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The Best Practices for Teaching Writing to Postsecondary Students With Acquired Brain Injuries

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Abstract

Because the writing abilities of postsecondary students with acquired brain injuries (ABI) are often determined by the student's age when the injury was acquired, the severity of the injury, the amount of time that has passed since the injury, and the quality of the student's writing education before the injury, it is impossible to generalize the best strategies to assist students with ABI in writing. However, through a review of existing literature on teaching writing to students with ABI, the relationship between oral and written discourse, expressive writing, educational intervention, and assistive technologies, this study presents a list of recommendations for writing instructors. Case studies based on interviews with two students who have ABI, two writing instructors who have taught students with ABI, and one postgraduate are also included in this study as a way to identify the areas in which these personal testimonies align with or diverge from the extant research. The findings suggest that when professors interact with all students in a way that challenges them to think critically and takes their needs into consideration, they ultimately become better teachers. The adjustments they make to accommodate students with ABI–such as dividing larger assignments into manageable tasks, providing visual aids, and repeating key information–benefit all students both in and outside of their writing courses.

Keywords: acquired brain injury, traumatic brain injury, college writing, pedagogy, disabilities, written communication, assistive technology, expressive writing

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The Best Practices for Teaching Writing to Postsecondary Students

With Acquired Brain Injuries

by

Julianne Candio Sekel

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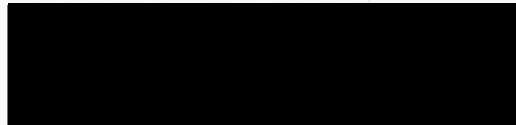
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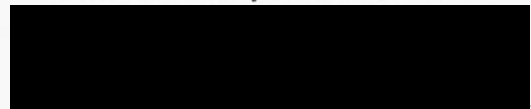
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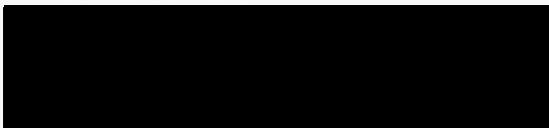
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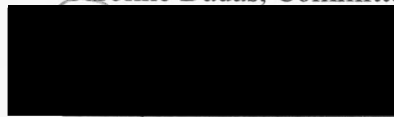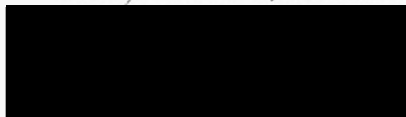
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Chapter 1: Introduction

1.1 Writing with Disabilities

According to The Chronicle of Higher Education (2008), at least one in every five students entering college is required to take a remedial writing course (para. 2). In reality, writing effectively is a challenge for most students, but it is also a necessary skill for students to become employable adults. Just over a decade ago, Light (2001) conducted a study in which more than 90% of working professionals stated that writing effectively is an ability of great significance to their jobs. Similarly, a College Entrance Examination Board (CollegeBoard) (2004) survey of 120 major American corporations found that "writing is a 'threshold skill' for both employment and promotion," meaning "writing ability could be your ticket in . . . or it could be your ticket out" (p. 3). With advanced writing ability at the forefront of future employment qualifications, it is obvious it should be a top priority for higher education institutions and their students. Aside from education and employment, writing also serves as a way for citizens to actively participate or enact change in civic society and thus "align themselves with particular socio-cultural issues, and thereby maintain or challenge dominant practices and discourses, and the values and beliefs they embody" (Mortensen, 2004, p. 15). But what happens when students face obstacles that have the potential to impede their writing capabilities indefinitely?

Close your eyes. Imagine that you are legally blind. The challenge this poses to writing may seem substantial, but dictation software and Braille offer some compensatory tools. Now, in addition to visual impairment, imagine yourself with speech impairment, hearing impairment, short-term memory loss, and a loss of dexterity. Your writing abilities would be drastically altered. Composing in itself may prove to be a tedious and

lengthy process that takes double or triple the amount of time it takes your peers to compose. However, these are the realities for many students who have suffered from acquired brain injuries (ABI), whether in childhood or adulthood, and now must develop the advanced writing skills that will allow them to compete for jobs alongside their nondisabled peers.

Over 20% of students who enter college are unprepared for credit-bearing writing courses (The Chronicle of Higher Education, para. 2); so imagine the complexity of college-level writing for those with acquired brain injuries. Writing is a strenuous cognitive activity, but this is not to say that postsecondary students with ABI are incapable of composing successfully or producing writing that is of equal or superior quality to that of their classmates.

1.2 Defining ABI

The Brain Injury Association of America (BIA) (n.d.) defined an acquired brain injury as "an injury to the brain, which is not hereditary, congenital, degenerative, or induced by birth trauma. An acquired brain injury is an injury to the brain that has occurred after birth" ("Acquired Brain Injury," para. 6). Acquired brain injuries may be traumatic or nontraumatic; however, the most common type of acquired brain injury is a traumatic brain injury (TBI). The BIA Board of Directors (1986) characterized TBI as:

> an insult to the brain, not of a degenerative or congenital nature but caused by an external physical force, that may produce a diminished or altered state of consciousness, which results in an impairment of cognitive abilities or physical functioning. It can also result in the disturbance of behavioral or emotional

functioning. These impairments may be either temporary or permanent and cause

partial or total functional disability or psychosocial maladjustment. (para. 1)

However, much ambiguity is associated with these terms. As D'Amato and Rothlisberg

(1996) stated, individuals often dispute the definitions of ABI and TBI, and some use the

terms interchangeably. The distinction is necessary, though, for educational

accommodations because "[e]lementary and secondary school officials often adhere to

the definition of TBI rather than ABI when identifying students for special education and

related services" (D'Amato & Rothisberg, 1996, p. 1).

More specific characterizations of brain injuries, as determined by Savage and

Wolcott (1994), make it easier to differentiate between traumatic and nontraumatic

injuries. According to Savage and Wolcott,

The term acquired brain injury refers to both traumatic brain injuries, such as

open or closed head injuries, and nontraumatic brain injuries, such as strokes and

other vascular accidents, infectious diseases (e.g., encephalitis, meningitis),

anoxic injuries (e.g., hanging, near-drowning, choking, anesthetic accidents,

severe blood loss), metabolic disorders (e.g., insulin shock, liver and kidney

disease), and toxic products taken into the body through inhalation or ingestion.

(p. 4)

Common causes of traumatic brain injuries include car crashes or falls, while brain

tumors or infections are common causes of nontraumatic brain injuries. In either case,

significant effects may manifest themselves in various forms after an injury. Based on the

severity of the ABI, impairments are possible in "cognition; speech-language

communication; memory; attention and concentration; reasoning; abstract thinking;

problem solving; sensory, perceptual, and motor abilities; psychosocial behavior; physical functions; and information processing" (Savage & Wolcott, 1994, p. 4). Individuals with ABI may experience considerable troubles in one or more of these areas, but other areas may be unaffected; outcomes depend wholly on the nature of the injury.

Although it is important to differentiate between traumatic and nontraumatic brain injuries, the term ABI is used throughout this study, which is inclusive of (but not limited to) students with TBI. When referencing extant literature, however, the terminology used by the author(s) is employed. In this way, this study may preserve the integrity of the extant research while acknowledging TBI as a fraction of the umbrella term ABI.

1.3 Educational Considerations

The Centers for Disease Control and Prevention (CDC) (2010) reported that young adults between ages 15 and 19 comprise one of the age groups at the greatest risk for TBI, along with children ages 0 to 4 and adults over 65 ("TBI by Age," para. 3). Further, Kraus et al. (1986) found that those between the ages of 15 and 24 have the maximum chance of an ABI, with one in every 181 adolescents and adults in this category becoming a brain injury victim each year. This means that ABI must be discussed among high school and postsecondary institutions specifically, as schools at these levels will experience the most ABI cases annually. However, major distinctions must be made between high school and college-level concerns for managing the education of students with brain injuries.

For one, a significant transformation occurs in the autonomy of students entering college, which requires more advanced cognitive, behavioral, and social interventions. Entry into a college institution also requires a change in how students with ABI and their

families approach education. As the Rutgers University Office of Disability Services (n.d.) stated, after students leave high school their individualized education plans (IEPs) do not translate to their colleges ("Important Points," para. 8). While students' rights are protected by Subpart E of Section 504 of the 1973 Rehabilitation Act, which says "postsecondary students must be granted the opportunity to compete with their non-disabled peers," students are responsible for self-identifying with their office for specialized services and seeking accommodations as necessary (Rutgers University, n.d., "Section 504," para. 3). However in terms of accommodations, as Nordlund (1994) pointed out, colleges will frequently "offer the minimal services required by law. The law is specific as to which schools must offer these services; however, the regulation is vague as to implementation" (p. 512). Nordlund also articulated that accommodations differ from services; hence, colleges are not required to offer services under the law. This means that while colleges may provide wheelchair ramps or textbooks on tape, they may not provide subject-specific tutoring or notetakers (p. 513).

Apart from accommodations and services, there are also major differences in families' abilities to participate in students' academic lives in college. Unlike in high school, parental involvement is limited by the Family Educational Rights and Privacy Act (FERPA), which prevents parents from accessing their children's academic records unless the student signs a release form (Rutgers University, n.d., "Communication," para. 13). As a result, educational approaches cannot be entirely the same for children and young adult students with ABI, because young adults must request assistance on their own and colleges cannot include parents in the multidisciplinary teams they often build to support students' learning. Specifically for writing, a college student with ABI must ask

for help and, in order to do so, must recognize writing as a problem area. If the student

does not, it is the professor's responsibility to identify the student's struggle with writing,

or it may go unnoticed throughout college.

Instructors often have a hard time recognizing ABI in students because they may

mistake a student's academic inadequacies for apathy or unintelligence. As D'Amato and

Rothisberg (1996) stated, teachers may believe poor or slow handwriting is "a reflection

of poor motivation" (p. 674), when in reality it is a byproduct of a disability. Instructors

may also not attribute poor performance, especially on tests, to ABI-related problems

with attention, visual perception, organization, memory-learning, reasoning/problem

solving, working memory, knowledge base, executive system, response system,

efficiency factors, behavioral-emotional-motivational factors, and/or medical-physiologic

factors (Ylvisaker, Szekeres, & Hartwick, 1994, pp. 76-77). Students may prevent

instructors' misperceptions by self-identifying their disabilities.

However even if a student self-identifies, it does not guarantee the professor has

been sufficiently trained to adapt the coursework to meet the student's needs. The needs

of a student with ABI may vary based on the student's age when the injury was acquired,

the severity of the injury, and the amount of time that has passed since the injury, among

other aspects. With a more recent brain injury, the student's learning abilities (and

writing abilities) will most likely be more inconsistent, and, therefore, more noticeable.

Conversely, a student who has lived with a brain injury for a longer period of time may

have developed his or her own strategies or habits that compensate for the disability. This

may not be the case, though, if a student suffered a severe ABI during a key

developmental stage of childhood when basic learning or writing skills are taught. These

variables may make it challenging for instructors to adapt their coursework to a student with ABI. As TBI survivor Kelly Bouldin (2005) recalled, the biggest problem she faced upon returning to high school after her accident was that her teachers were not prepared to help her. This is a reality many college students also face.

Students with ABI commonly experience difficulties specifically in the classroom with attention/concentration, memory, organization, information processing, following directions, and problem solving (Chang, Davis, & D'Amato, 2011; D'Amato & Rothisberg, 1996; Lash, 2000). Cognitive, behavioral, communicative, physical and social challenges may also be present (Chang et al., 2011, p. 32). However, it is important that ABIs are not confused with learning disabilities (LD) (Bullock, Gable, & Mohr, 2005; Lash, 2000; Ruoff, 2001). While many students with LDs may experience the difficulties listed above and require alternative methods of teaching, there are major differences in the two categories of disability. As Lash (2000) stated, "the onset of a brain injury is sudden," while an LD is often identified in childhood; therefore, "with learning disabilities, there is not the dramatic before and after comparison observed in students with brain injuries" (p. 1). Students with LD also show more consistency in school difficulties, while students with ABI tend to be inconsistent in their abilities (Lash, 2000, p. 1).

Additionally, while students with LD may absorb new information and connect it to previous knowledge, students with ABI frequently struggle with short-term memory, making it difficult to grasp new concepts (Lash, 2000, p. 2). The drastic changes that may occur in the physical condition of a student post-ABI marks another difference in

students with ABI and LD (Lash, 2000, p. 1). These differences, and others, are

highlighted in Table 1.

Table 1
Acquired Brain Injuries vs. Learning Disabilities

Why consider ABI separately from LD?
- A student with ABI's academic profile is inconsistent and has gaps due to memory issues, making assessment and intervention difficult.   - Confusion and disorientation in the early stages of recovery may contribute to academic and social problems.   - Students with ABI must reacquire academic skills and content, whereas students with LD acquire the skills and content throughout schooling.   - Students with ABI might need to readjust to new academic strategies, such as reading texts multiple times when they understood texts after one reading in prior years.   - Schools may need to address the onset of loss and grief experienced by students with ABI.   - Neurological fluctuations during short or long recovery periods will demand constant flexibility and reevaluation by instructors.   - Instructors must prepare for periods of progress and plateaus; they must not mistake progress for "efficient learning."

Note. The data on ABI versus LD was adapted from "A Framework for Cognitive Intervention," by M. Ylvisaker, S.F. Szekeres, & P. Hartwick, 1994, in *Educational Dimensions of Acquired Brain Injury*, pp. 43-44.

While instructors may utilize specific strategies they use to teach students with

LD, they must see students with ABI as members of a distinct classification. Yet they

should also see students with ABI as individuals, for no two students will have had the

same experiences upon entering the classroom, and they will require personalized

instruction to succeed in writing and other subjects.

1.4 Research Questions

Most of the current research on students with ABI focuses on children and

adolescents, with an emphasis on school reentry, students' limitations, and general

suggestions to accommodate the students in elementary, middle, or high school. Rarely

does the research address postsecondary students and, when it does, reading and writing

difficulties are often mentioned in passing, if at all. While many of the general cognitive,

behavioral, and social intervention strategies for children and adolescents may apply to

postsecondary students, it must be acknowledged that there are major differences in

educators instructing a child and an adult in writing, or in any other subject. Therefore,

although intervention strategies for children with ABI may provide a foundation for

instructional methods, many of them need to be adapted for engaging with students at a

higher level.

This study reviews the extant research on the writing strategies, general

pedagogical practices, and nonpedagogical practices that may assist instructors who teach

students with ABI. The lack of professional training for instructors is addressed, as well

as the research gap regarding postsecondary writing instruction for students with brain

injuries. The objective of this study is to answer the following research questions:

- How can postsecondary institutions best accommodate students with ABI?

- In what ways do students and instructors' perceptions differ regarding the

    teaching of writing to students with ABI?

- What are the best practices for teaching writing to students with ABI?

A combination of research and case studies will facilitate a discussion of these questions.

As a result of this discussion, future educators should have a better understanding of how

to best assist students with ABI in their writing practices; likewise, students with brain

injuries should feel more comfortable initiating conversations with their writing

instructors and voicing their individual needs.

Chapter 2: Literature Review

In the following section, a number of studies are referenced that employ the term TBI, which, as previously stated, is a subset of ABI. The terminology of each author in this review has been adopted to differentiate between traumatic and nontraumatic brain injuries, although all of the research falls under the larger category of ABI. Thus far, research that investigates the writing of students with ABI is extremely limited. A few authors identify particular writing difficulties–initiation, memory, and organization–common to students with ABI and mention intervention strategies based on students' post-ABI assessment, learning styles, engagement, and writing processes. However, none of these strategies are based on empirical research. More concrete studies have been done on oral discourse post-ABI, although these studies reveal a need for future researchers to further examine the similarities and differences between oral and written communication post-ABI, as well as their connection to memory, reading comprehension, and critical thinking. In addition, evidence of individuals' writing interests post-ABI has been found in the area of expressive writing, whether in academic contexts when veterans return to college or in the form of informal journaling. First-hand accounts of individuals have proven that expressive writing can be therapeutic for students who have experienced trauma, yet no research discusses the implementation of expressive writing assignments for students with ABI outside of the predominantly veteran classroom.

