Concussion Awareness Training Toolkit for School Professionals

Evaluation Report

July 15, 2016

The British Columbia Injury Research and Prevention Unit (BCIRPU) was established by the Ministry of Health and the Minister's Injury Prevention Advisory Committee in August 1997. BCIRPU is housed within Developmental Neurosciences and Child Health Cluster (N2N) of the Child and Family Research Institute. BCIRPU's vision is "to be a leader in the production and transfer of injury prevention knowledge and the integration of evidence-based injury prevention practices into the daily lives of those at risk, those who care for them, and those with a mandate for public health and safety in British Columbia".

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OVERVIEW

Concussions are a brain injury caused by a direct blow to the head or body resulting in a rotational movement of the brain within the skull. The leading causes of concussion are from falls, motor vehicle crashes, and sport and recreation activities. It is important to recognize that a concussion can occur with or without loss of consciousness and symptoms can be subtle, including headache, confusion, nausea or dizziness. You cannot always tell right away if someone has a concussion as symptoms may not appear for several hours or up to 2-3 days.

The recommended treatment for concussion includes both physical and mental rest. Mental rest includes limited reading and screen time (e.g., TV, computer, tablet, gaming, and texting). Children are at a greater risk for concussion than adults, can take longer to recover, and are at higher risk for permanent brain damage.

School Professionals, including teachers and education administrators, are responsible for supporting students in the school setting, including the provision of a concussion management plan and learning accommodations.

Parents are central to the management of their child's concussion recovery. They are responsible for monitoring their child on a day-to-day basis, seeking medical attention, and ensuring their child follows recommended treatment.

The *Students* themselves, children and youth, need to understand what a concussion is and how it occurs, what the symptoms are, and the importance of acknowledging a potential concussion and following a management plan.

The online Concussion Awareness Training CATT (CATT) for School Professionals was developed to provide up-to-date educational training on the prevention, recognition, treatment and management of concussions.

The purpose of this evaluation for CATT was to determine if knowledge and attitudes were significantly improved among school professionals following completion of the online course. School professionals, including teachers and principals, were recruited to complete pre- and post-intervention surveys designed to measure changes in attitudes and knowledge around concussion recognition and management. Participants completed the survey before the intervention (prior to visiting the CATT for School Professionals resource) and subsequently completed the same survey again 3-months post intervention. A total of 23 school professionals completed the study, with 18 participants reporting that they visited the CATT SP website. Results demonstrated that school professionals who visited the CATT for School Professionals website had a statistically significant positive change in concussion knowledge ($p=0.027$), but no significant change in attitudes.

Good concussion management may decrease the risk of brain damage and potentially reduce long-term health issues. CATT is being rolled out provincially in British Columbia, Canada. Funding for this project was provided by the BC Ministry of Health.

INTRODUCTION

Concussion is a mild traumatic brain injury that has received enormous attention in recent years. The US Centers for Disease Control and Prevention has estimated that 1.6 to 3.8 million cases of sport-related concussions occur annually in the United States [1]. Sport and recreational activities contribute to about 21 per cent of all traumatic brain injuries among children in the US [2]. This means that nearly 80 per cent of head injuries are not sports-related. In British Columbia, there were 2,539 hospitalizations due to concussion from 2001/02 to 2013/14 among children and youth 0-19 years of age, averaging 195 cases per year [3].

A concussion can occur to anyone from a variety of causes, including falls, motor vehicle crashes, and sports. Concussions are caused by a direct blow to the head or other body part resulting in a rotational movement of the brain within the skull. It is important to recognize that a concussion can occur with or without loss of consciousness and symptoms can be subtle, including headache, confusion, nausea or dizziness, and may not appear for hours or days. Recommended treatment includes both physical and mental rest [4]. If an individual returns to activity too soon and a second concussion is sustained before recovering from the first, a condition known as second-impact syndrome (SIS) may occur: a swelling of the brain that can result in brain damage causing severe disability or even death [4]. Furthermore, an individual is 3-times more likely to sustain a second concussion in recovery from a concussion [5].

The short- and long-term effects of concussion can vary from person to person and can greatly affect quality of life. A significant percentage of professional and high school athletes with previously reported concussions or other head-related injury have reported an impact on their social and professional lives including difficulties at work, attending school, and participating in athletics [6]. This implies that the long-term effects of concussion are often not recognized early enough to mitigate post-concussion syndrome and permanent brain damage.

