% minority - mostly Black with a sprinkling of Hispanic and Asian. After viewing the videotape, 22 students answered written questions (55% female, 18% minority), while 48 students (12 per class) were interviewed individually (52% female, 27% minority). When not answering the survey or being interviewed, students completed paper-based activities provided by the researchers (e.g., dot-to-dot; hidden pictures; mazes).

Procedure

Four researchers were present in each classroom to show illustrations and interview students. The head researcher introduced the series concept and procedure, as follows:

> "We are working with a group of television producers who are making a television series for kids your age. The show is an animated adventure series about a team of kids in cyberspace. In each half-hour show, the wacky but nice ruler of Cyberspace, named Motherboard, finds herself with a serious problem. A wicked villain named Hacker wants to control cyberspace. Hacker has planted a computer virus inside of Motherboard, weakening her power, so she calls upon the help of humans. The humans that Motherboard sucks into Cyberspace to help her include girls named Jackie and Inez and a boy named Matt, all of whom are about your age.
>
> To restore Motherboard's power, Jackie, Inez and Matt must stop the villains in their mad mission to overcome Motherboard and win ultimate control of Cyberspace. The kids don't have Super Powers, instead they use brain power, their thinking skills and logic, to save the day and to undo the evil caused by the villains. In the show, the team discovers problem-solving and math are powerful tools that can outfox the villains."

To familiarize respondents with the characters and animation style, students viewed the opening minute of "Poodleville," the pilot show of *Cyberchase.* The head researcher then introduced students to the Leica reel concept, as follows:

> "The producers have an idea for a story that might be expanded into one of the television shows in this animated series. You are going to listen to and watch a 20 minute videotape of the story idea. The videotape shows the early sketches of the animation. The sketches are in black and white ink, like the illustrations we are showing you. In the video, you will see Hacker [illustration shown] kidnap Dr. Marbles [illustration shown]. Dr. Marbles works for Motherboard [illustration shown] and fights the viruses Hacker tries to give her. The kids [illustration shown], Jackie, Matt and Inez and their friend Digit will try to find Hacker in a cyberplace called Castleblanca [illustration shown] and rescue Dr. Marbles. What you will see in the videotape are these early black and white still sketches. The animators want to hear your opinion before they color and animate the drawings. Also the videotape has only the sounds of the characters' voices; there are no special effects sounds or music in this video yet. You will have to imagine sound effects and music."

The whole class then viewed the videotape. Subsequently, each of the four researchers interviewed three students individually in the corners of the classroom. Gender and ethnic background were balanced for interviewees within each class. Interviews focused on confidence and motivation related to doing a survey.

Those who were not interviewed responded to written questions and were helped with reading by their teacher, if necessary. The survey included the following written introduction: "Jackie, Inez and Matt were looking for Hacker. They thought up a question to ask to locate Hacker. Then they asked many people the question and recorded their answers. That's called doing a survey." Students answered seven questions about their motivation relative to doing a survey.

A subset of questions were asked in both the written survey and in the interview, with the interviewed students providing explanations of their answers.

All quantitative data were examined with respect to the classification variables of gender and majority-minority background. No significant relationships between survey and interview answers and the two classification variables were found. Percentages in tables are rounded off to the nearest whole number.

COMPREHENSION OF SURVEY PROCESS

> Almost all of the interviewed students could recall the three parts of the problem-solving process used by Jackie, Matt and Inez:
> • 96% reported that the kids asked people questions to locate Hacker;
> • 92% described finding Dracula first because different questions were asked; • 83% noted that the team persisted and did a second survey.
> One-quarter of the students used the word "survey" in their story retelling; 17% of the sample provided many details and needed no prompting, but many in their initial response shortened the story to the second survey and the final discovery of Hacker.

The 48 interviewed students were asked the following question and prompting questions, if necessary, to assess their understanding of the survey process:

Please tell me the story of how the kids and Digit found Hacker.
> a. What did the team of kids do to locate Hacker?
> b. What happened the first time they tried to find Hacker?
> c. What did they do after they found Dracula instead of Hacker?

For our purposes, the retelling we were looking for focused on process and not specifics. The interview data were reviewed to determine what percentage of students could recall the three parts of the problem-solving process used by the kids:

1. The kids did a survey ["asked everybody, have you seen a tall guy with a cape"].
    96% reported that the kids asked people questions to locate Hacker.

2. The first time they did the survey, they didn't find Hacker ["they found Dracula because they all asked different questions"].
    92% noted that the kids found Dracula first because they asked different questions.