Outside of writing pedagogy, much of the current research relevant to this study focuses on the general challenges education presents to students with ABI, or vice versa. The research addresses how overwhelming it can be for teachers to have students with ABI in their classes and how many teachers feel ill equipped to assist them. Students, too,

feel apprehensive when they detect their instructors have not been sufficiently trained in

working with students who have cognitive disabilities. In addition to needing special

accommodations from their instructors, a number of students also rely on assistive

technologies to compensate for visual or auditory deficits, although some are more

difficult to use than others, as the research illustrates.

2.1 Extant Research on Teaching Writing to Students with ABI

Ylvisaker, Hibbard, and Feeney (2006b) provided an overview of the common

writing challenges for all levels of students post-TBI and outlined the main strategies of

intervention for student writers in elementary school through high school. They stated

that students' writing may be shorter than that of their peers and may lack planning and

organization. Student writers may experience the least difficulty with writing mechanics

if these have been mastered before their injury. Ylvisaker et al. noted that injury to the

frontal lobe of the brain can especially impact writing, creating for students:

> difficulty generating ideas; difficulty planning and organizing a multi-faceted
>
> task; reduced insight into the needs of others, including the readers of one's
>
> writing; reduced space in working memory, thereby making it difficult to hold in
>
> mind all of the components of a writing task; reduced self-awareness of
>
> impairments and inefficient self-monitoring, thereby reducing the likelihood of
>
> reviewing, revising, and editing; and reduced perseverance. ("Why is Written
>
> Composition Important," para. 6)

In addition, students may not be able to identify the problems in their writing or the

resources that will help them improve. All of these issues may affect students of various

grade levels differently and also will depend on when the student suffered the TBI

(Ylvisaker et al., 2006b).

Ylvisaker et al. (2006b) suggested the following intervention strategies to help

improve college students' writing: (a) dictating work that will be transferred into writing,

(b) modeling written products, (c) creating writing and editing checklists, (d) using

graphic organizers, (e) generating oral advance organizers based on conversations during

the invention stage, and (f) facilitating collaborative writing sessions with teachers or

parents ("Environmental Compensations," para. 12). They also advocated for the use of

evaluation checklists and specific revision statements with student writers, as well as the

Self-Regulated Strategy Development (SRSD), an instructional model that has proven to

be effective for elementary through high school students. SRSD is a step-by-step

approach that consists of students learning the background information necessary to their

assignment; instructors clearly teaching a writing strategy; instructors modeling what the

strategy looks like in action; students memorizing and practicing the strategy until it is

perfected; instructors and students practicing the strategy by writing collaboratively; and

students displaying their ability to use the strategy when writing independently

(Ylvisaker et al., 2006b, "Stages in SRSD Instruction," para. 19).

Ylvisaker et al. outlined various strategies that emphasize mnemonics and can be

used in conjunction with the SRSD approach; these include "POW," "Think-Plan-Write,"

"WWW What 2 How 2," "SPACE," and "TREE." Such strategies may improve students'

self-regulation of their writing processes and make writing seem more feasible. An

incremental rather than time-based approach, SRSD permits students to work at their own

paces. Thus, Ylvisaker et al. stressed the need for educators to help students succeed

through the use of strategies that are catered to their learning. They also advised that

students with TBI and their educators understand that nearly every student perceives

writing as difficult. To best assist students post-TBI, educators can reiterate this. They

must also remember to use positive reinforcement, and can motivate students by

encouraging them to share their work with others and assigning composition tasks that

key into students' interests or serve a purpose beyond the classroom (Ylvisaker et al.,

2006b).

Likewise, Spear (2005) developed a number of intervention strategies for teachers

of children with TBI to implement in their classrooms. The strategies are based on

students' learning styles post-TBI, after their strengths and abilities have been properly

assessed and instructors have identified what skills have been lost that need

compensation. Spear presented strategies for reading, math, writing, and behavior, and

outlined which work best for visual, auditory, and kinesthetic learners. He asserted that

TBI cannot be treated in the same way as other disabilities and that teachers can best

accommodate students by planning ahead and adapting their lessons, becoming

"pioneers" in fostering an environment that enables all children to learn.

In regard to reading, comprehension skills may be extremely low after brain

injury; therefore, instructors must identify a student's individual reading level post-TBI in

order to best serve the student (Spear, 2005). Potential solutions for those with lower

reading comprehension abilities include simplifying instructions, providing notetakers,

using technology (i.e., books on tape or computer software programs), or encouraging

movement, such as pointing to words on a page or standing. Memory deficits may also

contribute to reading struggles, which makes organized notes important to students

because often "written information then becomes their memory" (p. 67). Memory deficits can cause critical thinking to be problematic, because critical thinking requires recall in order for higher engagement to occur. Spear suggested students keep an organized memory notebook to easily navigate through their notes. However, "once the students have located the information, they will likely need step-by-step guidance to take it and infer, analyze, generalize, or synthesize" (p. 67). This requires a great deal of time and effort, especially since students with brain injury may have slower thought processes than their peers. In this section, Spear concluded that instructors must make special accommodations for their students with TBI, such as changing their expectations for assignments, accounting for physical disabilities, eliminating distractions, and providing for attention span difficulties.

For writing, Spear offered strategies to assist each type of learner: modeling (for the visual learner), dictation (for the auditory learner), and movement/activity (for the kinesthetic learner). Group composition may also allow students with TBI to learn effectively, as they may play to the strengths of their learning style and contribute to a group in that way. Similar to when reading, teachers must accommodate students' physical disabilities with writing, which may require composition through a different medium, assistive technology, or a special desk (Spear, 2005). Students with TBI will also benefit from instruction in steps, constant practice, free writing, and the separation of writing assignments into manageable tasks. According to Spear, revision is most significant for these students, which may be accomplished differently by visual, auditory, or kinesthetic learners, because they may have greater difficulties with organization and critical thinking than the average student.

Ylvisaker et al. (2006b) and Spear (2005) articulated the many variables that

writing instructors must consider, such as a student's learning style pre- and post-ABI,

the student's skill set when he or she acquired the injury, grade level, and various

challenges in reading and writing, among others; they also provided a number of practical

strategies that professors can use in their courses. Although Spear presented his findings

as means to help children, many of his strategies can be useful to higher education

students. Spear's treatment of the general issue is extremely positive because he

encouraged instructors to recognize the individual needs of students with TBI, rather than

generalize them. In addressing writing difficulties, Ylvisaker et al. said instructors must

perceive writing as a collective challenge, one experienced by disabled and nondisabled

students alike.

Much unlike Ylvisaker et al. (2006b) and Spear (2005), who presented a number

of possible strategies, Shalowitz (1983) developed a regimented, step-by-step plan for

high school and college composition instructors of students with brain injuries. As her

paper was delivered at the Annual Meeting of the Conference on College Composition

and Communication over 20 years before Ylvisaker et al. and Spear wrote, it provides a

structured and very different model for instruction that was perhaps the prototype for

writing instructors working with students who suffered from brain damage.

The first step in Shalowitz's model for working with a college writer is to begin

with a narrow topic that might relate to the student's personal experiences. In the

planning stages, Shalowitz suggested the instructor engage in conversation with the

student and encourage him or her to make lists and consider the organization of the listed

items. The instructor is advised to assist the student in organization, vocabulary

development, and a consideration of an essay's conclusion during the planning stages,

making suggestions as needed. At this point, the instructor may ask the student to write a

letter to practice the skills discussed in the first stage. Subsequently, the student is asked

to select a newspaper article of interest to him or her. After reading the article, the

instructor and student discuss the main idea and supporting points, and then devise their

own thesis. Students are again assisted in organizing and developing their ideas–which

Shalowitz identified as two common challenges for students with brain injuries–before

writing a rough draft.

   According to Shalowitz, first drafts usually contain a clear thesis statement but

lack a conclusion. The student may need to be reminded of points addressed in previous

instruction or need to be offered a series of choices specifically for the conclusion.

Lower-order concerns are then addressed as part of the collaborative student-instructor

revision that will take place until the student can "begin to recognize process and to fix

patterns of response" (p. 6). Next, Shalowitz suggested instructors educate students on

creative writing, reviewing story-telling elements, improving comprehension, and

moving toward analysis. A better understanding of story is developed through continual

reading, summarizing, and synthesizing articles and short novels. Shalowitz asserted that

posing open-ended, problem-solving questions such as "why?" or "so what?" will help

students regain or strengthen critical thinking. Writing skills are again evaluated when

students are asked to write letters or record daily activities in logs. From here, they

transition into preparing short responses for tests and developing research skills.

   While Shalowitz's process is evidently rigid, her paper raised several important

points. First, Shalowitz acknowledged writing as an advanced cognitive process that

needs to be developed over a period of time for all students, but especially for those with

brain impairments. She also emphasized the need for students to receive individual

instruction as part of the recovery and relearning period, in which a collaborative effort is

made by the instructor and student to engage in meaningful dialogue and prewriting

activities. In addition, Shalowitz's paper reinforced the idea that instructors should

monitor students' progress and modify the program accordingly, providing additional

support if the student is struggling or taking off the training wheels if the student

understands the key concepts. Finally, Shalowitz recognized writing abilities as

codependent on critical reading, both of which are integral to lifelong communication.

2.2 Writing, Reading, and Oral Communication

Like Shalowitz (1983) and Spear (2005), Goddard and Rinderknecht (2009)

addressed reading instruction for students with brain injuries and identified this area as

one that lacks research. Because little research exists on providing reading instruction to

adults with TBI, the authors reviewed the impacts of intellectual (cognitive) disabilities

on literacy instruction. Their literature review showed that the age an individual acquires

the injury significantly affects literacy. It also proved that more research is needed on

specific instructional strategies pertaining to nonreaders with TBI; much of the reviewed

literature focused on reading instruction for children, adolescents, or adults with mental

retardation or comparable cognitive disabilities.

Therefore, Goddard and Rinderknecht designed a research project with a 24-year-

old nonreader who suffered a TBI at age 2. Their objective was to address five reading

skills noted by the National Reading Panel (NPR) as being vital to literacy: "phonemic

awareness, phonics, vocabulary, comprehension, and fluency" (p. 289). An academic

year of tutoring sessions with the participant using research-based interventional

strategies resulted in effective outcomes for each of the NPR's reading categories. Thus,

the researchers concluded that educators should prioritize the use of research-based

strategies when teaching skill sets to those with cognitive disabilities, that the findings of

this case study provide a good foundation but cannot be perceived as the standard for all

individuals with cognitive disabilities, and finally that nonreaders with TBI certainly have

the ability to read, especially with early detection and intervention.

Although Goddard and Rinderknecht's research does not delve into

considerations of writing instruction, it is important to recognize how some of their

findings pertain to writing. Just as the researchers highlighted the lack of an "extant

literature base regarding teaching adults with TBI to read" (p. 283), so this research

highlights the same dilemma regarding teaching adults with TBI to write. While

researchers may draw from examinations of literacy learning that address cognitive

disabilities such as mental retardation, as Goddard and Rinderknecht did, there must be

some acknowledgement of mental retardation and acquired brain injury as having distinct

characteristics, and therefore somewhat specialized intervention plans.

On another note, it is significant to understand how reading assessment, especially

comprehension, applies to writing instruction. Reading comprehension is an essential

component to being a critical reader, researcher, and writer, particularly in advanced

schooling and in the workplace. In Goddard and Rinderknecht's case study, upon initial

assessment their participant "was able to recall some literal facts from stories that were

read to her. She was not able, however, to determine the main idea or answer inferential

questions about a passage" (p. 296). At the completion of the study, the participant had

better recall and increased comprehension. Such improved abilities could potentially transform an individual with TBI's capacity to conduct research at a postsecondary institution. Thus, the findings from Goddard and Rinderknecht's research suggest that research-based interventional strategies focused on reading will most likely improve a student's writing abilities. While writing is mentioned in the case studies reviewed by the authors, their own study that emphasizes "literacy learning" hardly accounts for the interdependent relationship between reading and writing and what the writing outcomes might have been for their participant from pre- to post-testing.

While reading and writing studies related to students with ABI are sparse, a common focus for researchers is oral discourse post-injury. After reviewing the existing research studies on oral discourse post-TBI, Wilson and Proctor (2002) identified the need for research on the written discourse of adolescents. Their objective was to compare the writing of adolescents with closed head injuries (CHI), one type of traumatic brain injury, to that of a control group based on a picture prompt, the "Cookie Theft" picture from the Boston Diagnostic Aphasia Examination. Wilson and Proctor's participants included eight individuals, from 15 to 22 years old, who had experienced CHI two to five years prior to the study. Members of their control group were comprised of the same age range and genders (five females and three males) as the participants with CHI. As part of the procedure, all participants were asked to provide a written response to the "Cookie Theft" picture in a single session with no time constraints. No instruction was given regarding the expected length or organization of the responses. Collected samples were transcribed and assessed based on the following criteria: productivity, efficiency, cohesion (lexical, ellipsis, and incomplete ties), coherence (global and local), and mazes.

Results showed the largest differences between participants with CHI and control group members in efficiency and local coherence. In regard to efficiency, "In written discourse tasks participants with CHI produced fewer words per CU [communication unit] than controls" (Wilson & Proctor, 2002, p. 1018). Participants with CHI scored lower on local coherence because their communication units were less likely to have logical connections to units before or after them in comparison to the samples produced by control group members. Based on their findings, Wilson and Proctor attempted to draw correlations between their study and previous research on oral discourse, but determined that more research needs to be conducted on written discourse to make more meaningful observations about the similarities and differences between the written and oral discourse of individuals with closed head injuries. They emphasized "[t]he increased need for attention, planning, and development of context in the generation of ideas when writing may result in increased or different cognitive demands than when speaking" (p. 1021). Finally, they concluded that deviations in modes of expression could result from "yet unidentified cognitive skills" (p. 1022); therefore, more research on written discourse is necessary.

Like Wilson and Proctor, Yorkston, Jaffe, Polissar, Liao, and Fay (1997) recognized the availability of information regarding oral discourse and treatment post-TBI, but the lack thereof in relation to written discourse. They acknowledged a number of similarities between oral and written language production, but also described differences, ranging from the existence, absence, or change in visual or verbal cues, dialogue, initiation, and cognitive processes. Therefore, Yorkston et al. developed a study pertaining to written discourse post-TBI, in which they collected writing samples that 76

children between 8 and 15 years old produced after viewing a picture prompt.

Participants were evaluated one month after they no longer suffered from posttraumatic

amnesia (PTA), or a state of confusion following their injuries. The severity of the

participants' injuries played a major factor in the assessment, with 46% of participants

identified as mildly injured, 21% as moderately injured, and 33% as severely injured

when evaluated using the Glasgow Coma Scale (GCS). Domains used to measure

neurobehavioral function included verbal IQ, performance IQ, adaptive problem solving,

memory, academic performance, motor performance, and psychomotor problem-solving.

Written language performance was assessed in terms of efficiency, completeness, general

readability, error, vocabulary, and overall written language.

From the study, Yorkston et al. (1997) concluded that "severe injury results in a

greater difference between cases and controls than does moderate or mild injury" (p.

1100). They also found that the various indicators of written language performance were

impacted differently. For example,

> The domains of Efficiency and Completeness are most highly correlated with
>
> severity of injury. The Completeness domain contains three measures that reflect
>
> both the length and comprehensiveness of the content of the story, notably the
>
> number of words, the number of t-units and the Thematic Maturity scaled score.
>
> Persons with more severe injury can be expected to produce stories which are
>
> shorter, containing fewer words, grammatical units, and story elements. (p. 1100)

Efficiency also varied drastically depending on the severity of the injury, in contrast to

vocabulary, which proved "the most resistant to changes as the result of injury" (p. 1100).