Despite being an issue for the whole population, the concussion management debate among brain-injury experts has revolved around sports-related injury and the need to remove athletes immediately from play. The International Consensus Statement on concussion in sport is an up-to-date set of principal messages regarding the evolving science of concussion [7]. This resource includes discussion on concussion; concussion evaluation (signs & symptoms); concussion investigations (diagnosis); concussion management (physical and cognitive rest); modifying factors in concussion management (e.g. extent of loss of consciousness); special populations (e.g. adolescent athletes); injury prevention (e.g. protective equipment); and knowledge transfer and mobilization. Despite this work, concussion continues to be an under recognized, diagnosed and treated medical condition in BC; specifically, the need for physical and mental rest, and the risk of SIS are often ignored.

This initiative provides the opportunity to evaluate a new on-line educational resource for school professionals to support a student's return to the school setting following a concussion.

Rationale

The failure to recognize and report concussions may result from of a lack of understanding of the signs, symptoms and potential consequences of concussion [8]. A growing body of literature indicates that the immature brain is more vulnerable to diffuse injury [9]. Standardized knowledge for recognizing and managing concussion at any age, with special attention devoted to the young athlete, continues to be lacking among parents, coaches and school professionals.

The Canadian Paediatric Society recommends that anyone working with children should be educated about the signs and symptoms of concussion and the appropriate management of a child with a

concussion [10]. Concussions can cause mental fatigue, slow processing and difficulty in learning new information, affecting a student's ability to participate and learn. Research has shown that children benefit from a controlled, gradual return-to-learn process when returning to school. Not following a stepwise process when returning to normal functioning can result in a student's symptoms being prolonged and, if another head injury occurs, permanent damage can result.

This project is based upon previously determined principals regarding concussion recognition, diagnosis, treatment and management, thus reducing replication of efforts and demonstrating an efficient use of resources.

Impact: Appropriate concussion recognition and management has the potential to reduce adverse outcomes among the children and youth in BC. This initiative has the potential to reduce total health care costs among these patients.

Objectives

To evaluate the *Concussion Awareness Training Toolkit for School Professionals* (CATT SP) in order to establish an effective and reliable on-line concussion education resource that teachers, education administrators and others can to refer to, outlining concussion prevention, awareness and management in the classroom.

METHODS

The evaluation of CATT SP is a pre/post-intervention comparison undertaken in partnership with the Ministry of Health, the Ministry of Education, and GF Strong.

The evaluation focused on school professionals including educators and education administrators within British Columbia. The participant survey was administered using FluidSurveys, a secure Canadian on-line survey company. Participants completed this survey before the CATT SP intervention and completed the same survey again 3-months post-intervention. Participants were sent a link to the CATT SP following completion of the pre-intervention survey.

Inclusion Criteria: School professionals within British Columbia working in the public or private school systems, including administrators, responsible for students in grades K-12.

Exclusion Criteria: School professionals within British Columbia working in the public or private school systems, including administrators, not working with students in grades K-12.

Recruitment: Participants were recruited with involvement of the BC Ministry of Health, Healthy Living Branch via e-mail invitation (Appendix A) sent from:

1. District Superintendents
2. Safe School Coordinators and Healthy School Contacts
3. Education Partners Healthy Schools Committee, which is comprised of representatives from the following organizations:
   - BC Confederation of Parent Advisory Councils
   - BC Principals and Vice-Principals' Association
   - BC School Superintendents Association
   - BC School Trustees Association
   - BC Teachers Federation
   - First Nations Education Steering Committee
   - Federation of Independent School Associations

4. The Healthy Schools Network

Recruitment e-mails were also sent directly to school board members, primarily in Vancouver and Victoria, and to private schools.

Potential participants were directed to an on-line survey to register and consent for the study (Appendix B) and to complete the pre-survey (Appendix C).

Sample Size: To compare the change in pre/post survey scores with the power to detect an effect size of 0.4, a sample size of at least 50 is required.

Participants who completed the study were entered into a draw for an iPad Mini.

Data Analysis

Data collected in the pre-and post-intervention on-line surveys (Appendix C) were analyzed in order to measure changes in concussion knowledge and attitudes among school professionals. Summary statistics are presented. Total scores were developed, for each participant for both attitudes and knowledge, based on survey responses. A comparison of the individual pre- and post-intervention scores has been made by using a paired t-test to determine the effectiveness of CATT SP to change attitudes and knowledge among school professionals.

