PERCEPTIONS OF ATHLETIC TRAINING STUDENTS WITH AND WITHOUT SELF-DISCLOSED HIDDEN DISABILITIES REGARDING QUALITY INDICATORS WITHIN THEIR ATHLETIC TRAINING PROGRAM

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The purpose of this study is to determine the perceptions of athletic training students, both with and without self-disclosed hidden disabilities, regarding the educational practices within their Athletic Training program (ATP) as measured by the Seven Principles for Good Practice in Undergraduate Education. It was our intent to determine how athletic training students perceive their educational experiences in their overall ATP and do perceptions differ between AT students with self-disclosed hidden disabilities and those without hidden disabilities. Data was collected from students ($N = 129$) who represented 30 of the 77 CAATE accredited undergraduate athletic training education programs in the US District 4 (GLATA). Five percent of participants ($n = 7$) self-identified with having a hidden disability, involving a diagnosis that affects their learning experience, including ADHD ($n = 5$), LD ($n = 2$), and some form of psychological ($n = 1$) or medical ($n = 1$) condition. Significant differences were found between groups when comparing students with a self-disclosed hidden disability and those without on the total instrument score ($p = .001$), and 4 out of the 7 subscales: Active Learning ($p = .000$), Prompt Feedback ($p = .006$), Time On Task ($p = .002$), and High Expectations ($p = .011$). AT educators could utilize the Seven Principles for Good Practice in Undergraduate Education to gather information regarding student perceptions...
of their educational experiences and use that as a basis to implement more UDL inspired approaches grounded in good practice in the didactic and clinical aspects of the program.
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# TABLE OF CONTENTS

ACKNOWLEDGEMENTS .................................................................................................................. iii

LIST OF TABLES .......................................................................................................................... vi

**CHAPTER**

<table>
<thead>
<tr>
<th>I.  INTRODUCTION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>Purpose Statement</td>
<td>4</td>
</tr>
<tr>
<td>Research Questions</td>
<td>5</td>
</tr>
<tr>
<td>Research Hypotheses</td>
<td>6</td>
</tr>
<tr>
<td>Assumptions</td>
<td>6</td>
</tr>
<tr>
<td>Limitations</td>
<td>7</td>
</tr>
<tr>
<td>Delimitations</td>
<td>7</td>
</tr>
<tr>
<td>Definitions and Operational Terms</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. REVIEW OF RELATED LITERATURE</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions and Characteristics of Selected Cognitive Disabilities</td>
<td>10</td>
</tr>
<tr>
<td>Academic Entitlement and Functioning</td>
<td>10</td>
</tr>
<tr>
<td>Academic Functioning</td>
<td>14</td>
</tr>
<tr>
<td>Relevant Literature Comparing Disabled to Non-disabled Students</td>
<td>15</td>
</tr>
<tr>
<td>ADHD</td>
<td>16</td>
</tr>
<tr>
<td>LD</td>
<td>17</td>
</tr>
<tr>
<td>Undifferentiated Disabilities</td>
<td>18</td>
</tr>
<tr>
<td>Perceptions of Students with ADHD/LD</td>
<td>19</td>
</tr>
<tr>
<td>College Students with ADHD or LD Perceptions of Individuals with ADHD or LD</td>
<td>20</td>
</tr>
<tr>
<td>Professor Perceptions of College Students with ADHD and LD</td>
<td>21</td>
</tr>
<tr>
<td>Interventions</td>
<td>22</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>23</td>
</tr>
<tr>
<td>Universal Design for Learning (UDL)</td>
<td>24</td>
</tr>
<tr>
<td>Seven Principles for Good Practice in Underground Education</td>
<td>25</td>
</tr>
<tr>
<td>Protecting the Disabled Students in Athletic Training</td>
<td>26</td>
</tr>
<tr>
<td>CAATE Standards for Athletic Training Programs</td>
<td>27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. METHODOLOGY</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Questions</td>
<td>43</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>43</td>
</tr>
<tr>
<td>Data Collection Procedures</td>
<td>43</td>
</tr>
<tr>
<td>Data Collection Procedures</td>
<td>44</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (Continued)

Instrumentation .................................................................................................................. 44
Subjects/Participants ......................................................................................................... 48
Statistical Analyses ........................................................................................................... 49

IV. RESULTS ....................................................................................................................... 52
   On the Individual Subscales and Total Inventory ........................................................... 53
   On the Summary Questions ......................................................................................... 54

V. DISCUSSION ................................................................................................................... 57
   Time On Task ............................................................................................................... 60
   High Expectations and Prompt Feedback .................................................................... 62
   Interventions to Mediate Effects of Disabilities .......................................................... 64
   Implications .................................................................................................................. 65
   Conclusion .................................................................................................................... 69
   Limitations ................................................................................................................... 70
   Future Research ............................................................................................................ 72

APPENDICES .................................................................................................................... 74
APPENDIX A. THE SEVEN PRINCIPLES FOR GOOD PRACTICE IN UNDERGRADUATE
EDUCATION STUDENT INVENTORY .............................................................................. 75
APPENDIX B. STUDENT RESPONSES TO SUMMARY QUESTIONS IN
STUDENT FACULTY CONTACT SUBSCALE .................................................................. 88
APPENDIX C. STUDENT RESPONSES TO SUMMARY QUESTIONS IN
COORDINATION AMONG STUDENTS SUBSCALE ......................................................... 95
APPENDIX D. STUDENT RESPONSES TO SUMMARY QUESTIONS IN
ACTIVE LEARNING SUBSCALE ....................................................................................... 103
APPENDIX E. STUDENT RESPONSES TO SUMMARY QUESTIONS IN
PROMPT FEEDBACK SUBSCALE ....................................................................................... 111
APPENDIX F. STUDENT RESPONSES TO SUMMARY QUESTIONS IN
TIME ON TASK SUBSCALE ............................................................................................. 118
APPENDIX G. STUDENT RESPONSES TO SUMMARY QUESTIONS IN
HIGH EXPECTATIONS SUBSCALE .................................................................................... 125
APPENDIX H. STUDENT RESPONSES TO SUMMARY QUESTIONS IN
DIVERSE TALENTS AND WAYS OF LEARNING SUBSCALE ...................................... 132
APPENDIX I. STUDENT RESPONSES TO SUMMARY QUESTIONS IN
SUMMARY COMPONENT OF OVERALL INVENTORY ..................................................... 138

REFERENCES ..................................................................................................................... 156
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Participant Demographics</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>Participant Distribution Based on Institution</td>
<td>51</td>
</tr>
<tr>
<td>3</td>
<td>Descriptive Statistics for <strong>All Students</strong> on each of the 7 Subscales on the Seven Principles for Good Practice in Undergraduate Education Inventory</td>
<td>52</td>
</tr>
<tr>
<td>4</td>
<td>Comparing Descriptive Statistics between Students with a Self-Disclosed Hidden Disability and Those Without for each of the 7 Subscales on the Seven Principles for Good Practice in Undergraduate Education Inventory</td>
<td>53</td>
</tr>
<tr>
<td>5</td>
<td>Descriptive Statistics for <strong>ALL students</strong> on each of the Summary Questions on the Seven Principles for Good Practice in Undergraduate Education Inventory</td>
<td>55</td>
</tr>
<tr>
<td>6</td>
<td>Comparing Descriptive Statistics between Students with a Self-Disclosed Hidden Disability and Those Without for each of the Summary Questions on the Seven Principles for Good Practice in Undergraduate Education Inventory</td>
<td>56</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

A breadth of research exists on quality indicators in educational practice for undergraduate education. Educational quality can be measured as a construct of inputs (students and faculty), processes (educational practices), or outputs (graduation rates and grade point average). A widely used measure of the quality of educational practices was established in 1989 called the Seven Principles for Good Practice in Undergraduate Education Inventory (Chickering & Gamson, 1987). This inventory measures educational practices and the quality indicators that help create an optimal learning environment, which include: student-faculty contact, cooperation among students, active learning, providing prompt feedback, emphasizing time on task, communicating high expectations, and respecting diverse talents and ways of learning.

A recent movement in higher education, Universal Design for Learning (UDL), emphasizes the need to focus on the processes of education as well. The UDL approach recognizes that for the students to stay interested and committed to the task at hand, there needs to be an appropriate balance between challenge and support (Hitchcock, Meyer, Rose, & Jackson, 2002), while also providing approaches that can be customized and adjusted for individual needs (CAST, 2011). The premise of UDL is anchored in quality indicators in education for all students. Although originally interpreted as a mechanism for addressing unique educational needs of students with a variety of disabilities, this model actually reflects quality educational practices for all students and strives to minimize the stigma associated with disabilities (CAST, 2011).
There are a wide range of disabilities ranging anywhere from Attention Deficit Hyperactivity Disorder (ADHD) to Learning Disabilities (LD), to mobility impairments to developmental delays. Within this broad spectrum lies an additional broad group known as hidden disabilities. Hidden Disabilities are defined as physical or mental impairments affecting one’s cognitive abilities that are not readily apparent to others. Some examples of hidden disabilities include, but are not limited to, diabetes, epilepsy, allergies, low vision, poor hearing, psychiatric disability, Autism, learning disabilities (LD), and Attention Deficit Hyperactive Disorder (ADHD) (United States Congress, 1988). For the purposes of this paper efforts are placed on investigating hidden disabilities that interfere with executive functioning, specifically ADHD and LD, with the caveat that there are a multitude of other disabilities that exist.

ADHD is manifested with the usual symptoms involving the inability to pay attention or focus on specific tasks, difficulty-processing information as quickly and accurately as others, constant fidgeting and talking, and struggle with patience (NIMH, 2012; Wolf, 2001). These symptoms can persist into adolescence and adulthood along with the executive function impairments that accompany ADHD (Fleming & McMahon, 2012). LD, on the other hand, are a group of varying disorders that may manifest themselves in the weak ability to listen, think, speak, read, write, spell, or do mathematical calculations and executive dysfunction (IDEIA, 2004). A commonality between both of these hidden disabilities, ADHD and LD, is that they both embody executive dysfunction as well as other symptoms that make the educational setting less
advantageous. Therefore, it may be likely to find that students who suffer from these disorders show deficits academically.

Common nonacademic skills necessary for postsecondary success for all students, whether disabled or not, include but are not limited to planning, goal setting, organization, initiation, sustained attention/effort, flexibility, use of feedback, structure, time management, information processing, and general study skills (C. Kern, Fagley, & Miller, 1998; Wolf, 2001). These skills encompass executive functions, which are thought to be a role of the frontal lobes of the brain and underlie behavioral control. Deficits in executive function are commonly reported in students with ADHD, LD, and other hidden disabilities and may be detrimental to implementation of these skills and potentially success in the postsecondary setting (Wolf, 2001). Along with these deficits, students with hidden disabilities may be severely burdened by the increased planning and organizational demands of college, coupled with a more flexible daily schedule and the absence of a supervising parent compared to students without a disability (Wolf, 2001).

Collegiate academics require multiple levels of executive functions that are challenging for most students. Students with hidden disabilities are even more challenged as they enter college programs due to these deficits. Some academic programs, such as Athletic Training, which require both didactic and clinical education, can tax students with these hidden disabilities if not provided support through appropriate pedagogical and clinical interventions.
Statement of the Problem

Nearly 25 years of special education and disability law has enabled many qualified students with disabilities to graduate from college preparatory high school programs and enter institutions of higher education (Wolf, 2001). This is evidenced by the fact that 5% and 2.9% of the 1.5 million first-time, full-time students entering four-year colleges and universities in 2010 identified as having ADHD and LD respectively (Higher Education Research Institute, 2011). This increase of students with hidden disabilities such as LD/ADHD on campus creates new demands for colleges and universities, as the ADA and Section 504 require postsecondary institutions to provide reasonable academic and program adjustments (“accommodations”) to qualified students with disabilities (Wolf, 2001). While much research has investigated aspects surrounding hidden disabilities at the collegiate level, none specifically look at how these hidden disabilities affect students’ perceptions in and of their Athletic Training Programs (ATPs).

ATPs are held to the Commission on Accreditation of Athletic Training Education (CAATE) standards, which include very high expectations and workloads. ATPs follow a fast pace curriculum, require numerous clinical hours to be completed, and embody a large time commitment. Successfully completing a CAATE accredited ATP is not an easy feat as it requires an abundant amount of executive functioning and motivation, two specific traits students with hidden disabilities, specifically ADHD and LD, tend to lack. With deficits in these necessary qualities, students with hidden disabilities may perceive the workload, time commitment, and help from instructors or
preceptors, as reflected in the Seven Principles, differently than students who do not lack these essential traits.

Identifying perceptions of quality indicators held by athletic training students will reflect programmatic strengths and weaknesses and evaluate whether students with hidden disabilities perceive their experience differently. Identifying perceptions of the quality indicators reflected in AT programs will be the first study of its kind to investigate these attributes within AT programs.

**Purpose Statement**

The purpose of this study is to determine the perceptions of athletic training students, both with and without self-disclosed hidden disabilities, regarding the educational practices within their ATP as measured by the Seven Principles for Good Practice in Undergraduate Education.

**Research Questions**

- How do athletic training students perceive their educational experiences as measured by the Seven Principles for Good Practice in UG Education Student Inventory?
- Do athletic training students with self-disclosed hidden disabilities perceive their overall educational experiences within their ATP differently than athletic training students who do not have self-disclosed hidden disabilities as measured by the Seven Principles for Good Practice Student Inventory?
Research Hypotheses

- How do athletic training students perceive their educational experiences within their ATP as measured by the Seven Principles for Good Practice in UG Education Student Inventory?
  - **Hypothesis**: Overall, ATS will perceive their educational experiences within their ATP as adequate, involving having mean scores between 3 and 4 on each of the subscales and also on the total instrument score.

- Do athletic training students with self-disclosed hidden disabilities perceive their overall educational experiences within their ATP differently than athletic training students who do not have self-disclosed hidden disabilities as measured by the Seven Principles for Good Practice Student Inventory?
  - **Hypothesis**: There will be a significant difference in perceptions of educational experiences between students with self-disclosed disabilities and students without self-disclosed disabilities.

**Assumptions**

The researcher assumes that all participants have provided both accurate and honest answers to all questions relevant to the study, including the demographics sheet and the Seven Principles for Good Practice in Undergraduate Education Student Inventory. Second, the researcher assumes that each participant understood the full nature of self-disclosure of experiencing pertinent symptoms surrounding common hidden disabilities and also potential previous professional diagnoses.
Limitations

Limitations exist in this study. The research depends on self-disclosure from students about the diagnosis and or symptoms associated with the hidden disabilities under investigation in this study. The method of data collection is survey based, which depends on the willingness of participants to first participate, and answer the surveys in an accurate and timely manner. Lastly, The Seven Principles for Good Practice in Undergraduate Education Student Inventory was intended for general use in undergraduate education and not specifically for athletic training programs or students with self-disclosed hidden disabilities.

Delimitations

The delimitations of the study is that it focuses specifically on college age students suffering from hidden disabilities since literature for this age group is limited. Since the research is grounded in the Seven Principles for Good Practice in Undergraduate Education, The Seven Principles Student Inventory, which embodies decades of research about teaching, learning, and college experience, will be used. This allows for the educational setting to be seen through the students’ perspectives to facilitate improvements in the learning (Chickering & Gamson, 1999). Lastly, this research promotes honest responses to the inventory, therefore responses derived will be sent directly to the researcher electronically. This prevents any chance of students’ responses being manipulated or coerced by their program directors or other faculty members.
Definitions and Operational Terms

- **Attention Deficit Hyperactivity Disorder (ADHD)**- ADHD is one of the most common childhood brain disorders and can continue through adolescence and adulthood. Symptoms include difficulty staying focused and paying attention, difficulty controlling behavior, impulsivity, and hyperactivity (NIMH, 2012).
  - The term attention deficit disorder (ADD) is typically used interchangeably with ADHD, as prior to revisions made to the DSM III there was little to no evidence to support the notion that ADD occurred without hyperactivity. The lack of evidence initiated the name change from ADD to ADHD to include hyperactivity (Nadeau, 1995); therefore for the purposes of this paper, the term ADHD will be inclusive of ADD as well.

- **Hidden Disabilities**- physical or mental impairments affecting one’s cognitive abilities that are not readily apparent to others (Section 504 of the Rehabilitation Act). This heterogeneous group encompasses major and minor psychiatric disabilities, attention deficit disorders, learning disabilities, traumatic brain injury, and other neurocognitive disorders and chronic medical conditions that may compromise academic functioning (Wolf, 2001). For the purposes of this study, hidden disabilities will refer specifically to ADHD and LD.
  - **Self-Disclosed Hidden Disability** – for the purposes of this study, the student has self-disclosed that they suffer from a disability that is not
readily apparent to others, which as been diagnosed by a medical or psychiatric professional.

- **Learning Disabilities (LD)**- a group of varying disorders that involve persistent difficulties in reading, writing, arithmetic, or mathematical reasoning skills during formal years of schooling. Symptoms may include inaccurate or slow and effortful reading, poor written expression that lacks clarity, difficulties remembering facts, or inaccurate mathematical reasoning (American Psychiatric Association, 2013).

- **Seven Principles for Good Practice in Undergraduate Education**- Principles that contend that good practice in undergraduate education encourages student-faculty contact, cooperation among students, active learning, provides prompt feedback, emphasizes time on task, communicates high expectations, and respects diverse talents and ways of learning.

- **Universal Design for Learning (UDL)**- A framework that addresses the primary barrier to fostering expert learners within instructional environments while addressing learner variability by suggesting flexible goals, methods, materials, and assessments that empower educators to meet these varied needs (CAST, 2011).

- **Professional Phase of Athletic Training Program**- The Professional phase begins after formal admission into the Athletic Training education program and includes clinical courses and clinical educational experiences under the direct supervision of a certified athletic trainer.
CHAPTER II

REVIEW OF RELATED LITERATURE

Definitions and Characteristics of Selected Cognitive Disabilities

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common childhood disorders effecting approximately 11% of children (6.4 million) between 3-17 years old as of 2011 (CDC, 2013; Wolf, 2001). This invisible disability, one not easily recognized in casual interactions (Buchanan, Charles, Rigler, & Hart, 2010) can be characterized by developmentally inappropriate levels of inattention, hyperactivity, and impulsivity (Barkley, 2008 (American Psychiatric Association, 2013; American Psychiatric Publishing, 2013; NIMH, 2012; Wolf, 2001). Some common symptoms of those with ADHD are the inability to pay attention or focus on specific tasks, difficulty-processing information as quickly and accurately as others, incessant fidgeting and talking, and trouble with patience (American Psychiatric Association, 1994; NIMH, 2012). Executive function impairments that are often coupled with ADHD can cause difficulty developing realistic plans, activating and sustaining effort across time, remembering goals, and regulating intense emotional reactions to daily frustrations (Parker & Boutelle, 2009).

ADHD research is slowly evolving as much of the research done on this disability has merely targeted adolescences between the ages of 3-17 years old (CDC, 2013). Causes of this may be due to the fact that ADHD symptoms usually appear early in life, often between the ages of 3 and 6, and teachers tend to notice the symptoms first, when a
child has trouble following rules, or frequently “spaces out” in the classroom or
playground (NIMH, 2012). Due to the typical onset of these symptoms, teachers are in a
privileged position to inform both parents and clinicians, when applicable by law, about
the child’s behavior and how it compares to others in the class in various situations, from
social interactions to task-focused activities, over long periods of time (Kieling et al.,
2014). Contrary to previous beliefs, this type of behavior has been shown to not be
exclusive to adolescence as nearly two decades of research show that ADHD symptoms
can continue through adulthood for some individuals (American Psychiatric Publishing,
2013). One study found that for some symptoms may persist into adulthood in about
80% of individuals who were diagnosed with ADHD as children (Fleming & McMahon,
2012). It should be noted that diagnosis of hidden disabilities by a physician, regardless
of an individual’s age, can be difficult since symptoms tend to vary from person to person
and conditions have been known to coexist.

About 20-30% of children with ADHD also have a learning disability (LD)
(Martin, 2007). Learning disabilities are conceivably best described as a varying group
of disorders that result in unforeseen, significant difficulties in academic achievement,
relative to areas of learning and behavior (Cortiella & Horowitz, 2014). These disorders
involve one or more of the basic physiological processes involved with learning and
typically result in deficits in reading, math, and written expression. LDs often co-occur
with other disorders of attention, language and behaviors, such as ADHD, but are
exclusively noted in individuals who have not responded to high-quality instruction and
for whom struggle cannot be attributed to medical, educational, environmental, or psychiatric causes (Cortiella & Horowitz, 2014).

Early and proper identification and management play large roles in determining the future of those who have hidden disabilities. Findings gathered over the years surrounding ADHD and LD have promoted the revision of the Diagnostic and Statistical Manual of Mental Disorders DSM-IV to DSM-V, to aim at ensuring children with these hidden disabilities can continue to get care throughout their lives if needed. Additionally, this research has specifically acted as a gateway for contemporary research to focus on ADHD in the population of emerging adults, between 18 and 24 years old, rather than just children, especially individuals who are seeking to pursue higher education.

