

Formative Evaluation
of Paper Design Concept of
CYBERCHASE Online Financial Literacy Game

Report for
WNET Thirteen

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INTRODUCTION

This formative evaluation gathered feedback from a small sample of third graders in response to a paper design concept of an online financial literacy game for *Cyberchase*. The general goals for the research were to assess appeal and clarity of the game structure at an early on-paper stage. Additionally, a larger sample of third graders were surveyed about their money habits.

METHOD

Samples

Participating children are June third graders in a Long Island elementary school, about 90 miles east of NYC. The K-3 school has approximately 50% free or reduced lunch students. All third graders (N = 83) completed a survey about money; specific demographic data were not collected as part of the survey.

Parents of all third graders were asked for permission to participate in the one-on-one game review study; 40 parents responded positively. From these 40, 12 participants were chosen who used computer games, were familiar with the television series, and identified by their teachers as “not shy with strangers.” Demographics of the game sample appear in the following table:

Game Review Sample	All (N =12)	Female (n = 7)	Male (n = 5)
Minority	17%	14%	20%
Has computer at home to use	100%	100%	100%
Plays computer games at least once a week	92%	86%	100%
Cyberchase viewing: “I try to watch as often as I can”	33%	43%	20%
I sometimes watch”	77%	57%	80%
Has visited Cyberchase website	33%	43%	20%

Procedure

All third graders completed a set of open-ended questions about their money habits (see Appendix for survey). Twelve third graders met individually with the researcher for 25 minutes each, working through the paper game design. The complete walkthrough script appears in the Appendix.

RESULTS: PAPER GAME DESIGN

Use of Characters

Players were given the choice of playing the game as Inez, Jackie or Matt.

- All boys chose to play as Matt.
- 71% (5) of girls chose Jackie and 29% (2) chose Inez.

The researcher provided colored game pawns to stand in for the three characters. The game pawn was used by the player and researcher on the paper screens where appropriate to pretend the character was in the game.

After playing through the game, respondents were asked about their preference -- to play the game as a cybersquad character or to play as a character you build yourself from a variety of character parts or to play as yourself and not be seen on the computer screen.

- 75% (9) wanted to build their own character.
- 17% (2 girls) voted to play as a cybersquad character.
- 8% (1 girl) liked the game without a character in it.

Understanding the Game Structure

At home base, players heard a description of the mission (below) and then retold what the mission is in the game.

Hacker is working on a new super powerful virus – powerful enough to get into Motherboard’s circuits! Your mission is to upgrade Motherboard’s operating system so that her hardware will be strong enough to defeat Hacker’s new virus. To upgrade Motherboard’s operating system, you need to find these parts. To find these parts you’ll have to travel all around Cyberspace. Some parts you can earn by solving games or puzzles, others you’ll need to buy or trade from the stores in the Cyber Bazaar. Sneflus are what we call money in Cyberspace. Motherboard has given you 100 sneflus to get you started. One way of getting more sneflus is to get a job at a Cybersite.

After the initial mission description and probe questions, most students were clear generally on what they were to do in the game:

- 75% (9) said the goal was to defeat Hacker’s virus;
- 83% (10) said a player needed to find parts;
- 25% (3) noted traveling around to find parts;
- 42% (5) described solving games or puzzles;
- 42% (5) described buying or trading;
- 50% (6) mentioned using sneflus to buy parts;
- 92% (11) said you could get sneflus by getting a job.

After playing the section of finding one of the five parts, respondents were asked what the game was about by imagining that they had to tell the next student how to play the game.

Students were able to clearly explain the goal and process of the game. The game structure, to the extent that it could be presented on paper, was understood by third graders.

Home Base

Navigation. All students understood to move their character to the home base door to proceed to Grand Cyber Station.

Decoration. After playing the game, participants were asked if they would be interested in decorating or customizing the home area and what kinds of things they would like to have available to decorate with. All but one student (a boy) wanted to be able to decorate the home area.