RESULTS

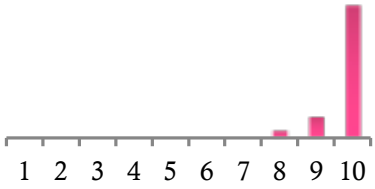
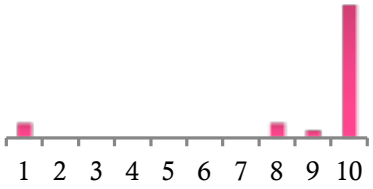
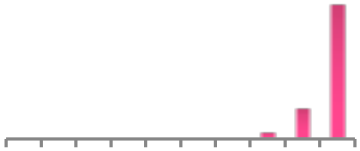
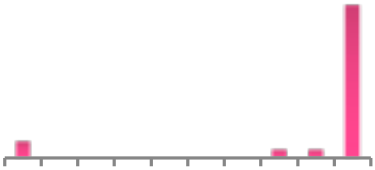
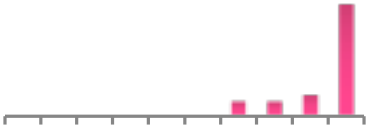
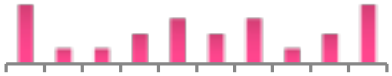
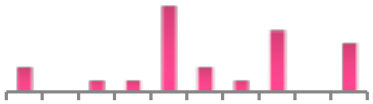
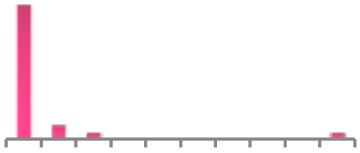
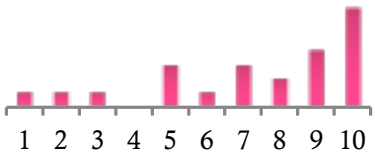
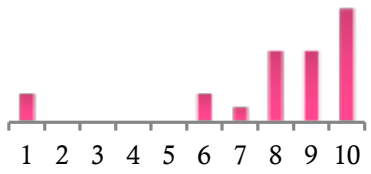
Demographics

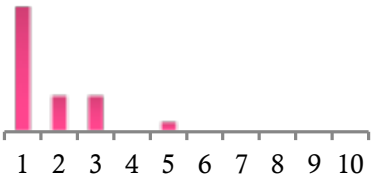
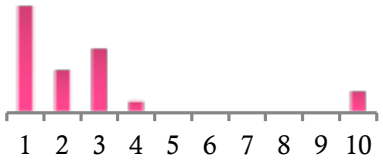
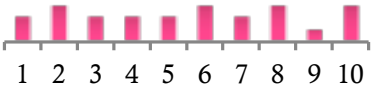
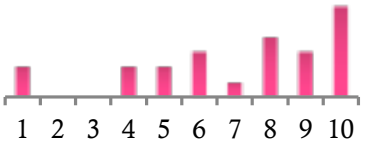
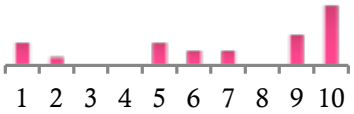
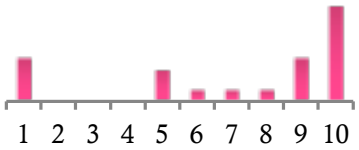
A total of 23 participants completed the pre and post-intervention surveys. Of these, 65% had over 15 years of teaching experience, 39% identified having experience with concussion; and 44% have taught a student with a suspected or diagnosed concussion.

Participants Demographics n=23			
Age		**Sex**	
Up to 44 years	39.1%	Male	21.7%
45-64 years	60.9%	Female	78.3%
Number Years Teaching		**Role**	
Up to 15 years	26.0%	Teacher	56.5%
>15 years	65.2%	Admin, Vice/Principal	43.4%
Experience with Concussion		**Taught Student with Concussion**	
Yes	39.1%	Yes	43.5%
No	60.9%	No	47.8%

Attitudes

The following section presents the pre- and post-intervention attitude results, where "1" indicates strong disagreement with the statement and "10" indicates strong agreement.

Question	Pre-survey (n=23)	Post-survey (n=23)
Concussion can be a significant threat to a student's health and lifestyle.		
Students need the support of their teachers when recovering from a concussion.		
It is important for teachers in a school setting to be knowledgeable about concussion.		
A concussion is similar to having your bell rung.		
Only PE teachers need to know how to respond to a student who has a concussion		
I am knowledgeable on how to recognize the symptoms associated with a student who may have a concussion.		