The increased awareness surrounding the effects of ADHD on children and adults, has lead to the formation of laws mandating access and services, increased government funding of special education programs, and an improved understanding of the educational needs of students with disabilities. These efforts have contributed to a nationwide rise in the number of students with disabilities pursuing higher education and have helped make the college aged individuals, who identify as having hidden disabilities, the new focal point in research. Of the 1.5 million first-time, full-time students entering four-year colleges and universities as first-year students in 2010, more students identified as having ADHD than any other disability or condition. Five percent of students identified as having ADHD and 2.9% identified as having LD, which expresses the importance of conducting research that focuses on hidden Disabilities in the college age population (Higher Education Research Institute, 2011).
Statistics show that the number of students with disabilities attending 2- and 4-year undergraduate, graduate, and professional schools has increased, but the true prevalence of those with disabilities on campuses is widely unknown (Wolf, 2001). The prevalence numbers regarding the actual number of students with hidden disabilities on campuses are quite likely under-represented given the high rate of onset of mental illness in individuals between 18-22 years old and the continuing stigma associated with disclosure of a psychiatric disability (Wolf, 2001). This under-representation is mostly due to the fact that college students with ADHD or other hidden disabilities are not required to report their disability upon acceptance to college and may not receive educational services (Higher Education Research Institute, 2011; Weyandt & DuPaul, 2008). Because of this, the prevalence numbers are based solely on students who sought help from the college or university for their disability. Approximately 25% of college students receiving Disability Support Services (DSS) receive accommodations for ADHD and it appears that students with LD and/or ADHD constitute well over half of the population of postsecondary students with disabilities (Brinckerhoff, McGuire, & Shaw, 2001; Weyandt & DuPaul, 2006).

With ADHD and LD falling into the category of the top three hidden conditions most identified among first-year college students (Higher Education Research Institute, 2011), it is necessary for researchers, educators, and college students in general to be aware, knowledgeable, and empathetic of these disabilities and the potential deficits students suffering from them may face (Fleming & McMahon, 2012). Although the exact prevalence is unknown, data shows that the percentage of individuals with hidden
disabilities, such as ADHD and LD, has been consistently increasing over the years. As more of these students begin to attend higher education it is imperative that we strive towards properly identifying and managing the these hidden disabilities.

**Academic Entitlement and Functioning**

Nearly 25 years of special education and disability law have enabled many qualified students with disabilities to graduate from college pre-preparatory high school programs and enter institutions of higher education (Wolf, 2001). Laws that help provide educational services to students with disabilities include but are not limited to, the Americans with Disabilities Act (ADA) (U.S. Department of Justice Civil Rights Division, 1990), Section 504 of the Rehabilitation Act of 1973 (U.S. Department of Health and Human Services, 1973), and the Individuals with Disabilities Education Improvement Act (IDEIA) (United States Congress, 2004). The ADA recognizes ADHD as a physical or mental condition, which may rise to the level of a disability and prohibits government agencies, including state and community colleges, as well as private institutions, from denying participation access to qualified individuals with disabilities, under Title II and III of the Act (U.S. Department of Justice Civil Rights Division, 1990). Similarly, Section 504 of the Rehabilitation Act also legally protects students who suffer from these types of disabilities by barring discrimination on the basis of disability in all institutions receiving federal funding. Quite like the ADA and Section 504 of the Rehabilitation Act, the IDEIA suggests that all students with disabilities must be held to high expectations and must be ensured access to the same general education curricula taught to students without disabilities to the maximum extent. This can potentially be
one of the reasons why the number of students with disabilities attending higher education has increased (DaDeppo, 2009; Horn, Berktold, & Bobbitt, 1999; Spooner, Baker, Harris, Delzell, & Browder, 2007). This increase of students with hidden disabilities such as LD/ADHD on campus creates new demands for colleges and universities, as the ADA and Section 504 require postsecondary institutions to provide reasonable academic and program adjustments (“accommodations”) to qualified students with disabilities, including LD/ADHD (Wolf, 2001). It is important to note that although students with disabilities are welcomed in the general education setting and their attendance is protected by these types of laws, statutes, and regulations, that does not mean that these students will perform at the same level as their non-disabled counterparts. Due to the deficits associated with the mentioned hidden disabilities, students who suffer from them may be severely taxed by the increased planning and organizational demands of college, coupled with a more flexible daily schedule and the absence of a supervising parent compared to students without a disability (Wolf, 2001).

**Academic Functioning**

In virtually every way, success in college requires more diligence, self-control, self-evaluation, decision making, goal setting, and in essence, self-determination, compared to what is expected throughout secondary education (Field, Sarver, & Shaw, 2003). Students with hidden disabilities face a number of obstacles when they are admitted into college (Wolf, 2001). The common nonacademic skills necessary for postsecondary success for all students as discussed earlier embody executive functions, which are thought to be a role of the frontal lobes of the brain and underlie behavioral
control. Deficits in executive function are commonly reported in students with ADHD, LD, and other hidden disabilities and may be detrimental to implementation of these skills and postsecondary success (Wolf, 2001). Students who self-reported high symptoms of ADHD used significantly fewer academic coping behaviors, that is, were less organized, less methodical, employed fewer self-control or self-disciplinary behaviors, and procrastinated significantly more than their low-symptom peers (Turnock, Rosén, & Kaminski, 1998).

**Relevant Literature Comparing Disabled to Non-disabled Students**

Much research has been done to compare students with disabilities to their non-disabled counterparts within the educational setting and have uncovered many differences between the two groups across all ages. Imeraj et al. (2013) specifically investigated the differences between children with and without ADHD between the ages of 6 to 12. The study found that despite receiving more overall teacher supervision, children with ADHD were generally less on-task than their peers and group differences were particularly clear during whole group teaching, individual work, instructional transition periods and when they were assigned highly academic tasks. These differences can be due to the fact that children with ADHD tend to have issues with following instructions, focusing on one specific thing, and processing information as quickly and accurately as their non-handicapped peers (NIMH, 2012). It should be noted that ADHD does not just effect children; their symptoms may carry over into adolescence, their teens and even adulthood (NIMH, 2012). The CDC distinguishes children to be between the ages of 3 and 17, indicating almost the entire typical college age demographic (besides those enrolled at
17) would be considered adults (CDC, 2013). In studies investigating this demographic, college students with disabilities described academic struggles as well, especially when compared to their non-disabled counterparts.

**ADHD**

College students with ADHD reported significantly more executive dysfunction than non-ADHD peers across all specific and global areas of executive function including inhibit shift, emotional control, self-monitoring, initiate, working memory, planning, task and time management, and organization of materials (Reaser, Prevatt, Petscher, & Proctor, 2007). Deficits in these key areas, all of which are related to important educational traits, could be a reason as to why preliminary studies suggest that students with ADHD are at an increased risk for academic problems, lower grade point average (GPA), and compromised academic coping skills (Weyandt & DuPaul, 2006).

Students with ADHD varied from their non-ADHD counterparts averaging 10 percentage points below students without ADHD on graded assignments, indicating they were about one letter grade behind, subsequently leading to lower GPA (Reaser et al., 2007; Weyandt et al., 2013). This decreased academic performance could potentially be due to the fact that many first-year students with hidden disabilities, particularly ADHD and LD, have lower academic, nonacademic, and social self-concepts to succeed than do students in the overall population, putting them at high risk for failure and drop out (Higher Education Research Institute, 2011; Wolf, 2001). Some of these students bring an array of individual factors which are antithetical to academic success, such as persistent cognitive deficits, deficiencies in basic skills, poor use of study strategies,
including organization and time management, lack of appropriate social skills, and low self-esteem to name a few (Wolf, 2001). Factors such as these remain barriers for students with hidden disabilities and while deficits such as those previously are most referenced to impairments found with ADHD, many these shortfalls can also be seen with LD.

**LD**

LD embodies many of the same deficits and factors as ADHD that may explain the poorer outcomes for individuals with LD in college settings. Some of these aspects include, deficits in executive functioning and difficulty with written or spoken language, which can result in a lower level of academic performance and difficulty communicating needs to others (DaDeppo, 2009). In regard to academic performance, students with LD were not unlike students with ADHD and also established poorer outcomes in GPA. Research has show that students with LD received a grade point average GPA that was .37 to .44 points below that of their nondisabled counterparts, which can most likely be attributed to the impairments that correspond with the disability (Horn et al., 1999).

Beyond the classroom, LD may affect the way in which a college student interacts with his or her peers, as well as faculty members. This inability to properly inform others of their disability and helplessness to communicate their needs to others, specifically faculty members, could also play a large role in LD students’ shortage of academic success (DaDeppo, 2009).
**Undifferentiated Disabilities**

Students with disabilities were less likely to enroll in a 4-year institution, equally likely to be enrolled in private not-for-profit 4-year institutions compared to their counterparts, and more likely to be enrolled in sub-baccalaureate institutions, such as a public 2-year college. If accepted to one of these educational settings, nearly half of all disabled students drop out compared with one-third of students without disabilities. This rate climbs to nearly two-thirds for students with learning disabilities or “other” disabilities (Horn et al., 1999). It is essential that research continues to look at the comparisons between academic performance, such as learning and study strategies, in students with disabilities and their nondisabled counterparts so that changes can be put in place in the educational setting to help ensure these students’ success. One way in which institutions are gathering data to compare the disabled to their nondisabled counterparts is utilizing the Learning and Studies Strategies Inventory (LASSI) (Weinstein & Palmer, 2002).

The Learning and Study Strategies Inventory (LASSI) is both a diagnostic and prescriptive measure as it provides standardized scores (percentile score equivalents) and national norms, as well as feedback about the areas where students may be weak and need to improve their knowledge, skills, attitudes, motivations, and beliefs (Weinstein & Palmer, 2002). This inventory provides assessment in ten learning and studying scales (Attitude, Motivation, Time Management, Anxiety, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self-Testing, and Test Strategies) comprised of 80-items, which gather information regarding students’ awareness about
and use of learning and study strategies related to skill, will, and self-regulation components of strategic learning. Five potential responses exist for the individual to choose from for each question (Not at all typical of me, Not very typical of me, Somewhat typical of me, Fairly typical of me, Very much typical of me) and once the inventory is complete scoring yields a minimum score of 8 and maximum of 40 (Weinstein & Palmer, 2002).

It is unique in the sense that it focuses on both covert and overt factors that relate to successful learning in post-secondary educational and training settings and that can be altered through educational interventions (Weinstein & Palmer, 2002). The LASSI was designed to be used for a variety of things including, but are not limited to, diagnostic measures to help identify areas in which students could benefit most from educational interventions; a basis for planning individual prescriptions for both remediation and enrichment; an evaluation tool to assess the degree of success of intervention courses or programs; and an advising/counseling tool for college orientation programs, advisors, developmental education programs, learning assistance programs, and learning centers (Weinstein & Palmer, 2002). Typically, after the pre-test, advice is given on how to improve individual performance if they scored below the 50th percentile. The feedback provided from the inventory can be structured in a way that it is generalized in order to give students greater scaffolding and assistance in developing these skills (McMahon & Luca, 2001). These skills can be measured by utilizing the LASSI in a pre and post-test method, which could help gauge if specific interventions proved beneficial for the individual, thus there is no anonymity component to the inventory.
One study in particular that utilized the LASSI compared college students with ADHD to their non-ADHD counterparts. The study found that there were a few areas on the LASSI in which their ADHD group reported lower scores than both the No Diagnosis (ND) and Learning Disability (LD) groups. Areas in which the ADHD students fell below the other groups were: Time Management, Concentration, Selecting Main Ideas, Test Strategies, poor concentration skills, and inability to self-regulate and manage one’s time. The LASSI also reported that the ADHD group reported lower scores than the No Diagnosis group but not lower than the LD groups on: Motivation, Anxiety, Information Processing, and Self-Testing (Reaser et al., 2007). Clear disparities can be seen between students with ADHD and the control group, ND, as well as commonalities and differences between students with ADHD and LD (Reaser et al., 2007). While the underlying factors that cause college students with disabilities such as ADHD and LD to perform poorly in the educational setting compared to their non-disabled counterparts isn’t fully understood, it is said to potentially be related to the deficits in executive and cognitive function individuals with hidden disabilities such as, ADHD and LD suffer from (Weyandt & DuPaul, 2008). It is important for researchers to investigate the learning and study strategies use by students with ADHD and LD so that college service providers can implement the optimum intervention to help these students achieve optimal academic success at the postsecondary level (Reaser et al., 2007).

**Perceptions of Students with ADHD/LD**

Generally speaking, students with learning disabilities and other hidden conditions tend to be perceived negatively by both teachers and peers (Gresham &
MacMillan, 1997). Previous research assessing peer attitudes toward learning disabled students overwhelmingly indicates that those with learning disabilities are perceived negatively and have often been labeled as “dumb, lazy, spoiled, and hopeless” (Shapiro & Margolis, 1988). The diagnostic label, in and of itself, may have negative consequences and are ultimately the result of complex interactions involving the condescending nature of the label, the characteristics of the children, their peers, their teachers, and their overall learning environment (Bak, Cooper, Dobroth, & Siperstein, 1987; MacMaster, Donovan, & MacIntyre, 2002). While the Labeling Theory, which states that deviance is not a quality intrinsic to any particular act or category of acts but is a socially constructed, discrediting definition, describes both positive and negative effects of labels placed on those with disabilities, far more information surrounding the negative consequences of labeling a child as learning disabled exists than information noting potential benefits of labeling (Rist & Harrell, 1982). The phenomenon of being misunderstood occurs both intrapersonally as well as interpersonally leading to devastating effects to those with disabilities such as, devaluation and marginalization (Denhart, 2008).

**College Students with ADHD or LD Perceptions of Individuals with ADHD or LD**

The predominant view that LD is related to either low ability or an insurmountable, limiting condition has come to be accepted by both students with and without LD (May & Stone, 2010). Of the LD sample in a study carried out by May & Stone (2010), 53% believed “people in general” thought individuals with LD were less intelligent than those without the disability and were twice as likely to see others as
viewing individuals with LD as attempting to work the system. These opinions play a critical role in how students with LD perceive their higher education experience and the amount of support available to them. The negative stigma surrounding students with LD and the perceptions of their ability may play just as much of a role in their academic failure as the symptoms of the disorder. Experiences of students with LD shared included working harder than nonlabeled others, having the workload unrecognized, generating products incommensurate with the workload, and experiencing rapport with others labeled with LD (Denhart, 2008). Students with LD are not the only ones who struggle with self-concept seeing as students with ADHD held undesirable beliefs as well. Students with ADHD endorsed more negative attitudes towards individuals with ADHD than their non-ADHD counterparts (Fleming & McMahon, 2012).

**Professor Perceptions of College Students with ADHD and LD**

University faculty create the context for the delivery of instruction, they develop systems that support knowledge acquisition, and they develop systems that assess student understanding of that knowledge (Murray, Wren, & Keys, 2008). Within their classrooms, these faculty members help sculpt the minds all types of students, including those with disabilities, yet despite these interactions there seems to be little understanding surrounding the nature of disabilities seeing as many professors relate low ability or an insurmountable limiting condition with ADHD and LD. Unfortunately these perceptions held by faculty do not go unnoticed by students suffering from these disabilities. This is particularly evident in the study conducted by Denhart (2008) where ten of the eleven students with LD spoke of being misunderstood by faculty members and because of their
LD label it was harder for professors to accept their efforts and commitment to scholarship.

Similarly, fifty-nine percent of college professors in another study most to somewhat agreed that a student with ADHD is equivalent to a student with a learning disability and research shows that differing opinions and perceptions held by professors are due to life-course and period effects based on their particular stage in life, previous experiences, and historical context (Vance & Weyandt, 2008). While older faculty members, age 60 or above, were less likely to attribute manifesting characteristics of ADHD in a university student to not taking enough initiative, the student’s own bad character, or the student’s lack of discipline, this view is not accepted by all professors and the negative stigma around ADHD and learning disabilities still exists (Buchanan et al., 2010).

Being aware of the potential limitations students with hidden disabilities may face is extremely important because teachers play a major role in the identification and referral of students with disabilities such as ADHD and LD. As previously mentioned, identification of these disabilities can be difficult due to the overlap of characteristics and the potential for coexisting conditions, but what could make this process even more arduous is the fact that many teachers have received little to no training on hidden disabilities that are prevalent within the classroom. Knowledge of hidden disabilities has been seen to develop after teachers gain classroom experience rather than during their university education (Anderson, Watt, Noble, & Shanley, 2012). Although findings in the secondary setting show that there is a positive correlation between experience level
and knowledge and awareness of problems faced by children with ADHD and other hidden disabilities, there is a lack of this evidence surrounding faculty members in higher education (Anderson et al., 2012). One study’s data suggest that faculty members within higher education as a group felt that having additional information in areas such as teaching and exam accommodations would better equip them for making accommodations for students they have who suffer from these types of disabilities (Murray et al., 2008).

In secondary schools training and support from school psychologists should be provided to raise teachers’ awareness of the potential for developing unfavorable emotions and beliefs. These training sessions could help to develop coping skills for dealing with increasing ambivalent attitudes toward teaching children with hidden disabilities and avoid negatively impacting the future education of students with disabilities (Anderson et al., 2012). These types of formalized training and interventions are far more challenging in higher education. Having a better understanding as to what students may be experiencing and potential difficulties they face in the classroom, may help not only increase teachers’ awareness and empathy towards students with these types of hidden disabilities, but may also help decrease the negative stigma that surrounds them.

Labels placed on students with ADHD or LD create such an undesirable depiction of what learning disabilities truly entail and they fuel the fire to discriminating stereotypes. And while legislation has been put in place to protect the disabled in the educational setting, laws and regulations are not enough; “Attitudes” cannot be legislated
and that mainstreaming will be successful only if faculty and administrators are fully and knowledgeably committed to meeting the special needs of disabled children. For example, if teachers and professors have been known to gain ambivalent attitudes towards students with hidden disabilities, which would cause them to not be understanding or empathetic towards the potential educational setbacks their students may face, then how can they set an example for the rest of their students in regards to attitudes and perceptions?

Overall, university faculty do not believe that resource constraints make the provision of teaching and exam accommodations unrealistic and are willing to provide accommodations to students with disabilities, but interpretation of legal requirements as well as specific factors such as academic unity, faculty rank, and perceived availability of resources can affect these perceptions (Murray et al., 2008). Although some university faculty are compliant, others may hold prejudices due to a lack of information, understanding, tolerance for difficulties that exist in the classroom, and also knowledge of interventions available (Shapiro & Margolis, 1988).

**Interventions**

Utilizing a multi-faceted approach combining pharmacological and non-pharmacological therapies is generally advised by clinical guidelines for the treatment of ADHD (Kovshoff et al., 2013). This type of approach may include medication, various types of psychotherapy, education and training, or a combination of those treatments (NIMH, 2012). Methylphenidate and Amphetamines are of the most common stimulant medications used to treat ADHD, which enforce brain circuit
activation that supports attention, focused behavior, and has even been seen to help enhance memory, organization, and alertness (Advokat & Vinci, 2012; NIMH, 2012). When prescribing this type of medication clinicians tend to feel the need to optimize outcomes, valuing the psychosocial intervention as well as individual’s views on the treatment decision (Kovshoff et al., 2013).

In regards to a non-pharmacological approach, executive function coaching or “ADHD coaching” is an example of a type of psychotherapy utilized by individuals with ADHD. This type of coaching provides the necessary support individuals with ADHD may need for the development of skills, strategies, and beliefs needed to manage the executive function challenges they may face (Parker & Boutelle, 2009). As a result, students who participated in executive function coaching felt that it attributed to a better quality of life as it promoted their self-determination and reflection on their personal goals, which allowed them to attach greater value to their own interests and life purpose. Coaching was described as an “equal partnership” that required them to think and behave in new and fundamentally different ways than they had been accustomed to when using traditional campus services (Parker & Boutelle, 2009). While ADHD coaching was preferred over traditional campus services in the previous study, campus disability services can offer a wide range of interventions students and educators can employ to benefit those with not just ADHD but other disabilities as well, such as LD.

Access to universities and their programs, availability of reasonable accommodations and appropriate support through a combination of individual and systemic resources are the keys to improving academic outcome and achievement in
students with hidden disabilities (Wolf, 2001). Types of accommodations typically given to students with disabilities to help overcome traditional barriers include but are not limited to, extra time to take tests, having a note taker in class, the brailing of examinations, having recording devices in class or books on tape, taking examinations in alternative locations, distraction free rooms, more time to arrive at class for some students and more use of adaptive equipment and technology (Buchanan et al., 2010; Jones, Kalivoda, & Higbee, 1997). While a multitude of alternatives exist, the finest accommodations based on the most sophisticated science will have no value if intolerance denies their use (Denhart, 2008).

Intolerance and the social stigma of accommodations often prevent the full utilization of these services. In a study conducted by Denhart (2008), 90% of their sample with LD who were granted accommodations expressed reluctance to ask for them due to the fear of being thought of as inferior or that their work will be devalued. The students expressed what they needed more than anything in terms of accommodations were self-understanding (including their different way of thinking), traditional accommodations, writing assistance, and organizational and visual strategies (Denhart, 2008). Support systems become particularly important for students with executive dysfunction and other factors that contribute to academic failure, such as those who suffer from ADHD and LD. Regardless of the diagnostic label and what disability a student is suffering from, accommodations should be made with the disabled student in mind and focus specifically on helping to facilitate their learning. For example, one common weakness in students with ADHD is processing information they take in from lectures,
readings, and studying. Identifying this weakness and being aware of what it entails can help instructors employ helpful interventions. Although there may be substantial overlap in the characteristics and outcomes among these different diagnostic groups, there is not one specific way to manage these hidden disorders and their symptoms that meets the needs of all students.