3. The kids did a second survey ["they found Hacker after they all asked the same question"].
    83% recalled that the kids persisted and asked the same question to find Hacker.

Some 17% provided many details and needed no prompting; for example:
> Researcher: Please tell me the story of how the kids and Digit found Hacker.
> Maj. Boy: "They went to cyberspace and the computer told Matt, Jackie and Inez to find Hacker's castle so they went to lots of people and asked them questions to see if they seen Hacker but with different questions. They put them all together and found Dracula. They sat there and thought about why they found Dracula, and they found that they asked people the wrong questions. Then a little man was saying everybody would be at the ball, and they got tickets for the ball and they said the right question. Then they got organized and put the maps together. Then they found it was around a swampy area, so they went there. . . . "
> Researcher: Describe for me what a survey is.
> B: "A survey is something that people write to inform of something to somebody."

Many respondents shortened the story to the second survey and the final discovery of Hacker, for example:
> Researcher: Please tell me the story of how the kids and Digit found Hacker.
> Min. Boy: "They asked about a man with a pointy chin, green skin and a cape. Most said the same place."
> Researcher prompt: What happened the first time they tried to find Hacker?
> B: "They asked different questions and found the vampire."
> Researcher prompt: What did they do after they found the vampire instead of Hacker?
> B: "They asked the same questions and put the answers together. The place that had the most, they went there first.

Researcher: Describe for me what a survey is.
B: "A clue you're trying to find?"

Researcher: Please tell me the story of how the kids and Digit found Hacker.
Min. Girl: "They asked everybody have you seen a tall guy with a cape and narrow chin and people chose the same place."
Researcher prompt: What happened the first time they tried to find Hacker?
G: "They found Dracula because they all asked different questions."
Researcher prompt: What did they do after they found Dracula instead of Hacker?
G: "They asked the same question about a tall man, with a cape, a green face and a narrow chin."
Researcher: Describe for me what a survey is.
G: "Don't know."

Researcher: Please tell me the story of how the kids and Digit found Hacker.
Maj. Boy: "They all asked people. They explained him and asked where they thought they saw him. They put it all together and figured out the average and all ended up on one street and they found Hacker and captured him."
Researcher prompt: What happened the first time they tried to find Hacker?
B: "They all asked different questions and found Dracula so they had to go back and re-ask people where they thought they saw him. They all asked the same questions."
Researcher: Describe for me what a survey is.
B: "I don't know."

Researcher: Please tell me the story of how the kids and Digit found Hacker.
Maj. Girl: "They went around asking people what he looks like to find him in the castle."
Researcher prompt: What happened the first time they tried to find Hacker?
G: "The first time they asked different questions and they found Dracula."
Researcher prompt: What did they do after they found Dracula instead of Hacker?
G: "They went around again but asked the same question. Everyone asked the same question."
Researcher: Describe for me what a survey is.
G: "Not sure."

Eleven students (23%) used the word "survey" in their story answers, sometimes referring to prior experience with the method; for example:

Researcher: Please tell me the story of how the kids and Digit found Hacker.
Min. Girl: "They used a survey. They were asking people about Hacker. They asked 'creepy' instead of 'mean,' 'large' instead of 'tall.' The second time, they asked the same thing - 'tall with a cape and a green face.' They put the information on maps and found the information in a huge spot and went there first."
Researcher: Describe for me what a survey is.
G: "It tells you information by asking people. It's kind of like a petition. We read a book about a petition to save the Earth."

Researcher: Please tell me the story of how the kids and Digit found Hacker.
Maj. Girl: "They found him by doing a survey."
Researcher prompt: What happened the first time they tried to find Hacker?
G: "They were doing the survey but they asked the wrong question."
Researcher prompt: What did they do after they found Dracula instead of Hacker?
G: "They ran, and they did another question and they asked the right question this time."
Researcher: Describe for me what a survey is.
G: "A survey is like when you go ask people like questions."

Researcher: Please tell me the story of how the kids and Digit found Hacker.
Maj. Girl: "They did a survey and the first survey didn't work and they found Dracula instead of Hacker. Then the second survey they did worked out right. To make it like that, they had to put two surveys on one. They all told different things to the people on the first survey so people thought of Hacker in different ways - that's why it didn't work."
Researcher: Describe for me what a survey is.
G: "A survey is when you answer questions. I did one in scouts so I know, sometimes people ask you different questions."