- 58% (7) suggested home-oriented items:
lights (4), chairs (3), wallpaper (2), tables (2), books (2), TV (2), posters, globes, maps, computer, pillows
- 42% (5) suggested items related to the television series:
portal place, pictures of Hacker and Jackie, weapons for defeating Hacker, computer to find Hacker, chalkboard with list of parts needed, codes and locks for the message board.

Grand Cyber Station and Ticket Booth

Station. As players moved from home base to Grand Cyber Station, they were asked where they would move their character in the Station in order to further their mission:

- 67% (8) chose to move to the “Entrance to Train Area.”
- 17% (2) moved to the “Taxi” stand.
- 8% (1) moved to the “train ticket” window.
- 8% (1) chose the “Lost and Found,” thinking to find some parts there. This boy could not explain clearly the mission after the message board sequence.

Ticket booth. At the ticket booth, all students figured out to buy a blue ticket to Zootropia and chose to click on the rectangular Blue Line button to buy their ticket. All students knew they had 100 sneflus from Motherboard, that the blue line cost 20 sneflus, leaving them with 80, although a few students had difficulty with the subtraction.

After returning from Zootropia to the station and ticket booth, all students figured out to buy a green ticket to Cyber Bazaar. No one suggested buying a less expensive express ticket. [Note, however, that the express ticket was not color coded on the paper screen as were the other three ticket lines.]

Zootropia

Players were asked where to move their character in Zootropia in order to further their mission:

- 83% (10) moved to Logic Zoo because of the “help wanted” sign or because they recalled that they were to “save the animals.”

- 17% (2 girls) chose to go to Maps in order to “see where I am and where I should go.”

After reviewing the Logic Zoo game, receiving their 600 sneflus and returning to Zo-otopia, players were asked where they think their character should go now to continue on the mission of collecting parts for Motherboard:

- 66% (8) suggested going back to the station.
- 17% (1 boy, 1 girl) chose “Old Age Zoo,” thinking that parts could be found there.
- 17% (2 girls) had no idea where to go with their character.

Those who did not suggest the station were reminded of what the Cyberchase news said (“The news said that Krazy Kopernik’s House of hardware in Cyber Bazarre had Kepler Rings which you need for Motherboard. So let’s go to Grand Central and get a ticket to Cyber Bazarre.”)

Cyber Bazaar and Krazy Kopernik’s House of Hardware

Cyber Bazaar. In Cyber Bazaar, students diverged as to where they thought they should go next to continue their mission:

- 42% (5) chose to move to Krazy Kopernik’s House of Hardware to find parts.
- 17% (2 girls) moved to Harddrives R Us since the first part listed was a harddrive.
- 17% (1 girl, 1 boy) moved to Jim’s Junk Shop, thinking to find rings there.
- 17% (2 boys) went for Pies O’Plenty for the blueberry pie that Motherboard needs.
- 8% (1 boy) could not decide where to go and was redirected to Kopernik’s.

Kopernik’s. Upon entering Kopernik’s House, players clicked on yellow highlighted Kepler’s rings and were told that they could buy 5 rings for 100 sneflus each or trade an Eye of Rom for 5 rings:

- 58% (7) chose to buy 5 rings.
- 17% (2 boys) wanted to trade and when asked what they had to trade, they suggested searching in the game for the Eye of Rom.
- 25% (3 girls) also wanted to trade but when asked what they had to trade, they decided to buy instead.

All students knew to click <go back> to return to the Cyber Bazarre.

Skwak Pad. Players were asked if they had enough sneflus to buy the five rings and how they would find out how many sneflus they had. All but one student knew to click on the lower righthand Skwak Pad to find out their sneflus total.