Students recovering from concussion can easily catch-up on their schoolwork once they return to the classroom.		
I have the knowledge to properly manage a student's return to the classroom following a concussion.		
I am responsible for recognizing the symptoms associated with a student who may have suffered a concussion in the school setting.		

Knowledge

The following section presents the pre- and post-intervention knowledge results as a percentage for the collective group. Questions were presented as "select one", "select all that apply", or true/false. Results presented are for the correct answers only.

Question/Answer	Pre Score (n=23)	Post Score (n=23)
A concussion is: an injury to the brain	95.6%	100%
To be diagnosed with a concussion, a student: Has to sustain a hit to the head or other body area	71.7%	91.3%
Concussions can happen: During any activity , without loss of consciousness	100%	100%
If a student receives a hard hit while at school but appears to be fine, the teacher should: Remove the student from the activity and monitor for concussion symptoms	69.6%	73.9%
When a concussion occurs, symptoms can be: Physical symptoms	100%	100%
When a concussion occurs, symptoms can be: Cognitive symptoms	100%	100%
When a concussion occurs, symptoms can be: Emotional symptoms	100%	95.6%
Up to how long can concussion symptoms take to appear? 2-3 days	65.2%	80.4%
When should a student return to normal daily school activities following a concussion? After being cleared by a healthcare professional	100%	91.3%
There is a higher risk of long-term symptoms and recovery if someone	100%	100%

has a second concussion before recovering from the first one. (True)		
After a concussion, a student may have problems remembering or learning new information. (True)	95.6%	100%
After a concussion, a student may require physical rest from activities (e.g. PE) but will not necessarily need a longer time for the completion of academic work. (False)	60.9%	69.6%
Immediately following a concussion, a student can be in a stimulating school environment (lights, noise, etc.) even if they are experiencing concussion symptoms, but should be monitored closely. (False)	82.6%	91.3%
Children bounce back from concussion faster than adults (False)	78.3%	91.3%
Most students are able to resume their usual workload immediately after a concussion. (False)	87.0%	91.3%
Students with learning challenges may take longer to recover. (True)	60.9%	65.2%
Vomiting after hitting his/her head is a sign that the student needs emergency attention. (True)	100%	95.6%
Depression can be a long-term complication of concussion. (True)	87.0%	91.3%
Concussion can lead to mental health issues requiring further rehabilitation and follow-up. (True)	95.6%	91.3%
Signs and symptoms will fade away once the student is back at school. (False)	95.6%	100%

Knowledge and Attitudes Scores

Summary pre- and post-intervention scores were calculated for each participant and for each component of knowledge and attitudes. For all participants (n=23), the mean score for knowledge was noticeably higher for the post-intervention survey compared to the pre-intervention survey, however the attitudes mean score was only slightly higher by 0.2%. Among participants who indicated that they had visited CATT SP (n=18), the mean score for knowledge increased, but the mean score decreased slightly by 0.8% for attitudes.

Pre- and Post-Intervention Knowledge and Attitude Scores, all participants (n=23)

Knowledge & Attitude	Pre-intervention		Post-intervention	
	Mean Score	Standard Deviation	Mean Score	Standard Deviation
Knowledge	87.3%	9.5%	91.0%	7.5%
Attitudes	71.6%	9.2%	71.8%	16.3%

Pre- and Post-Intervention Knowledge and Attitude Scores, participants who visited CATT SP (n=18)

Knowledge & Attitude	Pre-intervention		Post-intervention	
	Mean Score	Standard Deviation	Mean Score	Standard Deviation
Knowledge	87.2%	9.7%	91.7%	7.6%
Attitudes	71.8%	9.6%	71.0%	4.3%

Statistical Analyses

Paired t-test found no statistically significant changes in knowledge (p=0.057) or in attitudes (p=0.974) among all 23 participants. Among participants who indicated that they had visited CATT SP(n=18), paired t-test found statistically significant positive changes in knowledge (p=0.027) and no significant changes in attitudes (p=0.894).