It is important to keep in mind that interventions implemented within the educational setting do not just have to focus on students with disabilities; there is remediation that might benefit those with and without learning disabilities. Interventions that could help all students include providing various means of content delivery, attaching new information to prior knowledge, offering handouts, incorporating station type activities into class, allowing for learning to be assessed in different ways, encouraging goal setting, allowing peer demonstrations, and providing a clear and consistent structure (Sherlock-Shangraw, 2013). The idea of providing resources and embodying teaching strategies that would benefit all students can fall under the idea of Universal Design for Learning, which is founded on the premise that education is not a one-size fits all approach.

**Theoretical Framework**

Unfortunately, the invisible nature of these students’ disabilities may continuously cause them to be blamed for their disability because only the consequences of the learning disability, rather than the disability itself are seen. (Sciberras et al., 2013) It needs to be understood that students with diverse learning needs are not “the problem”; barriers in the curriculum itself and attitudes surrounding the term “disability” are the
root of the difficulty. Despite policy changes that bring unprecedented opportunities to students with disabilities and innovative ideas and approaches are being developed by schools and their districts, there are still countless flaws and shortcomings in the overall approach to educating students with disabilities (Hitchcock et al., 2002).

A curriculum that is designed to be accessible and supportive for all students from the start will improve learning opportunities and reduce the stigma of special education, or in the case of higher education, special accommodations (Hitchcock et al., 2002). Instead of finding a methodology to just suit the needs in educating students with disabilities, curriculum designers need to recognize the widely diverse learners in current classrooms and build in options to support learning differences from the beginning with the notion that the curriculum as inherently designed can work for all learners. This theoretical framework, also known as Universal Design for Learning (Hitchcock et al., 2002) provides a strong foundation for addressing the educational needs of students at all levels, but specifically in higher education, who have unique learning needs.

**Universal Design for Learning (UDL)**

The Assistive Technology Act, also referred to as the Tech Act, was first passed by Congress and signed by the President to promote people’s awareness of, and access to, assistive technology (AT) devices and services (United States Congress, 1988). This act addresses people of all ages with all disabilities within all environments and seeks to provide AT to those with disabilities so they can more fully participate in education, employment, and daily activities on a level playing field with other members of their communities, an idea rooted in Universal Design (UD) (United States Congress, 1988).
According to Section III of the Assistive Technology Act (1998), UD is a concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly accessible (without requiring assistive technologies) and products and services that are inter-operable with assistive technologies (United States Congress, 1988; United States Congress, 2004). An example of this could be the cut outs of sidewalks to allow for individuals in wheelchairs to have easy access. While they were designed and intended for the handicapped their existence creates everyday conveniences for all, whether it be individuals riding bikes, pushing strollers, or even just walking. The Center for Applied Special Technology (CAST) transformed the concept of UD to be used within the general education setting to help teachers develop lesson plans that accommodate a diverse student population, also known as Universal Design for Learning (UDL), and has been accepted by the Individuals with Disabilities Education Improvement Act (CAST, 1998; United States Congress, 2004).

UDL provides a blueprint for creating instructional goals, methods, materials, and assessments that are flexible in nature and includes approaches that can be customized and adjusted for individual needs (CAST, 1998). When we use a UDL approach, we can actually respond to our recognition that each student with engage with learning for different reasons and in different ways and for the students to stay interested and committed to the task at hand, there needs to be an appropriate balance between challenge and support. A curriculum that is designed to be universal, accessible, and
supportive from the start will improve learning opportunities and reduce the stigma of special education (Hitchcock et al., 2002).

Concepts of UDL curriculum are built on the foundation, understanding, and appreciation that no two learners are going to interpret the provided information the same way, while promoting resources that are more versatile and applicable to all students. Three major components exist within the concept of UDL including Multiple Means of Representation, Expression, and Engagement (CAST, 1998; CAST, 2011). Representation involves incorporating multi-modal approaches on how to explain the material, such as both auditory and visual aspects, which allow students to make connections within, as well as between, concepts (CAST, 1998; CAST, 2011). While Representation is the “What” of learning, Expression is the “How”.

Expression designates alternate methods of communication, such as augmented devices or computers, since often students approach learning tasks very differently, some do very well in written text, but not speech and visa versa (CAST, 1998; CAST, 2011). No single medium is comprehensible to all students, hence why the UDL curriculum offers built-in “alternate” or “multiple” representations to fit all types of learning styles (Hitchcock et al., 2002). Flexible materials fulfill the promise of UDL in that they open doors and circumvent barriers for students with disabilities and also improve learning opportunities for all students- in the same way that universally designed buildings and technologies benefit “mainstream” users (Hitchcock et al., 2002). For example, with printed books, the content is inextricably linked; the ink of the text or image is embedded in the page but with digital media, the content can be separated from its display, thus the
content can be provided and displayed in a variety of ways (Hitchcock et al., 2002). For some students with visual impairments the printed text found in a textbook or workbook may be too small to read or comprehend where if the information was present in a digital version such as in a Word document or even Powerpoint presentation, the text could simply be enlarged or the font could be changed to allow for easier reading. This adaptability increases accessibility for students with visual, auditory, reading, or motor impairments because they can elect to view and respond to the content in a medium and means that suit their needs (Hitchcock et al., 2002). Such simple alterations can make a world of difference to students and if they are as simple as that to implement, it seems unrealistic that this type of structure couldn’t be utilized.

Lastly, Engagement is the “Why” of learning and incorporates the use of strategies that involve students with disabilities in the learning process promoting motivation (CAST, 1998; CAST, 2011). Some examples of engagement could be providing repetition, giving students the opportunity to respond and work alone or in groups, strategies that provide flexible alternatives and encourage engagement for all students (CAST, 1998; CAST, 2011). Another way of promoting motivation found within the UDL construct is the idea of goals. UDL goals begin with standards and benchmarks that reflect the knowledge and skills all students will strive for and are carefully conceived and expressed to encourage multiple pathways for achieving them (Hitchcock et al., 2002). Just like there are multiple ways to tie a shoe, there are multiple ways to learn, and just as we don’t force children to tie their shoes one certain way we shouldn’t force them to learn one specific way either. At the end of the day, as long as
the shoes get tied or in this case, the material is understood, it doesn’t really matter how it came to be. Moving forward, once the true purpose for learning is understood, various means, media, scaffolds, and supports can be used to help students reach the goal without undermining the challenge and the learning and well-conceived and carefully expressed goals such as these are the foundation of a curriculum in which all students can participate and make progress (Hitchcock et al., 2002). In a UDL curriculum, goals provide an appropriate challenge for all students, but before adequate goals can be established, educators must first thoroughly understand what they want students to learn and how they can potentially implement that, something that many educators are unaware of how to do (Hitchcock et al., 2002).

Spooner, Baker, Harris, Dalzell, & Browder (2007) completed a study assessing teachers’ utilization of UDL and found that a 1-hour intervention on UDL enabled general education and special education teachers to help develop lesson plans that involved a student with mild or severe cognitive disability. These findings suggest that teachers need to be more informed about UDL to develop lesson plans. Teachers having more education on the usage and implementation of UDL would create a better and more effective learning environment for all learners since UDL shifts the burden for reducing obstacles in the curriculum away from special educators and the students themselves and leads to the development of a flexible curriculum that can support all learners effectively (Hitchcock et al., 2002). Building a curriculum with inherent flexibility helps educators maintain educational integrity and maximize consistency of instructional goals and methods, while still individualizing learning, which is essential for the academic growth
of all students. This is why the UDL ideologies and the Seven Principles for Undergraduate Education provide a strong foundation for evaluating educational environments to determine if student needs are perceptually being met.

**Seven Principles for Good Practice in Undergraduate Education**

Universal design of instruction as a theoretical framework promotes the educational success for all students and The Seven Principles for Good Practice in Undergraduate Education are reflective of the fundamental tenets promoted in the model. The Seven Principles for Good Practice in Undergraduate Education were developed by a team of scholars and appeared in its final version in the March 1987 issue of the AAHE Bulletin (Chickering & Gamson, 1999). The Seven Principles contend that good practice in undergraduate education encourages student-faculty contact, cooperation among students, active learning, provides prompt feedback, emphasizes time on task, communicates high expectations, and respects diverse talents and ways of learning; aspects in which would seem to create an optimal learning environment. The response to the article was instantaneous and overwhelming with more than 150,000 copies of the seven principles inventories ordered from the Johnson Foundation. This sudden success to this well-known and long-standing approach to education is most likely attributed to the broad-based national movement to improve undergraduate education (Chickering & Gamson, 1999).

Due to the abundance of support and attention the document received, the lead authors, Chickering and Gamson, were encouraged to develop a self-assessment instrument for faculty members, with examples and indicators of each of the principles.
With help and support from Louis M. Barsi, The Johnson Foundation, and the Lilly Endowment, the Inventories for Good Practice in Undergraduate Education were developed and published in 1989 in the form of two handy self-assessment booklets looking at faculty and institutional factors, which since have been incorporated in, adapted in, or used as the springboard for several similar assessment and research instruments (Chickering & Gamson, 1999). The earliest adaptation was the Student Inventory (Chickering & Gamson, 1987) designed to improve undergraduate education and enhancement of the educational experience of each student. In efforts to help students assume an active role in their learning, these student inventories allow for the educational setting to be seen through the students’ perspectives and can be used by students, faculty, and others to facilitate improvements in the learning process (Chickering & Gamson, 1987). Changes are often implemented in the undergraduate education setting based on what faculty, and or administration, think students need, rather than what the students themselves consider necessities. These types of inventories provide a mechanism for students’ needs be addressed and validated. The Inventories are grounded in the Seven Principles for Good Practice in Undergraduate Education, embodying decades of research about teaching, learning, and the college experience, which can provide relevant information to help improve undergraduate education (Chickering & Gamson, 1987).

Ultimately faculty members and administrators hold the main responsibility for improving undergraduate education and creating this advantageous learning environment, but it is not feasible for them to do it on their own. College and university leaders, state
and federal officials, and accrediting associations along with faculty and students, have
the power to shape an environment that is favorable to good practice in higher education
and there is good evidence that such an environment can be created (Chickering &
Gamson, 1999). The Seven Principles for Good Practice Inventories has been used in
this area to examine the use of good practice indicators by AT program directors and to
provide a theoretical framework using engagement theory, a learner-centered process
focusing on program improvement through continuous planning and evaluation, as a
foundation for implementing good practices in athletic training education programs (Peer,
2007). Athletic training education programs could further benefit from this type of
research by looking at the perceptions Athletic Training students hold of their education
programs and experiences in the undergraduate setting, rather than faculty or program
directors, as measured by the Seven Principles for Good Practice in Undergraduate
Education Student Inventory.

Protecting the Disabled Students in Athletic Training

The Board of Certification, Inc. (BOC) was incorporated in 1989 to provide a
certification program for entry-level Athletic Trainers (ATs). This governing body both
creates and frequently reviews not only the standards for the practice of athletic training,
but also the continuing education requirements for BOC Certified ATs. One of the top
priorities of the BOC is to protect the public and to ensure its safety (Board of
Certification, 2014b). They have established policies to restrict the practice of any BOC
Certified Athletic Trainer with an impairment that prevents him or her from practicing
athletic training with reasonable skill. Policies such as this can be found in the BOC Professional Practice and Discipline Guidelines.

Within the BOC Professional Practice and Discipline Guidelines, the “impaired practitioner” is defined as, “a person with a physical or mental condition, including deterioration through aging, loss of motor skill, or excessive use or abuse or drugs including alcohol, that prevents one from practice athletic training with reasonable skill or entry-level competence and safety to patients” (Board of Certification, 2014a). The BOC has the only accredited certification program for ATs in the US, and before a candidate is able to sit for the examination they must complete an accredited Athletic Training program (Board of Certification, 2014b). Enrollment in these specific programs is both highly competitive and selective with students having to meet academic and technical standards that reflect the necessary and required skills and abilities identified for the Entry-Level Athletic Trainer. It is possible that individuals suffering from disabilities, such as ADHD or LD, could be termed impaired practitioners if these disabilities are seen as “mental conditions”, which could make both admittance and completion of this type of program quite difficult.

**CAATE Standards for Athletic Training Programs**

Athletic trainers are unique health care providers that undergo a rigorous competency-based accredited program of professional education in order to become credentialed. Athletic trainers (AT) practice in the field of athletic training and are health care professionals who collaborate with physicians to optimize activity and participation of patients and clients across age and care continuums. ATs play a crucial role in the
prevention, diagnosis, and intervention of emergency, acute, and chronic medical conditions involving impairment, functional limitations, and disabilities (National Athletic Trainers' Association, 2014b). Unfortunately the term “trainer” provides a foundation for many misconceptions surrounding the role of ATs including duties held by personal trainers or only standing on the sidelines of athletic events to provide water. Contrary to belief, the role of ATs extend far beyond these stereotypes and allow them to serve as an integral member of a sports medicine team, which is comprised varying allied health care professionals. The academic curriculum and clinical education for one to become an AT follows a medical-based education model and is quite extensive in nature.

Athletic Training is an academic major or graduate equivalent major program that must be accredited by the Commission on Accreditation of Athletic Training Education (CAATE). The educational requirements for professional, entry-level CAATE-accredited Athletic Training education programs include acquisition of knowledge, skills, and clinical abilities along with a broad scope of foundational behaviors of professional practice. A competency-based approach is applied in both the classroom and clinical settings where students complete an extensive clinical learning requirement that is embodied in the clinical integration proficiencies (professional, practice-oriented outcomes) as identified in the Athletic Training Education Competencies. These competencies include, Evidence-based Practice; Prevention and Health Promotion; Clinical Examination and Diagnosis; Acute Care of Injury and Illness; Therapeutic Interventions; Psychosocial Strategies and Referral; Healthcare Administration; and Professional Development and Responsibility (National Athletic
Trainers' Association, 2011; National Athletic Trainers' Association, 2014a). Unlike the curricula found in other baccalaureate programs, CAATE requires athletic training students to complete clinical education requirements. Athletic training students (ATS) are required to participate in a minimum of two years of academic clinical education to expose them to real life scenarios and situations they may face as a certified athletic trainer. The ATS work under the direct supervision of qualified preceptors and are afforded the opportunity to manage a multitude of musculoskeletal and general medical conditions within varying types of physically active individuals. The goal is for the students to apply what they are learning in the classroom to real life clinical situations, hence why it is essential that students receive formal instruction on how to provide comprehensive client/patient care. Students are educated in five specific domains of clinical practice including: prevention; clinical evaluation and diagnosis; immediate and emergency care; treatment and rehabilitation; and organization and professional health and well-being (National Athletic Trainers' Association, 2014a). It is important that the students are able to make those connections between the material learned in the classroom and practiced in the clinical setting as many of the skills presented are required to meet the technical standards put in place by CAATE to protect ATSs, ATs, and more importantly the general public.

The Guidelines for Technical Standards for entry-level Athletic Training education reflect the necessary skills and capabilities recognized by the NATA Athletic Training Educational Competencies and the Role Delineation Study/Practice Analysis, 6th Edition (RDS-PA6) (CAATE, 2012). These standards exemplify the “physical,
cognitive, and attitudinal abilities an Entry-Level Athletic Trainer must be able to demonstrate in order to function in a broad variety of clinical situations; and to render a wide spectrum of care to athletes and individuals engaged in physical activity” (CAATE, 2012). Ultimately these guidelines act as a framework for institutions and programs to build off of when creating and implementing “technical standards” for admission to, and completion of, their individual educational programs. The standards that candidates for selection to an Athletic Training Education program must demonstrate include, but are not limited to, the mental capacity to assimilate, analyze, synthesize, integrate, concepts, and problem-solve to formulate assessment and therapeutic judgments. This requires candidates to have the capability to distinguish deviations from the norm; the ability to communicate effectively and sensitively with patients and colleagues; the capacity to maintain composure and continue to function well during periods of high stress; and flexibility and the ability to adjust to changing situations and uncertainty in clinical situations (CAATE, 2012).

These technical standards inevitably create an intense, rigorous, and difficult program based on the specific requirements and demands placed on all of the students enrolled. In general, athletic training programs can be considered rigorous and demanding on students, but students with hidden disabilities, specifically, may perceive heightened demands. Institutions may not exclude an “otherwise qualified” applicant or student merely because of a disability if the institution can reasonably modify its program or facilities to accommodate the applicant or student with a disability (U.S. Department of Health and Human Services, 1973). However, they are not required to provide
accommodations or modify its program if it would be fundamentally altered or place undue burden on the educational program or academic requirements and technical standards, which are essential to the program of study (CAATE, 2012). This creates an interesting situation for students who suffer from hidden disabilities such as ADHD and LD, since these disabilities tend to experience executive dysfunction and could affect how adequately they meet the demands and technical standards of the program, especially those who do not identify themselves with accessibility services.

Instead of AT educators making accommodations and figuring out ways to alter or modify the program specifically for those students with hidden disabilities, the program itself can be altered to benefit all students to better embody the principles. Barriers in the athletic training educational setting such as providing accommodations could inherently be avoided through the use of the Seven Principles for Good Practice and the adoption of a more universal approach to education.
CHAPTER III

METHODOLOGY

Research Questions

- How do athletic training students perceive their educational experiences in their overall ATP as measured by the Seven Principles for Good Practice in Undergraduate Education Student Inventory?

- Do athletic training students with self-disclosed hidden disabilities perceive their educational experiences in their overall ATP differently than athletic training students who do not have self-disclosed hidden disabilities as measured by the Seven Principles for Good Practice in Undergraduate Education Student Inventory?

Hypotheses

Overall, AT students will perceive their educational experiences within their AT program as “average,” with mean scores in the 3’s. Additionally, it was believed that there would be a significant difference in perceptions of educational experiences between students with self-disclosed disabilities and students without self-disclosed disabilities.

- Statistical Analysis- Independent T-test using self-disclosed hidden disability as the independent measure and overall inventory mean score as the dependent measures.

- Statistical Analysis- Independent T-test using self-disclosed hidden disability as the independent measure and mean score of each subscale as the dependent measure.
Data Collection Procedures

Following IRB approval from Kent State University program directors from all 77 CAATE accredited undergraduate AT program directors in US District 4 of the NATA (GLATA) were contacted requesting program participation in the study via email. Program directors forwarded the email requesting student participation, which contained the active survey link, onto students who are enrolled in the professional phase of their program. A total of 6 reminder emails were sent out to program directors. Survey was open from October 10th, 2014 to December 31st, 2014.

Completed, anonymous electronic surveys from students were directly returned via the Qualtrics Survey Software (Qualtrics, Provo, UT, 2015) to the researcher and data collection concluded at exactly 7 weeks from when initial email was sent. Qualitative comments are summarized in Appendices B-H as anecdotal information only, but not analyzed. See Figure 1 for flow chart describing methods utilized for this study.

Instrumentation

The instrumentation used for this study included the Seven Principles for Good Practice in Undergraduate Education Student Inventory, as well as a demographics questionnaire created by the researcher. The entire survey was almost completely anonymous; the only identifying information included was the institution in which the student was enrolled in and their year in the professional phase of the program. The demographics questions inquired about the following information: age, gender, race, name of institution, number of completed years in the professional phase of their
Contacted program directors from all 77 CAATE accredited ATPs in US District 4 (GLATA) requesting program participation within the study via institutional email.

Follow-up emails were sent out at:
- October 17, 2014
- October 24, 2014
- November 7, 2014
- November 11, 2014
- November 18, 2014
- December 4, 2014

Inventories completed by ATS were sent directly to researcher via the Qualtrics Survey Software.

Survey was deactivated December 31, 2014.

Responses to the Inventory were analyzed.

Email is sent out to all program directors thanking them for their efforts and requests of participation, once data collection is complete.

Following program director approval for participation, The Seven Principles for Good Practice in Undergraduate Education Student Inventory was dispersed directly by the program director onto the ATS enrolled in the professional phase of their program via email.

Figure 1. Flow Chart of Proposed Methods
program, formal medical diagnosis of hidden disabilities of interest, whether or not they seek assistance from their university’s accessibility services, and whether they are currently prescribed medications to facilitate learning. If a participant chose “yes” to the questions inquiring about formal diagnoses, assistance sought from university accessibility services, and any currently prescribed medications to facilitate learning, they were then asked to elaborate on the specific diagnosis, type of assistance provided, and what medications are prescribed. Options for student to choose from in terms of potential diagnosis were “ADHD”, “LD”, “a psychological condition”, “a medical condition”, and “other”. If a participant chose “other” and stated they were diagnosed with ADD, they were placed into the ADHD group due to how common those terms are used interchangeably. Lastly, due to high rates of comorbidity amongst these hidden disabilities, students had the option to identify with more than one diagnoses.

Seven Principles for Good Practice in Undergraduate Education Student Inventory, a widely used, valid, reliable, and respected tool, was used as the main survey instrument (Peer, 2007). Originally the inventory was paper format, but was transformed onto a web platform using Qualtrics Survey Software (Qualtrics, Provo, UT, 2015) to allow for electronic distribution. The survey is comprised of 7 different subscales (Student-Faculty Contact, Cooperation Among Students, Active Learning, Prompt Feedback, Time On Task, High Expectations, Diverse Talents and Ways of Learning), each subscale containing 2 sections and a total of 9 questions. The first contains questions 1 through 7, which are in a matrix type format and the second section involves 2 open-ended questions. The subscales throughout the inventory are coded based on the
subscale number followed by the question number or letter based on the type of question. For example, the first subscale is Student-Faculty Contact so the coding reads as follows, 1-1 to 7 for the first 7 questions and 1-A and 1-B for the last two open ended questions.