Next step in the mission. After buying the rings and returning to Cyber Bazarre, players were told how many sneflus they had left and were asked what to do next to further complete the mission:

- 42% (5) were ready to go to Pies O’ Plenty to buy the Blueberry Pie for Motherboard.
- 42% (5) suggested generally trying to find another job.
- 8% (1 girl) generally wanted to buy more things.

- 8% (1 girl) wanted to check the news on the Skwak Pad.

Game Length

Students were asked how long they thought they would have to play to earn sneflus to buy all five objects that Motherboard needs:

- 50% (6) guessed 30 minutes and felt that length was “long.”
- 25% (3) guessed one hour and felt that length was “okay” to “long.”
- 25% (3) guess two hours and felt that length was “long.”

Since most players felt the game was going to be “long,” they were asked if the mission should be shortened or if they liked the idea that you can save the game and come back to it on another day to finish the mission. All but one girl wanted to keep the length and be able to save the game and return to it later.

Game Appeal

Students were asked what is fun or not fun about a game where you earn sneflus, buy objects, sell and trade objects. The participants were not able to explain anything that was “not fun” about the game. Their descriptions of what was fun follow:

Boys:

- I like meeting imaginary characters, seeing new things in cyberworld.
- You got to earn money, go anywhere.
- You get to go to sites, trade, find stuff and complete games.
- You get to collect things to defeat guys. It’s like a fighting game.
- I like doing an activity like Logic Zoo.

Girls:

- You earn things.
- You have your own job and get things.
- You go around getting jobs.
- You get to do different things and experience them.
- You get to do a mission.
- You get to go different places.
- I don’t know.

Players chose a face indicating how much fun the game will be for them to play when it’s in its final finished form on the computer. Everyone thought the game is fun, and two-thirds rated it as “lots of fun.”



5 girls
3 boys
67%

2 girls
2 boys
33%

Game Names

While reading the news aloud, the third graders tripped over numerous words including the nonsense names: Kopernik, Kepler, sneflus, Bazaar, selection, classifieds, logic, Zo-tropia. However, most respondents thought the names in the game were fun; although one boy was “bothered” by the names because “they were hard to sound out.” Players chose a face indicating how much fun the made-up names are; two-thirds of the sample felt the names are “lots of fun.”



5 girls
3 boys
67%

2 girls
1 boy
25%

1 girl
8%

Similarity to Other Games

Participants were asked if the game reminded them of any other board games or computer games. Only the games of Clue (1 girl) and I Spy (1 boy) were noted as similar.

Game Title

Players offered the following for possible titles of the game:

Cyber World

Hacker’s New Virus

Mission to Save Motherboard

Sneflus

Cyber Upgrade

Mission Squad

Motherboard in the Attack of the Virus

Stop Hacker

In response to six WNET proposed titles:

- 67% chose Mission Motherboard.
- 33% chose Operation: Hack Attack.

Game Positioning

Finally, students were asked if games like Logic Zoo should appear only in a mission or if they could appear also in a separate individual game section, thus appearing in two places on the website. So Logic Zoo, for example, could be played in a game section and also in a Motherboard mission:

- 75% (9) felt that the games could appear in two places on the website.
- 17% (1 girl, 1 boy) thought the games in the mission should not appear elsewhere.
- 8% (1 girl) said the games should be only in a game section.

RESULTS: MONEY HABITS

What is fun about money

Third graders were asked what they think is fun about money:

- 66% felt money is fun because “you can buy stuff.”
- 11% said that “saving it” is fun; e.g., “saving it so you can see how much money you can save;” “saving more money than average children your age and being proud of it.”
- 6% thought money is fun because “you can spend it.”
- 6% liked the math of money: e.g., “it’s fun to collect money because it’s like math;” “you can add and subtract the money.”
- 4% noted the visual part of money: e.g., “it has different faces;” “the President on it and the number on it.”

And then a few idiosyncratic responses were given:

“Donating money is fun because you can feel proud that you gave to poor people.”

“You have to earn it and then with what you earned you can spend.”