> Of the 48 interviewed students asked to describe what a survey is, three-fifths had some idea:
> - 27% reported that a survey was asking questions to find something out;
> - 25% described a survey more specifically as what one does to locate someone or some-thing;
> - 8% simply said a survey was asking people questions; and
> - 40% could not describe a survey.

The 48 interviewed students were asked to describe what a survey is.

- 27% described a survey more generally as asking people questions to find something out; e.g.:
  "Ask people about what dog food brand to buy. My mom gets surveys in the mail. You write the answers down."
  "You have a chart. You ask tons of people if they want or don't want and put it down on a piece of paper."
  "What to do to help yourself find the answer."
  "When you ask people a question, if you have a bunch of people, put it together, and it can be about a place or a thing."

- 25% described a survey as what one does to find someone or something; e.g.:
  "Ask a lot of people where somebody is; get a map; describe a missing child; big groups where saw him, might be there."
  "Something you ask everybody where someone's at."
  "When somebody is trying to find a thing; describe it; ask people where they saw it; go to that spot."

- 8% said a survey was simply asking people questions.

- 40% said they didn't know or forgot what a survey is. All of these students had needed prompting in order to tell the story of how the kids located Hacker (p.3-5); whereas of those above who tried to describe a survey, only one-quarter had needed prompting to tell the story.

After giving their answer about what a survey is, all interviewees were told what a survey was in the context of the video story, so as to prepare them to answer the subsequent questions:
  Remember that Matt, Jackie, and Inez thought up a question to ask to locate Hacker, and then they asked a bunch of people the question and recorded their answers. That's a survey.

DID STUDENTS THINK THEY COULD DO A SURVEY?

- 69% of the full sample thought they definitely could do a survey.
- 23% did not feel that they could do a survey.
- 8% said 'maybe.'

Interviewed students who felt they could do a survey gave the following types of reasons why:
- 23% noted if they lost something, they could find it by asking questions;
- 15% felt that they could do some part of the survey process - that is, either thinking up questions, asking questions or writing answers; and
- 15% expressed a feeling of comfort with being able to carry out a survey.

Of interviewed students who felt they could <u>not</u> do a survey, most felt they would have difficulty doing some part of the survey process - that is, either thinking up questions, finding people, asking questions or writing answers.

When asked if there was something in the video that made them feel that they could or could not do a survey,
- 35% of interviewed students responded positively;
- 33% said 'no;'
- 17% didn't know;
- 8% felt they could already do a survey before seeing the video;
- 6% explained that the video was not supportive of their doing a survey.

The surveyed students were asked:

Is a survey something that you think you could do? [possible choices: yes, maybe, no]

The interviewed students were asked:

Do you think you could think up a survey question and ask your classmates or family that question?
Why do you think you could? Was there something in the video that made you feel that you could do a survey?
Why not? Was there something in the video that made you feel you could not do a survey?

Did students think they could do a survey?	Yes	Maybe	No
Surveyed students (n = 22)	50%	27%	23%
Interviewed students (n = 48)	77%	na[1]	23%
All respondents (N = 70)	69%	na[2]	23%

Half of the surveyed students and three-quarters of the interviewed students were positive that they could do a survey. When interviewed students (n=48) were asked why, most (23%; 11) suggested that if they lost something or someone, they could find it by asking questions:

"Because I'd need to know something important, like I lost my bike, and I'd need to ask if they found it."
"Because if I lost something, I could ask my family to help find something, like my skates."
"When you lose something , they can tell you where to find it."
"All you gotta do is tell the color of the person, tell what they're wearing, ask someone and write it down."
"I'd describe my dad to people and then I could find him."
"Because you could ask questions to find someone who got lost."
"You think what they look like and ask if they saw the person."
"I would ask questions like how he looks and when did you see him."

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[1] Interviewed students were not given the option of 'maybe.'

[2] Because interviewed students were not given the option of 'maybe,' this calculation is not included for 'all respondents' and the row percentages do not add up to 100%.

'I could have a map and ask where they are."
"If I knew what I wanted to find out, I'd explain to see if they had seen it before."
"Because I always wanted to know if I have a twin brother, but I don't know that, he might have been adopted or something."

Another 15% of the interviewees suggested that they could do some part of the survey process - that is, either thinking up questions, asking questions or writing answers:
"I could ask 'please recycle.'"
"I would ask a question like 'would they like a movie on Friday?'"
"I'm good at asking many questions."
"Sounds easy, you go ask people, like selling candy."
"Almost all my life I've been asked all kinds of questions. I've learned I could ask questions."
"My favorite subject is writing. I'm good at that. "
"Easy - you only have to put things down. But hard - if they talk too fast, they can mess you up."