Overall, the researchers found a major correlation between written discourse production and neuropsychological ability, although they acknowledged the need for more research.

One of their proposals for future research included the "[a]dequate examination of the underlying processes responsible for written language deficits," which may contribute to improved intervention plans (p. 1101). For writing, this means that if researchers can identify the cognitive reasoning for certain deficits among the written language performance indicators, they may develop better strategies for classroom implementation. Yorkston et al. also called for future researchers to determine what happens to children's written language skills beyond one month after PTA is no longer an issue. They questioned the rate of educational development for individuals with TBI in relation to their peers over time. If a gap exists in writing performance during their preteen and early teenage years, how will this change with higher performance writing expected of the individuals as college students? Future studies should delve into this type of research.

Like Yorkston et al. (1997) and Wilson and Proctor (2002), Mortensen (2004) also focused on the need for future studies to address writing instruction. Instead of conducting a study, however, Mortensen reviewed the extant literature on the relationship between oral and written communication with regard to three theoretical perspectives: psycholinguistic, sociolinguistic, and ethnographic. According to Mortensen (2004),

> One approach aligns with the phonocentric view of language, i.e., that writing is secondary to spoken language. This perspective informed early medical theories and the psycholinguistic paradigm that has dominated research (i.e., language as knowledge). The second approach reflects the functional-structural view of language, and underlies functional linguistic approaches to the study of disordered

written language (i.e., language as behaviour). The third view is not linguistically

focused but takes an ethnographic perspective on disordered writing and its

management. (p. 17)

Through these lenses, Mortensen addressed the lack of understanding regarding writing

disorders connected to aphasia (a speech-language disorder due to brain impairment), the

nature of writing, and the connection between oral and written language. Most

significantly, Mortensen spoke to the actuality that "writing disorders in association with

TBI have rarely been reported and when identified, are not described as a specific

syndrome (e.g., as in aphasia)" (p. 17). Such disorders are difficult to characterize

because all ABI cases are distinctive and because brain injury impacts individuals'

writing abilities differently.

Mortensen drew three major conclusions, or rather limitations, from examining

the research through a sociocultural perspective. The first is that, from a psycholinguist

viewpoint, sentence-level issues are examined instead of overall functionality. Secondly,

from the sociolinguistic viewpoint, the literature is scarce, outdated, and fails to consider

academic writing or differences in language conditions for oral and written

communication. Thirdly, the ethnographic studies do not account for the variety of

writing functions, "a linguistic framework for clinical intervention," or writing

specifically among the ABI survivors (p. 20). From these findings, Mortensen contended

that "[o]verall, research has ignored the role of writing in the sociocultural life of the

individual with ABI" (p. 21). The implication of this is that ABI survivors' needs are

neglected, for writing is relevant to achieving academic and professional objectives, as

well as maintaining personal relationships, engaging with the community, and

participating in social networks (Mortensen, 2004).

Although writing is considered a secondary form of communication, as

Mortensen stated, without writing abilities individuals with ABI are at a severe

disadvantage. While it is true that oral communication is the focal point of many studies,

the above research shows that future research must consider differences in oral and

written discourse. In addition, future research would benefit from examining the

interdependence of reading and writing to literacy among the ABI population. As

Halliday (1985) emphasized, oral language is regarded as a process, while written

language generates a product. The perception of writing as a product may justify the

efficacy of expressive writing for the ABI population, as discussed in the next section.

2.3 Beyond Pedagogy: Expressive Writing and Special Populations

The differences between oral and written language are often manifested in the

communication of special populations. Commonly, writing affords individuals a means of

self-expression that may be impossible verbally. To access information on the benefits of

expressive writing for students with ABI, instructors need to examine research that

extends beyond pedagogy; a number of sources are published on the general writing of

adults who have suffered from ABI, which may not be located by doing keyword

searches related to teaching.

Expressive writing is one way for adults to cope with the trauma and

transformations associated with their brain injuries. After reading Lane's *Writing as a*

Road to Self-Discovery, which describes the impact of expressive writing programs with

prison inmates, Fraas and Balz (2008) were interested to learn how expressive writing

might assist adults with ABI who often face depression, social limitations, and cognitive-communication deficiencies. In their 10-week study with six individuals with ABI, their subjective data indicated that participants experienced "improved communication, newly revealed writing talent, personal fulfillment and empowerment" (p. 118). After the study, participants felt encouraged to continue writing, whether informally, in writing groups, or professionally. However, Fraas and Balz's objective data revealed no substantial changes in the participants' states of depression and linguistic organization following the study; moreover, the participants' feelings of social community declined significantly. Ultimately, Fraas and Balz concluded that more research needs to be done on expressive writing and individuals with ABI, especially to identify the differences in the writing abilities of those with traumatic brain injury (TBI) and right-hemisphere cerebral vascular accidents (RCVA).

Although Fraas and Balz's results were not entirely encouraging, Stahura and Schuster (2009) are avid believers in expressive writing as a coping mechanism. Stahura and Schuster published *After Brain Injury: Telling Your Story, A Journaling Workbook* to encourage those who have suffered from ABI to express themselves through writing. The authors cited a number of studies that have proven journaling is therapeutic for individuals who have experienced various traumatic events, although they found no concrete results on how writing affects those with brain injury specifically. However Siders (2012), a sportswriter, explained how writing provided a useful outlet for him following his TBI. Because writing gave him a sense of fulfillment prior to his injury, it also offered him comfort on his road to recovery. As Siders reflected on his post-TBI writing:

My writing was not good. It was, however, pure. Everything I was writing–
regardless of spelling and grammatical errors–was exactly how I was feeling. I
wrote down notes and times about my workouts. What hurt, what felt better, what
frustrated me. These notes kept me comfortable as I was prone to forget things.
Much like a diary, when you go back and read it later, you remember all the more
clearly EXACTLY how you were feeling at the time. (para. 4)

Although college students with ABI may not be English majors, may not have been
injured recently, or may not have severe brain injuries, they too could potentially benefit
from expressive writing. Perhaps these students would not write if they were not required
to, but it is worth instructors providing a variety of writing assignments that pique
students' interests in different ways. Suggestions for expressive writing or journaling,
such as beginning with freewriting (Stahura & Schuster, 2009, p. 4), may also translate
into useful practices for students' formal academic writing, or may simply be an informal
method of conveying what is difficult to say aloud.

Expressive writing assignments have proven to be particularly positive for a
special population of students returning to college with TBI: veterans. As Capuzzi Simon
(2013) explained, an increasing number of writing seminars, specialized courses, and
groups–including Veterans Writing Project, Warrior Writers, NYU's Veteran Writing
Workshop, and Syracuse's Veterans' Writing Group–are cropping up nationwide as a
way for veterans to cope with trauma. As a newly popular form of therapy, veterans are
"latching onto writing" and sharing their work in spaces of mutual trust and
understanding. Writing is especially helpful for veterans with posttraumatic stress
disorder (PTSD) and TBI, who are so committed to writing they have pursued publication

(Capuzzi Simon, 2013). Many veterans have found writing is a way to bring organization to the chaos of trauma. As Travis L. Martin, a 28-year-old Iraqi veteran, put it,

> If you can put those emotions and the traumatic event in a narrative that makes sense to you . . . it makes the trauma tangible. If it is tangible, it is malleable. And if it is malleable, you can do something with it. (Capuzzi Simon, 2013, ED24)

Martin's account attests to writing as a productive manifestation of emotion.

Another result of veterans' accounts is an increased realization of the presence they have on campuses, especially in our current time. According to Church (2009), approximately 1.8 to 2.1 million troops were involved in the Global War on Terror at the time of publication (p. 44). In 2007, the Department of Defense reported over 50,000 total injuries, with one fifth of them related to the spinal cord or brain (Church, 2009, p. 44). With the implementation of the GI Bill and the decrepit economy, many veterans are swapping rifles for textbooks by enrolling in college, a large percentage of them with PTSD or TBI. TBI, or "blast injuries" as Church (2009) called them, result in cognitive, perceptual, physical, behavioral, or emotional impairment. In addition to self-pacing, family involvement, and scaffolding, Church (2009) noted that veterans' college experiences may be improved through "coaching; scheduling; strategies including alarm clocks, planners, pagers, scheduling breaks to prevent fatigue, checklists, memory aids such as tape recorders, supportive phone calls, adaptive technology, and utilizing GPS" (P. 45). This list reinforces the need for organization and mnemonic resources, which relate to individuals' writing practices.

In regard to instruction, Church's account proves that educators must acknowledge the prevalence of ABI on college campuses and develop innovative ways to

manage composition courses. To determine the best practices for application, writing instructors may need to delve into research in areas outside of pedagogy, as exemplified by the discussion of expressive writing and journaling above. Similarly, if educators look beyond writing pedagogy, they may develop ways to apply general pedagogical research to their writing classrooms.

2.4 Educational Intervention and Professional Development

A study of general educational considerations for students post-ABI provides insight into the treatment of writing in the classroom. Because cognitive impairment may severely impact academic achievement, schools must be prepared, and prepare their faculty members, to meet the needs of students with brain injuries.

Ruoff (2001) presented comprehensive research on the effects of brain injuries for postsecondary students and recommendations for education. She said that brain injuries occur most frequently when individuals are between 15 and 24 years old; therefore, the impact of such injuries on students needs to be studied and evaluated as it pertains to educational challenges. Ruoff asserted that students with TBI cannot be equated with students of other disabilities because, although they may share similarities, they do not have the same needs. Ultimately, she stated that college students with brain injuries need to be aware of their rights and take ownership of their studies, seeking assistance through the school's disabilities office and other accommodations as necessary.

Ruoff (2001) identified cognitive impairments as the hardest to detect, but most prevalent. Cognitive impairments can result in:

> impaired memory or retrieval of information; impaired comprehension; gaps in
> prior learning; slow thought processing; reduced attention span; geographic or

temporal disorientation; apraxia (total or partial memory loss of how to perform

complex muscular movements); difficulty understanding cause and effect; lack of

awareness of impairments or needs; inability to prioritize thoughts or determine

the main idea; difficulty following a sequence or schedule; [and]

misunderstandings or misperceptions of subtle, abstract, conceptual, or complex

information. (Ruoff, 2001, p. 2)

All of these may affect a postsecondary student's writing abilities and may require

special accommodations.

In particular, two of Ruoff's general suggestions for teachers may be applied to

writing instruction; one pertains to the type of feedback instructors provide and the other

to their approaches. For one, Ruoff (2001) recommended teachers:

reinforce and provide feedback to the student about the process of thinking, rather

than targeting rote memorization techniques, to encourage metacognition (or,

thinking about thinking) [and] offer comments that reinforce the importance of

the thinking process, such as "that's good thinking" or "that's an interesting

thought," and ask questions beginning with "how," "why," or "what if." (p. 7)

These responses are useful to students' critical thinking, development, and revision

practices when composing papers. By asking thought-provoking, open-ended questions,

as Shalowitz (1983) also suggested, students are prompted to provide answers that extend

beyond one word; they may also be able to independently anticipate and answer these

questions in future drafts. Additionally, Ruoff recommended teachers "provide cognitive

mediation. In other words, discuss thought-organization strategies and provide your own

examples that practice this technique, such as how to construct a research paper from the

development of key ideas" (p. 7). In this way, professors can teach students how to think critically about organization and development, key areas of writing instruction. Other researchers have also argued that modeling is a useful strategy for students with TBI and Ruoff's suggestion supports this.

The University of Washington TBI Model System (2009) identified initiation, planning, and organization as major problems for individuals with TBI. This is because these tasks are considered "higher level thinking processes," which may be impaired especially by damage to the front of one's brain (para. 4). The University of Washington suggested that individuals minimize distractions, set and follow routines, and use concrete organizers to improve these issues. Quite obviously, initiation, planning, and organization are all skills necessary for writing. When considering these areas of potential difficulty, it seems a student with ABI might have a hard time beginning or ending a paper, switching between a variety of research materials, focusing, and working on a large number of tasks.

According to Ylvisaker, Hibbard, and Feeney (2006a), initiation and planning are among the top skills of a good student, along with self-assessment, ambition, planning, inhibition, and strategic adaptation. The authors said that these skills may be compromised due to cognitive defects from ABI, which increases the need for new learning approaches. Ylvisaker et al. (2006a) asserted that students with brain injuries should regulate their own learning if possible, rather than rely predominantly on teachers and parents; likewise, instructors should not "deny the student the practice that she needs" in strategic behavior ("What are the Main Themes in Instruction," para. 13). Instructors should, however, pay closer attention to their coursework relevancy, directive

approach, promotion of critical thinking skills, long-term goals, frequency of cognitive

strategy implementation, and opportunities presented for student evaluation and

improvement (Ylvisaker et al., 2006a). These teaching principles can allow instructors to

develop cognitive intervention strategies and foster students' progress. Some key

strategies for instructors, as outlined by Blosser and DePompei (1994), are highlighted in

Table 2.

Table 2
Strategies for Cognitive-Communicative Impairment

1. Present information at a slower rate.
2. Give explicit directions. Clarify verbal and written instructions in the following ways:
    a. Accompany verbal instructions with written instructions.
    b. Repeat instructions and redefine words and terms.
    c. Verbally explain written instructions.
    d. Alert the student to the important topic or concept being taught.
3. Use pauses when giving classroom instructions to permit time for processing information.
4. Avoid figurative idiomatic, ambiguous, and sarcastic language when presenting lessons.
5. Privately ask the student to repeat information and/or answer a few key questions to be sure that important information presented has been understood.
6. Ask direct questions with caution.
7. Establish a system of verbal or nonverbal signals to cue the student to attend, respond, or alter behavior. Examples include calling the student's name; touching a hand, arm, or shoulder; and using written signs or hand signals.
8. Attend to and respond clearly to the student's questions and concerns.
9. Provide written and graphic cues to promote the understanding of new concepts and vocabulary.
10. Use gestures and visual cues to clarify communication as long as it does not become distracting to the student.
11. Use a slow rate and simplify oral reading presentations.
12. Present information in clusters, groups, and reduced sequences.
13. Respond to the student's unintelligible utterances by asking open-ended and directive questions.
14. Reinforce the student's communication attempts. Provide feedback to let the student know what was correct or incorrect about his or her productions. Clarify expectations.

Note. The strategies list was retrieved from "Creating an Effective Classroom Environment," by J.L. Blosser & R. DePompei, 1994, in *Educational Dimensions of Acquired Brain Injury*, pp. 426-427.

Like Blosser and DePompei, Cave (2004) suggested that instructors actively readjust instruction to meet students' needs and assist in educational intervention. He affirmed that instructors must emphasize the students' strengths, present opportunities for learning through multimodality, bridge the gap between students' prior knowledge and new experiences, teach through reinforcement, and adopt innovative metacognitive strategies. In sum, Cave advised that instructors' goals "should include prioritizing, structuring, and slowing down" (p. 171). Ultimately, he asserted that while students may need to relearn basic skills through imitation, teachers should strive to set the highest attainable goals for students with TBI, rather than limit them. They should also seek help from resources, like speech pathologists, who are knowledgeable about language impairments, modes of discourse, and even social skills (Cave, 2004).

Cave referenced organization as one of the most prevalent cognitive issues for individuals with TBI, which was a concern also stated by the University of Washington (2009). For students, this means devising, executing, and structuring writing assignments may be nearly impossible. Cave (2004) also discussed difficulties with retaining information, which may impact students when writing papers that include a large number of sources. Moreover, he considered how students with TBI might struggle with "comprehending, following, or completing tasks correctly" (p. 170). This certainly could affect their ability to understand the questions included in instructors' writing prompts. In turn, they may produce writing samples that do not directly meet the guidelines for their papers. Yet professors may not associate an inability to meet assignment guidelines with

a disability. With an increase in professional training, however, instructors might better detect students' disabilities and understand how to modify their teaching practices accordingly.