Questions 1-7 for each subscale are scored on a 5-point Likert scale with the following response choices: Very often-5, Often-4, Occasionally-3, Rarely-2, and Never-1. The responses to the 2 written questions in the second section of each subscale are summarized anecdotally in Appendices B-H and not specifically analyzed for the current study. The inventory also includes a summary section at the very end, which consists of two sections as well. The first section contains 6 questions related to academic preparedness and success. Questions 1 and 2 are in multiple-choice format with the following answer choices, which are scored on a 5-point Likert scale: A. Over 20 hours-5, B. 16-20 hours-4, C. 11-15 hours-3, D. 6-10 hours-2, and E. 0-5 hours-1. Questions 3-6 are scored on a 4-point Likert scale, with answer choices including: Very Much-4, Quite a Bit-3, Some-2, and Very Little-1. The second section includes 4 open-ended questions requiring critical reflection on the student’s individual learning process and the responses are summarized anecdotally in Appendix I. as well and not specifically analyzed for the current study. The mean scores for each of the 7 individual subscales were calculated as well as the overall mean score for the entire inventory. All questions were forced validation, which required participants to answer all questions in order for the survey to be deemed complete, except for a question within in the demographics section that pertained to the student’s race, and the last two open ended questions for each of the subscales. It is important to note that if the participant stopped
mid-way through the survey it did not save their responses and there was no way for them to go back and return to where they stopped; the survey had to be completed entirely in one session. The software was set to not allow incomplete surveys to be submitted and therefore that information could not have been analyzed.

**Subjects/Participants**

Subjects for this research were generated using a convenience sample of athletic training students in the 77 CAATE accredited athletic training education programs in the US District 4 of the NATA (GLATA) as of May 2014 listed on CAATE’s official bachelors list. The estimated population of this group was approximately 2,310 ATS based on statistics reported by CAATE that on average there are 10.1 ATS in each level of the program (Merrick, 2015) yielding about 30 students per program. A modified snowball sampling procedure was used as program directors were asked to forward the request for participation from the researcher to the actual students via their institutional email. Based on the Table of Recommended Sample Sizes for Populations with Finite Sizes (Krejcie & Morgan, 1970) the predicted sample size for this study was to be approximately 330 participants. Inclusion criteria for this study included full time enrollment in the professional phase of a CAATE accredited athletic training program in US District 4 of the NATA (GLATA). Upon closure of the survey, data was collected from students \(N = 129\) who represented 30 of the 77 CAATE accredited athletic training education programs in the US District 4 of the NATA (GLATA). Participant demographics and the institutions where they were enrolled can be found in Tables 1 and 2 respectively.
Five percent of participants \((n = 7)\) self-identified with having a hidden disability, involving a diagnosis that affects their learning experience, including ADHD \((n = 5)\), LD \((n = 2)\), and some form of psychological \((n = 1)\) or medical \((n = 1)\) condition. Three participants chose the option of “other” and expressed they had a diagnosis of Attention Deficit Disorder (ADD), and were placed in the ADHD grouping. The presence of comorbid disorders was noted in 2 of the 7 participants who self-identified with a hidden-disability, which is why there were more hidden disabilities selected \((n = 9)\) than the number of students who self-disclosed \((n = 7)\). (See Tables 1 and 2).

**Statistical Analyses**

Independent T-tests were conducted using self-disclosed hidden disability as the independent measure and overall inventory mean score as the dependent measures and then again using self-disclosed hidden disability as the independent measure and mean score of each subscale (Student-Faculty Contact, Cooperation Among Students, Active Learning, Prompt Feedback, Time On Task, High Expectations, Diverse Talents and Ways of Learning) as the dependent measure. The dependent variables’ scores were summarized in the Qualtrics Survey Software (Qualtrics, Provo, UT, 2015) and analyzed using IBM SPSS Statistics Version 21 (Armonk, NY: IBM Corp.). Between subjects design was used in the analysis and descriptive statistics are presented. The following research questions were analyzed using the following analyses with a significance level set a priori at \(p \leq .05\).
Table 1.

*Participant Demographics.*

<table>
<thead>
<tr>
<th></th>
<th>SDHD $(n = 7)$</th>
<th>No SDHD $(n = 122)$</th>
<th>Total N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2</td>
<td>41</td>
<td>43</td>
<td>33.3</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>81</td>
<td>86</td>
<td>66.7</td>
</tr>
<tr>
<td>Years of Program Completed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 years</td>
<td>5</td>
<td>40</td>
<td>45</td>
<td>34.9</td>
</tr>
<tr>
<td>1 year</td>
<td>0</td>
<td>39</td>
<td>39</td>
<td>30.2</td>
</tr>
<tr>
<td>2 years</td>
<td>2</td>
<td>39</td>
<td>41</td>
<td>31.8</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>3.10</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>.775</td>
</tr>
<tr>
<td>Black or African American</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>3.10</td>
</tr>
<tr>
<td>Native Hawaiian or Other</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1.55</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>6</td>
<td>112</td>
<td>118</td>
<td>91.4</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>3.10</td>
</tr>
<tr>
<td>Age in yrs. - mean (SD)</td>
<td>22.7 (6.93)</td>
<td>20.9 (2.34)</td>
<td>21.09 (2.55)</td>
<td>-</td>
</tr>
</tbody>
</table>
Table 2.

*Participant Distribution Based on Institution.*

<table>
<thead>
<tr>
<th>Institution</th>
<th># Of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albion College</td>
<td>1</td>
</tr>
<tr>
<td>Aquinas College</td>
<td>2</td>
</tr>
<tr>
<td>Ashland University</td>
<td>2</td>
</tr>
<tr>
<td>Bethel University</td>
<td>2</td>
</tr>
<tr>
<td>Capital University</td>
<td>3</td>
</tr>
<tr>
<td>Concordia University</td>
<td>2</td>
</tr>
<tr>
<td>Franklin College</td>
<td>7</td>
</tr>
<tr>
<td>Gustavus Adolphus College</td>
<td>4</td>
</tr>
<tr>
<td>Illinois State University</td>
<td>1</td>
</tr>
<tr>
<td>Indiana State University</td>
<td>2</td>
</tr>
<tr>
<td>Indiana University</td>
<td>18</td>
</tr>
<tr>
<td>Kent State University</td>
<td>18</td>
</tr>
<tr>
<td>Lake Superior State University</td>
<td>1</td>
</tr>
<tr>
<td>Manchester University</td>
<td>1</td>
</tr>
<tr>
<td>Marietta College</td>
<td>5</td>
</tr>
<tr>
<td>McKendree College</td>
<td>2</td>
</tr>
<tr>
<td>Northern Michigan University</td>
<td>6</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>6</td>
</tr>
<tr>
<td>Otterbein College</td>
<td>6</td>
</tr>
<tr>
<td>Shawnee State University</td>
<td>1</td>
</tr>
<tr>
<td>University of Akron</td>
<td>2</td>
</tr>
<tr>
<td>University of Mount Union</td>
<td>3</td>
</tr>
<tr>
<td>University of Toledo</td>
<td>4</td>
</tr>
<tr>
<td>University of Wisconsin LaCrosse</td>
<td>4</td>
</tr>
<tr>
<td>University of Wisconsin Milwaukee</td>
<td>2</td>
</tr>
<tr>
<td>University of Wisconsin Oshkosh</td>
<td>1</td>
</tr>
<tr>
<td>University of Wisconsin Stevens Point</td>
<td>3</td>
</tr>
<tr>
<td>Western Illinois University</td>
<td>1</td>
</tr>
<tr>
<td>Western Michigan University</td>
<td>4</td>
</tr>
<tr>
<td>Wright State University</td>
<td>15</td>
</tr>
</tbody>
</table>
CHAPTER IV

RESULTS

The highest overall scoring subscale among all students was Diverse Talents and Ways of Learning and the lowest was Prompt Feedback. The mean inventory score for all students was 3.76. The additional scores on the inventory for all subscales from all participants can be found in Table 3.

Table 3.

*Descriptive Statistics for All Students on each of the 7 Subscales on the Seven Principles for Good Practice in Undergraduate Education Inventory.*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>(N= 129)</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Faculty Contact</td>
<td></td>
<td>3.46</td>
<td>.619</td>
<td>1.57</td>
<td>5.00</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td></td>
<td>3.98</td>
<td>.613</td>
<td>2.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Active Learning</td>
<td></td>
<td>3.65</td>
<td>.466</td>
<td>2.14</td>
<td>4.86</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td></td>
<td>3.23</td>
<td>.581</td>
<td>1.86</td>
<td>4.71</td>
</tr>
<tr>
<td>Time on Task</td>
<td></td>
<td>4.09</td>
<td>.545</td>
<td>2.57</td>
<td>5.00</td>
</tr>
<tr>
<td>High Expectations</td>
<td></td>
<td>3.77</td>
<td>.574</td>
<td>2.14</td>
<td>4.86</td>
</tr>
<tr>
<td>Diverse Talents and Ways of Learning</td>
<td></td>
<td>4.13</td>
<td>.472</td>
<td>3.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Total Instrument Score</td>
<td></td>
<td>3.76</td>
<td>.392</td>
<td>2.53</td>
<td>4.57</td>
</tr>
</tbody>
</table>
On the Individual Subscales and Total Inventory

Significant differences were found between groups when comparing students with a self-disclosed hidden disability and those without on the total instrument score and 4 out of the 7 subscales: Active Learning, Prompt Feedback, Time On Task, and High Expectations. As expected, students without self-disclosed hidden disability scored higher on each of these subscales and the total instrument score. See Table 4 for details.

Table 4.

Comparing Descriptive Statistics between Students with a Self-Disclosed Hidden Disability and Those Without for each of the 7 Subscales on the Seven Principles for Good Practice in Undergraduate Education Inventory.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>SDHD (n = 7)</th>
<th>No SDHD (n = 122)</th>
<th>P-Value</th>
<th>F-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Faculty Contact</td>
<td>Mean 3.16</td>
<td>Mean 3.48</td>
<td>SD .651</td>
<td>SD .616</td>
</tr>
<tr>
<td>Cooperation Among Students</td>
<td>Mean 3.67</td>
<td>Mean 3.99</td>
<td>SD .243</td>
<td>SD .624</td>
</tr>
<tr>
<td>Active Learning</td>
<td>Mean 3.04</td>
<td>Mean 3.68</td>
<td>SD .539</td>
<td>SD .438</td>
</tr>
<tr>
<td>Prompt Feedback</td>
<td>Mean 2.65</td>
<td>Mean 3.26</td>
<td>SD .479</td>
<td>SD .570</td>
</tr>
<tr>
<td>Time on Task</td>
<td>Mean 3.46</td>
<td>Mean 4.12</td>
<td>SD .631</td>
<td>SD .520</td>
</tr>
<tr>
<td>High Expectations</td>
<td>Mean 3.24</td>
<td>Mean 3.80</td>
<td>SD .569</td>
<td>SD .562</td>
</tr>
<tr>
<td>Diverse Talents and Ways of Learning</td>
<td>Mean 3.89</td>
<td>Mean 4.14</td>
<td>SD .410</td>
<td>SD .473</td>
</tr>
<tr>
<td>Total Instrument Score</td>
<td>Mean 3.30</td>
<td>Mean 3.78</td>
<td>SD .291</td>
<td>SD .382</td>
</tr>
</tbody>
</table>

SDHD = Self-Disclosed Hidden Disability
Note. - *= Denotes significance for $p \leq 0.05$
On the Summary Questions

The average score for all students on question 1 in the summary question was
2.71, indicating students spend between 6-15 hours a week outside of class studying
and/or preparing for their classes. On average all students consider it to be between
somewhat more and much more important (4.27 out of 5) for them to be successful
academically compared with other college students. Significant differences were found
between groups on 2 out of the 4 the items within the summary component of the
inventory: Find Information I Need and Explain Information To Others. Similar to the
findings on each of the subscales, students without a self-disclosed hidden disability
scored higher on these items compared to students who did in fact self-disclose as
having a hidden disability. Additional scores for the summary questions can be found in
Tables 5 and 6.
Table 5.

Descriptive Statistics for *ALL students* on each of the Summary Questions on the Seven Principles for Good Practice in Undergraduate Education Inventory

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5-point Likert Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside of class, how many hours in an average week do I study or otherwise prepare for all of my classes?</td>
<td>2.71</td>
<td>1</td>
<td>5</td>
<td>1.04</td>
</tr>
<tr>
<td>Compared with other college students, how important is it for me to be successful academically?</td>
<td>4.27</td>
<td>2</td>
<td>5</td>
<td>.778</td>
</tr>
<tr>
<td><strong>4-point Likert Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learn on my own</td>
<td>3.21</td>
<td>1</td>
<td>4</td>
<td>.767</td>
</tr>
<tr>
<td>Find information I need</td>
<td>3.22</td>
<td>2</td>
<td>4</td>
<td>.673</td>
</tr>
<tr>
<td>Integrate ideas from various sources</td>
<td>2.84</td>
<td>1</td>
<td>4</td>
<td>.808</td>
</tr>
<tr>
<td>Explain information to others</td>
<td>2.89</td>
<td>1</td>
<td>4</td>
<td>.803</td>
</tr>
</tbody>
</table>
Comparing Descriptive Statistics between Students with a Self-Disclosed Hidden Disability and Those Without for each of the Summary Questions on the Seven Principles for Good Practice in Undergraduate Education Inventory

<table>
<thead>
<tr>
<th>Subscale</th>
<th>SDHD (n = 7)</th>
<th>No SDHD (n = 122)</th>
<th>P-Value</th>
<th>F-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5-point Likert Scale</strong></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Outside of class, how many hours in an average week do I study or otherwise prepare for all of my classes?</td>
<td>2.71 .756</td>
<td>2.70 1.058</td>
<td>.982</td>
<td>1.19</td>
</tr>
<tr>
<td>Compared with other college students, how important is it for me to be successful academically?</td>
<td>3.86 .690</td>
<td>4.30 .779</td>
<td>.148</td>
<td>1.73</td>
</tr>
<tr>
<td><strong>4-point Likert Scale</strong></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Learn on my own</td>
<td>2.71 .951</td>
<td>3.24  .750</td>
<td>.079</td>
<td>1.39</td>
</tr>
<tr>
<td>Find information I need</td>
<td>2.43 .535</td>
<td>3.26  .653</td>
<td>.001*</td>
<td>.268</td>
</tr>
<tr>
<td>Integrate ideas from various sources</td>
<td>2.71 .488</td>
<td>2.84  .823</td>
<td>.681</td>
<td>3.05</td>
</tr>
<tr>
<td>Explain information to others</td>
<td>2.14 .690</td>
<td>2.93  .790</td>
<td>.011*</td>
<td>.575</td>
</tr>
</tbody>
</table>

SDHD = Self-Disclosed Hidden Disability
Note. - *= Denotes significance for $p \leq 0.05$
CHAPTER V
DISCUSSION

The following study looked at investigating (a) how athletic training students perceive their educational experiences in their overall ATP as measured by the Seven Principles for Good Practice in Undergraduate Education Student Inventory and (b) whether students with self-disclosed hidden disabilities had varying experiences and perceptions compared to students who did not self-disclose. It was hypothesized that AT students will perceive their educational experiences within their AT program as “average,” by producing mean scores in the 3’s for the inventory. Based on contemporary literature, it was hypothesized that there would be a significant difference in perceptions of educational experiences between students with self-disclosed disabilities and students without self-disclosed disabilities. The results of this study support these hypotheses.

For the purposes of this study, students were placed into the “Self-Disclosed Hidden Disability” group if they self-disclosed that they have a current diagnosis that affects their learning experience. Five percent \((n=7)\) of participants fell into this category, with ADHD being the most reported followed by LD, and then psychological and medical conditions. These findings align with that of previous literature, which states that students with ADHD tend to make up between 2-8% of the population of college students (Barkley & Murphy, 2006; DuPaul, Weyandt, O'Dell, & Varejao, 2009;
Maul & Advokat, 2013) and students with LD between 2-5% (Learning Disabilities Association of Ontario, 2011).

The impact ADHD and LD may vary for individuals with the changing demands at different stages of life. Ninety-seven percent ($n = 125$) of participants were between the ages of 18 to 24 years old and would represent a population referred to in previous literature as “emerging adults” (Fleming & McMahon, 2012). Emerging adulthood is considered a critical period of developmental transition from child to adult roles in society, which typically involves dramatic changes in lifestyle, independence, and responsibility. As the tasks of adulthood become more complicated, the demand for flexibility, self-control, and emotional regulation also increases. From a physiological standpoint, the neural structures located within the frontal lobe of the brain that are responsible for higher intellectual functions are still maturing during this time period since they are not considered fully developed until an individual reaches their mid-20s (Giedd, 2004). Emerging adults are considered more vulnerable to errors in tasks related to executive functioning, especially when the task demands are high (Reaser et al., 2007; Steinberg, 2007), and individuals with hidden disabilities may be at an even greater risk given their increased deficits in executive functioning prior to frontal lobe maturity. Consequently, deficits in these areas with many hidden disabilities may become more pronounced in adulthood (Wolf, Simkowitz, & Carlson, 2009). For many individuals, college is the dominant context in which the majority of this developmental period of emerging adulthood occurs, and it is typical for college students to both enroll and graduate from college before their executive systems are fully matured. These
developmental factors can make not only the transition from high school to college increasingly difficult, but also the transition into overall adulthood (Fleming & McMahon, 2012).

In the current study, students who self-disclosed with a hidden disability scored lower on each individual subscale as well as the total inventory score, compared to students without a disability with significant differences in Active Learning, Prompt Feedback, Time on Task, and High Expectations subscales. This comes as no surprise that students with a hidden disability would score lower than their not disabled peers as many of the statements presented in the Seven Principles Inventory surround specific deficits correlated with their disabilities. Additionally, each of the statements within the inventory aims to evaluate how the individual student perceives their own work, effort, motivation, and a variety of other factors. Therefore it would make sense that they would perceive their experiences lower than their non-disabled peers since students with hidden disabilities have been noted to endorse more negative attitudes towards themselves and other individuals with hidden disabilities and struggle with self-concept (Fleming & McMahon, 2012)

Active learning is promoted when students talk about what they’re learning, write about it, relate it to previous experiences, and apply it to their daily lives (Chickering & Gamson, 1987). Students with ADHD tend to lack the capacity to hold information in mind that will be used to guide one’s actions, either now or at a later time, also known as working memory, and could create a barrier for employing active learning strategies (Barkley & Murphy, 2006; Reaser et al., 2007). Deficits in these areas may be the reason
why students with self-disclosed hidden disabilities produced a mean score of 3.04, relating to the “Occasionally” answer choice, for the Active Learning subscale, offering these students room for improvement. An additional area all students could improve in relative to the Seven Principles subscales is Time on Task.

**Time On Task**

In terms of class preparation, generally for every hour of class time, college students need to spend two to three hours of out of class time preparing assignments (Brinckerhoff, 2006). In the current study, students, regardless of disability status, stated they spent an average of between 6-15 hours a week out of class to study or otherwise prepare for their classes. The minimum time students stated they spent was between 0-5 and the maximum was over 20 hours. Additionally, students who self-disclosed with a hidden disability scored lower on the Time on Task subscale compared to their non-disabled peers. These findings are of interest since time management, organizing, planning, and following through on tasks, procrastination, and variability in quality of tasks completed are common problems that students with ADHD and other hidden disabilities may typically encounter (Barkley & Murphy, 2006; R. Kern, Rasmussen, Byrd, & Wittschen, 1999; Reaser et al., 2007; Wolf, 2001).

The quality of tasks and assignments completed by students with ADHD are typically either finished quickly and correctly or performed poorly, inaccurately, and inconsistently (Barkley & Murphy, 2006). For students with ADHD and/or LD the rule of thumb should be doubled given the time needed for rewriting lecture notes, reading, or listening to audio textbooks, and integrating course materials from a variety of sources.
Thus, as a result of these areas of concern and suggested number of hours that should be spent dedicated to classwork, one might expect to see students with ADHD and/or LD dedicate more time outside of class to their school work compared to their non-disabled peers in efforts to make up for these deficits.

Previous studies have confirmed this proposed assumption (Denhart, 2008; Kaminski, Turnock, Rosen, & Laster, 2006) yet one potential explanation for why the findings of this current study do not support this hypothesis is that students with ADHD tend to find it difficult to activate or initiate work that must be done. These students often complain of being unable to stay alert or even awake in boring situations, and frequently space out when they should be more alert, focused, and actively engaged in a task (Barkley & Murphy, 2006). This shortage of self-regulation and self-discipline may be why students with hidden disabilities do not dedicate more independent time to schoolwork outside of class, despite how important it is. Students with these hidden disabilities also may not even be aware that they should be spending more time out of class preparing or studying as many tend to display a lack of understanding of their own strengths and weaknesses (Campbell, 2002).

Assuming a full-time load of fifteen credit hours, students adhering to the previously mentioned standard, students should spend roughly thirty hours per week studying, although on average, in 2009 and 2010, students enrolled in US institutions studied about 14.7 hours per week (McCormick, 2011). Learning to use one’s time well is critical for students and professionals alike as there is no substitute for time on task (Chickering & Gamson, 1987). When entering higher education, students both with and
without hidden disabilities, are taken by surprise by the increased demand for planning and organization that they face in college. Unlike high school, college environments require students to manage their own time and organize their days and nights void of external assistance from individuals such as parents or guidance counselors (Field et al., 2003; Kaminski et al., 2006). It may be suggested that individuals involved with AT education programs, on both the clinical and didactic sides, thoroughly explain the time commitment involved with completing the program. This may include clarifying the necessary time that should be spent outside of class preparing for courses or clinicals, suggesting time management strategies, and providing appropriate and prompt feedback. While Employing these strategies may facilitate a smooth transition from high school to college and prepare them to manage their time and meet the high expectations that will be bestowed on them throughout their time in the program.