“Getting it is fun.”

“It is very important to your daily life.”

“It’s great.”

“Really nothing.”

Money Sources and Storage

Slightly over half of the third graders (55%, n = 46) get money from an allowance. These students keep their allowance in various places:

- 41% in a piggy bank, lock box, safe
- 20% in the bank
- 13% in their wallet
- 4% under their bed
- 4% in their diary
- 4% in their pocket

And one student each keeps their allowance in a “safe place,” with their “mom,” in a “drawer,” or on their “dresser.”

Almost all of the third graders (92%, n = 76) get money gifts from family or friends. These students store their money gifts as follows:

- 28% in a piggy bank, safe
- 22% in the bank
- 17% in their room
- 11% with their mom
- 8% in a box
- 7% in their wallet
- 5% under their bed

Banks

Two-thirds of the third graders (69%, n = 57) have money in a bank. Students described what a bank does as follows:

- 46% said a bank saves/holds/keeps your money or people's money.
- 22% said a bank holds money until you want it or need it; e.g., "keeps the money that you put in there so that when you don't have any you go to the bank and get your money."
- 12% noted that a bank keeps money safe; e.g., "holds your money so it's very safe."
- 7% said that banks give people money; e.g., "gives people money when they need it."
- 4% described the use of an ATM; e.g., "gives you money if you put your card in."
- 4% described college funds; e.g., "they save your money for your college fund."
- 4% had some idea about interest; e.g., "gives you interest for putting money in;" "it saves your money and it gives you some."

Money Purchases

Students were asked what they would do with a birthday present of \$50. Over half would save the money:

- 40% would save it
- 11% would put it in the bank
- 2% would save it for college
- 4% would save some and spend some
- 35% would spend on themselves – toys, clothes, sports equipment
- 7% would spend on others – parents, siblings

The last thing third graders bought with money of their own includes:

- 28% toys, games, Pokemon cards
- 17% food
- 12% clothes, shoes, jewelry
- 11% gifts for someone else (e.g., Mothers' day, birthday)
- 7% sports products
- 5% books

Most students (80%, n = 66) have saved money to buy something special. The special items included:

- 23% - Gift, usually for mom
- 17% - Playstation 2, X box, Gameboy or games for such
- 15% - Toy – doll, car, cards, stuffed animal
- 9% - Media – radio, CD or DVD player
- 6% - Jewelry – necklace, ring
- 6% - Room item – clock, candle, glass decoration
- 5% - Pet – dog, goldfish
- 3% - Bike
- 3% - Food
- 3% - College fund

The amount of money saved and spent on the special item ranged from \$2 to \$400 and took from 3 days to their lifetime of 8 years to save. About half of the students saved and spent less than \$50, but 17% saved more than \$150.

- 30% saved \$ 1 - \$20 taking 2 days to 2 months
- 18% saved \$ 21 - \$50 taking 3 weeks to 2 months. One student took 2 years for \$50.
- 18% saved \$ 50 - \$100 taking 1 month to 1 year. One student took 8 years for \$92.
- 9% saved \$100 - \$150 taking 1 to 8 months. One student took 1.5 years for \$110.
- 17% saved \$150 - \$400 taking 2 months to 2 years. One student took 4 years for \$220.

Grown-ups

Third graders were asked how grown-ups buy things like houses and cars that cost a lot of money:

- 35% said that grown-ups work
- 27% said that they save their money
- 6% noted that grown-ups work and save their money
- 6% said they get money from a bank
- 2% said grown-ups use credit cards
- 2% mentioned insurance

SUMMARY

Twelve third graders were walked through an early on-paper design concept of the online financial literacy game to assess appeal, clarity and navigational issues. In addition, 83 third graders completed a survey on their money habits.