Paired Sample T-test for Knowledge and Attitude, all participants (n=23)

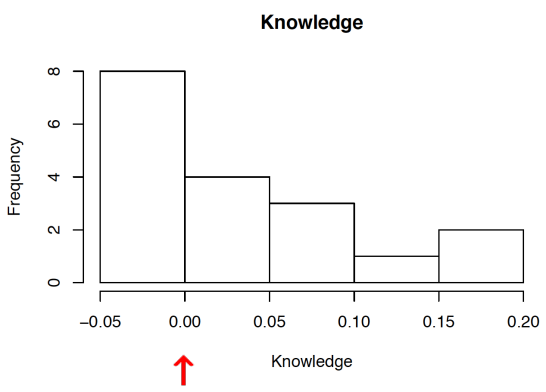
Knowledge & Attitude	Pre-test Mean Score	Post-test Mean Score	P-value*
Knowledge	87.3%	91.0%	0.057
Attitudes	71.6%	71.8%	0.974

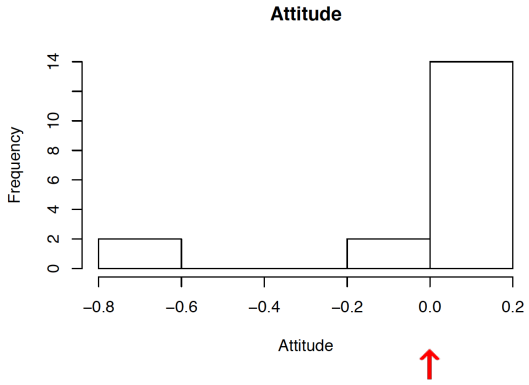
**statistically significant at p<0.05*

Paired Sample T-test for Knowledge and Attitude, participants who visited CATT SP (n=18)

Knowledge & Attitude	Pre-test Mean Score	Post-test Mean Score	P-value*
Knowledge	87.2%	91.7%	**0.027**
Attitudes	71.8%	71.0%	0.894

**statistically significant at p<0.05*





Other Feedback of CATT for School Professionals

As part of the evaluation, the 18 participants who visited the CATT SP website offered further feedback on this resource. Participants were asked to rate CATT SP for length, ability to navigate, ability to understand, appropriate to participants' needs, and content being up-to-date. Participants used a scale of 1 to 5, where 1 was worst and 5 was best.

Combining scores 4 and 5:

- 77.8% of participants approved the *Length*
- 88.9% approved the *Ability to Navigate*
- 88.9% approved the *Ability to Understand*
- 94.4% approved the *Appropriateness to Their Needs*
- 94.4% believed the *Information is Up-to-Date*

All 18 participants who visited CATT SP indicated that they found it to be a useful resource. Comments included:

- A lot of it is information I am already familiar with, but I think it is a useful for all teachers to use.
- Excellent information and layout.
- It helped me understand the symptoms of concussion better as well as some new ideas on how to help when the student returns to school.
- Much more information than other programs.
- We are currently finalizing our concussion awareness and response regulation. We are relying heavily on content included in CATT and related resources. We will be recommending that those in supervisory positions should complete the CATT for educators course.

Further feedback offered by the participants included:

- All educators should be directed to this resource.
- It would be beneficial if all educators were aware of the symptoms of concussions, the evaluation and how to have the student return to school work. It also would be beneficial for a teacher to know of the troubles that a concussed student faces when coming back to school work.
- This is a good resource to consult for teachers however administration and student support services should be familiar with CATT.
- Kids as young as K can be concussed. It does not have to be from contact sports. Falling and hitting their head on play equipment or whiplash can cause concussions.
- It should be done every year, just like EpiPen training.
- I believe that this should be completed by all educators, admin and support staff with annual refresher provided (along with reference cards).
- It is a well-organized resource. Thank you.
- I love it!

DISCUSSION

The Concussion Awareness Training Toolkit for School Professionals (CATT SP) is a new online resource developed in British Columbia, Canada. Based upon established international principles, the aim of CATT is to standardize concussion prevention, awareness and management. CATT provides up-to-date educational training in the form of:

- Online training video for school professionals
- Frequently Asked Questions for school professionals
- Frequently Asked Questions for parents
- Concussion videos appropriate for youth
- Resources, including tools, websites, journal articles and videos geared towards teachers, administrators and parents
- The Concussion Response Tool (Smartphone accessible and fillable)
- Questions to ask your Doctor resource
- The Return to Learn Communication tool for parents and educators
- The Return to Play Communication tool for parents and coaches

The Concussion Awareness Training Tool – CATT – was originally launched April 2013 (www.cattonline.com) with CATT for Medical Practitioners being the first toolkit to be launched. CATT for Parents, Players and Coaches toolkit was then launched in July 2014, followed by CATT for School Professionals in 2016.

The CATT suite of toolkits is being actively disseminated provincially and nationally via presentations to committees and sports organizations; newsletters and websites; cards distributed at private clinics; posters distributed to sporting organizations, community centers and other locations in the Lower Mainland and through regional health authorities; and conference presentations.