**High Expectations and Prompt Feedback**

High expectations are important for everyone including the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated (Chickering & Gamson, 1987). Many college students with ADHD and/or LD, especially freshmen, find themselves for the first time in academic settings that are much more competitive than that of their previous years of schooling. Grades that were once based on subjective measures such as, “effort” or the “degree of improvement” are replaced in college with grades based on mastery of course objectives and individualized standards put in place by each educator (Brinckerhoff, 2006). In comparison with high school, college entails
more rigorous academics, challenging courses, and is considerably less structured (Wolf et al., 2009).

In addition to the rigid structure students are afforded in high school, students are also continuously provided regular and frequent feedback from their teachers, which may be attainable due to the increased contact between faculty and student. At the collegiate level, feedback can be less frequent as some classes may only meet once or twice a week and homework that was checked daily is typically replaced with long-term detailed projects (Brinckerhoff, 2006; Wolf et al., 2009). While all college students face these inherent challenges, those with hidden disabilities may be further taxed by deficits in planning, follow through on tasks, keeping track of time and materials, procrastination, and struggle with applying periodic feedback (Wolf et al., 2009).

Additional challenges may be evident during this transition for students with ADHD and LD, as they tend to demonstrate a lack of understanding of their own strengths and needs, difficulty learning, choosing, and applying effective strategies, and difficulty with self-monitoring (Campbell, 2002), which necessitates the need for prompt, appropriate, and constructive feedback. These findings support those of the current study where students with hidden disabilities scored lower than their non-disabled peers, thus perceiving Prompt Feedback differently. There are a few other reasons why these differences may exist as well. One reason for this may be students in this group do not effectively, if at all, participate in some form of reflection where they can look back at the work they have completed or the material they have learned and apply the feedback provided to improve. There may also be issues involved with the deficits in social skill
that are associated with ADHD and/or LD, which may influence students’ ability to self-advocate for help or express truly that they need in terms of assistance and/or feedback (DaDeppo, 2009). There is also a chance that students with these disabilities do not fully understand their own disability or how to appropriately compensate for it, especially without assistance. The combination of psychological, cognitive, and social/interpersonal difficulties may seriously erode even the best academic efforts of a student by undermining his or her use of effective time management and available resources (Wolf, 2001).

**Interventions to Mediate Effects of Disabilities**

Previous literature has been shown that interventions may facilitate the learning process for students with disabilities. In the current study only 2 out of the 7 students who self-disclosed with a hidden disability expressed that they sought help from accessibility services at their institution for accommodations related to their disability. The types of assistance received align with interventions suggested in previous literature and include, extra time on exams/ quizzes, testing in a distraction free zone, recording the class lectures, having a designated note taker, and permission to record lectures on a tape recorder (Buchanan et al., 2010; Jones et al., 1997). Intolerance and the social stigma of accommodations often prevent the full utilization of these services, which is potentially why only a small portion of those who self-disclosed with a hidden disability sought assistance. An alternative form of intervention consistently mentioned in the literature was the use of prescription medication to help facilitate learning by reducing the effects of the disability. Five out of 7 students who self-disclosed with a hidden disability
expressed that they were currently prescribed medications for their disability. Types of medications mentioned were, Adderall, Adderall XR (extended-release), Vyvanse, Ritalin, and Sertraline. Although some students seek accommodations to help facilitate learning, including both pharmacological and non-pharmacological approaches, determining the scope of their impact was beyond the intent of this study.

**Implications**

Previous literature suggests that postsecondary students be provided with the opportunity to receive instruction, feedback, and support for the individual characteristics that lead to self-determination (e.g., self-awareness, goal setting and decision making, assertive communication, and negotiation). In the same way that students are not expected to develop content area skills without specific instruction in those skills, students cannot be expected to acquire the skills necessary for self-determination without instruction specifically targeted toward their development (Field et al., 2003).

All students regardless of the presence of a disability or not, continuously need help in assessing existing knowledge and competence, especially when getting started. Students must be provided feedback and opportunities to reflect on what they’ve learned, what they still need to know, and how to assess themselves (Chickering & Gamson, 1987). AT educators should aim to assist students in fostering and recognizing their strengths, especially as they relate to their academic and clinical performance, provide constructive criticism for improvement, help scaffold previous and newly acquired information, and promote self-determination. Types of mediations could include encouraging them to create analogies based on information they learn, relate new
material to material with which they are already familiar, and develop practical examples from their own experiences that seem to them to relate to the concepts presented in their readings or notes (Reaser et al., 2007). These efforts may positively affect the perceptions AT students hold of learning experiences within both the clinical and didactic settings, as well as their overall academic achievement and potential for success.

This study has multiple implications for AT program directors, educators, and clinical staff, as it provides insight on how undergraduate AT students within the professional phase of their programs perceive their educational experiences in terms of quality indicators. Students who self-disclosed with a hidden disability perceived their learning experiences slightly different than their non-disabled peers on each of the 7 subscales on the Seven Principles for Good Practice in Undergraduate Education student inventory as seen with lower mean scores. Areas where significant differences exist are Active Learning, Prompt Feedback, Time on Task, and High Expectations.

While it has been said that time plus energy equals learning (Chickering & Gamson, 1987) it is truly the quality of the time spent learning that is more important than the quantity. Based on the findings of the current study AT students should be encouraged to not just spend more time outside of class preparing and studying for class, but to also potentially adopt more effective active learning strategies. Perhaps it may be beneficial for AT educators to implement required self-assessments throughout the curriculum, such as the LASSI, that would help gather information regarding students’ awareness about and the use of learning and study strategies relative to skill, will, and self-regulation components of strategic learning. These assessments could be completed
at the middle and end of each semester and provide substantive feedback to both ATS and their preceptors about the learning strategies they are employing and unveil potential opportunities for improvement.

Understanding learning needs is critical, as it allows both the AT instructor and the learner to appreciate how they process, retain, and apply knowledge. AT instructors in both, didactic and clinical, settings must serve as learning facilitators, appreciate students’ learning needs and preferences, and understand the more effective teaching methods to stimulate learning in efforts to enhance students’ knowledge acquisition (Mazerolle, Bowman, & Benes, 2015). AT administrators and faculty must work to recognize that each student will engage with learning for different reasons and in different ways as well. In efforts to meet the needs of all students AT educators may begin by constructing well-conceived and carefully expressed goals and benchmarks that reflect the knowledge and skills all students will strive for, potentially using the CAATE standards or NATA proficiencies as a framework. It is only when the true purpose for learning is understood, can AT educators adequately implement various means, media, scaffolds, and supports that can be used to help students reach the proposed goals. This UDL inspired approach allows for students’ individual learning needs to be appreciated without undermining the overall objectives. Small changes such as this can set the groundwork for a curriculum in which all students can participate and make progress (Hitchcock et al., 2002).

Educators could utilize the Seven Principles for Good Practice in Undergraduate Education Student Inventory as a means to gather information regarding student
perceptions of their educational experiences within the program and use that as a basis to implement more UDL inspired approaches grounded in good practice as mentioned by the Seven Principles, within the curriculum and teachable moments clinically. Collecting this type of information from both the LASSI and also the Seven Principles Student Inventory provides a great opportunity for both AT students and faculty to reflect and also receive constructive feedback. Feedback should be gained in a reciprocal manner, both to students and from students.

AT educators should continuously work to provide appropriate, adequate, and prompt feedback to students that help foster self-determination if they wish to see improved performance from their students. While at the same time, feedback should be collected from students. These tactics would allow educators to gain insight on potential programmatic strengths and weaknesses, in both the clinical and didactic settings, provide ATS with a voice, a deeper understanding of their educational preferences, needs, habits, and potential obstacles to success, and give students the feeling that they are an important stakeholder in their own educational process.

For the students to stay interested and committed to the task at hand, there needs to be an appropriate balance between challenge and support, especially for students with hidden disabilities who specifically struggle with time on task, self-regulation, and have noted difficulty with attentiveness. Active learning must be promoted within both the clinical and didactic setting as students must make what they learn a part of themselves (Chickering & Gamson, 1987) and encourage self-reflection and scaffolding. It is important to note that, just the identification of strategies is not enough, educators must
also be aware of different types of active learning strategies that they can potentially suggest to their students. It may be beneficial for AT educators to either, continue or start, to specifically and consciously incorporate meaningful learning activities that require students to truly think and reflect about what they are doing and learning. Providing students with the necessary scaffolding to reach even the smallest of goals encourages them to persevere and provides them with the confidence to embrace future obstacles that come with the learning process.

Conclusion

Based on physiology of the human body relative to development, all typical aged college students within the emerging adults population, would inherently have some deficits in executive function due to the immaturity of the brain’s frontal cortex. While deficits specifically in executive functioning relative to common non-academic skills, were expected to be found amongst all participants, they were expected to be greater in the population of students who self-disclosed with a hidden disability. This hypothesis was proven correctly as students without self-disclosed hidden disabilities would score higher on each of the 7 subscales, as well as the total instrument score compared to students with one or more hidden disabilities. These normal deficits based on stage of development coupled with a hidden disability that involves executive dysfunction, may potentially create an increased hindrance in academia.

Accrediting organizations, program directors, and AT educators, both clinical and didactic, have the power to shape an environment that is favorable to good practice in higher education. Specifically in AT education, CAATE requires AT programs to
conduct self-studies and peer reviews in making their judgments about programs and institutions. Through these types of assessments, it is important for institutions to define their expectations for students, faculty, administrators, and other professional staff in efforts to establish the basis for high performance for all (Chickering & Gamson, 1987). Although CAATE requires specific competencies and proficiencies athletic training students (ATS) must be taught, they do not specify how they should be taught, which allows for the potential implementation of an AT curriculum that is grounded in a UDL framework, which would benefit all students, regardless of the presence of a hidden disability. Building a curriculum with inherent flexibility and grounded in the Seven Principles for Good Practice in Undergraduate Education helps educators maintain educational integrity and maximize consistency of instructional goals and methods, while still individualizing learning, which is essential for the academic growth of all students.

**Limitations**

Limitations exist in this study. One limitation that exists within this study is the fact that the method of data collection is survey based, which depends on the willingness of participants to participate and answer the surveys in an accurate and timely manner. Additionally, the research depends on self-disclosure from students about the diagnosis of the hidden disabilities under investigation in this study. There is a chance that students may have been diagnosed with a hidden disability but refrained from disclosing it. In terms of the hidden disabilities themselves, although generalizations were made throughout this study, it cannot be assumed that all those who self-identify with a
diagnosis of ADHD and/or LD have executive functioning deficits or have the same degree of difficulty in the academic arena.

Competitive programs at the university level, such as that of AT, may be less likely to see many students with clearly debilitating ADHD and/or LD due to the fact that the programs would potentially filter these students through selective admission processes. Oversimplifications made regarding the impact of having a hidden disability and successfully completing an AT program were difficult to avoid, yet it is important to note that ADHD and LD have a wide spectrum of impact, from very minimal to somewhat impactful, to debilitating, to everything in between, therefore the impact of the disability on their academic performance will vary by individual. Some of the students who self-disclosed with a hidden disability expressed that they had sought assistance through student accessibility services at their institution and/or were prescribed medication to help facilitate their learning by reducing the effects of their disability. It is unknown how these factors may have altered students’ perceptions of their overall educational experiences.

Another limitation may involve the ability of the student to effectively integrate experiences in both clinical and didactic settings in response to the questions posed in the inventory. In an effort to encourage a broad perspective of the program as a while, the following running head was located at the top of the entire inventory, “Responses should be based off of your perceptions regarding your experiences within the entire athletic training program- this includes interactions with your professors/instructors & preceptors in both the clinical and didactic (classroom) setting.”
Lastly, The Seven Principles for Good Practice in Undergraduate Education Student Inventory was intended for general use in undergraduate education and not specifically for athletic training programs or students with self-disclosed hidden disabilities. However, the quality indicators examined in the Seven Principles for Good Practice in Undergraduate Education Student Inventory should be incorporated into all aspects of education, regardless of content area.

**Future Research**

Although not specifically analyzed, the data collected from this study shows that 5 out of the 7 participants who self-disclosed with a hidden disability had completed 0 years in the program. While it is not possible to say whether these findings can be attributed to the transition the population of emerging adults are navigating through as new college students, a potential lack of socialization or limited help seeking behaviors employed by less experienced ATSs, it does establish a foundation and pose questions for future studies to expand upon. Future research should look into whether or not perceptions held by ATS regarding quality indicators in AT education differ between 1st year students in the program and those who are seniors in the program, as well as, between individuals who self-disclose with hidden disabilities who utilize interventions and those who do not. In the current study, student responses to summary questions posed in the Seven Principles for Good Practice in Undergraduate Education Student Inventory were summarized anecdotally, however researchers should qualitatively analyze these responses to see if they may lend some insight into the hypotheses tested.
here or to determine from a qualitative perspective any additional themes regarding student perceptions.
APPENDICES
APPENDIX A

THE SEVEN PRINCIPLES FOR GOOD PRACTICE IN UNDERGRADUATE EDUCATION STUDENT INVENTORY
Appendix A

The Seven Principles for Good Practice in Undergraduate Education Student Inventory
STUDENT INVENTORY

The "Inventories for Good Practice in Undergraduate Education" were developed as a continuation of a project initiated in 1986 under the auspices of the American Association for Higher Education (AAHE), the Education Commission of the States, and The Johnson Foundation, Inc. The Student Inventories, like the Faculty and Institutional Inventories of Good Practice, relate to the "Seven Principles for Good Practice in Undergraduate Education" developed by a team of scholars led by Arthur W. Chickering of George Mason University and Zelda F. Gamson of the University of Massachusetts at Boston. Chickering and Gamson were joined by Louis M. Barsi of the American Association of State Colleges and Universities (AASCU) in the development of the Inventories for Good Practice, and received support from The Lilly Endowment and The Johnson Foundation.

Some 200,000 copies of the Seven Principles for Good Practice, and over 400,000 copies of the Inventories for Good Practice (Faculty and Institutional) have been distributed to colleges and universities across the United States and internationally in the past two years.

The Student Inventories for Good Practice are the product of a group effort. Members include:

Arthur W. Chickering, George Mason University, Chair
Louis M. Barsi, Delaware Technical & Community College, Terry Campus
William D. Coplin, Syracuse University
Brian E. Hand, Delaware County Unit, American Cancer Society, Alumni Representative
Susan J. Poulsen, The Johnson Foundation
Karen T. Romer, Brown University
Cindy Ward, Ferrum College class of 1993 (student representative)
Maryellen Gleason Weimer, Pennsylvania State University

"Seven Principles for Good Practice in Undergraduate Education" is the product of a group effort led by Arthur W. Chickering and Zelda Gamson. Published by The Johnson Foundation, Inc., Wingspread, Racine, Wisconsin 53042

The Student Inventory is published and distributed by:
The Seven Principles Resource Center, Winona State University,
P.O. Box 5838, Winona, MN, 55987-5838
STUDENT INVENTORY

Student Inventories for Good Practice in Undergraduate Education

These Inventories are designed to help students assume an active role in their learning. The Inventories may be used by students, faculty, and others in a variety of ways: in small groups, in classrooms, in one-on-one discussions or advising sessions, or in residential settings.

In whatever way they are used, it is important to remember that the content of the Inventories is not neutral. It is grounded in the Seven Principles for Good Practice in Undergraduate Education, and thus embodies decades of research about teaching, learning, and the college experience. These Inventories will be useful to the students for self analysis only to the extent that each response is an honest report of individual behavior.

The purpose of the Inventories is the improvement of undergraduate education and enhancement of the educational experience of each student, NOT the evaluation of individual students, instructors, or classes. The Inventories will be most helpful if they are used as a basis for diagnosis rather than judgment about performance, summative evaluation, or self-justification.
1. Student-Faculty Contact

1) I look for opportunities to develop informal relationships with one or more of my professors.

2) I seek feedback from my professors about my work.

3) I question my professors when I disagree with what is said.

4) I talk with my professors outside of class about my courses and other things.

5) I find out about my professors - what else they teach, areas of expertise, and other areas of interest.

6) I attend events in which faculty are involved.

7) I give my professors feedback about the courses in which I am enrolled.

As I look at my responses to this section, I think I should work on:

________________________________________________________________________

________________________________________________________________________

The people or groups in the best position to help me improve on these items are:

________________________________________________________________________

________________________________________________________________________
<table>
<thead>
<tr>
<th></th>
<th>Cooperation Among Students</th>
<th>Very Often</th>
<th>Often</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>I try to get to know my classmates.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2)</td>
<td>I study with other students in my courses.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3)</td>
<td>I work with other students in informal groups.</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4)</td>
<td>I assist other students when they ask me for help.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>5)</td>
<td>I tell other students when I think they have done good work.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6)</td>
<td>I discuss issues with students whose background and viewpoint differ from mine.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7)</td>
<td>I offer to serve as tutor, advisor or resource person when I am knowledgeable and can share skills with others.</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

As I look at my responses to this section, I think I should work on:

The people or groups in the best position to help me improve on these items are:
### Active Learning

1) I speak up when I don’t understand class material.  
   - [ ] Very Often  
   - [ ] Often  
   - [ ] Occasionally  
   - [ ] Rarely  
   - [ ] Never

2) I question the assumptions of the materials in my courses.  
   - [ ] Very Often  
   - [ ] Often  
   - [ ] Occasionally  
   - [ ] Rarely  
   - [ ] Never

3) I try to relate outside events or activities to the subjects covered in my courses.  
   - [ ] Very Often  
   - [ ] Often  
   - [ ] Occasionally  
   - [ ] Rarely  
   - [ ] Never

4) I seek real world experiences to supplement my courses.  
   - [ ] Very Often  
   - [ ] Often  
   - [ ] Occasionally  
   - [ ] Rarely  
   - [ ] Never

5) I carefully assess my preparation and background for the courses I take.  
   - [ ] Very Often  
   - [ ] Often  
   - [ ] Occasionally  
   - [ ] Rarely  
   - [ ] Never

6) I seek out new readings and/or research projects related to my courses.  
   - [ ] Very Often  
   - [ ] Often  
   - [ ] Occasionally  
   - [ ] Rarely  
   - [ ] Never

7) I take careful notes in my classes.  
   - [ ] Very Often  
   - [ ] Often  
   - [ ] Occasionally  
   - [ ] Rarely  
   - [ ] Never

As I look at my responses to this section, I think I should work on:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

The people or groups in the best position to help me improve on these items are:

________________________________________________________________________
________________________________________________________________________
4 Prompt Feedback

1) When I get feedback from my professors on exams, papers, or other class work, I review their responses to assess my strengths and weaknesses.

2) I talk over feedback with my professors as soon as possible if anything is not clear.

3) I re-draft my papers and seek feedback from the professor in doing so.

4) I list my questions that I have from my class or my readings and follow them up by consulting with peers, my professor, or on my own.

5) I consider feedback from peers and then consciously decide how to act on it.

6) I keep a journal in which I reflect on what I am learning.

7) I think about what I am learning from my courses and discuss it with my professors.

As I look at my responses to this section, I think I should work on:

_________________________________________________________________________

_________________________________________________________________________

The people or groups in the best position to help me improve on these items are:

_________________________________________________________________________
STUDENT INVENTORY

6 High Expectations

1) I set personal goals for learning in my courses.
   [ ] Very Often [ ] Often [ ] Occasionally [ ] Rarely [ ] Never

2) I try to get clear information about my instructors' goals.
   [ ] Very Often [ ] Often [ ] Occasionally [ ] Rarely [ ] Never

3) I keep an open mind about material, even if it is not directly related to my major or career interest.
   [ ] Very Often [ ] Often [ ] Occasionally [ ] Rarely [ ] Never

4) I do additional unassigned work to reach my learning goals.
   [ ] Very Often [ ] Often [ ] Occasionally [ ] Rarely [ ] Never

5) I consciously think about the trade-offs between the things I do to learn and the things I do to achieve a grade.
   [ ] Very Often [ ] Often [ ] Occasionally [ ] Rarely [ ] Never

6) I try to achieve my very best in each class.
   [ ] Very Often [ ] Often [ ] Occasionally [ ] Rarely [ ] Never

7) I use all the resources on campus that are pertinent to my courses.
   [ ] Very Often [ ] Often [ ] Occasionally [ ] Rarely [ ] Never

As I look at my responses to this section, I think I should work on:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

The people or groups in the best position to help me improve on these items are:

________________________________________________________________________
Summary Information

1) Outside of class, how many hours in an average week do I study or otherwise prepare for all my classes?
   A. Over 20 hours    B. 16-20    C. 11-15    D. 6-10    E. 0-5

2) Compared with other college students, how important is it for me to be successful academically?
   A. much more important    B. somewhat more    C. about equally
   D. somewhat less    E. much less important

<table>
<thead>
<tr>
<th>Very Much</th>
<th>Quite a Bit</th>
<th>Some</th>
<th>Very Little</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

3) Learn on my own

4) Find information I need

5) Integrate ideas from various sources

6) Explain information to others

As I look at my responses to this section, I think I should work on:
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

The people or groups in the best position to help me improve on these items are:
_________________________________________________________________________
_________________________________________________________________________
STUDENT INVENTORY

Please Respond to the Following Directly on this Page

1) Which actions have I taken that have contributed most towards my successful learning.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2) Among the “Seven Principles” included on the headings of this inventory, which are most important to my learning and why? (Student-Faculty Contact, Cooperation Among Students, Active Learning, Prompt Feedback, Time on Task, High Expectations, Diverse Talents and Ways of Learning)

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
STUDENT INVENTORY

Summary
Following is a brief summary of the Seven Principles for Good Practice in Undergraduate Education as compiled in a study supported by the American Association of Higher Education, the Education Commission of the States, and The Johnson Foundation.