Bouldin (2005) asserted that there is a dire need for all teachers to receive training in working with students with special needs, especially those with brain injuries. As an individual who suffered from a TBI, Bouldin recalled the challenges she had returning to high school after her injury and how many teachers did not make accommodations for her. In her article, she proposed the following major recommendations for instructors working with students with TBI, based on her personal experiences:

> Assume nothing; Implement informal and formal assessment by each teacher, particularly the English teacher; Keep a sense of humor and treat the student normally; make light of temporarily odd behavior; Show compassion and photocopy notes for the TBI; Stay on schedule. (p. 56)

She also insisted that TBI cannot be equated with a learning disability, and said it is important to identify the distinctions between the two.

While Bouldin (2005) hardly mentioned her writing practices, it is easy to identify factors associated with her TBI that would hinder her writing abilities when in high school and throughout college. For one, when Bouldin first returned to English class, she recorded her notes sporadically throughout her binder. As Bouldin recalled, "My English teacher and parents assumed I knew about sequencing despite my diagnosis of amnesia" (p. 53). Since she had no knowledge of logical note taking or reading from left to right, imagine how Bouldin's writing process must have been impacted. Not only would the disability influence her research abilities, but it would also significantly affect her writing

itself, especially in regard to organization. However, assessment of Bouldin's skills post-TBI was "guesswork," which made it even more difficult for her to succeed.

Another potential impediment to Bouldin's writing success could have been the large amount of time she needed to devote to writing. As she stated, "Because [I] could write only a few sentences in an hour, [teachers] assumed [I] had no ability to write" (p. 55). Certainly writing instructors must play to the strengths of students with TBI and seek different strategies to allow them to excel. One of the strengths Bouldin mentioned was her cognitive "quirk" that allowed her to recall longer words, although she often forgot shorter ones. Thus, a larger vocabulary could have benefited Bouldin's writing. The problem is that most of her high school teachers were unsure of how to best assist her. It also did not help that, as Bouldin (2005) stated, "When English teachers helped me apply to colleges in 1996, we together discovered that no North Carolina admissions director had heard of TBI" (p. 57). If college admissions offices are not even aware of the disability, they cannot properly prepare for these students to enter their colleges or adapt to their needs in a writing classroom.

As Jenison (1993) articulated, some colleges have developed programs to provide skills training to students with brain injuries–such as Longview Community College's Project ABLE–which means this disability does not go unacknowledged nationwide. Specifically, Project ABLE provides general education courses, weekly support groups, monthly family support groups, and even "help in basic reading, writing, mathematics, and keyboarding" (Jenison, 1993). However, Jenison did not reference the strategies used to assist students with these skills. In addition, it is important to understand that while such initiatives may aid students in their education, they do not offer skills training for

instructors who work with these students, which is the problem Bouldin and students like her have experienced.

Instructors' lack of preparation in aiding students with ABI is discussed by Bouldin, and other researchers like Mohr and Bullock. Mohr and Bullock (2005) conducted a focus group with educators to gain insights about their perceptions, current knowledge, desired knowledge, and concerns about having students with brain injuries in their classrooms. They spoke to 15 instructors, ranging from those who had minimal knowledge of TBI to those who received training on TBI. Most of the participants agreed that TBI instruction should be included in undergraduate courses, although members of the group who received instruction about brain injuries did so in graduate school. The group concluded that TBI information should be disseminated through "college course work, seminars, conferences, district clearinghouses, and online resources" (Mohr & Bullock, 2005, p. 54). Moreover, members of the focus group who had previous TBI training stressed the importance of open communication between schools and families, intervention strategies, and a structured schedule for students.

When physical, cognitive, and psychosocial effects of children with TBI were discussed, the instructors identified cognitive effects as the most concerning (Mohr & Bullock, 2005). Overall, 86% of the participants believed the current knowledge on school children with TBI is insufficient and 63% said if they had a student with a TBI in their classroom they would feel "intimidated" (p. 56). To reduce their concerns, the educators recommended that presentations on TBI be given at professional conferences, a supportive relationship be developed between instructors and parents, other individuals with TBI speak to schools and parents about their experiences, and qualified teams be

established to aid in the training of other educators and parents. Since parental

involvement is limited in college, educators should speak directly to the student with ABI

and to other professionals to increase their knowledge and confidence in assisting

students with disabilities.

2.5 Assistive Technology

Both instructors and students may also benefit from the integration of assistive

technology in the writing classroom. The National Center for Technology Innovation

(NCTI) (2006) stated that students with language-learning deficits may struggle with

"generating ideas, organizing ideas, finding the right words to convey ideas, using correct

grammar, punctuation, and spelling, and handwriting" ("The challenges of writing

problems," para. 1). However, various technologies may be used to assist them, including

word processing and organization tools as well as physical, text-creation, and text-review

tools (NCTI, 2006). These resources may allow students to better organize and present

ideas, adjust grammar and spelling, compose through dictation, and revise through text-

to-speech software (NCTI, 2006). A clearer presentation of ideas is advantageous to

students, but also to the professors who assess their work.

Gilette (2001) discussed the types of products that best assist students with TBI in

improving their literacy skills. In Gilette's article, written literacy refers to three skill

levels:

> (1) the emergent skill of preconventional written literacy that involves
>
> symbolizing the world through pictures, (2) the functional skill of conventional
>
> written literacy that involves writing understandable responses to test questions on

worksheets, and (3) the ultimate skill of literate writing that allows a student to

write stories, poems, or reports. (p. 485)

While students' abilities may correspond with multiple skill levels, it is important to

assess their current literacy to determine intervention goals (Gilette, 2001, p. 485). Once

written literacy has been evaluated, educators may implement a scaffolding approach for

meeting literacy goals based upon Gilette's model, presented in Table 3.

Table 3

"Outcomes relevant to written literacy and technology"

Outcome		Software type
Outcome 1:	Write with preconventional picture symbols	Electronic clip art sets, digital cameras (Ex, Boardmaker*)
Outcome 2:	Write with preconventional picture symbols using overlays or screens to produce conventional-functional print and electronic speech	Talking overlay/screen creators (Ex, IntelliTools*, Speaking Dynamically*)
Outcome 3:	Write conventional messages through organized menus and screens of preconventional picture symbols	Talking screen creators (Ex, Speaking Dynamically)
Outcome 4:	Write conventional messages through word recognition and retrieval from menus and screens organized alphabetically	Talking overlay/screen creators (Ex, Speaking Dynamically, IntelliTools)
Outcome 5:	Write conventional messages through first letter of the word spelling and word recognition	Word prediction software (Ex, CoWriter*)
Outcome 6:	Write conventional messages produced with text input and voice, picture, print output	Talking word/picture processor (Ex, Writing with Symbols*)
Outcome 7:	Compose conventional messages or literate writing with text input and text and voice output	Talking word processor (Ex, Write OutLoud*, IntelliTalk*)
Outcome 8:	Compose with text input and visual cues to produce conventional and literate writing	Typical word processors (Ex, Word, WordPerfect)
Alternate: Outcome	Write through voice input to produce conventional messages or literate writing	Voice recognition software (Ex, Dragon Naturally Speaking*)

Note. The data on written literacy outcomes was retrieved from "Pictures to Print: A Software Scaffold to Written Literacy," by Y. Gilette, October 2001, *Journal of Head Trauma and Rehabilitation, 16,* pp. 484-497. Copyright 2001 by the *Journal of Head Trauma and Rehabilitation.* Reprinted with permission.

Gilette's model relies on a multimodal system, in which writing is prompted

through visual and auditory cues. On a basic level, the model achieves the outcomes

outlined in Table 3; however, in the process of achieving these outcomes, students are

acquiring additional skills. These assistive technology programs facilitate critical

thinking, assist in organization, make providing feedback easier, and offer students

independence. Moreover, the programs grant access to those with various physical

disabilities and are adaptable to different learning or intervention goals. They also

produce "more efficient and cost-effective learning" (Gilette, 2001, p. 492). Most

significantly, perhaps, these assistive technologies are interactive, and thus engaging for a

variety of learners.

Although Gilette's scaffolding design seems to target students with TBI in lower

grade levels, it is critical to evaluate the written literacy abilities of higher education

students to develop intervention plans or, at minimum, offer basic suggestions for

assistive technology use. Literacy abilities vary not only by age, but also by the severity

of injury or writing competency of a student. Likewise, functional outcomes of Gilette's

model are based upon the student's physical disabilities and proficiency in using

technology. Outcomes also depend on the educator's ability to familiarize him or herself

with the software or to create a new or hybrid scaffolding model that meets the student's

individualized needs.

One software program included in Gilette's discussion is Dragon

NaturallySpeaking, a speech recognition product of Dragon Systems, Inc., which was

studied more closely by Manasse, Hux, and Rankin-Erickson (2000). In their research,

Manasse et al. used Dragon NaturallySpeaking to determine how a speech recognition

program changes the accuracy of written production for a TBI survivor who has mild

ataxic dysarthria, a speech disorder. Their study also investigated the amount and type of

training necessary for a TBI survivor to use speech recognition software and the nature of

writing samples produced with the software. The findings of their research with BL, their

18-year-old participant, showed that the program's overall accuracy with BL's dictation

was almost 80%. When comparing BL's writing samples typed with word processor and

dictated through Dragon NaturallySpeaking, the researchers found BL generated more

words and sentences using word processing software. However, "in the word processing

sample, approximately half of BL's sentences were simple and half were complex. In

contrast, nearly three-quarters of the sentences BL generated for the speech recognition

sample were complex" (Manasse et al., 2000, p. 1027). No notable difference was found

in word length between the two samples.

Two important observations can be made from Manasse et al.'s (2000) study; the

first relates to the nature of brain injury and the second to fine motor skills. From this

study, the researchers concluded that a TBI survivor's ability to use the speech

recognition software will vary based upon the severity of his or her injury. While BL's

familiarity with Dragon improved with each training session, other survivors may have

more difficulty if they have severe memory/cognitive impairments, more severe

dysarthria, or less proficiency with technology. Secondly, Manasse et al. found that,

although BL produced less words and sentences with Dragon, she preferred the dictation

software to the word processing software. As the researchers noted,

> using a standard keyboard is fatiguing, laborious, and an unappealing
>
> alternative when an individual has substantial motor impairment in one or both

arms. For some TBI survivors, the resulting struggle and challenge may be

sufficient to prompt them to avoid writing activities altogether. Using speech

recognition technology to produce a smaller quantity of text, but with greater

ease, may be a preferable alternative for some individuals. (p. 1030)

The researchers recognized that Dragon's misidentification of approximately one-fifth of

BL's words probably contributed to the lower word count in her dictation sample.

Moreover, BL's "level of fatigue and/or frustration may have limited the amount of time

she could comfortably engage in the activity" (pp. 1030-31). With additional training,

however, it is expected that BL would become more proficient using Dragon and

generate more words in less time (Manasse et al., 2000, p. 1031). Devoting enough time

to working with any speech program when composing is crucial. As Gilette (2001) also

stressed, intervention teams "must understand that voice recognition does not offer

instant gratification" (p. 494). In sum, the outcome will depend on the amount of training

and time educators and students are willing to dedicate to the program.

Programs like Dragon NaturallySpeaking lend support to students in their writing

initiatives post-ABI. A number of assistive technology tools that aid in memory and

cognitive development have also proven to be effective, especially during rehabilitation

periods. Yet a major dilemma exists with the use of assistive technology and program

research–that is, technology is constantly in flux, with new and improved programs being

developed from year to year. The result of this, as Gilette (2001) stated, is "that research

support for many written literacy software techniques is limited. This is due to the rapid

invention of software products from the early 1990s to the present, spurred on by the

continuous improvement of computer technology" (p. 485). In effect, literature reviews

of assistive technology products (Bergman, 1998; Bergman, 2002; LoPresti, Mihailidis, & Kirsch, 2004) become increasingly outdated and must be labeled as historical overviews. While these overviews are still beneficial in regard to the nature of assistive products, the products themselves become dated as tablets replace computers and apps replace traditional computer software. This places a great deal of responsibility on rehabilitation centers, schools, and individuals with ABI to conduct their own research on the best current technologies. Although it may seem like a daunting task, many students with ABI, as evidenced by the following case studies, rely on these technologies to write for academic, professional, or leisurely purposes, or simply to complete daily tasks with greater ease.

Chapter 3: Case Studies

3.1 Methodology

Since few studies have been conducted on the reading and writing of students

with ABI, it is difficult to determine the best course for research. However, it is evident

that a collection of both quantitative and qualitative data is necessary if we are to begin to

comprehend how to help writers with ABI develop their skill sets and gain the

preparation that will enable them to meet their educational and professional objectives. If

we can identify patterns of difficulty or major trends in their writing processes, we may

be able to pinpoint focal areas and develop strategies for intervention. Similarly, if we

find points of dissonance between writers' accounts, we may be reminded that each

writer has a different process and, in order to meet writers' needs, we must create more

personalized instruction plans.

The purpose of this study was to collect qualitative data that might allude to some

of the trends or dissonances in the processes, struggles, and strengths of college-level

writers with ABI. Likewise, it was intended as an exploration of the writing instructors

who work with students with ABI and how they adapt their teaching to accommodate

these students. With these aims in mind, five individuals were hand-selected to

participate in one private interview session with the researcher. There was no formal

recruitment process associated with this study, as a student who the researcher worked

with in a professional capacity assisted the researcher in identifying potential participants.

Among the participants were two college students, ages 20 and 23, who are both females

in their second year of college, although one is considered a freshman according to her

acquired credits. One of the students has a congenital brain injury, while the other has an

acquired brain injury. The second set of participants was comprised of one male and one female writing instructor, who have been teaching writing courses for 19 and 11 years respectively. The final participant was a 28-year-old female who has become a public figure due to her brain injury and is in the process of drafting a book manuscript about her experiences with her ABI. This participant's name is used in this study based upon her request, while pseudonyms are used to identify all other participants.

Different sets of interview questions were used for each participant category, including students, professors, and the postgraduate (See *Appendix A* for the student interview questions, used for Trishelle and Mia; *Appendix B* for the instructor questions, used for Professor Wells and Professor Simon; and *Appendix C* for the postgraduate professional questions, used for Tessa). All sessions began with the participants signing consent forms and being reminded that their involvement in the study was voluntary and they could refrain from answering any questions they did not wish to answer. The duration of each interview ranged from 45 to 90 minutes based on the breadth of participant responses. The researcher recorded all interviews on her computer using Audacity, an audio recording program, and typed the participants' responses during each session. Following the interviews, the researcher transcribed the recordings to ensure the accuracy of participants' responses. Recordings and transcriptions were kept in a password-protected electronic file that was only accessible to the researcher. Upon completion of the interviews, the researcher assessed participant responses based on other participants' answers and on the research presented in the literature review. Findings are outlined in the discussion section below.

3.2 Case Studies

Trishelle. Trishelle is a 23-year-old female and psychology major who is in her second year of college, although she is considered a freshman according to the number of credits she has earned. Before experiencing her ABI, Trishelle was involved in chorus, band, and orchestra, and took pride in volunteering her musical talents by singing at a nursing home. In 2006, however, when Trishelle was 16, she walked into a wall so hard it resulted in a bruised eye and cheek that looked as though someone had punched her. Upon her doctor's request, she went to get an MRI done, where it was discovered she had a brain tumor that would be monitored by doctors during appointments every 6 months.

Soon after, Trishelle started fulfilling the hours she needed to obtain her driving permit. Yet when she was behind the wheel, she crashed into curbs so frequently that the driving instructor told her, "You're going to kill yourself!" The instructor reported the incidents to Trishelle's mother, which raised a red flag for her even though her daughter found her driving difficulties rather normal. Because she had always experienced issues with double vision and was used to having visual problems, she did not realize the brain tumor could be impacting her spatial perception. She also attributed these issues to her age, believing at 16, "the older you get, the more problems you have visually."