Concussion continues to be an under-treated medical condition requiring both physical and mental rest. It can have both short- and long-term effects of which greatly affect quality of life. By raising awareness of the recognition and management of concussion, long-term effects of concussion can be addressed early and post-concussion syndrome and permanent brain damage may be minimized. This evaluation has demonstrated a statistically significant change in concussion knowledge among school professionals who visited the CATT SP on-line resource.

Concussion management policy at the school or district level will increase good concussion management in terms of returning to the school setting, potentially reducing related health problems, decreasing the risk of long-term brain damage, and lowering total health care costs among these individuals.

Limitations

The primary limitation of the CATT SP evaluation study was the recruitment of participants. The study timeline had to be extended in order to approach the recruitment goals. Not only was recruitment challenging, but many participants dropped out of the study before completing the post-intervention survey. The sample size of at least 50 participants was calculated to detect an effect size of 0.4. This small sample size limits the power of the study to detect more moderate changes. In the end, a total of 23 participants completed the study, of which 18 reported having visited CATT SP on-line.

This was a questionnaire-based study collecting self-reported data from school professionals currently working in BC. Self-reported data may be biased in terms of the attitude questions, affected by a social bias – answering questions how they believe they should be answered rather than their personal reality.

Finally, the concept of 'attitude' is difficult to measure. Were the questions used to solicit the participants' attitudes towards concussion truly measuring attitude? This survey tool was not tested beyond face validity due to limited resources and the expectation that the questionnaire would not be used beyond the purposes of this evaluation.

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APPENDIX A
E-MAIL INTRODUCTION

Dr Shelina Babul at the University of British Columbia, Department of Paediatrics is leading an evaluation of the new *On-line Concussion Awareness Training Toolkit for School Professionals (CATT School Professionals)*. CATT provides up-to-date education, tools and resources to effectively recognize, respond and help support a student's return to school following a concussion. This research study seeks to evaluate this new resource.

The study consist of two on-line surveys, as well as access to CATT School Professionals, with a total time commitment of approximately 40-60 minutes (10 min pre-survey, 20-40 min Toolkit, 10 min post-survey). Your participation in this study is voluntary.

All participants who complete the study will be entered into a draw for an iPad Mini.

Please follow this link to the FluidSurveys for the Online Consent Form & Registration Page and the Pre Intervention Survey [insert link here].

If you have any questions about this study please contact the project co-ordinator Kate Turcotte at kturcotte@cw.bc.ca

Thank you very much for your consideration.

APPENDIX B
ON-LINE CONSENT & REGISTRATION

BC INJURY research and prevention unit

On-line Consent Form & Registration

Evaluation of an On-line Concussion Awareness Training Toolkit For School Professionals

Dr Shelina Babul at the University of British Columbia, Department of Paediatrics is leading an evaluation of the new *On-line Concussion Awareness Training Toolkit for School Professionals (CATT School Professionals).*

The study consists of two on-line surveys, as well as access to CATT School Professionals, with a total time commitment of approximately 40-60 minutes (10 min pre-survey, 20-40 min Toolkit, 10 min post-survey).

There are no known risks or harms to participating in this research. Your legal rights against the investigators or anyone else are in no way limited by agreeing to participate in this study.

Possible benefits include improvement of concussion awareness, recognition and management understanding and practices among participants. Long-term benefits include a standardized approach to concussion management and treatment. You may see no direct benefit from participation in this study.

Participants who complete the study will be entered into a draw for an iPad Mini. There will be no other reimbursement for this study.

All responses will be kept confidential and data will only be presented as summary statistics.

All information collected will be securely stored at the BC Injury Research and Prevention Unit in password protected files for at least five years after the study is finished.

Your confidentiality will be respected. No information that discloses your identity will be released or published, including e-mail address and unique study ID numbers. Research records may be inspected in the presence of the Investigator or his or her designate by representatives of the UBC Research Ethics Boards for the purpose of monitoring the research. No records which identify you by name or initials will be allowed to leave the Investigators' offices.

No reason needs to be provided if you decide not to participate in this evaluation. You may withdraw from the study at any time without penalty of any sort. Any survey data you have contributed will be destroyed at your request.