1. Good Practice Encourages Student-Faculty Contact
Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans.

2. Good Practice Encourages Cooperation Among Students
Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding.

3. Good Practice Encourages Active Learning
Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing pre-packaged assignments and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves.

4. Good Practice Gives Prompt Feedback
Knowing what you know and don't know focuses learning. Students need appropriate feedback on performance to benefit from courses. In getting started, students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves.

5. Good Practice Emphasizes Time on Task
Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. How an institution defines time expectations for students, faculty, administrators, and other professional staff can establish the basis for high performance for all.

6. Good Practice Communicates High Expectations
Expect more and you will get it. High expectations are important for everyone — for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations of themselves and make extra efforts.

7. Good Practice Respects Diverse Talents and Ways of Learning
There are many roads to learning. People bring different talents and styles of learning to college. Brilliant students in the seminar room may be all thumbs in the lab or art studio. Students rich in hands-on experience may not do so well with theory. Students need the opportunity to show their talents and learn in ways that work for them. Then they can be guided to learning in new ways that do not come so easily.
APPENDIX B

STUDENT RESPONSES TO SUMMARY QUESTIONS IN
STUDENT FACULTY CONTACT SUBSCALE
Appendix B

Student responses to Summary Questions in Student Faculty Contact Subscale

Note- Statements that are underlined are those provided by students who self-disclosed with a hidden disability within the current study.

“As I look at my responses to this section, I think I should work on...”

- Myself, being more confident and maybe my peers pushing me to do this as well.
- Friends, professors, myself.
- My classmates and my preceptors.
- Administrative event planners.
- Myself, and advice from parents/students on talking to professors.
- Myself and my professors.
- My friends would help me improve because the more I see them go to events the more likely I am to try to make the event more of a priority.
- Clinical preceptors
- Professors.
- Myself or my peers.
- The professors and the Gustavus Athletic Training Association.
- My professors.
- My professors and myself.
- Other athletic training students.
- Peers and faculty.
- The professors and my peers.
- Myself. I should take it upon myself to get to know and utilize my professors.
- My professors and people who are guiding me through my experience.
- My friends and classmates.
- Myself and classmates.
- My professors themselves.
- My professors, adviser, certified, other AT students and myself.
- My professors and preceptors.
- MCATSO, probably.
- My professors and classmates.
- Faculty and advisors.
- My professors and myself.
- My professors themselves.
- My professors: encouraging me to give them feedback.
- The faculty.
- My professors.
- Professors and myself.
- My professors and peers.
- I am in the best position to make the changes. The professors will be willing to listen but also have to be willing to except my thoughts and reasoning.
- Professors.
- Professors.
- Professors.
- Faculty and peers.
- My professors.
- My professors, preceptors, peers.
- Teachers themselves.
- The professors themselves.
- Professors.
- The Athletic Training Education Program and its corresponding Athletic Training Club.
- Faculty.
- My friends.
- My clinical instructors.
- Peers.
- Myself.
- Faculty and myself.
- N/A.
- Professors.
- More out going people who like to try new things.
- The students in my class, the TAs, and the professors in my classes.
- The best person to help me with this would be myself since I just need to make the time and effort to make an appointment with professors.
- My professor and myself.
- My classmates.
- My fellow students.
- Faculty members.
- I would say myself.
- Myself and my teachers.
- My professors.
- My instructors.
- The professors themselves and upperclassmen in my program.
- This is something I would have to work on for myself I feel.
- My professors.
- Myself.
• I feel the only person who can really help me improve on these items is myself.
• The directors of the program.
• My professors and other faculty.
• Myself.
• Classmates.
• My advisor and teachers.
• At staff.
• Myself and the head person in my Athletic training program.
• My athletic training professors and directors.
• Solely myself.
• The professors.
• My preceptors and classmates.
• NA
• Fellow classmates. My advisors.
• My classmates and professors.
• My friends to attend these event with me.
• My professors themselves.
• The faculty and my immediate clinical supervisor to allow me to find more opportunities.
• Myself.
• I am the best person to help me improve on these items.
• Professors.
• My professors could tell me more about themselves.
• My professors and myself.
• My preceptor, my professor, and my TA.
• My professors and other staff.
• Myself.
• Myself.
• SATO and my instructors/GAs.
• Me and the professors.
• My peers.
• My professors.
• Faculty members.
• My preceptors and the leaders of our athletic training club here at OSU.
• This is something I personally need to work on.
• CPs.
• Myself, my peers, and my professors.
• Myself.
• My professors and preceptors are in the best position to help me improve on these items. I could also use advice from upper class students on their experiences.
My classmates and athletic training professors.
The different teachers or teaching assistants I have.

“The people or groups in the best position to help me improve on these items are…”

- Myself, being more confident and maybe my peers pushing me to do this as well.
- Friends, professors, myself.
- My classmates and my preceptors.
- Administrative event planners.
- Myself, and advice from parents/students on talking to professors.
- Myself and my professors.
- My friends would help me improve because the more I see them go to events the more likely I am to try to make the event more of a priority.
- Clinical preceptors
- Professors.
- Myself or my peers.
- The professors and the Gustavus Athletic Training Association.
- My professors.
- My professors and myself.
- Other athletic training students.
- Peers and faculty.
- The professors and my peers.
- Myself. I should take it upon myself to get to know and utilize my professors.
- My professors and people who are guiding me through my experience.
- My friends and classmates.
- Myself and classmates.
- My professors themselves.
- My professors, adviser, certified, other AT students and myself.
- My professors and preceptors.
- MCATSO, probably.
- My professors and classmates.
- Faculty and advisors.
- My professors and myself.
- My professors themselves.
- My professors: encouraging me to give them feedback.
- The faculty.
- My professors.
- Professors and myself.
- My professors and peers.
I am in the best position to make the changes. The professors will be willing to listen but also have to be willing to except my thoughts and reasoning.

- Professors.
- Professors.
- Professors.
- Faculty and peers.
- My professors.
- My professors, preceptors, peers.
- Teachers themselves.
- The professors themselves.
- Professors.
- The Athletic Training Education Program and its corresponding Athletic Training Club.
- Faculty.
- My friends.
- My clinical instructors.
- Peers.
- Myself.
- Faculty and myself.
- N/A.
- Professors.
- More out going people who like to try new things.
- The students in my class, the TAs, and the professors in my classes.
- The best person to help me with this would be myself since I just need to make the time and effort to make an appointment with professors.
- My professor and myself.
- My classmates.
- My fellow students.
- Faculty members.
- I would say myself.
- Myself and my teachers.
- My professors.
- My instructors.
- The professors themselves and upperclassmen in my program.
- This is something I would have to work on for myself I feel.
- My professors.
- Myself.
- I feel the only person who can really help me improve on these items is myself.
- The directors of the program.
- My professors and other faculty.
- Myself.
- Classmates.
- My advisor and teachers.
- At staff.
- Myself and the head person in my Athletic training program.
- My athletic training professors and directors.
- Solely myself.
- The professors.
- My preceptors and classmates.
- NA
- Fellow classmates.
- My advisors.
- My classmates and professors.
- My friends to attend these event with me.
- My professors themselves.
- The faculty and my immediate clinical supervisor to allow me to find more opportunities.
- Myself.
- I am the best person to help me improve on these items.
- Professors.
- My professors could tell me more about themselves.
- My professors and myself.
- My preceptor, my professor, and my TA.
- My professors and other staff.
- Myself.
- Myself.
- SATO and my instructors/GAs.
- Me and the professors.
- My peers.
- My professors.
- Faculty members.
- My preceptors and the leaders of our athletic training club here at OSU.
- This is something I personally need to work on.
- CPs.
- Myself, my peers, and my professors.
- Myself.
- My professors and preceptors are in the best position to help me improve on these items. I could also use advice from upper class students on their experiences.
- My classmates and athletic training professors.
- The different teachers or teaching assistants I have.
APPENDIX C

STUDENT RESPONSES TO SUMMARY QUESTIONS IN
COOPERATION AMONG STUDENTS SUBSCALE
Appendix C

Student responses to Summary Questions in Cooperation Among Students Subscale

*Statements that are underlined are those provided by students who self-disclosed with a hidden disability within the current study.

“As I look at my responses to this section, I think I should work on...”

- Being confident in what I know so that I can teach others without a problem and that will also help me solidify the information.
- Getting to know my classmates better.
- I giving feedback to other students.
- Gaining perspective from those who have different perspectives from me.
- Helping other students.
- I could work on cooperating with people with different viewpoints.
- I need to make sure that when I study I do not always study with the same group of people every time, sometimes I think it would be more beneficial to see someone else's point of view.
- I don't care to tutor because of my self-confidence and I second-guess myself.
- I should work on studying in groups.
- My responses say that I need to study with other students in my courses.
- Telling other students when I think they have done a good job.
- Building other students up and ask their thoughts and opinions are.
- Reaching out to peers to assist with their learning.
- Getting to know the other 11 people in my semester of the program.
- Offering to share my skills with others and discussing issues with students whose background and viewpoint may differ from mine.
- Talking with more than just the students I am used to talking to all the time.
- Trying to open myself up to help other students.
- I need to work on my group work. Our class size is very small and I am one of the more advanced students and if given a choice I don't like to work in groups because then I am carrying the load.
- I think I am doing a good job connecting and working with classmates.
- Serving as a resource person when I am knowledgeable and can share skills with others.
- Congratulating others when they do a good job.
- I think I need to work on studying more with other students and working in groups instead of just working by myself or with the same person/people I normally work with.
• Taking advantage of my classmates’ abilities and strengths and asking them for help.
• Nothing.
• Getting to know my classmates a little more.
• Try to have a more active role with the sophomore students if possible.
• Working more with others.
• Talking to my classmates and actually making an effort to get to know them.
• Praising other students when they perform well.
• Studying more with other students.
• N/A
• Helping more with students when I have the opportunity.
• Getting to know my peers more especially within the Athletic Training Program and try studying with others.
• Since I am in such a close program, all these sections occur very often to not only help my peers and lower grades, but also keep my sanity.
• Communicating to peer's.
• Helping other students.
• Discuss issues more with other students.
• Being more social.
• Studying with others.
• N/A
• Telling people I think they have done good work.
• Being more helpful with others.
• Interacting with students better.
• Helping my classmates more.
• Connecting to my peers on a more personal level as well as speaking out about what I think, instead of being submissive.
• Getting to know my classmates more; studying with them and trying to spend time outside of class with them.
• Discussing issues with people who I disagree with.
• Trying to tutor and mentor other students in my program when I am knowledgeable and confront and discuss things with classmates when there is an issue.
• Giving more positive feedback to my classmates.
• Help other students when I am knowledgeable and can share skills with others.
• Working with other students.
• I prefer to work alone in most courses to maximize the freedom of my work.
• Learning more about all students in the program with me.
• I do not group work or studying with others because I am easily distracted although I help others and tutor others when I am asked to do so.
• I should work on getting to know my classmates a little better outside of class and sharing what skills I have with others n my class.
• I need to work on getting to know my classmates better, especially those in the athletic training program with me. I hang out and study with those that are in my year of the program but I haven't reached out to the older and younger members of the program. This would help me gain more knowledge about what it takes to be an athletic trainer and it would also probably make the younger members feel as though someone is willing to help them through this process.
• Communicating more with my classmates and get to know them better.
• I suppose I could help tutor and that I should work with my fellow classmates more often.
• Discussing issues with other students.
• Congratulating students for good work.
• I feel as though I am pretty good in this section.
• Helping others who need help by taking time out of my schedule to tutor or help students who may be struggling in a class that I have taken.
• I think that is a personal choice that I do not study with peers or try to get to know all of them. I could work on my confidence so that I can tutor more.
• Involving myself in helping other students and asking other students for help.
• Trying to be more helpful to those in need.
• Tutoring underclassmen or offering to be a TA.
• Reaching out to other students in order to have people to study with and have other people when in need of help with the work.
• I should serve as a tutor.
• Discussing topics with students who have a different background than mine.
• I think I should work on developing relationships with my classmates, whether it be a strictly professional relationship or a personal relationship.
• None.
• Continue to communicate and work with students in my classes.
• I should sharing my knowledge with others who may need my help.
• Mentoring other students.
• Helping others more.
• Provide more help to those that may need help with certain topics/skills.
• I don't actively look to understand or discuss other viewpoints and opinions.
• Group work with other students, whether for projects or to study for exams.
• Confidence and positive reinforcement.
• Reaching out to others who need help or are different from me.
• My lack collaboration is due to the fact I have a family.
• I need to compliment my classmates when I feel they did a good job. Helping my fellow students more.
• I could offer discuss issues with students that differ from mine more often and get a different perspective other than my own.
• Stepping forward and helping my peers.
• Discussion of issues w/ different viewpoint form me. I respect others opinions and need to learn to talk to them as to why we disagree.
• I should tell people when I think that they did a good job.
• I know I am having difficulties connecting with the other students. While it is not an excuse the age difference between myself and my peers seems to be a pretty big road block. I have studied with one other student in my class and she and talk, but it has been very hard to connect with them.
• Nothing.
• Studying with a wider group of people.
• My class isn't very friendly especially the females they are very catty.
• Nothing.
• I should be more involved in assisting others in areas of learning.
• Try to work on studying more with my classmates.
• Helping other students in areas where I am stronger in.
• Meeting outside of class more with my peers.
• Trying to get together more outside of class and rotation.
• Telling others they have done a good job.
• Asking for more help from fellow students.
• Studying with others.
• Studying with my classmates more often. Not many situations have arisen where issues come up with myself and another students background or viewpoint.
• I think I do a pretty good job at this section.
• Interacting with different backgrounds.
• I study much better on my own time, but I could work on being more available for my peers if they need help.
• Once again, I can improve in all areas; however I mostly could improve on informal interactions with my peers.
• Nothing.

“The people or groups in the best position to help me improve on these items are…”

• Students in the class,aka my peers.
• My classmates.
• My classmates.
• My classmates and myself.
• Myself and my classmates.
• People with different view points.
• My professors would best influence this because they could advise study groups from within a class, instead of myself talking to previously made friends who are different time periods of the class.
• Advisors and classmates.
• Gustavus Athletic Training Association, Iota Tau Alpha, and my classmates.
• Someone who is in my class that is doing better in the class than I.
• Myself.
• Other athletic training students.
• Myself and fellow educators.
• The professors and other students being willing to set aside time to get to know each other.
• My peers.
• I am responsible for getting to know people that I don't usually talk to.
• Peers.
• Myself and classmates.
• My classmates.
• Fellow AT students and professors.
• My classmates.
• No one.
• That is something I kind of have to do on my own, but I think getting more involved with our AT Club will help with that too.
• Myself and the juniors.
• Myself and other students.
• Myself and my peers being more open to individuals who are different from them.
• My professors and other students giving me positive feedback as well.
• Myself and setting up a time with my classmates.
• My other classmates as well as my professors.
• Professors.
• Me.
• I need to take the initiative to help others but my peers need to also feel comfortable in helping me for help.
• Students.
• Other students.
• Myself.
• Other people.
• Faculty and peers.
• My fellow classmates.
• Peers, myself.
• Myself and other students.
• Myself.
• Those peers in my classes as well as upperclassmen already in the program.
• Myself.
• Classmates
• My clinical instructors, professors, peers
• Myself.
• Myself.
• Students.
• Peers.
• My AT class.
• None,
• My classmates, myself, and my professors.
• Again, I believe that I am in the best position to make these things happen. I just need to make the time and effort to reach out to those members of the program.
• Students.
• I would think my classmates again would be the obvious answer.
• People in my class.
• Myself.
• Myself and other students.
• Counseling that I do on campus.
• Both myself and other students.
• Classmates.
• My athletic training classmates.
• I think I am in the best position to help me improve on these items, but I also feel my classmates could help me improve because they also do not really talk to me just as much as I do not talk to them. If we all put in effort to communicate with each other then we could develop relationships as a class.
• Fellow classmates.
• Peers who are committed to doing well in their schoolwork.
• My classmates and me.
• My classmates.
• Myself.
• Myself and my peers.
• Classmates with varying opinions and backgrounds.
• Classmates.
• Myself.
• My classmates.
• NA.
• Other friends.
• Friends that have a different point of view.
• Myself.
• Faculty advisors and clinical supervisors.
• Myself.
• This is something that I know I need to work on, I can talk with my professors and other people in the class, however what it boils down to is finding a way to connect with people that are 18 years old when I am 31.
• Classmates.
• Myself.
• Myself by being open to tutoring others in the areas I am strongest in.
• My classmates and myself.
• Myself and the faculty to help set up times to help others.
• My peers, SATO.
• My peers and I.
• Myself.
• Myself.
• Peers.
• My fellow classmates.
• Classmates.
• Myself, my peers.
• My peers.
• Classmates.
• I can always work with classmates to get more comfortable with the material and how to learn different info easier.
APPENDIX D

STUDENT RESPONSES TO SUMMARY QUESTIONS
IN ACTIVE LEARNING SUBSCALE
Appendix D

Student responses to Summary Questions in Active Learning Subscale

*Statements that are underlined are those provided by students who self-disclosed with a hidden disability within the current study.

“As I look at my responses to this section, I think I should work on...”

- I need to work on using what I learn in class outside the classroom to help solidify the information.
- Taking better notes in class to help understand the concepts better.
- Questioning what I do not understand and relating what I have learned to what I have seen.
- Supplementing my in class lecture material with information that I gather on my own on the same subject matter.
- Looking up the latest up to date research about the courses that I am taking.
- Speaking up in class when I don't understand something.
- I could work on working more outside the classroom and clinicals to supplement my courses.
- I need to try to be more proactive in the sense that I look over material before it is presented in class.
- I don't usually go above and beyond what is required so this is something I could work on.
- I need to work on taking notes, looking up research projects, checking my preparation, saying something when I don't understand the work, and questioning assumptions.
- I should work on taking better notes in class.
- Looking at new readings and/or research projects related to what I studied.
- Do more research outside of class on things that interest me.
- I need to look at more outside research.
- Questioning the professors more when I don't agree. Even with their strong personalities.
- Seeking out new readings or research projects related to my courses and questioning the assumptions of the materials in my courses.
- Speaking up in class if I am confused.
- I need to work on my work outside of class- research and articles about things I may be interested in.
- Doing more preparation and researching before class. I rarely do extra things before a lecture.
• All of them.
• Speaking up in class when I don't understand things. I usually just try to figure things out on my own or ask my other classmates.
• Ask more questions, especially when I do not understand. Seek more outside experiences and relate class material to things I have seen and done outside of class. I would like to seek more real world experiences. I think I need to be prepared a little more for classes and courses I take. I would like to push myself to find new information on my own and outside of class.
• Seek out new learning opportunities.
• Work on relating material more and trying harder to apply it.
• I could be more vigilant to new research and open minded about what is out there and asking more questions.
• Note taking, but it is hard for me to focus on learning and taking good notes.
• Finding more information about my coursework.
• I need to start looking outside of the classroom when looking at material.
• I need to seek out new readings and research related to my courses.
• Work on seeking out new readings related to my courses.
• Seeking other resources in order to progress my education.
• Take more opportunities to read new research.
• Questioning the things that I learn and seek further evidence, especially in the ever-changing medical field.
• I need to work on the preparation for my courses. I am not a fan of research but understand I need to get more involved with research to survive in this career.
• Seek out new readings or research.
• Asking questions.
• Asking more questions in courses.
• Doing more research on things I don't understand.
• Speaking up more when I don't understand something.
• Being a more active, attentive learner.
• Help myself by using articles and readings to help me learn more in the class.
• Putting more of an effort into my courses as well as making sure that I understand the information placed in front of me.
• Finding things outside of class to supplement my learning.
• I don't pay attention to what my course are really about before I take them. I just know I have to complete them to graduate.
• Work on seeking out literature
• Apply what I learn in class to my clinical experience.
• Take notes and seek out new readings and/or research projects related to my courses.
• Seeking out new readings or projects.
• I should speak up when discussions or examples are presented that I do not understand.
- I don't take notes in all the classes that I should.
- I could probably take notes but I choose not to most often.
- I need to seek out more information related to my courses like scholarly articles and research.
- I definitely need to speak up in class more. I am not one who likes to raise their hand and ask questions and I definitely need to start doing that so that I can be more active in my learning.
- Pay more attention in class.
- Looking at new information outside of the classroom.
- Reading more research.
- Taking notes more carefully.
- I should get more involved outside of class in relating things to real life.
- Going above and beyond and doing extra work that may not be due just to better myself as a student and learn more about topics covered in class.
- I could research more.
- Taking more notes and practicing the materials covered in classes.
- Understanding the material well enough to take what I have learned and use it outside of the classroom more often.
- I could work on speaking up and I should be more willing to do research about the things I learn.
- Learning things for myself and reaching out beyond what is said in class.
- Taking better notes.
- Working on reading articles outside of class.
- I think I should work on speaking up in class when I do not understand material, and also work on researching topics I learn about in class further.
- Look for places to learn outside of classroom.
- I should seek out new information through research.
- Ask questions.
- I need to look into more research.
- Being more vocal.
- Go further and research more about the different topics I learn about in class and before I learn them in class.
- Incorporating more outside experiences and research to what I learn in class.
- Asking questions about material that seems unclear.
- Expanding my knowledge and researching outside of class requirements.
- I need to work on my thoughts about class. Ask more questions in class.
- Seeking outside readings and research related to my courses.
- I could look at more research or readings related to Athletic Training to give me a better understanding of the material.
- Taking more time outside of class for my class.
• I feel like I definitely could go to my professors more often if I don't understand things. I also could do more outside research about my classes: material we are covering and why I am taking them.
• Looking at the responses above I should start questioning the materials in the course more often. I typically just take it for what it is, because there has been research done to come up with the information in the text, although I would like to know why we still ice when there has been research done to prove it doesn't always help.
• Seeking out readings and looking into more things outside my class related to my classes.
• Read outside of class.
• Nothing.
• Furthering my knowledge by gathering more research as well as research topics that aren’t based off of what I am currently learning.
• Asking questions in class to help me better understand the material when I don't get it.
• Questioning assumptions of materials in my courses and seeking readings or research projects related to my courses.
• Speak up more when I don't understand.
• Taking careful notes, seek out new research.
• Reading outside materials.
• Maybe looking up more articles in the field of athletic training. When sporting events are on TV, I always like to observe the athletic training situations. But, I could still do more observation/research than just that.
• Question assumptions of my course material.
• I could take more time to seek out real life examples and outside resources, as well as take better notes.
• I should work on speaking up more in class and reviewing concepts that I do not fully understand.
• I would like to use more of my time to find outside the classroom sources to relearn what we learned in class.
• Speaking up and asking questions about the material I do not completely understand.