Design Concept

- Three-quarters of the students wanted to play the game as characters they built rather than cybersquad characters or without a character.
- Most of the game structure was understood after hearing initially the mission explanation. All of how to play the game was clear by the end of the search for the first part, Kepler's rings.
- All but one student was interested in decorating home base. More than half of respondents suggested making home-oriented items available for customizing, and slightly less than half proposed items related to the *Cyberchase* show.
- In the initial navigation of Grand Cyber Station, most players assumed that the Entrance to Train Area was the appropriate move rather than the Train Ticket window. An audio of "do you have a ticket?" to those at the Entrance will direct movement to the window. On their return to the Station after visiting Zootropia, all students understood to purchase a ticket before approaching the Entrance to Train Area. Players had no difficulty with the procedure of buying a ticket, but no one noticed the cheaper express ticket to Cyber Bazaar.
Note that trains and taxis are familiar to New York students. It's possible that students in less urban areas would not see these transportation choices as obvious; consider using buses as a substitute for the Taxi or Train.
- Players had no difficulty with the navigation and game play of Zootropia and Logic Zoo, but one-third needed to be reminded of the Station as their next step to obtaining the Kepler rings.
- In Cyber Bazaar, players were willing to explore freely in the game, choosing four different stores to look for possible parts including the pie, harddrive and rings. Half of the players were willing to "buy" and half were willing to "trade;" of the latter group, however, only boys were interested in searching the game for something to trade.
- Players noticed the Skwak Pad icon and understood its purpose and usefulness.
- The length of the game was considered long by respondents but they liked the length and wanted to be able to save the game and return to it later.
- Everyone thought the game is fun and two-thirds rated it as "lots of fun." Players like getting a job, earning sneflus, going places, meeting characters and getting things.

Most players thought the made-up names were funny but many stumbled on reading them.

- The games of Clue and I Spy were mentioned as games similar to the one played, but most students could not think of similar games.
- As a game title, two-thirds of respondents chose Mission Motherboard and one third chose Operation: Hack Attack.
- Three-quarters of players were comfortable with games appearing in two places on the website.

Money Habits

- Two-thirds of the 83 third graders felt that money is fun because “you can buy stuff;” whereas 11% said that “saving it” is fun.
- An allowance is received by 55% of responding third graders and kept mainly in a piggy bank (41%), bank (20%) or wallet (13%).
- Money gifts from family or friends are received by 92% and stored mainly in a piggy bank (28%), bank (22%), their room (17%) or with mom (11%).
- Banks hold money of 69% of the third graders. Students describe a bank mainly as saving or keeping your money (46%); holding money until you want it or need it (22%); or keeping your money “safe” (12%). A very small portion (4%) of third graders had some idea about interest.
- After receiving a birthday gift of \$50, 53% would save it, 4% would save some and spend some, 35% would spend it on themselves and 7% would spend on others.
- Student purchases are concentrated on play items, not surprisingly. The last thing third graders bought with money of their own includes toys, games, cards (28%); food (17%); clothes (12%) and gifts for others (11%). Most students had saved money to buy something special, which mainly included gifts (23%), videogame items (17%) and other toys (15%). Half of the third graders took about 2 days to 2 months to save and spend less than \$50; but 17% saved and spent \$150 to \$400, requiring about 2 months to 2 years.
- Third graders said that grown-ups buy things like houses and cars that cost a lot of money because grown-ups work (35%), save their money (27%), work and save (6%), get money from a bank (6%), or use their credit card (2%) or insurance (2%).

APPENDIX: PAPER DESIGN PROCEDURE

INTRODUCTION TO PROCEDURE

Cyberchase is an animated show for kids' your age on public broadcasting, Channel 13.

1. Have you ever watched this show?

There is also a website for the Cyberchase series, where kids can go and play games and see more about the animated characters and learn more about the show content.