Consent to Participate:

- *I have read and understood the subject information and consent form.*
- *I have had sufficient time to consider the information provided and to ask for advice if necessary.*
- *I have had the opportunity to ask questions and have had satisfactory responses to my questions.*
- *I understand that all of the information collected will be kept confidential and that the result will only be used for scientific objectives.*
- *I understand that my participation in this study is voluntary and that I am completely free to refuse to participate or to withdraw from this study at any time.*
- *I understand that I am not waiving any of my legal rights as a result of signing this consent form.*
- *I understand that there is no guarantee that this study will provide any benefits to me.*
- *I have read this form and I freely consent to participate in this study.*

By completing the survey, you are consenting to be in the study.
Please Note:

BC INJURY research and prevention unit

- Your e-mail address will be kept confidential and used only to provide you with the link to CATT School Professionals and the post-intervention survey.
- Your ID number will only be used to link the pre-intervention survey and the post-intervention survey for analysis. No attempts will be made to de-code your study ID number, and this number will be securely stored and kept confidential.

Please enter your e-mail address:
Please re-enter your e-mail address:

Please create your own unique study ID number by entering the following information:
the city you were born in:
the 4-digit year you graduated high-school:
the first 2 letters of your mothers maiden name:

You will be asked to re-enter this unique study ID at the beginning of the pre-intervention survey and the post-intervention survey to support data analysis.

Thank you for registering to participate in the evaluation of the On-line Concussion Awareness Training Toolkit for School Professionals. Please click "submit" to enter the pre-intervention survey.

If you have any questions about this study, please contact Kate Turcotte, Project Coordinator, at kturcotte@cw.bc.ca.

If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, please contact the Research Participant Complaint Line in the University of British Columbia Office of Research Ethics at RSIL@ors.ubc.ca or 604-822-8598 (Toll Free number 1-877-822-8598).

APPENDIX C
PRE/POST-INTERVENTION SURVEY

School Professionals Survey

Evaluation of an On-line Concussion Awareness Training Toolkit For School Professionals

ATTITUDE

Please answer the following questions on a scale of 1 to 10, where 1 indicates disagreement with the statement and 10 indicates agreement with the statement.

1 = Strongly Disagree ; 10 = Strongly Agree

Concussion can be a significant threat to a students' health and lifestyle. [Insert scale] (Score = 1-10)

Students need the support of their teachers when recovering from a concussion. [Insert scale] (Score = Reverse scale 1-10)

It is important for teachers in a school setting to be knowledgeable about concussion. (Score = 1-10)

A concussion is similar to having your bell rung. [Insert scale] (Score = Reverse Scale 1-10)

Only PE teachers need to know how to respond to a student who has a concussion. [Insert scale] (Score = Reverse 1-10)

I am knowledgeable on how to to recognize the symptoms associated with a student who may have a concussion. (Score = 1-10)

Students recovering from concussion can easily catch-up on their schoolwork once they return to the classroom. [Insert scale] (Score = Reverse scale 1-10)

I have the knowledge to properly manage a student's return to the classroom following a concussion. (Score = 1-10)

I am responsible for recognizing the symptoms associated with a student who may have suffered a concussion in the school setting. (Score = 1-10)

KNOWLEDGE

A concussion is:

- An injury to the brain (= 2)
- An injury to the spinal cord (= 0)
- A knock to the skull (= 0)
- I don't know (= 0)

To be diagnosed with a concussion, a student:

- Has to lose consciousness (= 0)
- Has to sustain a direct blow to the head (= 1)
- Has to sustain a hit to the head or other body area (= 2)
- Has to have symptoms appearing immediately after the hit (e.g., dizziness, headache, etc.) (= 0)
- I don't know (= 0)

Concussions can happen:

- Only when playing full contact sports (= 0)
- Only when the person who was hit loses consciousness (= 0)
- During any activity , without loss of consciousness (= 2)
- During any activity, with loss of consciousness (= 0)

If a student receives a hard hit while at school but appears to be fine, the teacher should: (please pick best answer – one answer only)

- Ask the student if he/she needs to sit down (= 0)
- Let the student continue with his/her activity while monitoring for concussion symptoms (= 0)
- Remove the student from the activity and monitor for concussion symptoms (= 2)
- Phone the student's parent immediately (=0)

When a concussion occurs, symptoms can be:

- Physical symptoms Yes / No (Yes=2; No = 0)
- Cognitive symptoms Yes / No (Yes=2; No = 0)
- Emotional symptoms Yes / No (Yes=2; No = 0)

Name 5 symptoms of concussion? (Score based on text answer provided, if any)

1. [Text box]
2. [Text box]
3. [Text box]
4. [Text box]
5. [Text box]

Up to how long can concussion symptoms take to appear?

- Immediately (= 0)
- 2-3 hours (= 0)
- Next day (= 1)
- 2-3 days (= 2)

When should a student return to normal daily school activities following a concussion?