“The people or groups in the best position to help me improve on these items are…”

• Teachers pushing the extra effort and internally pushing myself to be better.
• Friends, professors, success center.
• My preceptors.
• Teachers that give third party resources that support lecture information.
• Myself.
• My teachers could help with this.
• I have to motivate myself to do this, but it would help if the professors posted the notes way beforehand so it gave me more time to see what they are planning on lecturing over.
• ATEP professors.
• Professors and classmates.
• The professor.
• My teachers and myself
• Teachers or preceptors.
• Encouragement from peers to find research to support my questions. Professors could encourage me to find answers on my own instead of just giving me answers.
• Myself and my professors.
• I am responsible for getting things clarified that I don't understand.
• My adviser, professors, preceptors I work with, and peers.
• My self-trying to find time.
• Myself and ask my teachers and classmates to help me.
• Professors and classmates.
• Myself, fellow AT students, professors, ATC's.
• My professors and online sources/articles.
• Upperclassmen in AT.
• My professors.
• Me and my professors by facilitating material.
• I hold myself responsible. My professors provide countless resources that I should be taking advantage of.
• My teachers to point me in the right direction.
• Older classmates and my professors.
• Myself.
• Me.
• Yet again, this all changes and depend on the efforts I am willing to put in to my courses for a higher grade.
• Professors.
• Myself.
• Myself.
• Faculty and peers.
• My professors.
• Professors, myself.
• Teachers or online websites.
• Peers and professors.
• Myself.
• Professors.
• Clinical instructors.
My preceptor and myself.
Myself.
Myself, faculty.
Peers/Faculty.
Professors.
Myself, my peers, and my professors as well as the Athletic trainers I work with and the organizations I am involved with.
I believe that I am the best person to help myself with doing this. Also, seeing other classmates speak up in class helps give me confidence in doing it as well.
Myself.
I would think my professors and preceptors would be the most helpful in this area.
Me.
Myself.
Again I feel as though this responsibility falls on myself.
Myself.
Me and my professors.
The certified athletic trainers and myself.
Myself.
Myself.
Professors.
I feel I am in the best position to help myself improve because I have to be interested in the topic in order to want to research it further - a professor or a classmate cannot change whether I am interested in a topic.
My professors.
My professors, me.
My professors.
AT staff.
Myself.
Professors can help direct me toward current research regarding the topic at hand.
Professors and other classmates.
Professors, classmates, friends.
Talking with my professors and classmates. Go to my professors.
My professors and classmates.
My professors can be used as a resource and direct me to what research or readings would be beneficial.
Professors, peers, study groups, tutors.
Myself.
I truly think that I am the only one that can make these changes to myself, however if there was a better opportunity to get into the details covered in class at this time, there would be more opportunity to question what I am reading as opposed to just taking it in.
• Professors.
• Myself.
• Myself. If I quit avoiding research, then I will only help myself become a better health care provider in the future.
• Myself.
• Myself.
• Myself.
• Myself and I can ask for advice from peers or teachers.
• Myself.
• My preceptors. They could maybe influence us to read an article a week or send us one through email to check out. I have had some of preceptors do this already.
• Myself.
• Myself, my professors.
• My professors, preceptors and peers.
• Professors.
• My instructors or classmates.
APPENDIX E

STUDENT RESPONSES TO SUMMARY QUESTIONS IN PROMPT FEEDBACK SUBSCALE
Appendix E

Student responses to Summary Questions in Prompt Feedback Subscale

*Statements that are underlined are those provided by students who self-disclosed with a hidden disability within the current study.

“As I look at my responses to this section, I think I should work on...”

- Not being hesitant to ask questions- no question is a dumb question.
- Talking to my professors more.
- Writing out my questions so that I will not forget to ask them of my professors when the chance arises.
- Not just memorizing information but critically thinking about what I learn.
- Make a journal reflecting on what I learned.
- I could work on learning more outside the classroom.
- I need to be better about really making sure I understand topics before I take a test instead of asking the day of the test or not at all.
- I could work on meeting with professors to understand my strengths and weakness.
- I need to work on a lot. Reflecting on what I'm learning, talking to my professors, listing questions and asking them, and redoing papers to see if it is better the second time.
- I should consider keeping a journal to reflect on what I am learning in my classes.
- I should keep a journal.
- I can at the end of lecture right everything I have learned from class that day.
- Better reflection on what I am learning.
- Communication.
- I think I could work on all of these areas, especially reflecting on what I'm learning.
- Applying myself more in order to get the most out of learning and retaining information.
- Talking with professors about feedback and keeping a learning journal.
- I usually just look at my grades and move on. I learn from my mistakes but I don't think it is necessary to go to a professor for every little question I have. I will eventually figure it out on my own.
- Writing down my questions or things I don’t understand to ask my questions.
- Talking to my professors about my work.
- I need to discuss things with my professors more and seek their help when I am struggling with class materials and other things in classes. I need to be more active in asking questions and doing more work outside of class.
- Affirming information that I have learned.
- Communicate more when something isn't quite understood.
- Seeking feedback on the academic side.
- I should reflect more on what I am learning.
- I should redo my work that I do incorrectly so that I fully understand the material we are going over.
- Reflecting on what I am learning.
- I should discuss my work with my professors more often.
- If I had the time to review information and seek feedback on a regular basis of work I would, but as an athlete and Athletic Training major time is limited.
- I need to work on going over what I got wrong with my professors to understand what is the right answer and give reasoning onto what answer I picked.
- Listing questions out.
- Looking at feedback and discussing it.
- Accepting and using feedback.
- Reflecting on things I have learned.
- Reflecting more on what I am learning, and what I am struggling with.
- Making sure I understand all information.
- Looking back on what I am learning and keeping up with previous things learned.
- Applying the information and feedback given to what I know or do not understand fully.
- Making sure I'm understanding what I'm learning.
- Getting feedback from my professors on papers before I turn them on.
- I need to be a more active learner in my class studies. I can work on seeking answers when I don't know them rather than just giving up.
- Talk more with my professors about how I am doing in my classes.
- Keep a journal of what I am learning.
- Finding answers after self reflection or thinking of questions.
- Discussing class materials with others to better understand the lessons.
- Discussing course and material.
- I guess I could map out what I am learning and reflect more on what I am learning.
- I need to look more carefully over the feedback I receive from my professors and peers and try to apply them.
- From this section I think that keeping a journal on things that I have learned and things that I need to review would be a really good idea. I have seen another member of the athletic training program have one and he uses it almost everyday to see what he needs to work on and review. This seems to be very helpful for him and I think it might be a good idea to give it a try.
- Try and focus more on feedback in order to learn more.
- Going back and looking over my work so that I have a better understanding of what I am learning.
- Keeping a journal.
• My reflection over the material that I am learning.
• Using teachers more often to help with assignments before they are due.
• Keeping a journal.
• Taking in work and asking for help from professors when I need the assistance.
• Being more assertive when I have questions and seek the help I need when I need it.
• Not just taking results as good enough and discussing my issues and feedbacks with my professors so I can later apply them in the future.
• Keeping a journal.
• Speaking to professors directly after I don't understand something.
• I think I should work on communicating with my professors and take their feedback into consideration.
• Gaining feedback on what I have done incorrectly in assignments.
• Need a journal.
• I need to discuss more with my professors.
• Talking to my professors more.
• I should think deeply about the things I learn, and if I have any questions I should discuss them with my professor.
• I don't record my learning experiences to go back and review at a later time. This could be beneficial, especially for discussing it with my professors, which I also do not do enough of.
• Analyzing what I learn,
• I need to work ways for self-improvement. I should keep looking over on what I'm learning.
• Re-drafting if I have the time, and discussing what I am learning with my professors.
• I don't discuss what I'm learning much with my professors because I always talk about it with my friends. My professors may have better insight since they're the ones teaching the subject.
• Asking more questions.
• I need to work on talking to professors and my peers about questions I have about feedback and learning styles.
• I could definitely keep track of things more often. The idea of writing down questions I have to ask peers or professors is a good idea.
• Looking at the answers above, I should be working on discussing what I have learned with my professors.
• Reflecting on what I learn.
• Make more drafts of my papers.
• Communicating more with my professors.
• I should maybe keep track of my grades and follow through to see how well I am doing and what I can do to improve.
• Try to get feedback from my professors so I can do better in the course.
• Re-drafting my papers and discussing more with my professors.
• Try and soak up what I learn at the end of each day by going back through the day’s notes.
• Re-draft papers and seek feedback.
• Reflection.
• Maybe journaling what I learn in class.
• Writing Drafts and asking professors for feedback.
• I could do a better job asking professors what I need to work on for my learning.
• I should work on keeping a better journal to reflect on what I am learning to help better understand the information as well as relate it to what I am learning in class.
• I want to be more careful and check my work to make sure that I understand what is being ask and that I am answering it completely.
• Meet with my teachers and ask them for help when working on a paper and get their input on the work I have done.

“The people or groups in the best position to help me improve on these items are…”

• Peers, teachers and myself
• Myself.
• Myself.
• Myself.
• I think it would have to be a personal choice.
• I have to tell myself that it is ok to ask questions, even if they seem silly to me.
• Professors
• Professors and classmates.
• Me
• Myself.
• Other athletic training students.
• Myself.
• Someone who has these study habits and is comfortable giving tips on how they organize and review everything would be most helpful.
• Myself. I am responsible for my learning.
• My professors.
• Myself.
• Professors.
• Tutors, professors, AT students.
• My professors and their office hours.
• Myself.
• My professors.
• Myself.
- I hold myself responsible. My professors already encourage us to do this.
- Myself by holding myself accountable to reflect.
- My professors.
- Me.
- The professor and myself would make this change.
- Professors.
- Professors, myself.
- Faculty and peers.
- Myself.
- Myself and professors.
- My teachers and peers.
- Peers and professors.
- Tutors and faculty.
- Professors.
- Clinical instructors, professors.
- Myself.
- Myself.
- Myself.
- Peers.
- Professors.
- Myself, my professors, my classmates, and athletic trainers I am assigned to.
- I could talk to the person who has the journal and ask what all he puts in it just to get myself started on one.
- Myself and professor.
- My classmates, professors, and preceptors as well as counselors would be good resources for this.
- Myself.
- Myself, my peers, and my professors.
- Myself and teachers.
- Me
- My instructors.
- Myself.
- Myself.
- Myself.
- I feel I am in the best position to help myself work on these items.
- My professors/AI's.
- Professors.
- At staff and myself.
- Myself, and maybe my professor.
• Asking peers what their most beneficial methods of journaling are, to then follow up with my athletic training professors.
• Professors, classmates.
• Tutors or professors.
• My professors.
• My professors to give me a better understanding on the topic at hand.
• Professors and peers.
• My fellow classmates and my professors.
• Myself.
• I am not sure that there is anyone that can truly help me with this, the workload that I have limits the amount of time I have to speak with my professors, typically however I email any issues, questions, or concerns I have.
• Myself.
• Professors and myself.
• Myself. As long as I keep track of how my grades are doing I feel I could accelerate instead of just finding out my grade by the end.
• My professors and myself.
• Myself.
• Myself.
• Myself.
• Myself.
• Just myself.
• Myself and professors.
• My professors, myself.
• Peers and preceptors.
• Professors.
APPENDIX F

STUDENT RESPONSES TO SUMMARY QUESTIONS
IN TIME ON TASK SUBSCALE
Appendix F.

Student responses to Summary Questions in Time On Task Subscale

*Statements that are underlined are those provided by students who self-disclosed with a hidden disability within the current study.

“As I look at my responses to this section, I think I should work on...”

- Can’t procrastinate! I tend to put things off and then it adds up.
- Focusing on what is more difficult for me so that I can get better.
- Reflecting on what I am struggling with in a class and working to strengthen that aspect.
- Practice presentations before presenting.
- I should work on studying regularly and seeking help from others when I struggle.
- I think I do a fairly decent job keeping up with classes considering I am taking 18 credit hours and playing a varsity sport.
- I try to seek extra help however sometimes I am too busy with other work that it is hard to do so.
- I need to practice presentations, make studying more regular for me, talk to my professors when I'm worried about their class, and try to strengthen my weak areas.
- Work on creating a study schedule.
- I should work on seeking extra help more often.
- Proofreading papers.
- Maintaining a more regular study schedule and proofreading my work before handing it in.
- Asking for additional help when I need it, instead of trying to figure it out on my own.
- I should consult with my professors if I am struggling in a particular class.
- Not procrastinating.
- I am very strong in this task and can always improve on anything.
- Having a regular study time so I don't feel so overwhelmed at the end.
- Keeping on a regular schedule and getting things done a head of time.
- Talking to my professors about trying to keep up with a class.
- I need to communicate with my professors in areas where I am struggling and look for other areas of help. Practicing things like presentations and rereading through papers before handing them in needs to become more of a habit for me. I also need to make a set time for myself to study and do homework so I get into a routine.
- Affirming what I have learned in class.
- Preparing for certain things ahead of time.
• Studying on a regular basis.
• I should look more at my weaknesses
• I need to look at myself and admit when I need help.
• I should proofread coursework and practice presentations.
• Practicing presentations before giving them in class.
• I should look over my assignments more often to make sure that I didn't forget anything.
• Maintaining the work ethic I have and has brought me success all throughout my academic career.
• I need to be consistent with my proofreading and take pride in ALL my work.
• Maintain regular study habits.
• Studying and seeking extra help.
• Seeking extra help.
• Time management for studying the classes that aren't a part of my major.
• My study habits.
• Take more time to study.
• Staying on top of classes and being proactive and my grades or needing help.
• Seeking help on portions that I do not understand.
• Trying to keep a regular study schedule.
• Sometimes I bite off more than I can chew with classes and become overwhelmed. But I sacrifice other things in my life to keep up with my workload because school has always come first.
• Managing my time better and preparing for exams rather than saving studying until the last minute. I should also practice presentations more.
• I need to work on my weaknesses more.
• Practice presentations and study regularly.
• Seeking help when I'm struggling.
• Preparing better before class.
• Prepare more.
• I need to seek out help earlier when I need extra help in a class or subject and try to maintain a regular study schedule.
• When I have a weak area in a class I need to speak up about it. I haven't ever been one to do that because I like to work out my struggles on my own or with close friends that are in the same boat.
• Being more anxious to learn and get good grades.
• Nothing.
• Practicing presentations and going over my work multiple times before I present it or turn it in
• Other things.
• They study hours could be more regular.
• Identifying my weaknesses and getting help with them.
Improving my study habits and getting extra help when it is necessary.
I should be more willing to seek help.
Studying more regularly and reaching out when I need help.
Seeking help to strengthen my weaknesses.
Talking with my professor if I don't feel like I am keeping up.
I do not think I need to work on anything because I always complete my assignments correctly and on time. I do not get behind in classes so it is not necessary for me to confer with my professor over keeping up with a class. I am also doing good in school with my current study schedule so I do not think that it is affecting anything either.
Continue to prepare properly for class.
Work to strengthen weaknesses.
Better study habits.
Maintain a better study schedule.
I need to maintain a better study schedule, and when I am having trouble with an area of study I need to seek help.
I should be more prompt and proactive regarding assignments and studying in advance before an exam.
Identifying weak areas within my classes in order to focus more attention on those subjects and receive extra help as needed.
Seeking help to strengthen my weaknesses.
I need to create a study schedule so I set time aside to study. Study always helps.
Finding time to proof-read my assignments.
I could seek for more help, but I tend to ask questions and those who are more knowledgeable to help strengthen those areas.
Communicating more with professors.
I need to set a schedule for studying to help me keep on track with classes.
I need to work on communicating with my professors more about my concerns.
My study schedule is the hardest to set for me. I work a part time job, roughly 20 hours a week that is never a set amount of time or days each week and that makes it hard to set out specific time to study. That being said, I do sit down each week and go over my schedule and keep it detailed as to when I am going to do homework, study time, work time, in class time, etc.
Nothing.
Proof read and study.
Seeking help sooner than later.
I will start practicing presentations because it will definitely benefit me for graduate school.
Studying the material from a class right after I learned it so I can keep up and to study more of the areas that I am unsure of.
Conferring with my professors and areas where I am weak in.
• Study more often and talk to others about questions.
• Complete assignments promptly, practice presentations, regular study schedule.
• Seeking more outside help.
• Maintaining a regular study schedule.
• Practicing class presentations.
• I could work on keeping a planner and keeping tabs on all my classes and the assignments that go with each one. I really don't like keeping a planner and sometimes it bites me in the butt because I'll forget about an assignment once in a while.
• I could create a more regular study schedule rather than just studying when I feel like it or an exam is coming up.
• I want to work on my weakness more. I know I need to work on them, I just need to actually start figuring out how to improve them.
• I should start working on a study schedule to help make studying easier for me.

“The people or groups in the best position to help me improve on these items are…”

• Myself.
• Myself.
• Teachers through their feedback.
• Myself.
• My classmates and I could form study groups.
• N/A.
• Upperclassman students, advisors.
• Professors and classmates.
• Myself and my professors.
• Teachers.
• Myself.
• Again, asking peers who have good habits in these areas how they manage their time or review things would be the most helpful.
• I am responsible for seeking help for myself.
• Peers and professors.
• My classmates and myself.
• Myself.
• Professors.
• Learning center, tutors, professors, and other students.
• Checking-in with my professors once in a while to let them know how I am doing and asking for help.
• Myself.
• Myself.
• My professors.
• Counseling.
• Again, I hold myself responsible. The professors provide us will valuable resources and encourage us to check work and practice for presentations.
• Myself by making myself practice before each presentation I have to give.
• Classmates.
• My professors and I.
• This change occurs when I make it happen.
• TA's or peers.
• Professors.
• Professors.
• Faculty and peers.
• Myself.
• Myself.
• Teachers and classmates.
• Professors.
• Myself.
• Myself.
• Myself.
• Peers and professors/preceptors.
• Myself and my roommate.
• Faculty, peers.
• Faculty.
• Professors or study groups.
• Myself, my peers, professors,
• I think that I am the best one to help myself with this.
• Myself.
• Professors if needed.
• Myself.
• Myself.
• Me.
• My instructors and fellow classmates.
• Myself.
• Tutoring, my professors.
• Preceptors.
• Since I do not feel I need to work on anything, no one is in the best position to help. If I were wanting to work on my study schedule, however, I would be the only person in the position to do that.
• Myself and my roommates.
• Myself.
• Classmates and professors.
• Myself and peers.
• Myself.
• Finding peers in my program or other classes who I can study with on a regular basis would help develop a normal schedule to go to the library to study or review.
• Professors other students.
• Professors, classmates.
• Tutors, friends, professors, advisors.
• The responsibility lies upon myself.
• My professors and/or friends that know more about the subject.
• Professors.
• Friends and upperclassman that have been in a similar situation.
• Myself.
• Myself.
• Myself.
• Myself. I need to put more effort into some aspects of class assignments.
• Myself.
• Myself.
• Myself.
• Peers, Professors, myself.
• Myself.
• Faculty.
• Maybe my classmates if we were to study in groups.
• Myself and professors.
• Myself.
• Professors and peers.
• Professors and peers.
APPENDIX G

STUDENT RESPONSES TO SUMMARY QUESTIONS IN HIGH EXPECTATIONS SUBSCALE
Appendix G

Student responses to Summary Questions in High Expectations Subscale

*Statements that are underlined are those provided by students who self-disclosed with a hidden disability within the current study.

“As I look at my responses to this section, I think I should work on...”