2. Have you ever been to the Cyberchase website at pbskids.org/

The CYBERCHASE website designers are making a new game for the website. They are just starting to design the game. I have some of their ideas on paper here. The game designers want your feedback about their design ideas. So today what I am going to do is play the part of the computer. I am going to show you paper drawings of what would be on the computer screen and I'm going to read to you what the computer audio would tell you. And I am going to ask you some questions about your opinion and write down your answers on this sheet here because I won't remember what you say.

Do you have any questions about what we're going to do?

CYBERQUEST SCRIPT 1

[Each number corresponds to an illustration.]

1. GAME INTRO

This is the game introduction page. In the final version, it will be all colorful, not black and white like this drawing. Also, the characters will be animated when you first start up the introduction. Obviously, I can't animate the printed page, but you can use your imagination.

Now when the introduction page appears and the characters animate, the computer would say:

OK, there's this really bad dude named Hacker who wants to take over the Cyberworld from Motherboard so three kids, Matt, Inez and Jackie, are sucked into cyberspace and they've got to use brain power to help save everybody.

so they travel all over, run into all these weird creatures and crazy places, and play games and solve riddles and have all these awesome adventures.

It's totally up to them to save cyberspace!

Are you ready to play?

2. CHOOSE CHARACTER

3. Which character would you like to play as?

I'm going to give you a character to use to pretend Matt/Inez/Jackie is in the game. In the real computer game, you would see your character in the screen.

3. CYBERSQUAD HOME

Let's put your character here – point.

This is your home base. Whenever Hacker is up to no good and Motherboard needs your help you'll find out here. In fact, a message is coming through on the big screen now! POINT

[Other areas to explore:

- Bookcase: Learn about Cybersites and other topics
- Trophy Case: Once quests are completed, a trophy is displayed here
- Piggy Bank: A plot device may be that it is dangerous to keep money in the player's skwak pad because it could be hacked, but money is safe in the Piggy Bank.]

4. GET MISSION

[There are five illustrations (meant to represent an animation) #4A, 4B, 4C, 4D, 4E]

- A) Hacker is working on a new super powerful virus—powerful enough to get into Motherboard's circuits!
- B) Your mission is to upgrade Motherboard's operating system so that her hardware will be strong enough to defeat Hacker's new virus.
- C) To upgrade Motherboard's operating system, you need to find these parts.
- D) To find these parts you'll have to travel all around Cyberspace. Some parts you can earn by solving games or puzzles, others you'll need to buy or trade from the stores in the Cyber Bazaar.
- E) Sneflus are what we call money in Cyberspace. Motherboard has given you 100 sneflus to get you started. One way of getting more sneflus is to get a job at a Cybersite.

4. *So would you tell me what your mission is in this game? – to get parts for MB*

5. *And how to you get parts? – buy them*

6. *And how do you get sneflus to buy parts? – solve games*

5. INTRO TO SKWAK PAD

This is your skwak pad. You can use it at any time during the game to:

- Find out what you need to do to complete your mission
- Find out how many sneflus you have and how you've spent and earned them
- Read the latest Cyberspace News (hint: You can find clues to help you on your mission by reading it!)
- Save your game if you're in the middle of a mission and you need to quit and finish playing later.

5A. SHOW Cyberspace News Text

We're going to click on the Cyberchase News. Could you read the news out loud for me?

Headline: Motherboard says Hacker May Be Planning New ‘Super’ Virus

Ad: Visit Krazy Kopernik’s House of Hardware—His prices are insane! This week only: Kepler Rings – only 100 sneflus each! Come to the Cyber Bazaar and check out our huge selection.

Classifieds: Help wanted: Logic Zoo in Cybersite Zootropia is looking for help sorting our animals after a Hack Attack. 600 sneflus are yours if you can get the job done!

3. SHOW HOME PAGE AGAIN – put character on page

So, Krazy Kopernik is selling Kepler Rings, which is on the list of things Motherboard needs. But we’ll need a lot more sneflus to pay for five of the rings. It looks like there’s a job in Zootropia.

Time to go to Grand Cyber Station.