Some 15% of the interviewed students simply expressed a feeling of comfort with being able to carry out a survey:
"Not hard. I could do it before I saw the video."
"I feel comfortable with them."
"I'm so good at math and my parents would answer."
"Now I know what one is.'
"It's like people voting."
"I'd have to try it. If I knew I could, the question would be how to get to my poppop's house in CT."
"When they did a survey trying to find Hacker, I thought I could make up one for my class or family."

A consistent one-quarter of the sample (23%), whether surveyed or interviewed, felt that they could <u>not</u> do a survey. When interviewed students who could <u>not</u> do a survey were asked why not, most (19%; 9) felt they would have difficulty doing some part of the survey process - that is, either thinking up questions, finding people, asking questions or writing answers:
"Would be hard to write a survey."
"Hard to make up."
"Hard to think up one."
"Don't know any survey question."
"Couldn't think up right question to ask."
"Not good at finding people."
"Be hard to go around town, be very tiring."
"Would be really complicated and I might not know all of what to do."
"Because we've never had a survey."

Interviewed students also were asked if there was something in the video that made them feel that they could or could not do a survey:
- 33% of the interviewees responded "no."
- 17% responded that they didn't know.
- 8% responded "no" because they "could already do a survey before the video."
- 8% felt that seeing the kids do it made a survey look easy.
- 6% referenced the use of the maps, without mentioning surveys:
    "When the kids started to put down their answers on the map."
    "How they made up the chart and stuff."
    "When they put the maps together, if I keep trying I'm bound to get it sometime."
- The remaining interviewed students (21%) provided unique responses to the question of what in the video encouraged them to think they could do a survey:
    "When Jackie was trying to get organized with the cards to get candy."
    "Be brave enough to go around and asking monsters."
    "Part when they got mixed up and asked the wrong question made me feel even if I get mixed up, I can make another survey to get the answer."
    "That they were kids my age doing surveys."
    "How the kids were scientists; they were smart with their brain power."
    "The way the kids were being smart."

"They were helping. I could be nice too."
"They went around asking people questions."
"When they all went to the place where they split up to ask different people things."
"It takes a shorter time if with others."

The remaining interviewees (6%) felt that the video was <u>not</u> supportive of their doing a survey because the kids "went through a computer;" "finding the right thing was too frustrating;" and "asking people questions would make me nervous because it's the first time I would be meeting them."

• 77% of the full sample felt that seeing Jackie, Matt and Inez do a survey made them feel like they could do a survey also.
Of interviewed students who agreed:
• 17% thought the process looked easy;
• 17% described how they might do something similar to what the team did; • 10% focused on the kid-age of Jackie, Matt and Inez;
• 8% recognized that the team showed the viewers how to do a survey;
• 8% responded by recalling how the team found Hacker; and
• 8% simply asserted that they could do a survey if the kids could.
Those few interviewed students who were not so responsive to the kids' role-modeling felt that doing a survey was too hard for them or that doing a survey in cyberspace was unrealistic.

The surveyed students were asked:

> Did seeing Jackie, Matt and Inez do a survey make you feel like you could do a survey yourself? [possible choices: yes, maybe, no]

The interviewed students were asked:

> Did seeing Jackie, Matt and Inez do a survey make you feel like you could do a survey at home or in school?
> Why did seeing the kids do a survey make you feel you could do one too?
> Why did seeing the kids do a survey make you feel you could <u>not</u> do one?

Did seeing the kids do a survey make students feel like they could do a survey themselves?	Yes	Maybe	No
Surveyed students (n = 22)	68%	27%	5%
Interviewed students (n = 48)	81%	na[3]	19%
All respondents (N = 70)	77%	na[4]	9%

Two-thirds of the surveyed students (68%) and 81% of the interviewed students felt that seeing Jackie, Matt and Inez do the survey made them feel that they could do a survey also. When interviewed students were asked <u>why</u>, the following response types were given:

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[3] Interviewed students were not given the option of 'maybe.'

[4] Because interviewed students were not given the option of 'maybe,' this calculation is not included for 'all respondents' and the row percentages do not add up to 100%.

- 17% thought the process looked easy:
    "Already knew I could do this."
    "Because it looked easy."
    "Looked easy."
    "Looked easy - you talk to people."
    "Looked like it was easy- how they asked the question, split up in twos."
    "Looked easy but kind of hard to do with deadline."
    "Seems sort of easy, when you have a group of friends and work together."
    "I'm not good at finding things. I think I could. It looks really easy, but it probably isn't."

