



# Trinity return-to-learn post-concussion protocol assessment

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## Introduction

- There are no known established return-to-learn protocols in place for college students
- Trinity is the only college with a protocol being implemented
- Students who receive academic adjustments without penalty for missed work are more successful and better able to reintegrate into school (ORCAS 2013).
- The most common cognitive symptoms following a concussion are deficits in attention, memory, and executive functioning.
- There is an increasing consensus in the optimal return-to-learn protocol, but little research has been done (Baker, et al., 2014, p. 1286).

## Methods

- Trinity college students previously concussed while at Trinity, faculty, and staff were surveyed on the protocol
- Students who agreed also completed cognitive tests
- Student cognitive test scores compared to survey results to see if certain deficits correlate with a certain experience
- Faculty and coach surveys were analyzed to assess improvements that could be made to the program

## Aims and Hypothesis

- Do specific cognitive deficits make it harder to return to the classroom?
- We hypothesize that those with attention deficits will have a harder transition than those with impairments in memory or executive function
- Is the protocol is well known to students, faculty, and coaches on campus?
- We hypothesize that students are not familiar with the protocol, but coaches and teachers are

Table 3: Who Was Most Helpful

	Response Number and Percentage
Coach	13, 36%
Health Center	15, 42%
Faculty	3, 8%
Off-Campus Professional	4, 11%
SARC	1, 3%

## Results

- Most students** were **unfamiliar** with the protocol (61%)
- Approx. **half of faculty and coaches** were **unfamiliar** with the protocol (46% and 45%)
- Deficits in **executive function** correlated with severity of current concussive symptoms
- Severity of current **concussive symptoms correlated** with severity of **depressive symptoms**
- Members of all three demographics voiced **concern for non-athlete support**
- Only 8 students scored a zero on the current concussive symptoms scale despite 22 reporting no lasting symptoms
- Difficulty concentrating** was the **most common** lasting effect
- Most students** experienced **frustration** while returning to the classroom
- Most students** felt **prepared** to return to the classroom though **13 of 36 students did not feel ready**

GENERAL	COGNITIVE/THINKING	FATIGUE/PHYSICAL	EMOTIONAL
No school until specified To be reviewed on:	Reduce class assignments and homework to critical tasks only. Exempt non-essential written classwork or homework. Base grades on adjusted work.	Allow time to visit school nurse/counselor for treatment of headaches or other symptoms.	Develop plan so student can discreetly leave class as needed for rest.
Adjust class schedule (alternate days, shortened day, abbreviated class, late start to day).	Provide extended time to complete assignments/tests. Adjust due dates.	Allow strategic rest breaks (e.g., 5-10 minutes every 30-45 minutes) during the day.	Keep student engaged in extra-curricular activities. Allow student to attend but not fully participate in sports practice.
No physical activity (including weight training, aerobics, yoga, dance) until cleared by a healthcare professional.	Once key learning objective has been presented, maximize cognitive stamina (e.g., assign 5 of 30 math problems).	Allow extra time to move between classes	Encourage student to explore alternative and appropriate activities of non-physical nature.

## Cognitive Tests Used

- Stroop Color and Word Test
- S-ANT Animal Naming
- CANTAB Spatial Span
- WAIS Digit Span
- WAIS-IV Similarities

Table 7: Students' Experience Returning to the Classroom

	Student Response Totals (n=36)			
	1 Definitely No	2 Not Much	3 Somewhat	4 Definitely Yes
Are you confident at this time that you can perform at your previous academic level?	2	2	11	21
Are you nervous about your academic ability following your concussion?	10	10	10	6
Are you confident your symptoms will not return while doing schoolwork?	4	6	13	13
Did you experience frustration in attempting to complete schoolwork following concussion?	1	4	13	18
Do you feel relaxed when thinking about your current cognitive ability following concussion?	4	8	10	14
Did you experience increased pressure from faculty to complete your work?	11	10	7	8
Did you feel ready to return to the classroom when you did?	2	11	14	9

## Conclusion/Moving Forward

- Trinity community need to be better educated on the protocol
- Extra care should be taken to account for potential rises in depressive conditions of concussed students (ex. weekly follow-up and access to counseling)
- Accommodations for deficits in executive function should be readily enforced (Ex. help reschedule assignments or have a notetaking aid)
- Further research is needed in the effective enforcement of collegiate return-to-learn protocols given the accelerated time frame of a college semester as compared to a high school term
- This study highlights the promising effects of a well enforced protocol