When she returned to the doctor, he noticed that Trishelle was walking crookedly, so he sent her to the emergency room. She was then required to undergo an emergency surgery to remove her brain tumor because it was determined her tumor had started bleeding, causing her lack of balance. Since Trishelle's regular neurologist was out of town, a replacement neurologist operated on her and, in Trishelle's words, "I think he really messed it up." As a result of her surgery, Trishelle is now permanently disabled,

with a loss of dexterity, partial blindness, a hearing impairment, wheelchair dependency, speech impairment, and memory loss. Although no one has admitted that it was the surgery, rather than the brain tumor itself, that caused these effects, Trishelle said she was not informed that the surgery would have this type of impact preoperation. Moreover, due to her family's strict cultural beliefs, she said her parents do not want to "cause any commotion" and desire to "behave culturally," although they were advised they could sue the doctor for the damages.

Following her operation, Trishelle was in a partial coma for the first few weeks of her rehabilitation period. She could not eat or rise from bed, but had therapists who came to her bedside to help her regain speech and mobility during the year she spent in a rehabilitation center. After she left the center, Trishelle had to return to a different high school that could better accommodate her disabilities. Now faced with breathing difficulties, she could no longer hold a musical note, so she had to give up her passion of singing. Although Trishelle used to enjoy playing the piano prior to her injury, her hand weakness now prevents her from playing the piano with two hands. Thus, school became a greater area of interest. As Trishelle explained,

> You praise school because you develop a kind of, like, a really strong bond with
>
> your education 'cause what happens when you have brain injury. I hear a lot
>
> about "Well, I have TBI and my family does not understand anything I'm going
>
> through." That happens a lot. So if you're feeling that way and you don't like
>
> home that much then you love school like a lot more, so then your bond with
>
> school only strengthens.

She also believes that when students with disabilities experience bullying from their peers, they may turn to school as a source of comfort. As a student who loves learning, Trishelle is determined to obtain her bachelor's degree and then pursue a Ph.D. and eventually work as a clinical psychologist. Although a doctorate education takes a number of years for any candidate to complete and will inevitably take more time for Trishelle, she says she is not deterred because she is used to devoting extra time to her studies.

In regard to her learning style, Trishelle claims to learn through a combination of visual, auditory, and kinesthetic instruction. Post-ABI, she struggles most academically with her short-term memory problems, typing notes, and hearing everything the professor says in a lecture. In effect, Trishelle has trouble when courses are solely lecture-based because she loses interest and has a hard time memorizing a large amount of information in one sitting. Because she relies on learning through listening and memorizing, Trishelle learns best when professors provide real-life examples that supplement key theories and concepts. She also likes when writing instructors show the class sample papers so they can understand the instructor's expectations and see what a good assignment looks like.

Trishelle uses a number of resources to assist her in her coursework on a daily basis. For one, she relies on note takers to provide her with copies of course materials, an accommodation that is only useful when the note takers are thorough and have legible handwriting. Trishelle is offered the note taking service through her college's office for disabilities. Along with note takers, she frequently takes advantage of the help provided by a writing tutor, a disabilities advisor, and an academic advisor. Trishelle also makes time to speak to her instructors personally, either after class or by attending their

scheduled office hours, because she finds individual conferences to be very beneficial.

However, she did admit, "I find it sometimes difficult to make an appointment to see [my

professors] because, um, their schedules are so busy. So is mine." To say that Trishelle's

schedule is busy is an understatement, as she must juggle a college education with visits

to 25 different doctors and countless weekly therapy sessions.

In addition to the resources offered by the college, Trishelle relies on many

assistive technology programs to help her excel in her studies. Among her favorites is a

program called Kurzweil 3000, which allows her to download from www.bookshare.org,

a free service that enables people with disabilities to view a digital copy of many books,

textbooks, newspapers, and magazines. Users can also scan books into Kurzweil and

have the program read the books aloud to them, highlighting the words as it reads them.

A program that shares some of the same functions as Kurzweil is DaVinci, which is a

closed-circuit television that allows Trishelle to magnify any documents she wants from

home. By scanning documents or taking pictures of them, users can upload them into

DaVinci and have the text read aloud.

Other programs Trishelle uses are SOLO, Read:OutLoud, and Write:OutLoud,

which serve similar functions. "You know, when you're texting and there's a word

prediction or text prediction," Trishelle explained. "[The programs do] that for the

computer and that helps a lot." For dictation, Trishelle tried to use Dragon

NaturallySpeaking, but the software does not pick up her voice and would require intense

training for her to be able to successfully use it. For mobility, she uses a track ball instead

of the keyboard on her computer because only her left hand is able to function. Although

Trishelle was right-handed before her brain surgery, when she woke up from it, as she

described, "I'm like okay, I'm lefty! I couldn't use my right hand anymore. I don't know why. It was very strange. It was like I was left-handed every single day of my life." Such changes to her abilities made assistive technology essential to the completion of daily tasks, but also to her education and specifically to writing.

In college thus far, Trishelle has taken a couple of writing-intensive courses, including her general first-year course and an English 101 course. Although she has done well in these classes, she struggles to understand the nature of writing assignments and follow instructions correctly. As Trishelle said, "Sometimes I would do an assignment, what I thought the professor said, but then I tend to do things early, and so the next day in class they said that it's on something else and then I have to rewrite the whole thing again." When professors create good syllabi, some of this confusion is avoided. Trishelle also tries to clear up any confusion by listening to an audio recording of her course lectures after every class meeting, which is time-consuming but necessary due to her short-term memory impairment. Because memory is such a large issue, Trishelle requests copies of all of her textbooks and course reading lists prior to the beginning of each semester so she can read and outline all of the materials for her classes over summer and winter breaks. As Trishelle explained,

> I have trouble, like, memorizing 'cause when I process a whole chapter all in one afternoon I get so confused and get stressed and I cannot focus at all. But if I break it down over, uh, several months or several weeks, that could be a lot more helpful.

Trishelle claimed she would "fail miserably" without having extended time to preview her books and create outlines before her classes begin. She credits her advisors and

instructors for helping her succeed by allowing her to access this content, which, as

Trishelle said, "seems minor, [but] it's not minor."

In regard to her instructors, Trishelle stated that they have been very helpful,

although they can better serve her by improving the clarity of their assignment guidelines

and feedback on her papers. Sometimes she feels that professors return papers with

comments or suggestions that she cannot understand. However, Trishelle has bigger

issues with the assistance her peers offer. Difficulties in Trishelle's writing courses often

derive from what her note taker or test scribe records. She also has trouble with peer

review sessions because she feels the criticism she receives is often incorrect. Therefore,

when Trishelle needs help on a paper, she prefers to speak to the professor directly or

meet with a writing tutor. To clarify any uncertainties she has with her writing, Trishelle

also consults Diana Hacker's *Rules for Writers*, which she believes can provide great

support to students with any writing they do in college. Very much a grammarian,

Trishelle tries to improve her writing by reviewing sentence-level rules, like passive

voice and proper comma usage. She ascribes her knowledge of sentence-level rules to her

work with a writing tutor as a preteen, when she was taught to diagram sentences. During

grammar school, Trishelle attended a public school where she said "they did not teach

writing. They taught spelling. But you could spell with Microsoft Word." Thus, Trishelle

blossomed as a writer because she had individualized instruction that helped inform her

current writing process.

When Trishelle sits down to write a paper, she first decides how she wants to

organize it, and then sets a schedule for how much of the paper she will complete each

day. Setting a schedule is important for Trishelle because it takes her a great deal longer

to compose than other students due to memory and mobility issues. When asked how long it takes her to write a single-spaced, one-page essay, Trishelle replied, "Well, like, in my mind if I did not have to type it, it would take me like 10 minutes. But typing it would take me 2 hours." Accordingly, she tries to allot a certain amount of time each day to writing the paper. Once her schedule is in place, Trishelle begins brainstorming for the paper:

> I think about a few things. One, what class is it for? Two, what did the professor, uh, aim to accomplish in assigning us, uh, the assignment? Uh, three, what message do I want? And, uh, four, a possible conclusion, because I find that a conclusion can affect any, maybe all of, your writing.

If the paper requires research, Trishelle tries to break down the research into smaller sections. She attempts to save time by using Google Scholar, a search engine that is said to produce more scholarly results, and filtering results by those that end in *.edu*. As an alternative, Trishelle sometimes uses a program called Genieo, which orders search results based on supposed relevance.

When she begins drafting a paper, Trishelle writes a portion of the paper each day, rereading what she writes and editing it as she goes. She does, however, like to spend time away from the paper before completing her full revisions because "sometimes I find if you reread something a few days later it sounds so different." Trishelle also finds that, upon a second review, she may have developed new ideas to add to her work that she had not originally considered. If she cannot think of ideas for a certain part of her paper she notices is underdeveloped, Trishelle does Google searches to get a sense of how other writers elaborate on their ideas and models her work based on theirs. Trishelle

finishes each paper with a final reread to adjust any grammatical errors she had not detected in prior reviews. Sometimes, she admits, she gets too wordy or uses too many commas in her sentences, which results in the frequent comment from professors that she has some "awkward sentences" in her writing.

Although this is Trishelle's general writing process, her writing does change based on the genre or type of writing assignment. While she believes she is "terrible at psych papers," she feels much more successful and at ease when writing about music, although her busy schedule does not allow much time for leisure writing. When she does find time, Trishelle occasionally journals, which lets her express herself more freely in language and in structure than academic writing permits. As she described,

> If I'm doing something academic, well, it's not like you can curse in it at all. Your
> professor would shoot you! I find that, um, if I'm doing something like a journal
> entry, um, I can use a lot more slang in it and, um, just the structure would be
> different too 'cause in a journal you don't really need an intro or a conclusion, but
> academically you do.

Trishelle journals about any thoughts that come to her mind that she has not articulated before. As she is currently testing out a new keyboard, Trishelle has been journaling more often to practice. Overall, writing about music provides an outlet for Trishelle to express the hobby she lost after her brain injury, but also reminds her that writing can be fun.

Professor Wells. A teacher of 19 years with a Ph.D. in rhetoric and film studies, Professor Wells was Trishelle's English 101 instructor last year. At his current college, he teaches different levels of English and literature courses. Professor Wells's teaching style is characterized by a balance of lecture and discussion, as well as a focus on literary

analysis and critical thinking. When teaching his students, Professor Wells uses a variety of approaches that help them to engage with any text in any course. This is particularly effective, he said, "because I'm not just teaching content in a vacuum, but I'm teaching them to think critically about how they approach the materials." Thus, Professor Wells's goal is "getting students to cultivate their own questions that they care about."

Cultivating curiosity is perhaps Professor Wells's biggest challenge regarding teaching writing. This is a particular obstacle because he needs to move students away from the five-paragraph essay or other writing forms that fail to initiate their critical thinking and curiosity and get them to think differently about their writing. To help students progress toward a better understanding of writing, Professor Wells offers many opportunities for individualized instruction, including mandatory meetings in his office hours before students complete their major research projects and personalized comments on students' papers through an online system. Through "paperless grading," students are provided with regular feedback on their assignments by the instructor. This in-depth feedback includes lengthy, ready-made explanations for common mistakes. Students also receive regular feedback from their peers in structured peer review sessions facilitated through the online forum. Professor Wells provides a list of checkpoint questions to students, and they are expected to write a one-page letter responding to their partners. Since students are graded on the quality of their responses, Professor Wells believes they are motivated to offer constructive feedback to their peers. As he explained,

> If there are major problems with the paper and the student says, "Good job," then
> I fail them because they didn't notice the things that they were supposed to notice,
> because I know that a lot of peer review . . . doesn't work because you don't tell

them what to look for and I think that my goal was to have them learn about their

own writing while they're analyzing someone else's writing because they're

going to have to look for the things in their peer's paper that they may not even

have in their own paper.

In this way, students are constantly interacting with one another and developing as critics,

while also improving their own writing.

When Professor Wells worked with Trishelle in a class that followed this structure

last year, he was aware she had a condition but was unaware that it was ABI. Trishelle

had met with him before the start of the semester when she provided him with a list of her

accommodations, during which time he told her, "If you ever feel like there's anything

else you're not getting, just let me know." However, he said that never happened.

Although Trishelle had an assigned note taker to record the lectures and help her gather

her belongings at the end of each class, Professor Wells stressed that she behaved as any

other student in his course. Other than providing her with the course materials prior to the

semester, Professor Wells said he made no special accommodations for Trishelle. But,

then again, he acknowledged he is very accommodating with all of his students. Trishelle

was expected to complete assignments in the same way as other students were and

received feedback on her papers through the online forum and through e-mail. Similarly,

higher and lower-order concerns with writing assignments were presented to Trishelle

just as they were presented to the rest of the class. Professor Wells's instruction focuses

predominantly on higher-order concerns, which he believes makes the class challenging,

but he also, to a lesser extent, discusses lower-order concerns. Thus, Trishelle progressed

in her writing over the semester just as her classmates did. As Professor Wells recalled,

though, she was particularly good at receiving feedback and revising her work, which made her one of his stronger students. She also made time to speak with him after class when she had questions.

The major difference between Trishelle and her classmates, from Professor Wells's perspective, was that he had to be more patient when she was speaking as a result of her speech impairment. Trishelle participated regularly, more so than the majority of her classmates, so Professor Wells also felt he had to ensure her classmates were patient too. He said this was his biggest struggle:

> I think one thing that was a challenge for me with [Trishelle] or with students like [Trishelle] is not so much, uh, her learning or my teaching or the connection that she and I would have, but managing other students' expectations and relationships with her. That was the biggest challenge . . . actually making her feel included, but not pressured or put on the spot, um, teaching the other students to have patience. I mean the thing I love about students like [Trishelle] is that the students have certain expectations [about] what she's capable of and when I call on her and she starts to answer the question at first it's awkward because it takes a while for her to articulate her thoughts, but then once she does it really shows the other students how smart she actually is. You know, and it becomes a great learning experience for them.

Because students truly benefit from having classmates like Trishelle, Professor Wells believes it is well worth his time to guarantee his classroom is a place of respect, where students feel free to express their ideas and can learn a great deal from one another.

Although Professor Wells has had no formal training in working with students who have disabilities, he has researched disabilities studies extensively. In working with students like Trishelle and those with special needs, he constantly rethinks his pedagogical approaches. Because Professor Wells has a son with autism, he has a keen awareness of what interacting with different students entails and regularly evolves his instruction. For example, he now permits students to rewrite any paper they have written for his class, which was not a policy of his last year. In his courses, he is always willing to stop the class to answer questions, and he allows students to tape record their sessions. For these reasons, Professor Wells believes, "When a student comes in with a list of accommodations, 99% of the time I'm already doing those things." He offers accommodations not just to students with disabilities, but to any students. While he admits some of his colleagues have timed exams or are technophobes who prohibit the use of laptops in their courses, Professor Wells wishes that all instructors would consider how they can better serve students, which may mean giving students as much time as they need to complete exams or allowing them to use laptops. It also may mean diversifying course requirements to appeal to the different styles of learners. Most significantly, though, instructors can better accommodate students by viewing students with disabilities as individuals. While Professor Wells acknowledges it would be difficult for colleges to require instructors to attend professional training on working with students who have disabilities, he thinks colleges should offer workshops that emphasize the different types of learners and reiterate that "working with every student is different regardless if they have a disability or need accommodations." Since Professor Wells received no formal training on disabled students, he believes much of his own knowledge

and the knowledge of other instructors is gained from personal experience. As Professor Wells said, "I feel like I was able to handle [Trishelle's] needs . . . because I've had that experience before. I've had students like her before."

Mia. Mia is a 20-year-old health and exercise science major who is in her sophomore year of college. Unlike the students described in this study, Mia has congenital brain damage, meaning she suffered her brain impairment due to a lack of oxygen at birth rather than through a traumatic or nontraumatic experience after birth. While Mia personally identifies with the term TBI–though she is not characterized as such under standard definitions of the term–she more often refers to her condition as a learning disability because she needs special accommodations for her classes. Among Mia's daily struggles are time management, staying organized, and completing essays, which she is often required to do as a college student. In the future, Mia hopes to obtain her college degree, although she acknowledges it might take her longer than the usual four years, and to enter the healthcare profession as an occupational therapist.

