

App to Teach Concussion Health Knowledge - Kantorski

Appendix A. Study Instruments

PRE-TEST

Please answer the questions below BEFORE you've used the *Bibliotech - Rebound: Beating Concussions* app.

About You

1. Your Name (First and Last):

2. Your Zip Code:

3. I am...

A student athlete

A parent/guardian of a student athlete

A coach or athletic trainer

Other (please specify): _____

4. I am...

Male Female Other (please specify): _____

5. Your Ethnicity (*Check all that apply*)

White/Caucasian African American Hispanic Asian

Native American Pacific Islander Other (please specify): _____

6. Your Age (in years):

7. Your Grade Level (2018-2019 school year) [*STUDENTS ONLY*]

5th 6th 7th 8th 9th

10th 11th 12th

8. What sports do you play at your school or on an afterschool team?
 What sports does your child play at your school or on an afterschool team?
 What sports do you coach? *(Check all that apply)*

- | | | | |
|-------------------------------------|-------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> Basketball | <input type="checkbox"/> Football | <input type="checkbox"/> Volleyball | <input type="checkbox"/> Wrestling |
| <input type="checkbox"/> Baseball | <input type="checkbox"/> Softball | <input type="checkbox"/> Tennis | <input type="checkbox"/> Swimming |
| <input type="checkbox"/> Water Polo | <input type="checkbox"/> Lacrosse | <input type="checkbox"/> Track | <input type="checkbox"/> Cross-Country |
| <input type="checkbox"/> Soccer | <input type="checkbox"/> Ice Hockey | <input type="checkbox"/> Field Hockey | <input type="checkbox"/> Other (please specify): |

About Concussions

Please answer the following questions to the best of your ability. If you don't know the answer, just make your best guess.

9.) Please select whether the following statements are true or false.

| | True | False | I don't know |
|---|------|-------|--------------|
| You can get a concussion without a direct hit to the head. | | | |
| People with concussions always black out (i.e., lose consciousness). | | | |
| It's not safe to go to sleep after you get a concussion. | | | |
| Concussions only happen to people playing sports. | | | |
| There is no machine that can detect a concussion. | | | |
| There is more than one type of concussion. | | | |
| Not everyone who has a concussion has the same symptoms. | | | |
| A person with a concussion should always stay in a quiet, dark room to recover. | | | |
| Most people with concussions recover in 1 to 2 weeks. | | | |
| Athletes who continue to play sports with a concussion take longer to heal than athletes who take a break from playing. | | | |

10.) Match the term with its definition.

Definitions

- a.) Limiting use of anything that requires a lot of focus and concentration, like computers
- b.) Helps cushion your brain from everyday bumps
- c.) Measures response time and memory
- d.) Getting another concussion on top of one that has not yet healed

Terms

- a.) Brain fluid
- b.) ImPACT Test
- c.) Brain rest
- d.) Second Impact Syndrome

11.) What are some of the **symptoms** of a concussion?

12.) What are some of the ways to **treat** a concussion?

POST-TEST

Please answer the questions below AFTER you've used the *Bibliotech - Rebound: Beating Concussions* app.

About You

1.) Your Name (First and Last):

2.) What device did you use to read the *Rebound: Beating Concussions* app?

_____ iPad _____ iPhone _____ Amazon Fire _____ Android Phone

_____ Other (please specify what type): _____

3.) How did you download the *Rebound: Beating Concussions* app?

_____ Google Play _____ Amazon _____ Apple Store

About Concussions

4.) Now that I've used the app, I understand...

| | A lot less | A little less | About the same as before | A little more | A lot more |
|--|------------|---------------|--------------------------|---------------|------------|
| The symptoms of a concussion | | | | | |
| What happens inside the body when someone has a concussion | | | | | |
| How to treat a concussion | | | | | |

Please answer the following questions to the best of your ability. If you don't know the answer, just make your best guess.

5.) Please select whether the following statements are true or false.

| | True | False | I don't know |
|---|------|-------|--------------|
| You can get a concussion without a direct hit to the head. | | | |
| People with concussions always black out (i.e., lose consciousness). | | | |
| It's not safe to go to sleep after you get a concussion. | | | |
| Concussions only happen to people playing sports. | | | |
| There is no machine that can detect a concussion. | | | |
| There is more than one type of concussion. | | | |
| Not everyone who has a concussion has the same symptoms. | | | |
| A person with a concussion should always stay in a quiet, dark room to recover. | | | |
| Most people with concussions recover in 1 to 2 weeks. | | | |
| Athletes who continue to play sports with a concussion take longer to heal than athletes who take a break from playing. | | | |

6.) Match the term with its definition.

Definitions

- a.) Limiting use of anything that requires a lot of focus and concentration, like computers
- b.) Helps cushion your brain from everyday bumps
- c.) Measures response time and memory
- d.) Getting another concussion on top of one that has not yet healed

Terms

- a.) Brain fluid
- b.) ImPACT Test
- c.) Brain rest
- d.) Second Impact Syndrome

7.) What are some of the **symptoms** of a concussion?

8.) What are some of the ways to **treat** a concussion?

9.) Tell us one interesting thing you learned from using the app.

About the BiblioTech - Rebound App

10.) Please share how you feel about the app.

| | No, not at all! | No, not really | Yes, somewhat | Yes, totally! |
|--|-----------------|----------------|---------------|---------------|
| Did you like the app overall? | | | | |
| Was the app easy to use? | | | | |
| Was Daniel and Isabel's story interesting to you? | | | | |
| Was the information about concussions interesting to you? | | | | |
| Was the ability to adjust the reading level of the app a useful feature? | | | | |
| Was the ability to take notes a useful feature? | | | | |
| Did the app make you want to learn more about how the brain works? | | | | |
| Did the app make you more interested in science? | | | | |
| Would you want to use an app like this one at school? | | | | |
| Is the information you learned from the app relevant to your own life? | | | | |

11.) Did you use the tutorial at the beginning of the app?