- 17% described how they might do something similar to what the team did:
    "If you wanted to find somebody, you could make charts, like tag, you could hear footsteps and see where they
        led."
    "I could do a survey to help me figure it out. I could ask people for clues and get me closer."
    "Once my sister got lost in the backyard and we had to think of the last time we saw her."
    "They explored the whole neighborhood to talk to people. When I lose something, I describe it to people."
    "When they tried to find Hacker, I knew I could describe my mom and ask people if they'd seen her."
    "I like kids that want to save things. I could make like a petition to clean up the world."
    "I'd have my parents and sister to help. My sister likes to ring doorbells; she could write down answers."
    "I could make up my own question like they did."

- 10% focused on the kid-age[5] of Jackie, Matt and Inez:
    "They are kids and we're kids and they did a survey, but they went on adventures which we can't do."
    "They are my age. Cartoons inspire me to do lots of things, especially cartoons that inform you."
    "They were just my age. I could do it."
    "They are my age. I can do it too."
    "They were a bunch of kids. They didn't really know how. They tried. I could too."

- 8% recognized that the team showed the viewers how to do a survey:
    "It gives you a chance to do it; they tell you what to do."
    "They showed me how. If someone shows you something new, it makes it easier to do it."
    "When I saw them do it, it looked like I would have more details, like if I lost my dog and had to ask people."
    "They gave me ideas how to do one, how to do the chart."

- 8% responded by recalling how the team found Hacker:
    "Finding Hacker at his castle."
    "They took a clue and found him."
    "They put their brains together."
    'They got maps, went to people and asked if they saw Hacker."

- 8% simply stated that they could do a survey if Jackie, Matt and Inez could:
    "I could maybe do what they could do."
    "If someone could do it, I think I could do it."
    "They did it, and I thought I could."
    "I know I could do it if I try, and if I try I'm bound to get it."

Few of the surveyed students (5%) and interviewed students (19%) answered no to the issue of
whether Jackie, Matt and Inez helped them feel that they could do a survey too. When the nine inter-
viewed students were asked why not,
- one said that she "always wanted to do one" so seeing the kids did not make a difference to her;
- two were concerned with specifics of the program - "might be scared I'd find something in another
    dimension;" "I wouldn't like asking freaky people."
- three said doing a survey would be "too hard" for them;
- three could not provide an answer.

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[5] Note that students were told in the introduction that Jackie, Matt and Inez were their age.

• 64% of the full sample were interested in trying to do a survey themselves, • 26% were definitely not interested in doing a survey.
• 10% said 'maybe.'
Interviewed students felt that doing a survey would be
• fun (25%);
• an activity that they could do (25%);
• useful for finding someone or something lost (15%);
• nerve-wracking (13%);
• difficult (13%); or
• similar to another activity they had done like voting or petitioning (6%).

The surveyed students were asked:

> Would you like to try doing a survey yourself - thinking up a question, asking people and writing down their answers? [possible choices: yes, maybe, no]

The interviewed students were asked:

> Would you like to try doing a survey yourself, that is. thinking up a question, asking different people the question and writing down their answers? Why? Why not?

Would students like to try doing a survey?	Yes	Maybe	No
Surveyed students (n = 22)	41%	32%	27%
Interviewed students (n = 48)	75%	na[6]	25%
All respondents (N = 70)	64%	na[7]	26%

Two-fifths of the surveyed students (41%) and 75% of the interviewed students expressed a clear interest in doing a survey themselves. A consistent quarter of the both samples were not interested in trying to do a survey. When interviewed students were asked <u>why</u> or <u>why not</u>, the following response types were given:

• 25% thought doing a survey would be fun:

"It would be fun." (4)
"It would be helpful and fun."
"It seemed fun and I get bored easily."
"It sounds fun. I would ask 'do you want to buy candy'? around the neighborhood."
"Surveys are so much fun. They're neat. I'd make new friends."
"It seemed cool, fun, easy. I could find my family if I was lost."
"It would be fun to think up something and ask people if they could help me."
"It would be fun. No else would do it, would like to help find lost person."
"It would be fun. A friend could hide something, do a survey to find it."