As a visual and auditory learner, Mia comprehends information best by having it spoken to her and then seeing examples. Yet she finds herself struggling in her courses as a result of a heavy workload and the amount of time it takes her to complete assignments. Mia also has a written expression disorder and has major problems with simple math calculations due to short-term memory impairment. Essay-based exams are particularly challenging for her, and while some instructors are willing to modify test formats, others are not. Mia often has difficulties understanding professors' directions if they give the instructions verbally without writing them on the board, which makes her use of a note taker extremely important. Mia takes advantage of the note taking service because, as she

said, "I don't do well looking, like copying, like looking at the board and then writing, looking at the board and then writing, because I get lost because I have a visual problem, like tracking and spatial." Through constantly reviewing notes, employing pneumonic devices, visiting the tutoring center, and using her accommodations to their fullest potential, Mia is able to get through her classes.

Mia's list of accommodations, which she calls her ADA (Americans with Disabilities Act) list, is extensive. Before the start of every semester, Mia meets with her instructors to review her ADA list, which includes note takers for every class, extended test-taking time, alternative test locations, the use of a basic functions calculator for math, the use of word processing software for essay-based exams, access to word processing software in class, the use of a laptop in class, the use of software programs downloaded to the office of disabilities' laptop, taking lengthy exams in two sittings, access to class lecture notes and PowerPoint presentations prior to class meetings, permission to record lectures using audiotape, individual oral presentations of class materials by professors in scheduled meetings, extended deadlines for assignments, and preferential seating in the classroom. Although these accommodations are available to Mia, she does not use all of them. She never uses certain accommodations, like tape recording lectures, but is beginning to utilize some of the others, like the office of disabilities' downloaded program called Snap and Read, which reads text from any document or internet program aloud. Nonetheless, Mia relies on many of her accommodations, such as the note taking service and use of a calculator, to succeed. Note takers are most crucial to Mia's learning, even though she writes her own notes, because, as she described,

Even though I have a note taker next to me, I like jot down some things too so it looks like I'm paying attention and listening and not just sitting there zoning [out]. I usually throw all my notes away that I took in class because they're really sloppy and I have big handwriting, but they're always all over the place, like I can't keep my thoughts organized on the page, and that's how it is with my writing. So my teachers get annoyed 'cause, like, I'll be talking about, like, a subject and then something else comes up, a different thought, and they're like, "Wait a minute. This has nothing to do with this paragraph. Where did this come from?"

Whether writing notes or composing a paper, organization is one of Mia's biggest challenges. In an effort to supplement her classroom learning and learn about organization, Mia visits the tutoring center regularly, where she works with peer tutors on science and writing. When asked about how her experiences have been in writing sessions, Mia replied, "I mean, [my tutor is] kind of helpful, but I feel like if I had a teacher or a special ed. teacher teaching it to me then it would be easier because I feel like she hasn't been helping me that much." Mia feels overwhelmed by the number of tasks that need to be addressed in writing consultations, from research and organization to documenting outside research in a particular citation style.

So far in college, Mia has taken many writing-intensive courses such as Writing 101 and Writing 102, but also general liberal arts courses that required her to complete a number of writing assignments. Certain professors were helpful, while others did not provide adequate assistance. In particular, Mia referred to her Writing 102 course as a "disaster" because her instructor had a poor attitude. As Mia recalled, "She would always

give me bad grades on my essays and she wouldn't, like, really help me. And she's like, '[Mia] I'm explaining what you need to do every time you meet with me. Why aren't you understanding this?'" Mia was very unhappy when she received a final grade of a "C" in the class. Although she knows that writing is not her strong suit and that other instructors may have given her higher grades because of her condition, Mia was most frustrated by the instructor's unwillingness to patiently repeat instructions or assist her with her writing.

According to Mia, writing instructors would be more successful if they taught students how to organize their thoughts and develop a thesis both through lecture and by distributing handouts. When asked whether professors have employed any effective strategies to teach her, Mia replied, "I'm sure they did show good strategies to help other students, but I feel like I'm still struggling, so I don't know." Part of Mia's difficulties have come from ineffective strategies employed by professors, such as their promotion of the Cornell Note-taking System, a method that offers a step-by-step process for taking notes. Since Mia has a hard time taking any notes and has trouble understanding instructions, she could not grasp Cornell's strategy. Additionally, Mia has specific issues with taking notes on research to incorporate into her papers. She is extremely concerned about plagiarizing, but is not entirely sure how to paraphrase the information she acquires from outside research. Mia also has trouble with beginning her papers, articulating clear thesis statements, and meeting minimum page requirements. Although many teachers will not lower the page requirement even though Mia has a brain injury, she was ecstatic that for one of her courses this semester, in which the professor has students writing two 7-page papers and one 10-page paper, the instructor is permitting her to submit two 5-page

papers and one 7-page paper instead. Yet even with this victory, Mia is still overwhelmed. As she said, "Two 5-page papers and one 7-page paper . . . that's going to be a living hell for me." Mia knows that writing these papers may not seem like a daunting task to other students, but for her it is difficult. In her words, "I know people write 10 and 20-page papers and they do it and they don't complain and, like, they understand it. But with my learning disability, it still hasn't come to me yet, but I'm working on it." Collaborating with instructors, peer tutors, and classmates in peer review sessions, Mia is motivated to improve her writing, but does not feel these sources are offering her the help she desperately needs.

When writing, Mia follows a process dictated by the minimum page requirement stated by her instructor. She does some research, summarizes the information, drafts the paper, and then checks to see if she has met the page count. If Mia has not, she will do further research and add to the paper before submitting it without proofreading. Because she feels she is unsure of how to start an assignment, Mia tries to process information in her head, but rarely does any prewriting. She hoped that attending writing consultations in the tutoring center would improve her prewriting and research abilities, but Mia still feels she cannot paraphrase published research. In an effort to teach Mia, her writing tutor said, "Oh, you have to, like, take notes, write it down, and you just, like, start typing and it just flows." However, Mia's brain injury has prevented her from having a fluid process, and this is not the way her writing works. Mia needs to designate a large amount of time to research and writing (approximately two to two and a half hours to type a single-spaced page), and she is just happy to have a paper done.

When writing, Mia focuses on higher-order concerns, predominantly her thesis and organization, which are major issues for her. She addresses higher-order concerns in her tutoring sessions. Mia never prioritizes lower-order concerns like grammar and mechanics because her teachers do not deduct points for these errors. Although she said, "I take it into consideration and make sure it's, like, the proper English so I'm not saying, 'She ain't going there,'" Mia is more concerned with developing her argument and structuring it in a way that others can understand. She likes that Microsoft Word has a tool that underlines sentence fragments for her, because this helps her pay a bit more attention to proofreading. Mia has also benefited from participating in a writing conference–a service offered by her school that is separate from tutoring–in which proofreaders actually line edit submitted papers. Writing conferencing is different from Mia's visits to the tutoring center because in her tutoring sessions the consultant assigns her writing tasks and does not edit her papers. Mia feels she has benefited more from the writing conferences, although she has learned some useful strategies, such as writing papers with an outline beside her, from her tutor.

While Mia struggles to write research-based papers, she believes she is a strong writer when she is afforded the freedom to write "from the heart," or simply write about subjects that do not require citations. For Mia, writing about her feelings "comes really easy" and is less time-consuming, whereas incorporating outside sources is a constant challenge that requires much time and effort. As she moves forward in her college career, Mia hopes to have more assignments that allow her to express herself. Mia believes that her writing experience would be better if her professors knew more about learning disabilities and how to more clearly describe parts of the writing process to students with

disabilities. Sitting down with students once or twice a week to explain assignments or

provide feedback would allow Mia to feel as if she were receiving useful help. However,

in her current academic status, as Mia assessed it, "I just feel like I'm still in a place

[where] either they're not explaining it clearly or, if they are, I'm not applying it."

Professor Simon. Professor Simon, a female who has a master's degree in

international education with an English specialization, has 11 years of experience in

teaching and tutoring. In her English 101 and 102 courses, general humanities course, and

first-year student seminar, Professor Simon uses a collaborative style of teaching. When

tutoring, she takes a directive or nondirective approach based on students' individual

needs. Although she received no training in working with students with disabilities, six

years ago Professor Simon spent a full academic year assisting a student who had an ABI

with her writing in her college's tutoring center. She worked with the student, who will

be referred to as Claire, in two-hour sessions once or twice every week, depending on

what types of assignments Claire was given. To offer a brief background, Claire suffered

from an ABI at age 10 that seemed to occur when she fell off of a swing. Doctors have

not reached a consensus on whether Claire already had the condition and it was dormant

or if the accident triggered the brain injury. Although she began college as a social work

major, plummeting grades resulted in her inability to remain in the program, so she

instead pursued a degree in community mental health. According to Professor Simon,

Claire needed the continual assistance of a writing tutor in order to support her learning.

As she said, "She's clearly a case of somebody [who], if she hadn't come into the center,

she wouldn't have graduated. You know, she just, she really, she needed the help, you

know, in significant ways." This is why Professor Simon was determined to provide the best aid she could.

When Claire first came to the center, she told Professor Simon that organization and grammar were huge issues for her. Accordingly, Professor Simon focused the sessions on whatever Claire was struggling with, which often meant encouraging her to concentrate on higher-order concerns, but other times teaching her about sentence-level issues like fragments, conjunctions, and subject-verb agreement. For certain subjects, Professor Simon could take a nondirective approach, but for others, like organization, she had to be more directive. She recalled,

> Organization was a huge challenge for [Claire] . . . getting organized, staying
> organized. And so I had to be directive about her organization. You know, she'd
> have a research paper due, for example, and she would've pulled, like, I don't
> know, five books from the library and she would've starting taking notes and
> reading, but everything would have been disjointed and scattered. In other words,
> she wouldn't be consistent about taking notes from one book and then moving
> onto another book. She'd be all over the place and, um, and her notes would be all
> over the place, like, she just had major organizational problems, so I would have
> to, like, I took her through how to organize her work better. And then, you know,
> and then I had to remind her fairly regularly about the importance of staying
> organized with what she was doing. And she would, she would then give it back
> to me, you know. She would come into a session and say, "Okay, I really tried to
> stay organized this week" and "Let me show you what I did."

With organization, Claire made progress, but then digressed. Because she had processing issues, it was necessary for Professor Simon to break large tasks into smaller ones to prevent Claire from becoming overwhelmed. Sometimes Claire became so stressed out that she could not even think about multiple parts of an assignment and would get physically emotional. As Professor Simon described,

> It was a real challenge for her to deal with more than one thing at the same time even though, like, all these different aspects of a research paper were all part of a research paper. She was challenged by taking the steps and putting them together in a meaningful way. So stress, like with anybody, you know, kind of set her off, but she would have, like, sometimes complete meltdowns because she'd get really frustrated with herself.

In an attempt to avoid these meltdowns, Professor Simon encouraged Claire to take regular breaks, which meant she had to spend more time working with Claire than she did with other students; additional time was also needed to compensate for Claire's severe processing problem. However, Professor Simon's hard work paid off because, through a combination of Claire's motivation and Professor Simon's guidance, Claire wrote a capstone paper with little help from her tutor and finished with a high grade-point average in her final semester.

After working with Claire for a year, Professor Simon has three bits of advice for other writing instructors who work with students who have disabilities or, more specifically, ABI. The first is to be patient because, although Professor Simon thought she was explaining simple concepts in a clear manner, sometimes Claire did not understand or would need to stop the session to take a break. Secondly, Professor Simon

encourages instructors to obtain some background information on the student to see what led up to his or her arrival in the tutoring center or classroom. Over the period of time Professor Simon spent with Claire, she learned that Claire missed a great deal of school between the ages of 10 and 18 due to frequent hospital visits; therefore, "there were big gaps in her learning." In order to instruct Claire effectively, Professor Simon had to determine what the gaps were in Claire's learning and adjust her teaching accordingly. Finally, Professor Simon advises that instructors try to identify with students on a personal level, as all students have had different experiences, and thus have different needs. In Professor Simon's words, "I think you really, you really have to focus on the individual student and try to get an understanding of what it is they're faced with. What are the challenges? How do they manifest themselves?"

Tessa. Tessa is a 28-year-old female who works as a grant writer for a school that treats people with brain injuries. As the former editor-in-chief of her high school newspaper, Tessa has always loved writing and feels she is a particularly strong writer. However, her writing abilities were put to the test when, in the summer before her senior year of college, Tessa's car swerved off of the road one night and hit a tree. Fortunately, a local volunteer first responder was driving by when he noticed a dim light coming from the car. Surprised to feel Tessa still had a pulse, the responder called for emergency services personnel, who took Tessa from the scene by helicopter. She was unconscious and had five broken bones when she got to the hospital, but the bigger concern for doctors was her brain swelling. After emerging from her coma, Tessa spent some time in the hospital before entering a rehabilitation facility, where she spent 100 days working with different therapists. The following year she returned to her college to complete her

international and global studies degree with a concentration in global environment. Tessa's college welcomed her with open arms, continually telling her that they were ready for her to come back whenever she was ready.

Post-TBI, Tessa's biggest struggles in school were related to her short-term memory loss. To an extent, she also felt socially isolated since many of her friends had graduated from the college the year before. However, Tessa pushed forward, determined to complete her coursework and, in the meantime, to learn about her brain injury and recovery process. For this reason, Tessa enrolled in a behavioral neurology class her senior year, which initially proved to be quite challenging because she had not previously taken science courses and now opted to just one year after experiencing severe trauma to her brain. Although Tessa received a score of about 40% on her first exam in the course, her professor soon developed individual essay-based tests for her to play to her writing strength. As Tessa recollected, "Even if [my responses] were 100% wrong, he would revise them. . . . He developed a way for me to continue learning, but within the new, um, constraints that I had." This allowed her to be more successful in the course and improve her writing, even though her content recall had grown weaker as a result of her memory impairment. In all of her classes, Tessa was not given time limits for her papers or tests, and her teachers were very helpful. In fact, Tessa raved about the assistance her college offered and her teachers' willingness to accommodate her. "It was a new thing for me. It was a new thing for them," Tessa said. "They were willing to learn with me and that was important." Thus, Tessa had positive experiences as she continued to learn and strengthen her writing as a senior.

Tessa even successfully completed high-stakes writing in her final year, specifically in the form of a grant she wrote to go to China to film a documentary. With assistance from a professor who reviewed her drafts, Tessa obtained the second grant she applied for and went to China to film *The Green Reason*, which focuses on the environmental movement that took place in China as the country prepared to host the 2008 Summer Olympics in Beijing. Tessa and her partner used storyboarding to organize the film, shoot it, and then review what they had and fill in any gaps. In regard to this process, she commented, "I think it's what we learned in grade school. I think it's really important to make an outline." As the content of the documentary stemmed more from Tessa's area of study than her partner's, they had different roles in producing the project; however, Tessa was responsible for taking the lead and her partner became a more objective viewer. When asked about her opinions on working collaboratively, Tessa replied,

> It's always better to work with a partner. I think having someone else to think about your ideas. . . . This is the way thinking happens. I don't think this is specific to brain injury. I think this is relevant to thinking.

Tessa applies a similar mentality to writing, frequently submitting drafts of her grant writing to be reviewed by others. While she acknowledges that all writers need to have a second pair of eyes on their work, Tessa feels this is particularly important when people have problems organizing their thoughts or translating their thoughts onto paper, which is often the case for individuals with ABI. As Tessa explained, "With brain injury, there are reasoning problems. When you're stuck in your head and have reasoning problems, um, that affects the quality of the writing." In effect, Tessa values the feedback she receives

when writing or filming a documentary because having another person tell her what is unclear allows her to better conceptualize and revise her work.