7. How do you think your character would get to Grand Cyber Station from this Home screen?

6. GRAND CYBER STATION

This is Grand Cyber Station where people in Cyberspace travel to different Cybersites.

Let’s place your character in the square.

8. Of the choices available on this screen, where would you move your character in order to further your mission? Why do you think ____ will help you complete the mission?

Move your character to the Train ticket counter.

[Other areas to explore:

- Bookstore: Learn about Cybersites and other topics
- Candy Store: Some games may require that creatures need to be “bribed” with candy. It can be purchased here
- Lost & Found: Objects may be found throughout the game that need to be returned to the Lost & Found department (player would get a reward)
- Taxi Stand: In certain cases it may be cheaper to take a taxi to various Cybersites than to take the train.]

7. GRAND CYBER STATION TICKET BOOTH

Well, the Cyberspace News said there were jobs in Zootropia. Let’s buy a ticket.

[Player should pick a ticket for the Blue line. Red, Blue and Green are highlighted on the black and white paper.]

9. Which ticket would you buy?

10. If this were a computer screen, how would you buy a ticket?

11. Do you have enough sneflus to pay for the ticket? [motherboard gave you 100 sneflus]

6. TRAIN (Use GRAND CYBER STATION illustration #6)

Back at the Grand Cyber Station, your character moves to the ENTRANCE TO TRAIN AREA and your ticket on the Blue line is taken and you’re off to Zootropia.

9. ZOOTROPIA

[Player should move to Logic Zoo]

[Player's character is placed at the "to" of Grand Central.]

12. *Of the choices available on this screen, where would you move your character in order to further your mission? Why do you think _____ will help you complete the mission?*

Move your character to the Logic Zoo.

10. LOGIC ZOO ENTRANCE – point to balloon + character

The character says:

"Hello! You're here just in time. Hacker has let out all of the animals and we need to get them back into their proper areas. If you can do that, I'll pay you 600 sneflus. Are you interested?"

11. LOGIC ZOO GAME

Clicking "help" will tell you how to play this game. Help will tell you that:

Each area of the zoo is separated into four pens and animals with things in common share the same pen. Animals in the middle pen have things in common with both the right and the left pens. So this pen has animals that walk, this pen has animals with short ears, and the middle has animals that walk and have short ears. The outside has animals that don't walk, and don't have short ears. In the game, you would roll your mouse over the animal and a pop-up would tell you about the animal's characteristics, then you could drag the animal into its pen.

Let's pretend that you have played this game and dragged all the animals into their correct pens. You collect your 600 sneflus and return to Zootropia.

9. ZOOTROPIA

[Place character outside Logic Zoo gates]

13. *Where do you think your character should go now to continue on your mission of collecting parts for Motherboard?*

If choose out to pasture, donut zoo, maps, ask : how will going there help your mission?

Do you recall what the cyberchase news said?

The news said that Krazy Kopernik's House of Hardware in Cyber Bazarre had Kepler Rings which you need for Motherboard. So let's go to Grand Central and get a ticket to Cyber Bazarre.

6. GRAND CYBER STATION

[Place character on square.]

Let's purchase a ticket to the Cyber Bazaar.

[character moves to ticket booth]

7. GRAND CYBER STATION TICKET BOOTH

[Player should pick a ticket for the Green line. Red, Blue and Green are highlighted on the black and white paper.]

14. *Which ticket would you buy?*

6. TRAIN (Use GRAND CYBER STATION illustration #6)

Your character moves to the ENTRANCE TO TRAIN AREA and your ticket on the Green line is taken and you're off to Cyber Bazaar.

13. CYBER BAZAAR

[Place character on triangle in front of stores.]

15. *Where do you think you should go to continue on your mission of finding parts for Motherboard?*

Do you recall the Kepler rings? That crazy Kopernik's sells? Move your character to Crazy Kopernik's

14. KRAZY KOPERNIK'S [rings are highlighted in yellow for test only]

16. *What would you click on to further your mission?*

[The player can click on any object for more info, but only the Kepler Rings (round near the robot's hands) will get you to the next screen. Encourage a choice of the rings.]