- The same day that the individual sustained the concussion or the following day (= 0)
- When the student says he/she is ready to return to activities/normal daily activities (= 0)
- After being cleared by a healthcare professional (= 2)
- When the student's parents sends him/her back to school (= 0)

There is a higher risk of long-term symptoms and recovery if someone has a second concussion before recovering from the first one.

- True (= 2)
- False(= 0)

After a concussion, a student may have problems remembering or learning new information.

- True (= 2)
- False (= 0)

After a concussion, a student may require physical rest from activities (e.g. PE) but will not necessarily need a longer time for the completion of academic work.

- True (= 0)
- False (= 2)

Immediately following a concussion, a student can be in a stimulating school environment (lights, noise, etc.) even if they are experiencing concussion symptoms, but should be monitored closely.

- True (= 0)
- False(= 2)

Children bounce back from concussion faster than adults

- True(= 0)
- False (= 2)

Most students are able to resume their usual workload immediately after a concussion.

- True(= 0)
- False (= 2)

Students with learning challenges may take longer to recover.

- True (= 2)
- False (= 0)

Vomiting after hitting his/her head is a sign that the student needs emergency attention.

- True (= 2)
- False (= 0)

Depression can be a long-term complication of concussion.

- True (= 2)
- False (= 0)

Concussion can lead to mental health issues requiring further rehabilitation and follow-up.

- True (= 2)
- False (= 0)

Signs and symptoms will fade away once the student is back at school.

True(= 0)

False (= 2)

Pre Survey Only:
DEMOGRAPHICS (Not scored)

How many years have you been teaching?

- <5 yrs
- 6-10 yrs
- 11-15 yrs
- >15 yrs
- I am a pre-service teacher

Which grade(s) do you primarily teach? (select all that apply)

- Pre-school
- K-2
- 3-5
- 6-7
- 8-10
- 11-12

What is your primary subject of instruction presently and/or in the previous school year? (select all that apply)

- Generalist (teach all subjects)
- Mathematics
- English/Language Arts
- Social Studies
- Science
- Business Education
- Physical Education
- Fine Arts/Music
- I am currently a student completing my teaching certification
- **Other, please specify**... _____

Which of the following BEST applies to you?

- I am currently a student completing my teaching certification
- Teacher
- Counsellor
- Vice principal
- Principal
- Administrator

Are you: Male or Female

Which age group do you belong to?

- <25 years
- 25-44 years
- 45-64 years
- 65+ years

Do you have any personal experience with concussion? (A concussion is defined as a blow to the head or any other part of the body, resulting in transient symptoms like headaches, balance difficulties, loss of memory, feeling nauseated, etc.)

Yes / No

[If yes}
How many concussions have you had in your lifetime?
1
2
3 or more

For any of your concussions did you seek treatment with a health professional? (please click all that apply)
Emergency Department
Family Doctor
Sports Medicine Doctor
Occupational Therapist
Physical Therapy
Athletic Trainer
Other: _____

Have you received information about concussions from the following sources: If you answered "YES' to a source, please indicate how useful you found the information to be (1 = not helpful at all; 2 = mildly helpful 3 = quite helpful; 4 = very helpful).
CPR/First Aid Course
Internet Resources
Magazine/newspaper
Friends/colleagues
Provincial Health Authority
Physician
Emergency Department
Teachers College
School Board/Administration
Other: _____

Have you taught a student while he/she has a a suspected concussion or a concussion confirmed by a medical professional?
Yes / No

[If yes} Please describe: [Text box]

Post Survey Only:
OTHER COMMENTS (Not scored)

1. Did you visit CATT for Educators?
   - Yes
   - No

[If Yes]

2. Did you find CATT to be a useful resource?
   - Yes
   - No

   Please explain [Text Box]

4. Did the information presented make sense to you?
   - Yes
   - No: please explain [Text Box]

5. Please rate the following Toolkit qualities on a scale of 0 to 5, where 0 is the worst and 5 is the best: (Scale = 1-5)
   - Length
   - Ability to navigate
   - Ability to understand
   - Appropriate to your needs
   - Up-to-date information

6. Would you recommend this resource to other educators?

   - Yes
   - No
   - Maybe

   Please explain [Text Box]

Do you think that all educators should be familiar with this resource, or that they should only consult this resource in the event of dealing with a concussed student?

Please explain [Text Box]

6. Do you have any other comments about CATT

[Text Box]

Thank you for taking our survey. Your participation is very important to us.