Tessa relied on the assistance of others in her last year of college, but also on other organizational resources. In her courses, Tessa was paired with other students who provided her with copies of their notes; she also tape recorded lectures. Immediately following her brain injury, Tessa used her planner religiously to compensate for memory loss and to achieve a sense of structure. She also used Google products, such as Google calendar and Google documents, as well as her smart phone, to help her stay organized. All of these resources were vital to Tessa because, in her words, "When you have an injury like this, things get jumbled completely. So recovery is just putting things back in order." She believes this idea applies to writing as well, which is why she creates spreadsheets on Microsoft Excel for just about all the writing she does professionally.

Now that Tessa is beyond college, she enjoys writing even more for two reasons: one, she better understands the connection between writing and storytelling, and two, because, as a grant writer, she does not need to write bibliographies. Although she admits she lacks experience because she is young and sometimes gets "too stuck in ideas," she loves being able to pursue her passion for writing, to learn about grant writing, and to work closely with kids who have brain injuries. Tessa also enjoys researching and mastering grammatical rules. When researching, Tessa benefits from creating visual representations of her acquired research. She enters all of her collected data into Excel and asks that when colleagues assign her projects, they put the information into spreadsheets. When information is presented in this way, Tessa remembers it better, which she believes is specific to her brain injury. She said she "can remember the shape

of words and that helps [her] remember the words." Because Tessa stresses that all brain injuries are different, she attributes these memory techniques to "the pattern of damage" with her injury.

When researching for a grant, Tessa begins with identifying key words, and then finding specific cases that strengthen her argument. She emphasizes "setting [the grant] up as something that is founded in facts that people have published," which is accomplished by structuring her key ideas and further developing them after. Considering the audience is Tessa's first concern when writing professionally, although it was not something she considered when writing academically. When writing grants, she wants to ensure her audience can relate to her ideas. Secondly, Tessa thinks about the clarity of her work, which she believes is one of her strengths. Clarity is important to Tessa because she would never be able to reach her intended audiences if she did not clearly articulate her ideas. Tessa strives to improve clarity when she revises her work, during which time she reads through her document and corrects any errors or incomplete thoughts.

Tessa is expecting to do a great deal of revision in the near future, as she plans to publish a book on her experience with her TBI. She had wanted to write a book since high school and, once she underwent a life-changing experience, she saw it as the perfect opportunity for potential publication. Tessa was also inspired by a book about brain injury that her doctor gave her and by e-mails she received from a woman in South Africa who read her blog online. From these sources, Tessa realized people were interested in brain injury and that writing a book would offer her a way to help others who faced experiences similar to hers. As Tessa, who was given a 10% chance of functional recovery, said, "I think telling this positive recovery story gives hope to families and,

with this story, they can have hope of their own." Tessa's book is still in the drafting

stage and, although she started writing the book two years ago, she feels like she has been

writing it forever. Instead of maintaining a strict schedule, Tessa writes whenever she

can. She is currently looking to strike a deal with a publishing company so she can share

her personal story and disseminate her message that, even when it is difficult to remain

hopeful, hope is the only source of survival.

Chapter 4: Discussion

4.1 Case Studies Analysis

To begin, it is important to reiterate that one of the student participants, Mia, does not have an acquired brain injury; instead, her injury was caused by a lack of oxygen at birth. While this is an important consideration because this research focuses on ABI, it is even more vital to assess the similarities and differences between congenital brain injuries and those acquired later in a person's life, and the impact this has on education. A major similarity between students with acquired and nonacquired brain injuries is the memory loss both groups commonly experience. All of the participants with brain injuries–Trishelle, Tessa, and Mia–identified their short-term memory loss as one of the biggest impediments to their education. In contrast, ABI is different from other brain injuries, like Mia's, because an ABI often occurs suddenly and can be associated with feelings of loss. As a result, special accommodations must be made upon school reentry that were not necessary before. Unlike students with ABI, students with brain injuries from birth usually have set accommodation plans developed in their earliest stage of education that may be adjusted as they progress academically.

Additionally, those with brain injuries from birth have no "before and after" when it comes to acquired knowledge. For writing in particular, these students have no foundational knowledge preinjury upon which to build, whereas students with ABI usually have foundational knowledge depending on the age they acquired the injury. This is vital to understand because this foundational knowledge can make a substantial difference in instruction. Further, as Ylvisaker et al. (1994) described, "gaps" in students' cognitive abilities–sometimes caused by memory deficits–can influence the measure or

areas of students' writing knowledge. In Professor Simon's account, she mentioned how Claire, the student she tutored, had gaps in her education as a result of frequent medical obligations that cost her time in the classroom. Thus, even basic writing knowledge should not be assumed for students with any type of brain injury.

In considering the differences between ABI and congenital brain injury, the question of whether congenital brain injury can be compared to a learning disability comes into play. Although Bullock et al. (2005), Lash (2000), and Ruoff (2001) emphasized that ABI should not be mistaken for LD, does the same rule apply when referencing other brain injuries? When speaking to her professors, Mia classifies her condition as a learning disability, rather than a brain injury. Since she has had the injury since birth and it predominantly affects her cognitive abilities, Mia perceives it as no different than a learning disability, although a student with a learning disability may not fit the same profile as her in terms of memory loss or organizational difficulties. While it is true that congenital brain damage is much closer to a learning disability than an ABI, it is important to maintain the separate identities of these conditions so institutions can provide the most suitable accommodations for students. More importantly, however, institutions must acknowledge all students as individuals, because many types of learning disorders and brain injuries mean that no two cases are alike. As professors learn through continual instruction, no two students, regardless of whether or not they have disabilities, are alike anyway. The individuality of students is essential to bear in mind during this discussion because, although patterns of similarity between the participants with brain injury are addressed, there is no guarantee they will be applicable to *all* students with brain injury.

In regard to the most substantial educational difficulties–identified by Chang et al. (2011), D'Amato and Rothisberg (1996), and Lash (2000) as attention/concentration, memory, organization, information processing, following directions, and problem solving–the participants all identified their short-term memory loss as the most prevalent. To compensate, Tessa relies on Microsoft Excel spreadsheets to maintain a record of information. When she was a student, Tessa depended on the assistance of note takers, an accommodation Trishelle and Mia also take advantage of in their courses. Organized notes are of utmost importance to these students because, as Spear (2005) stated, "written information then becomes their memory" (p. 67). Specifically for Mia, memory deficits impact her recall and, therefore, her critical reading abilities. In Goddard and Rinderknecht's (2009) research with a 24-year-old nonreader, they found that research-based intervention strategies improved their participant's comprehension, which may be what Mia needs to become a better reader and writer.

Trishelle and Mia referred to following directions and information processing as other major challenges for them. Both students mentioned the need for instructors to provide them with written instructions for assignments to supplement their verbal explanations, and for the instructors to be consistent with their explanations and expectations for assignments. As Blosser and DePompei (1994) suggested, all instructors should "accompany verbal instructions with written instructions" (p. 426). Cave (2004), too, mentioned that properly executing assignments can pose a problem for students with ABI due to processing difficulties. Thus, Trishelle and Mia like to see examples of successful assignments completed by previous students in their professors' courses.

Additionally, for Mia, organization of ideas is extremely difficult, which was noted in the list above, as well as in the research of Cave (2004), the University of Washington (2009), Wilson and Proctor (2002), Ylvisaker et al. (2006a), Ylvisaker et al. (2006b), and Yorkston et al. (1997). Professor Simon also identified organization as one of the biggest challenges for her student, Claire, which significantly impacted her research and writing. It became Professor Simon's responsibility to teach Claire how to organize before writing a draft. In Shalowitz's (1983) regimented design for writing instruction, she presented individualized training in organization as a necessary step in instruction that must take place during the planning stages of a paper. Ruoff (2001) also discussed the importance of instructors discussing thought-organization strategies with their students. Professor Simon recognized the need for these discussions in her work with Claire, who would come into their sessions with "disjointed and scattered" notes on her research materials. By the end of their tutoring period, however, Claire was able to successfully write her culminating paper with little assistance from Professor Simon.

In contrast to Mia, Claire, and the researchers' findings, Tessa and Trishelle explicitly stated that organization is not a problem for them when writing. They both organize their thoughts mentally with minimal prewriting. A partial justification for this could be the ages Tessa and Trishelle acquired their injuries. Since Tessa was injured at age 21 and Trishelle at age 16, these individuals had the experience of writing at higher grade levels, unlike Claire and Mia, who experienced their injuries at birth and at age 10 respectively. What this implies is that the research may vary based upon individual circumstances, including the severity of injury, but there may be a correlation between the age of injury and the specific writing challenges experienced by the individual. A

larger sample size would be needed to study the potential relationship between attention/concentration, memory, organization, information processing, following directions, and problem solving and the age of injury. Results would vary based upon the quality of the school systems in which the individuals were enrolled and, again, on the severity of injury, but such research could provide valuable insights into the areas of deficit that should be addressed by educational institutions at students' various developmental stages.

Aside from organization, researchers alluded to other observations about the writing of students with ABI that either align with or diverge from the participants' accounts. The research of Spear (2005) was particularly insightful, because his emphasis on learning styles was a focal point in the participant interviews. After initially being asked about their learning styles in the interviews, Trishelle, Tessa, and Mia all repeatedly referenced their learning styles in their discussions of the specific strategies or accommodations that are useful to them. For example, Trishelle said she learns through a combination of visual, auditory, and kinesthetic means, so when she discussed her use of assistive technologies, she mentioned how each program conforms to her learning styles. Moreover, as visual and auditory learners, Trishelle and Mia need to simultaneously hear their instructors dictate assignment guidelines and see them in writing to fully comprehend them. When composing, Trishelle often researches and attempts to model other authors' presentations of research, which Spear suggested for the visual learner; Ylvisaker et al. (2006b) and Shalowitz (1983) highlighted modeling as a useful strategy as well. Although unsuccessful due to her speech impairment, Trishelle has also tried Spear's recommendation for the auditory learner to compose through dictation.

Moreover, Spear's (2005) treatment of learning styles for writing alluded to the need for professors to simplify instructions and for note takers and assistive technologies to be used in the classroom, all major areas of discussion in the interviews. However, the place where Spear's research diverged from one of the participant's responses was in his claim that group composition might improve the writing practices of students with ABI. In her account, Mia specifically mentioned a group paper she was required to write for a course and how she rode on the coattails of the two intelligent seniors in her group. Although group composition may be useful if group members are patient and motivated to assist the student with brain injury, it can also go terribly wrong if the student with brain injury does not feel obligated to contribute, feels intimidated by the writing abilities of others, or if other group members choose to dominate the project. In Mia's case, she was glad her group members assumed most of the responsibilities for the paper, and she even believes this project is what earned her an "A" in the course. While group composition may be productive if strategically structured, it can also allow a student with a brain injury to hide behind the intellect of others, and thus gain little from the experience.

The same applies to peer review sessions, which are commonly conducted in college writing courses. Both Trishelle and Mia said they disliked peer review sessions because they obtained little useful feedback from their peers. Although Professor Wells has his students participate in peer review sessions online and has specific questions directing their responses, Trishelle said most of her peers' feedback was hardly accurate or constructive. Even though Professor Wells grades students on the quality of their responses to one another, it is hard to prevent students from offering one another poor

criticism. In effect, peer review or group composition may be especially ineffective for the student with brain injury who has difficulties with writing. This is, of course, not specific to students with ABI, as such results may be similar with any group of students.

In contrast to group composition and peer review exercises, which may sometimes prove futile, students with ABI may excel especially in non-research related writing. Fraas and Balz's (2008) 10-week study of six individuals with ABI showed that better communication and a sense of fulfillment were derived from expressive writing. Similarly, during their interviews, Trishelle, Tessa, and Mia all discussed their fondness of writing about their personal experiences. For Trishelle, journaling is a way to test new assistive technologies, but also a means of communicating ideas she has not spoken aloud before. Tessa's expressive writing has taken the shape of blogs, tweets, and her manuscript, all of which are dedicated to a discussion of her ABI. Although Mia did not mention expressive writing beyond an academic context, she spoke at length about how successful she is in her classes when she can write "from the heart." These responses relate to Stahura and Schuster's (2009) belief that journaling post-injury is therapeutic, but also to the idea that professors must vary the nature of their writing assignments to conform to the strengths of different learners.

Another writing strength emphasized by Trishelle and Tessa was their mastery over vocabulary. Although word-choice is considered a lower-order concern to most instructors, it is worth noting that these two participants were particularly proud of their language use. Likewise, when discussing the impact of her TBI, Bouldin (2005) labeled her unusual ability to recall longer words a cognitive "quirk." These accounts support Yorkston et al.'s (1997) research of children with TBI that showed vocabulary was "the

most resistant to changes as the result of injury" (p. 1100). Conversely, two areas that are

often affected by injury–consistent in Yorkston et al. and Wilson and Proctor's (2002)

studies–are the production of shorter writing samples and a lack of logical organization in

paragraphs. In terms of the length of written products, Mia continually voiced her

inability to meet the minimum page requirement for assignments. Mia discussed her

routine of writing and checking her page count, then writing more if necessary or

submitting the paper without revising it, which Ylvisaker et al. (2006b) commented on as

well. Although Spear (2005) said revision is most important for students with brain injury

because of their struggles with organization and critical thinking, Mia barely revises her

papers at all.

To eliminate certain spelling or mechanical errors, Mia and the other participants

use word processing tools that highlight these mistakes. But they also use a number of

other assistive technologies to succeed in their courses. When asked if she uses any

assistive programs in her classes, Trishelle simply laughed and responded, "How many

do you want?" Trishelle's response attests to the quantity of resources many students

with ABI use to compensate for certain losses. While each of the participants mentioned

assistive technologies, it was Trishelle who named them and described the different

functions they offered users, many of which were mentioned by the NCTI and Gilette

(2001), who stressed the significance of visual and auditory cues that prompt learning.

While certain programs are very easy and user-friendly, others require a great deal of

effort by some students, like Dragon NaturallySpeaking. For example, Manasse et al.

(2000) studied how Dragon NaturallySpeaking impacted the accuracy of written

production for a TBI survivor with a speech disorder. Their results showed 80%

accuracy, but a decrease in complex sentences from the sample written with word processing software. Manasse et al. explained how intense training is needed to improve proficiency with the software, which Trishelle also recognized in her attempts to navigate the program. According to Trishelle, the program could not consistently detect her voice due to her speech impairment. Although a loss of dexterity means typing is a lengthy and strenuous activity for Trishelle, she has not been able to make progress composing through dictation. Thus, the severity of ABI is a determining factor for a student's use of assistive technologies, and multiple impairments could prevent a student's ability to use certain programs altogether.

In the classroom, students with ABI benefit from a combination of permissible assistive technologies and special accommodations offered by their institutions. As Mia's account exemplifies, students' accommodations lists can be quite extensive, even if they do not make use of each item on the list. With so many accommodations, it is hard to believe there is any truth to Nordlund's (1994) assertion that colleges often provide "the minimal services required by law" (p. 512). Although this argument may be more applicable to some colleges than others based upon size and funding, it is interesting to consider the implications of Nordlund's statement. If Mia's accommodations list offers her the minimum amount of services her college must provide by law, what more can the institution be doing to help her succeed? Of the participants who were interviewed about their writing experiences, Mia seemed the most frustrated in terms of the assistance her school is providing and defeated by a lack of communication with her writing instructors. When asked about the strategies that have been effective to her writing or general education, Mia named a strategy or two that she learned from her instructor or tutor;

after, however, she quickly explained how the strategy may have helped her classmates, but must not have helped her because she is still struggling. So, again, the questions become: What additional services can institutions provide to students with ABI? And, what types of strategies can writing instructors offer to assist students with ABI?