15. PURCHASING

After you click on the rings, the character's balloon says:

"Ah yes, Kepler Rings. I've got plenty of these. And don't you know it—they're on sale. Cost you 100 sneflus each. I'd also trade you 5 for the Eye of Rom if you've got it."

Do you want to buy or trade?

17. *Do you have enough sneflus to buy five rings? How do you know or how can you find out how many sneflus you have?* [skwak pad]

18. *Now you buy the Kepler rings, one of the parts that Motherboard needs. And you have 150 sneflus left. What do you want to do next to further complete the mission? How would you do that?* [newspaper on skwak pad, go to another cybersite and try game]

CLOSING QUESTIONS

19. *So now you have experienced the beginning part of a mission. I'd like you to imagine that you have to tell the next student who comes in to work with me what this game is about. What would you tell them so they know how to play the game?*

Probes if failure to explain:

Would you tell me what your mission is in this game? – to get parts for MB

And how do you get parts? – buy them

And how do you get sneflus to buy parts? – solve games

20. How long do you think you will have to play to earn sneflus to buy all five objects that Motherboard needs?

21. Would you like the game to be designed so you can complete a mission in a shorter period of time or do you like the idea that you can save the game and come back to it on another day?

22. Do you think a game where you earn sneflus, buy objects, sell and trade objects is fun? What's fun or not fun about the game?

23. Here's a face scale for "fun" where this face means a game like this would be lots of fun and this face at the other end means not fun at all. [show a five face scale from happy smile to sad frown]. Which face would you choose to show how much fun the game will be for you to play when it's in its final finished form on the computer?

24. [if they chose a sad face] How could this game be made more fun for you?

25. What do you think of the names that were used in the game - Cyber Bazaar and crazy Koperniks?

Use the face scale for "fun" again and choose a face that shows how much fun these names are.

26. In this version of the game, you play as a Cybersquad character - either Jackie, Matt or Inez. Would you prefer to play the game as a cybersquad character OR build your own character from a variety of character parts OR play as yourself and not be seen on the computer screen?

27. What should we call this game?

28. Here's a list of possible titles. [Show text page of titles.] Choose the one you like the best:

Operation: Hack Attack

Operation: Cybersquad

Mission: Cyberchase

Destination: Cyberspace

Cybersquad Quest

Mission Motherboard

29. *Does this game remind you of any other games you have played, either board games or computer games?*

30. *Let's look at the Home page again. The designers are thinking about letting you decorate or customize your own home area, perhaps by offering you choices of things to decorate with. Would you be interested in decorating or customizing the home area? What kind of things would you like to have available to decorate with?*

31. *Let's look at the Logic Zoo game again. The developers are thinking of having games like Logic Zoo appear in a separate game section on the website, so kids can play the games individually without having to go through the mission for Motherboard. Would you like that – to have the individual games like Logic Zoo available in a game section on the website? The games would appear in two places on the site – in a game section and within the Motherboard mission.*

APPENDIX: MONEY HABITS SURVEY

MONEY QUESTIONS

1. What do you think is fun about money? _____

2. Do you get money from an allowance?
 No
 Yes. Where do you keep money from your allowance? _____
3. Do you get money gifts from family or friends?
 No
 Yes. Where do you keep the money gifts? _____
4. If you got \$50 for your birthday, what would you do with it? _____

5. What does a bank do? _____

6. Do you have money in a bank?
 No
 Yes
7. What was the last thing you bought with money of your own? _____
8. Did you ever save money to buy something special?
 No
 Yes. What special thing did you buy? _____
How much money did you save? _____
How long did it take you to save that money? _____
9. How do grown-ups buy things like houses and cars that cost a lot of money? _____