___ Yes

___ No, I chose not to use the tutorial

___ No, I did not know that there was a tutorial

If Yes: How useful was the tutorial in helping you understand how to use the app?

___ Not at all useful ___ Somewhat useful ___ Useful ___ Very useful

12.) What did you think of the reading level in the app?

___ It was just right ___ It was too easy for me ___ It was too hard for me

13.) Did you adjust the reading level in the app?

Yes No

If Yes: Why did you adjust the reading level? (*Check all that apply.*)

To make the story easier to read

To make the story more challenging to read

To re-read a chapter to see if there were any differences

Other reason (Please explain): _____

14.) Did you like the amount of reading in the app?

It was just the right amount. It was too long. It was too short.

15.) How enjoyable were the following activities?

| | Not at all enjoyable | Somewhat enjoyable | Very enjoyable | I do not remember or I did not use this activity |
|-------------------------|----------------------|--------------------|----------------|--|
| IMPACT Test Interactive | | | | |
| Letter Links Game | | | | |
| Recovery Rally Game | | | | |
| Surfing Game | | | | |
| Vision Motion Comic | | | | |
| Woodpecker Animation | | | | |
| Brain Diagram | | | | |

16.) How helpful were the following activities in learning about concussions?

| | Not at all helpful | Somewhat helpful | Very helpful | I do not remember or I did not use this activity |
|-------------------------|--------------------|------------------|--------------|--|
| IMPACT Test Interactive | | | | |
| Letter Links Game | | | | |
| Recovery Rally Game | | | | |
| Surfing Game | | | | |
| Vision Motion Comic | | | | |
| Woodpecker Animation | | | | |
| Brain Diagram | | | | |

17.) Would you recommend the app to a friend?

_____ Yes _____ No

18.) What did you like **most** about the app?

19.) What did you like **least** about the app?

20.) What problems (if any) did you have while using the app? Was any of the information or activities confusing?

INTERVIEW PROTOCOL

I'd like to ask you a few questions about the Rebound app. Please answer honestly. I want to know what you think. I am going to be audio recording our conversation to help me take notes. Do you have any questions before we get started?

- 1) [Name], you are [a student athlete, coach, parent of a student athlete], correct?
- 2) Overall, what did you think about the Rebound app?
 - a.) What did you like most about the app and why?
 - b.) What did you like least about the app and why?
 - c.) Did you have a favorite game or activity in the app? Why was that one your favorite?
 - d.) Did you have a least favorite game or activity in the app? Why didn't you like that one as much?
- 3.) What did you think about the story? [Prompt: Was there anything that stood out to you?]
 - a.) Was there any location that you liked visiting more than others and why?
 - b.) Was there any location that you didn't like visiting as much and why?
 - c.) What did you think about the characters? [Prompt: What do you remember about them? What did you like or dislike about them?]
 - d.) Were there any parts of the story that were confusing or hard to understand?
[Prompt for explanation]
- 4.) What did you think about the note-taking feature? [Prompt: Did you figure out how to use it? Was it helpful?]
- 5.) Did you change the reading level at all when you were reading the different chapters or did you stick with the same level the whole way through?
 - a.) If yes: Why did you decide to [change the reading level/keep the reading level the same]?
 - b.) Have you encountered this feature in an app before?
 - c.) Do you think this feature is useful? Why or why not?
- 6.) What did you think about how long it took to play through the whole app?
- 7.) Did you finish the app?
 - a.) If no: Why not? [Prompt: Did it hold your interest? Was it too long?]
- 8.) Did you find out anything new about concussions or how the brain works that you didn't know before? Like what?
 - a.) Is there any other information from the app that stood out to you or surprised you?
 - b.) Were there any misconceptions that you had about concussions or how the brain works that the app cleared up for you?
- 9.) How will you use the information that you learned from the app in your daily life? [Prompt: Can you think of a situation where you might use the information you learned in the app?]

10.) Would you recommend the app to a friend? Why or why not?

11.) Anything else you'd like to share about your experience using the Rebound app or what you learned from it?

APP USAGE LOG

1.) Your Name (First and Last):

2.) Today's Date (Month, Day, Year):

3.) Time you started the app today

4.) Current Chapter (Where you started today)

5.) Time you stopped the app today

6.) Current Chapter (Where you started today)

If finished the app:

About the App

Feel free to use the Table of Contents in the app to answer the following questions, and remind you of the locations that you visited in the story

7.) Which location did you visit first (Chapter 6)?

_____ Bike Pro Shop _____ The Beach _____ The Park

8.) Which location did you visit second (Chapter 7)?

_____ Bike Pro Shop _____ The Beach _____ The Park _____ Public Library

9.) After you first shared notes with Trainer Jen in Chapter 11 (Pop Quiz), where did Daniel go?

_____ Daniel went home _____ Daniel went to the Bike Shop _____ Daniel went to the Park

_____ Daniel went to the Beach _____ Daniel went to the Library

10.) Which location did you visit in Chapter 13?

_____ BMX Park _____ University Physics Department _____ University Neurology Department

11.) Which location did you visit in Chapter 14?

BMX Park University Physics Department University Neurology
Department

Bike Pro Shop The Beach The Park Public Library

12.) Did you view the Physical Therapist Interview video (after Chapter 17)?

Yes No

13.) What happened at the end of the story?

Isabel returned to practice and played in the next game

Isabel was not allowed to return to practice and had to sit on the bench the remainder of
the season