• 25% simply expressed the positive thought that they were able to do a survey:

"I could ask a bunch of people, could add them all up, could get the right answer and look there."
"I've never done a survey but I would like to because I think I could do a good job."
"I believe I can."
"I don't really like to write but I think I could."
"My class has never done something like that. You could tell how good they watched the video and can do things."

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[6] Interviewed students were not given the option of 'maybe.'

[7] Because interviewed students were not given the option of 'maybe,' this calculation is not included for 'all respondents' and the row percentages do not add up to 100%.

"After seeing the movie, it might make it a little easier."
"It seems like it was easy, but it might not have been because they got lost."
"If someone was with me, they could write while I ask questions."
"I would ask a question, do it with two friends, and by the second time, we could do it."
"I could make up whatever question you wanted."
"It seems kind of good to do."
"I want to be a scientist."

- 15% mentioned using a survey to find someone or something:
  "You ask someone, you tell them the color of the person, tell what they're wearing and write it down."
  "You get to ask questions, talk to people you never met before, did you see this person, have a picture and have stickers."
  "If you wanted to find somebody and you didn't know where they lived and there was guy chasing after you, you could go there."
  "Did you find my library book? All you gotta do is take clues, ask people, survey's done and you found the library book."
  "I would like to find my stuff when I lose it."
  "I could be like the kids on the show. I'd be on the trail of something I lost."
  "If somebody has a problem, it would be nice to solve it for them if they couldn't do it themselves."

- 6% likened the survey to some other activity they had done, for example, voting, a petition, a class survey:
  "I like to write down votes. We sometimes vote in class."
  "Someday I will. I just like the Earth. I would do a survey to save the earth" [goes on to describe a petition activity].
  "I've done one before with our counselor. We asked about pets. 'Do you have a dog?' We used tally marks."

The 25% of interviewed students who did <u>not</u> want to do a survey were nervous or thought it might be too difficult:
- 13% were nervous or uncertain:
  "It would be embarrassing."
  "I would be nervous. I'm shy a lot."
  "I'm really shy. It takes awhile to make friends."
  "Maybe when I'm older."
  "Dangerous things can happen."
  "People might not answer you or be mean to you."

- 13% felt doing a survey might be difficult:
  "I would forget what I was going to ask them."
  "If I was trying to find a place on the map, I would probably end up in the wrong place."
  "I could just call a help line."
  "I don't know if I could."
  "It's too much writing, too much talking."
  "Your legs would get tired and your brain would go blank."

AGE APPROPRIATENESS OF DOING A SURVEY

- 32% of surveyed students felt that doing a survey would be "easy" for kids their own age;
- 41% felt it would be "just right;" and
- 27% felt it would be "hard."

LEARNING FROM THE VIDEO ABOUT DOING A SURVEY

- 64% of surveyed students felt they "learned a lot" from the video about doing surveys;
- 18% "learned some;"
- 14% "learned a little;" and
- 4% "learned nothing."

WHAT WAS LIKED AND NOT LIKED ABOUT WHAT THE KIDS DID

> Viewers liked how the team went into cyberspace; how they worked together; how they did the survey; found Dracula first and then didn't quit but tried again. They liked how the kids tried successfully to find Hacker, convinced the castle owner to let them in and finally saved Dr. Marbles.
> Most students could not think of anything they did not like about what the kids did; however, 16% (of the 31 who were queried) did not like that the kids made mistakes and found the wrong castle.

All surveyed respondents (n=22) and 39 interviewed students were asked what they liked about what the kids did in the show. [8] The top categories of responses (n = 61) appear below:

- 18% liked that the kids "didn't quit when wrong, made changes" and tried again;
- 16% liked that the kids "saved the man," Dr. Marbles;
- 11% liked how the kids "went around the city and asked where Hacker was and made a map;"
- 10% liked that the kids "tried to find Hacker and did;"
- 10% liked how the kids "went into cyberspace;"
- 8% liked when the kids "worked together to find answers;"
- 6% liked when the kids "found Dracula instead of Hacker;"
- 5% liked "how they tried to convince the little man there was someone in the castle."

All surveyed respondents (n=22) and nine interviewed respondents were asked what they did not like about what the kids did in the show. [9] Most students could not think of anything they did not like; 16% (n=31) did not like that the kids made mistakes and found the wrong castle.

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[8] These 39 interviewed students agreed that the kids made them feel like they could do a survey at home or in school. The follow-up question for this group was - "what did you like about what the kids did?"

[9] These 9 interviewed students felt that the kids did not make them feel like they could do a survey at home or in school. The follow-up question for this group was - "what did you not like about what the kids did?"