When interviewing Professor Wells and Professor Simon, it immediately became clear that their willingness to constantly evaluate and adapt their instruction differentiated them from other professors. Bouldin (2005) had such a difficult experience when, upon school reentry, she felt her professors were not adequately prepared to help her. Similarly, Mia articulated the lack of assistance she has received from instructors and peer tutors who have left her questions unanswered or have offensively remarked, "[Mia] I'm explaining what you need to do every time you meet with me. Why aren't you understanding this?" Although Mohr and Bullock's (2005) research spoke to the need for instructors to attend professional training seminars on assisting students with ABI, it seems willingness and a sense of empathy on the part of professors goes a long way in making students feel like their concerns are being acknowledged. Unlike Mia, both Tessa and Tiffany raved about the accommodations their schools offered, from making them feel comfortable to return to school, to providing copies of textbooks and syllabi over summer or winter breaks, to simply being available to answer questions. Because Professor Wells and Professor Simon fell into this category of being *willing* to help their students, it did not seem to matter that they have had no professional training in working with students who have disabilities.

The research of Blosser and DePompei (1994), Cave (2004), and Ylvisaker et al. (2006a) spoke to the need for instructors to frequently reassess their teaching approaches

and amend them accordingly. Professor Wells discussed how he changes from year to year–for example, he now permits students to revise even their midterm and final papers, which he had not allowed in previous semesters. Both Professor Wells and Professor Simon also discussed their ability to acknowledge that writing takes a substantially longer amount of time for students with ABI; as a result, Professor Wells does not limit the amount of time his students have to take tests. Likewise, Professor Simon extended the regularly allotted time for tutoring sessions when working with Claire. Both instructors also recognize the benefits of individualized instruction and designate time to meet with students one-on-one. One of the most interesting aspects of this study is that it includes a student and instructor pair–Trishelle and Professor Wells–which allows for a means of comparison between their accounts. From Trishelle's perspective, she succeeded in Professor Wells's class largely because he was able to meet with her before the semester started and was free to answer questions after class. This made a huge difference to her, even though he said he made no accommodations for Trishelle that would not be available to any other student. In Tessa's case, she benefited from her behavioral neurology professor designing essay-based exams solely for her, and from the feedback he provided on her responses even when they "were 100% wrong." Again, positive experiences begin with instructors' willingness to adapt their instruction to help students overcome the educational challenges they face post-injury.

The only challenge Professor Wells said he experienced in teaching Trishelle was that he had to be extremely patient when she spoke and, similarly, had to ensure her classmates were patient. Professor Simon, too, had to make sure she was patient when assisting Claire. Because Claire commonly experienced cognitive overload, Professor

Simon had to be aware of when she needed to take breaks, although she said Claire knew

her limits as well. To compensate for memory loss, Professor Simon had to develop ways

to assist Claire in her writing process, such as teaching her how to organize. Shalowitz

(1983) advised that instructors regularly engage in conversations with students who have

ABI about how to construct a thesis or organize a paper. Shalowitz (1983) and Ruoff

(2001) also recommended that instructors pose open-ended, critical thinking questions in

their discussions with students. This was a particularly useful strategy in Professor

Simon's work with Claire. Other strategies included asking Claire to reteach her their

previous lessons and dividing assignments into manageable tasks, which Spear (2005)

suggested. Because writing is so cognitively demanding and successfully addressing all

of the higher and lower-order concerns seems daunting, as Ylvisaker et al. (2006b)

explicated, it is extremely important to break large assignments into smaller tasks so

students with ABI feel capable of accomplishing them.

Regardless of what strategies are used, this research emphasizes the significance

of getting to know students on a personal level and becoming familiar with *how* they

write. For example, although Shalowitz (1983) suggested that a paper's conclusion be

discussed in the planning stage when working with a student with ABI and Trishelle

actually does consider her conclusion during prewriting, this does not guarantee that this

strategy is effective for all students who have ABI. There is no universal instruction

manual that lists the techniques instructors must employ to help students with ABI

succeed simply because no two students have the same writing process. Secondly, this

research stresses the need for professors to continually challenge their students by setting

high goals for them. As Cave (2004) and Ylvisaker (2006a) acknowledged, no benefits

can come from doubting the abilities of students with ABI and holding their hands while writing if they are indeed ready to write independently. Professor Wells expressed how impressive Trishelle's papers were and how other students could learn from what she contributed in class discussion. Likewise, Tessa said she has always been a strong writer, which helped her succeed in her final year of college post-ABI. Professors must acknowledge that the potential of their students with ABI is boundless and take the necessary measures to facilitate their success.

4.2 Implications

The objective of this study was to answer three questions: (a) How can postsecondary institutions best accommodate students with ABI? (b) In what ways do students and instructors' perceptions differ regarding the teaching of writing to students with ABI? (c) What are the best practices for teaching writing to students with ABI?

In response to the first question, institutions must look critically at the services they are offering to students with ABI and frequently evaluate whether they could be doing more. They should offer instructors professional development workshops on teaching students with various disabilities. Although, as Professor Wells said, it would be difficult to require faculty members to attend the workshops, they should be made available to the professors who wish to be exposed to current pedagogy, and especially to those who have students with disabilities enrolled in their courses. When institutions increase the knowledge of their professors, the students will reap the benefits.

The answer to the second question comes predominantly from the case studies described above. Perhaps the biggest difference between students and instructors' perceptions is the efficacy of group assignments, such as peer review or group

composition. Because many students with ABI require individualized instruction and often need more processing time than their nondisabled peers, it is difficult for them to function in small group settings where professors cannot monitor student interactions. Although Professor Wells could monitor his students' responses through the online forum, Trishelle became confused about the accuracy of her peers' suggestions. Trishelle found her interactions with Professor Wells and the feedback he provided to be much more beneficial, although she still cannot understand some of the feedback other professors give her.

Another major difference is related to how students perceive the accommodations instructors make for them. Trishelle and Tessa articulated their immense appreciation to their institutions and instructors for meeting with them one-on-one, allowing them early access to the syllabi, meeting with them to discuss their accommodations lists, etc. However Professor Wells, in particular, felt he had made no accommodations for Trishelle other than being patient. Professor Wells's response revealed that he conducts his classroom in a way that offers all students the same accommodations, regardless of disability, because of his personal experiences in working with students who have disabilities and in having a son who has autism. While students like Trishelle believe the instructor is going out of his way to meet their accommodations, "99% of the time [he is] already doing those things." Unfortunately, all teachers do not make similar provisions in their courses, as Mia has realized. Her surprise in college has not come from the overwhelming response of professors to meet her accommodations, but rather from the harsh reality that some are not willing to. Although Mia's accommodations list clearly states that she must be permitted to take a longer exam in two sittings, when she once

asked an instructor to do so, he refused. Moreover, when she took advantage of the

"individual oral presentations of class materials by professors in scheduled meetings"

part of her list for Writing 102, her professor became impatient, saying they had reviewed

the concept countless times and asking her why she could not understand it. While we

only have Mia's version of their interactions, it is critically important for professors to

consider how their words come across to students with ABI, or any students for that

matter.

Finally, the third research question represents the chief focus of this study, and its

answer must begin with a reiteration of a key statement previously made in this

discussion: There is no universal instruction manual that lists the techniques instructors

must employ to help students with ABI succeed simply because no two students have the

same writing process. However, a number of suggestions can be offered for instructors to

implement in their classrooms, which will not only improve instruction for students with

disabilities, but also the education of all students. Writing instructors should consider:

- Adopting a variety of approaches to cater to students' learning styles (e.g.– modeling, graphic organizers, interactive lecture)

- Varying the nature of assignments to pique students' interests

- Creating some paper assignments or writing tasks that allow individuals to write about their personal experiences

- Providing assignment guidelines both verbally and in writing

- Organizing individual conferences with students when they are struggling or setting a schedule of meetings to review paper guidelines, expectations, or feedback

- Continually reassessing their teaching practices and adapting as necessary

- Exploring various technologies to enhance student learning or, in the case of students with ABI, to compensate for physical disabilities or improve cognitive abilities

- Closely evaluating the productivity of group activities, such as peer review or group composition, and modifying them as necessary

- Working to improve their clarity and consistency when assigning writing tasks

- Breaking down larger writing assignments into small, manageable tasks to compensate for memory deficits and prevent cognitive overload

- Conducting assessments to identify the writing baseline of students post-ABI and prioritizing instruction according to higher-order writing concerns

- Attending or requesting professional development workshops to learn about teaching students who have brain damage or about the differences between ABI, congenital brain damage, and LD

- Demonstrating patience and a genuine willingness to learn about students' previous experiences with writing

- Frequently reminding themselves that all students must be treated as individuals who require instruction that considers their personal needs and offers them the potential to progress academically and professionally

Although many of these recommendations seem obvious, the research demonstrates that a number of professors do not implement these standards in their writing classrooms. However, many items on this list comprise some of the best practices for teaching writing to all students, regardless of whether or not they have disabilities.

Chapter 5: Conclusions

5.1 Limitations and Future Research

While a substantial amount of qualitative data was collected through participant interviews, this study was limited by its small number of participants. To obtain additional data, future researchers might seek a larger quantity of participants by formal recruiting in outpatient brain injury facilities. Future researchers would also benefit from providing a single writing prompt to student participants and assessing writing samples based on higher and lower-level concerns to determine patterns in writing errors that may pertain to the severity or age of injury. Through this means, they can collect key quantitative research. For further qualitative studies, researchers should consider speaking to more college instructors about their knowledge regarding brain injury, since only two professors participated in this study. Future research may also include a greater number of instructor-student pairs–like Trishelle and Professor Wells–so researchers may investigate the differences in instructor and student perceptions of effective writing strategies in depth.

5.2 Closing Remarks

In sum, more research is needed to better understand the ways in which postsecondary students with ABI transfer their thoughts into writing. Because the writing abilities of these students are often determined by the student's age when the injury was acquired, the severity of the injury, the amount of time that has passed since the injury, and the quality of the student's writing education before the injury, it is impossible to generalize the best strategies to assist students with ABI in writing; educators cannot "lump" these students into a single category. However, practical recommendations can be

made to help these students succeed, which all derive from the instructors' willingness to provide accommodations and attempt to understand the students on a personal level. When students are highly motivated, like Trishelle who hopes to obtain her Ph.D., this may be an easy task for professors. Conversely, when students lack motivation, the task may seem more daunting. Instructors must know how to simultaneously encourage and challenge students, which is a major requirement of their profession. When professors interact with all students in a way that challenges them to think more critically and takes their needs into consideration, they ultimately become better teachers. The adjustments they make to accommodate students with ABI–such as dividing larger assignments into manageable tasks, providing visual aids, and repeating key information–benefit all students both in and outside of their writing courses. The first step to providing these accommodations is recognizing that students with disabilities are far from disabled.

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Appendix A: Writing Students Interview

1. Personal Information
  a. Please state your age, school major, and grade level.
  b. Please describe your daily activities and interests pre-TBI and how these have changed since your TBI.
  c. What are your biggest daily struggles?
  d. What activities have not changed post-TBI?

2. General Education
  a. What are your educational and professional goals?
  b. How would you characterize your learning style?
  c. What are your biggest struggles regarding education?
  d. What are the most effective teaching strategies used in your content-specific or general education courses? Why are these effective?
  e. What are the most ineffective teaching strategies used in your content-specific or general education courses? Why are these ineffective?
  f. What educational support has your institution provided and what support have you personally sought out?
  g. In what ways have your learning needs been met by individualized instruction?
  h. Have you taken all courses in person or have you taken any online? If you have taken courses online:
      (1) What classes were they?
      (2) How did the structure impact your learning?
  i. Do you use any assistive technology in your classes? If so, what?

3. Writing Education
  a. What types of writing-intensive courses have you been enrolled in during college?
  b. What are the most effective teaching strategies used specifically in your writing courses?
  c. What are the most ineffective teaching strategies used specifically in your writing courses?
  d. What has been your biggest obstacle regarding writing in your courses? How do you adapt accordingly?
  e. How do you work in one-on-one writing consultations with professors or tutors?
  f. How do you work in peer review or group sessions?

4. Writing Process
  a. Please describe your writing process.
  b. Typically how long does it take you to compose a 1-page, single-spaced essay?
  c. How do you approach each stage of the writing process?
      (1) brainstorming/prewriting
      (2) research
      (3) drafting

(4) revising

(5) proofreading/editing

d. How do you address these higher-order concerns?

(1) thesis

(2) audience

(3) organization

(4) development

(5) clarity

e. How do you address lower-order concerns, such as sentence structure, word choice, and mechanics?

f. What specific strategies have allowed you to improve your writing? Where did you learn them?

g. Is there a certain type of writing assignment you feel you can do especially well?

h. How does your writing change when composing in different disciplines or genres?

5. Areas for Improvement

a. Which area of your writing do you feel needs the most improvement and why?

b. How might your learning methods improve with an increase in writing-intensive courses offered online?

c. What area of teaching writing do you think needs to be addressed by researchers or educators?

d. What advice would you give to other students looking to improve their writing abilities?

Appendix B: Writing Instructors Interview

1. Personal Information
    a. How many years have you been teaching writing courses?
    b. What is your highest level of education?
    c. In what capacities have you worked with students with special needs?
    d. Have you received any training for working with students with special needs?
    If so, what kind of training?

2. Teaching Writing
    a. What writing courses do you teach?
    b. How would you characterize your teaching style?
    c. What are your biggest struggles regarding teaching writing?
    d. What are the most effective teaching strategies you use? Why are they effective?
    e. What have been your most ineffective teaching strategies? Why were they ineffective?
    f. Do you provide your students with opportunities for individualized instruction? If yes, how so?
    g. Have you taught any writing courses online? If yes, what courses were they and how did they influence your teaching?
    h. Do you use peer review or group sessions in your writing courses? How often?

3. Teaching Writing to a Student with TBI
    a. Describe the student with TBI with whom you worked.
    b. In what capacity and for what length of time did you work with the student?
    c. How can you characterize your approach to teaching the student?
    d. How much additional time and effort did you feel you needed to devote to the student?
    e. How did your standard teaching methods change? How did they remain the same?
    f. How did you approach each stage of the writing process?
        (1) brainstorming/prewriting
        (2) research
        (3) drafting
        (4) revising
        (5) proofreading/editing
    g. How did you address these higher-order concerns?
        (1) thesis
        (2) audience
        (3) organization
        (4) development
        (5) clarity
    h. How did you address lower-order concerns, such as sentence structure, word choice, and mechanics?
    i. What were your specific challenges in working with the student?

j. Can you recall a time you were particularly frustrated?

k. What were your specific victories in working with the student?

l. Can you recall a time you were particularly successful?

m. How might your approach have changed if the session were conducted online?

n. If you received training in working with students with special needs, how did it assist you in teaching the student? In what ways did you feel incapable of assisting the student?

4. Recommendations

a. What might you do differently when working with this student or others with special needs in the future?

b. What teaching strategies would you recommend other educators use to assist students with TBI?

c. What additional training might be useful to educators working with students with special needs?

d. What area of teaching writing to students with TBI needs to be further investigated by researchers?

Appendix C: Professional Interview

1. Education/Writing Process
   a. What were your biggest educational struggles post-TBI?
   b. What effective/ineffective strategies did professors use, if any, to assist you? Were any specifically related to writing? Are there any strategies you developed on your own?
   c. What has been your biggest obstacle regarding writing, academically or professionally?
   d. Did you seek any writing assistance in college? Do you have any writing assistance today?
   e. Describe your writing process.
   f. How do you address these higher-order concerns?
      (1) thesis
      (2) audience
      (3) organization
      (4) development
      (5) clarity
   g. How do you address lower-order concerns, such as sentence structure, word choice, and mechanics?
   h. What are your writing strengths and weaknesses?
   i. What area of teaching writing to young adults/adults do you think needs to be addressed by researchers/educators?

2. Book
   a. Provide me with some background information on your book. When did you decide to start writing it and why? What is your ultimate goal?
   b. What is your approach to writing a long work? Do you have a schedule? How often do you write?
   c. What are the main differences for you between writing for academic purposes and for professional/personal interests?
   d. Are there any challenges you face now writing professionally that you didn't experience when writing as a student, or vice versa?
   e. Is there anything else you want people to know about your book/your experiences?