- Using all available resources to help me succeed.
- Doing more unassigned work that could help me understand the principles that I am struggling with.
- Being more open to information about areas that I do not fully understand, struggle with or am not interested in initially.
- Use resources such as tutors.
- I should work more on utilizing outside resources and truly learning instead of just trying to get good grades.
- I need to make sure I realize that yes grades are important but learning the material to remember years down the road is even more important.
- I do not do things other than what is assigned because of all the current work I already have to do. But maybe if I had motivation by other students this would help me.
- I need to work on using more of the campus resources and getting more information about the goals of the professor.
- Set myself learning goals, and do additional assignments.
- Reflection and goal setting.
- Not letting other students’ unwillingness to have extra work stop me from striving for excellence and learning.
- Doing additional unassigned work to reach my learning goals.
- I should use the resources on campus more often.
- I need to work on my unassigned tasks.
- Focusing more on learning and not on grades.
- Setting goals and doing extra things to achieve them.
- Do additional work to help better myself.
- I really need to work harder to study and do my best in every class. I want to learn the information but sometimes it is hard to motivate myself. I want to do well in school and get better grades because I know I am capable of doing so.
- Setting goals for myself and going above and beyond to further my skills as an AT.
- Use more resources that are available to me.
- Trying to go above and beyond.
• I should use the resources more.
• Using my resources.
• I should take advantage of all of the resources available to me.
• Using my resources better that are pertinent to my courses.
• I need to motivate myself and seek other resources in order to try and get the most out of my learning.
• Considering my professors' goals and be open-minded to their opinions on the subject.
• I sometimes feel burned out and that causes me to not give 100% in everyday. I also need to utilize all aspects that the famous supplies not just the program.
• Setting goals and doing work outside of class.
• Using outside resources for help.
• Viewing things outside of my major the same as inside my major.
• Putting in more effort and learning the material instead of doing it for the test.
• Using other resources to benefit my learning.
• Do a better job of using outside resources to help me do better in my classes.
• Having the personal motivation to set goals for myself to achieve.
• Find out more about the resources that are available to me on campus and utilize them.
• Doing more than what is assigned to reach my goals. However, with athletic training I also learn most through my clinical site so I don't find myself doing extra studying when I can get some information from my preceptor. It is also hard to go above and beyond my assignments because there are so many clinical hours to complete.
• I need to be more open to material when it doesn't directly relate to athletic training, such as material in my general education courses.
• Set more goals and schedule and stick to them.
• Using campus resources.
• Using resources here at school that I don't currently utilize.
• I do not usually seek to do more work than is necessary although I spend a lot of my time studying the material itself.
• I could use my resources from the library more often.
• I need to try to use all the resources provided on campus and apply them to the courses in which I am enrolled.
• I should probably try to look up some additional information about things that I am unsure of or that I find interesting. I have trouble doing this as I like to have time to do things that I want to do instead of doing extra work that isn't assigned.
• Need to be more goal oriented.
• Looking at why I am doing what I am in my classes to better understand it.
• Learning my professors’ goals.
• Setting personal goals.
• I need to use more resources that are available.
• Additional research.
• Practicing and doing extra work to help me get better.
• Utilizing more resources in order to improve my learning and grades.
• Going out of my way more in order to learn and not just get a good grade.
• **Trying to achieve my best in every class.**
• Doing work that is not assigned in class.
• I think I should work on setting personal goals and do unassigned reading outside of class in order to stay on track and to learn more about the subject.
• Continuing to prepare for class in advance.
• Have an open mind.
• Use more resources.
• Working harder outside I'd class.
• I need to look at the unassigned material more often and not just set it aside.
• I do not utilize resources on campus enough, such as lab instructors for harder classes or the library's database for relevant research. I also do not take into enough consideration the importance of classes unrelated to athletic training and their use in my career.
• Focusing more on learning rather than getting a good grade and keep and open mind to things that I am not as interested in learning about.
• **Getting help is a good thing.**
• Find the time to do more unassigned work to improve in my classes.
• I don't do much additional work because as an Athletic Training student at NMU, we get enough homework to last the week. There's no time for extra work. I don't use all the resources on campus, but I use my parents and classmates if needed.
• Keeping an open mind on classes that don't pertain to my major.
• I know I need to treat all of my material as if I will use it in my profession every day, but I rarely do because I don't find it necessary to learn if I know that I won't use it. I need to work on that, and on using more of the resources on campus.
• Go above and beyond what I am mandated to do.
• I could use my resources on campus because anything could be helpful.
• Have an open mind about my courses and work on things besides assignments to help strengthen my knowledge in the class.
• **Additional unassigned work to reach my learning goals.**
• Try and be more involved using what I have on campus.
• Do additional unassigned work, use all resources on campus, set personal goals.
• Using more resources.
• Doing more work that is unassigned.
• I could use more resources.
• I could do a better job setting learning goals for myself before classes.
• I could learn about the resources that are available on campus that could help me in my major, as well as reflect on the trade-offs between the things I do to learn and achieve a grade.
• I want to do more out of class reviewing and learning so that I can really comprehend what we learn about in class.
• I should start using the resources that I have on campus to help me prepare for school.

“The people or groups in the best position to help me improve on these items are…”

• Myself, classmates.
• Administrators that schedule programs about different materials.
• Myself and the tutors for my classes.
• Campus resources could help with this.
• This is something that I have to learn from within.
• Classmates.
• Professors, other staff members, and classmates.
• Other ATS and teachers.
• Myself.
• Finding the motivation within myself.
• I am responsible for seeking help for myself.
• Talking to preceptors about their research and knowledge.
• Myself.
• Myself.
• My classmates to keep me motivated.
• Tutors, academic success, professors, AT students.
• My preceptors who observe my skills and ask about what they think I do well in and what I need to work on.
• Professors to help me utilize.
• Myself.
• Myself.
• Myself.
• The resources are readily and easily available. My professors are open to helping me get these resources. I just need to take advantage of them.
• Teachers and helping me figure out which materials would be most helpful with my courses.
• Myself.
• My advisor and my professors.
• I need to be willing to push through my bad days and my professors need to make me aware of ALL aspects allowed on campus.
• Myself.
• Myself.
• Faculty and peers.
• Myself.
• On campus resources.
• Myself and close friends.
• My academic and athletic advisors.
• Myself.
• Myself.
• Myself.
• Go to the library and use the tutoring services.
• Myself.
• Myself.
• Professors.
• Myself, campus services, professors, TAs, classmates, etc.
• I am the best person to help myself with this.
• Myself.
• My professors and classmates.
• My classmates.
• Myself and my professors.
• Me.
• Myself and my instructors.
• Myself.
• Myself, professors, and family, friends for encouragement.
• Preceptors or older peers.
• I feel I am the only person who could help improve on these items.
• Myself and my classmates I work with.
• Librarians.
• Teachers and peers.
• Asking more questions and attending office hours can help me to figure out the best ways of maximizing my school's resources.
• Myself.
• Always go to professors for help.
• Ask professors for extra problems, or see a tutor if needed. Otherwise take it upon myself to complete this task.
• My classmates who are going through the same program and busy schedule each week.
• Professors.
• Myself.
• Professors and myself.
• Myself. It is my responsibility to be familiar with anything that could help me accelerate in school.
• Myself.
• Myself.
• Getting together with others to study.
• Myself.
• Faculty.
• My preceptors. I could ask them to give me a challenge for each week.
• Myself.
• Myself.
• Professors.
• Myself.
APPENDIX H

STUDENT RESPONSES TO SUMMARY QUESTIONS IN DIVERSE TALENTS AND WAYS OF LEARNING SUBSCALE
Appendix H

Student responses to Summary Questions in Diverse Talents and Ways of Learning Subscale

*Statements that are underlined are those provided by students who self-disclosed with a hidden disability within the current study.

“As I look at my responses to this section, I think I should work on...”

- Being more vocal about any negative behaviors.
- Taking what I know about a topic or how I study for a class and sharing it with others.
- Share information about myself and make others aware when I see or hear sexist, racist, or offensive language or behavior.
- I should have more of an open mind to differing opinions and not always try to be right. I could work on not trying to show others up.
- N/A
- I am not one to go out of my way to speak out my mind about things like racist, offensive comments simply because I ignore it.
- I need to adjust my learning style for each professor.
- I can show others how I learn best in order to help them.
- Calling people out when they say sexist, racist, or otherwise offensive language or behavior.
- I shouldn't adjust my learning style. I should stick with a style that works for me in order to do the best that I can in all of my classes.
- Making others aware of their inappropriate behaviors.
- Helping minorities- if I see an issue I can help stand up for that person.
- Making others aware of offensive behavior or language.
- Speak up when I hear things that aren't right and try not to make others feel uncomfortable even if I'm just joking with them.
- I would like to be able to be able to change my learning pattern with different teachers so I can learn better and understand them more effectively.
- Adjusting my learning style to be prepared with each professor.
- Nothing.
- I should open up more to other ideas.
- I should speak up more when I recognize sexist, racist, or other offensive language or behavior.
- Making others aware of bad behavior.
- Speaking with other students about their beliefs.
• Sharing about myself.
• Sharing information about myself.
• Acknowledging things that aren't right even if they don't pertain to me specifically.
• Doing better at coping with teachers that don't teach the way I like to learn.
• Giving my own input on how other learn.
• Adjusting my learning style to reflect how my professor teaches me.
• Telling my professor how I learn the best.
• Being more open to ideas that are different than mine.
• Need to learn to adjust my learning style.
• Nothing.
• Sharing information about myself.
• Communicating my specific learning style with my professors.
• Try to stay open minded.
• I need to try to be more aware of sexist, racist, and offensive language and behavior that goes on around me.
• I should share how I learn best with my professors and classmates so that they understand where I am coming from in my learning.
• I need to be a little more open about myself.
• Being more diverse.
• Making others aware of sexist, racist or other offensive language/behavior.
• Other things.
• Sharing information about myself and learning about my fellow classmates.
• Being more open about myself in the way that I learn to better help myself improve in the understanding of what I am being taught.
• Being able to adjust my learning style and study methods based on different ways my professors set up a class.
• Sharing information about myself about how I most efficiently work.
• Changing my learning style.
• I think I need to work on not being a bystander and not letting things like racist jokes go unnoticed.
• Adjusting my learning style to help others.
• I need to share how I learn.
• Being more verbal.
• Continue to respect others opinions as well as voice my own.
• When given the opportunity to discuss opposing opinions, I will; however, I don't usually go out of my way to start a debate or hear alternate viewpoints.
• Adjusting to different teaching styles.
• Being more aware of the struggles of people that are different than me.
• I need to make it known if I feel offended. Always be open to others.
• I don't share a ton of information of how I learn, but as my classmates are around me they can see how I learn. Everyone learns at different levels and I do well in school, but I don't speak it to the world.
• Being able to learn in different environments.
• I need to learn to show others how I learn most effectively in order to help myself and others.
• Maybe I should make others aware of sexist, racist, or offensive language or behavior, however I do not find much offensive and personally don't think that unless otherwise used with true ill intent should not be that big of a deal. While I also understand that some things are more offensive to others, so I do try to put a stop to things unless it is appropriate behavior.
• Adjust my style of learning when the course requires it.
• I don’t like to adjust my learning styles because I am more of a comfort zone person but I could become more open to different ideas.
• I need to think about other peoples feeling while in the classroom.
• Adjusting my learning styles and sharing information about myself.
• Adapting to each professors style of teaching.
• Awareness of offensive language.
• Adjusting my learning style.
• My learning style and trying different types.
• I could be more open, and try to adjust to different teaching styles.
• I'm a person that's pretty set in my ways, so sometimes it can be difficult to adapt to different learning styles. I could do a better job being more flexible and adaptable.
• I should improve on making others aware when I hear or see offensive language or behavior.

“The people or groups in the best position to help me improve on these items are…”

• Myself.
• Myself.
• Myself.
• I just need to work on losing my pride.
• N/A.
• My classmates, counselors.
• Professors and classmates.
• ATS.
• My peers so that they might not encourage such behavior.
• It is something that I need to work on for myself.
• A psychology professor.
• Me.
• Myself.
• Classmates and professors.
• Academic success, other students, tutors.
• Classmates who can explain things to me in the way I understand; I can't just change my learning style for each of my professors in every class I go to.
• No one.
• Myself and everyone around me.
• Professors and peers.
• Myself and classmates. They should be working on making others aware as well.
• Other students. Possibly my professors.
• Myself.
• Myself.
• Faculty and peers.
• Other teachers in that same department.
• Professors.
• Myself.
• Myself.
• Myself, peers, clinical instructors.
• Myself.
• Me?
• Myself.
• Myself.
• Professors, students.
• Myself, my classmates.
• I am the best person to help myself with this as I just need to make the time and effort to talk to my professors about this.
• Myself.
• Everyone can help you be more diverse because no one is the same.
• Me.
• Myself.
• Myself and my classmates.
• Myself.
• Professors.
• Myself or professor.
• I think I am the only one who is in the best position to help me improve on these items.
• My professors and other classmates.
• Professors.
• Myself.
• Myself.
• My peers in my athletic training class, who I know best and most comfortable with. This would allow for the most unthreatening setting for a debate.
• Professors.
• Myself.
• **Just talk to anyone.**
• My classmates and myself to explain how I learn most effectively.
• Professors.
• Myself.
• Myself and a tutor.
• Myself because I need to be more open different ways of learning and studying.
• Classmates and myself.
• Myself and my professors.
• Myself.
• Myself.
• Myself.
• Myself.
• Myself.
• Myself.
• Professors, preceptors, and peers.
APPENDIX I.

STUDENT RESPONSES TO SUMMARY QUESTIONS IN SUMMARY COMPONENT OF OVERALL INVENTORY
Appendix I

Student responses to Summary Questions in Summary Component of Overall Inventory

*Statements that are underlined are those provided by students who self-disclosed with a hidden disability within the current study.

“As I look at my responses to this section, I think I should work on…”

- Helping others when they do not understand something that I do.
- Advancing my understanding of material by explaining it to others.
- Explain information to others more.
- Gathering information from others and combining what I learn.
- None I really try to use other resources to learn, personally it helps me to see others point of views.
- I am pretty much equal for all things.
- Explaining information to others, integrate ideas from various sources, and find information I need.
- Study more.
- Including outside resources, reflect on learning and set goals.
- Be better at self teaching.
- Integrating ideas from various sources.
- Integrating ideas from various sources.
- Helping others understand the information.
- Integrating ideas from various sources.
- All of them.
- Integrate ideas from various sources.
- I need to work on learning things on my own, I need to find information on my own and seek other forms of learning new things not just what I learn in class. I need to look into other sources of information and ways to do things instead of just the ways that I am taught in the classroom.
- Learning on my own and going out of my way to find new ideas.
- Utilizing other sources and applying what I learn.
- Efficiency in my work.
- Using information from multiple sources.
- I should integrate ideas from various sources.
- Integrating ideas from various sources.
- I should begin working with others.
- Integrating ideas from various sources.
- Explaining information to others.
- Explaining information to others.
- Learning more on my own, doing more research.
- Finding ways to help me be able to learn on my own or know when I need help if I can't learn on my own.
- Working with others more often.
- Studying more often.
- Integrate ideas from other sources.
- Integrating ideas from various sources.
- Work harder at helping others.
- Explaining information to others.
- Integrating ideas from various sources.
- Spend more time studying.
- Being even more determined to succeed.
- I should work on finding information I need.
- I should work on integrating ideas from different sources to make my work more appreciated. It helps when people defend their arguments when they have a reputable source to cite along with it.
- Learning more information on my own.
- I need to study more because even though I study frequently I rarely feel prepared.
- Integrating ideas.
- Other things.
- Explaining information to others.
- Getting information from more than one source and being able to relate them together.
- Being able to better explain information to others and spending more time studying.
- Putting more pressure on myself in order to do learning and studying on my own time.
- Explaining information to others.
- Learning things on my own.
- I think I need to work on explaining information to others and learning on my own.
- Setting aside more time to prepare.
- Make sure that school is a top priority.
- Integrating ideas from different sources.
- Study with others.
- Continue to search for more information when I'm struggling.
- I combine information from multiple sources when I do not understand a topic, but when I believe that I fully understand it from one source, I won't go out of my way to investigate other information regarding it.
- Integrating ideas from various sources.
- Be open to other ways of learning.
• I think I do well in each section above.
• Amount of independent work I do.
• I need to work on doing more information on my own that isn't just our text or the information that my professors give to me.
• Explaining information to others, looks to be something I could work on.
• Spend more time preparing for class.
• My hours spent studying.
• Study more since doing good academically is important to me.
• Integrate ideas from various sources.
• Be more confident in the information that I know and speak up more in class.
• N/A
• N/A
• Maybe committing myself to a little more hours of studying.
• Explaining information to others.
• Putting more time into my classes.
• I could work on sharing things I learn with others if they need assistance.
• Learning on my own and finding information that I need.

“The people or groups in the best position to help me improve on these items are…”

• Classmates.
• My classmates and myself.
• Myself and my classmates.
• My friends, I need their opinions.
• My peers and professors.
• Professors and classmates.
• Other ATS.
• Peers, faculty, and myself.
• Professors and preceptors.
• Myself to proactively look up outside sources in order to excel in my coursework and understand the information to the fullest extent.
• My peers and myself.
• Our program director.
• Myself.
• Classmates.
• Professors, people outside of Capital, AT Students from other schools, Certified AT's from other schools and places.
• My classmates/study group, and online articles/databases.
• Professors.
• Myself.
• Professors and myself.
• Professors provide me with sources--I need to take advantage.
• Myself by figuring out how to integrate all the ideas together.
• My classmates and my professors.
• Myself.
• Me.
• Myself.
• Myself.
• Faculty and peers.
• Teachers or on campus tutors.
• Peers.
• Myself.
• Myself.
• Clinical instructors, professors.
• Myself.
• Others, by listening to their feedback.
• Myself.
• Myself.
• Students, professors.
• Myself, professors, campus resources, TAs, classmates, etc.
• I am the best person to help myself with this.
• Students and professor.
• Classmates, counselors, and preceptors.
• Me.
• Myself.
• My preceptors and other students.
• My instructors.
• Myself.
• Classmates.
• Myself.
• I am the in the best position to help myself improve on these items.
• My clinical preceptor, my employer, and myself.
• Me, My family, My professors.
• My classmates and professors.
• Classmates.
• Peers.
• Myself, my peers
• My athletic training professors and preceptors would be the most knowledgeable and experienced to provide any help in finding alternate sources or information about a topic.
• Professors, classmates, library resources.
• Get help from all.
• If there was changed needed I would need to change my ways.
• Study groups, peers, professors.
• Myself, and in some ways my professors could give us ideas of other credible places to look for more information.
• I take time to explain things to other people when they ask or if they seem to be confused about something and I ask them. In short if they need help I am available to help anytime.
• Myself.
• Myself.
• Myself.
• Myself.
• Myself.
• Myself.
• N/A
• N/A
• Myself.
• Myself and my peers.
• Myself.
• Peers.
• Myself.

“Which actions have I taken that have contributed most towards my / successful learning?”

• Seeking help. Being able to admit defeat and ask for help and guidance.
• Studying in groups and consulting professors for help.
• Learning actively through clinical rotations.
• I ask questions to my preceptors when I am confused or want another view of something that has been taught in a class.
• I study regularly on my own while also taking advantage of campus resources such as group study rooms where I can listen to and ask questions about the material.
• Finding a way to study and learn for different classes and sticking to that technique. Also laying out all of my assignments and tests before hand and setting time aside each week specifically for upcoming tests/assignments.
• I got a tutor for Physiology.
• Self learning.
• I have learned how to study effectively, and I am not afraid to use on campus resources such as tutors.
Clinical learning.
I seek out my resources.
Studying and going beyond normal study practices with my peers and professors.
Study more often than I used to.
Asking a lot of questions has helped me learn the most, also with hands on experience has taught me a lot.
I have become more organized and I'm working on not procrastinating.
Talking to teachers on things I don't understand outside of class.
Developing my own study habits and relating material to different areas of practice.
Getting as many extra resources as possible to learn as much and as best as I can.
Studying in groups, trying to apply what I learn in class to the real world, and taking my grades seriously/setting high goals for myself academically.
Organizing my time and assignments. Making a to do list to see my progress and being able to cross something off that list after I complete it.
Study in quiet areas works best for me and I also need to "do" things to learn, not just read about it.
I try to help out others which also helps me out as well. If I am able to teach material to someone else, then I see myself as very proficient in a particular area. I always aim to know material well enough to be able to teach it.
Using my planner, and not trying to do everything in one day.
My timely working and thriving to be successful.
Taking good notes and trying to understand topics.
Having my mom help me, get medication for ADD, take better notes, do things on time.
Taking good notes in class, keeping up with schoolwork, and using my classmates if I don't understand something.
Learning on my own.
Having a study group within my AT class, finding certain classmates that I feel comfortable asking questions to, and having getting to know my professors outside of the classroom.
Studying ALL THE TIME.
I study with my classmates, ask them questions, and practice with them.
I have tried to stay diverse in my interests and devote energy equally to numerous endeavors.
Studying a lot asking for help when needed.
Doing all homework and keeping up to date on assignments.
Using my peers to help me study--staying in constant contact with my professors so that they know where I am at as far as my understanding of the material goes. My time management and prioritizing skills as well as my attention to detail have also set me up for successful learning.
By not procrastinating and getting all my work done in a timely manner.
• I have sought the help from my other professors.
• Organization.
• I have gotten in contact with my professors when I have problems and study at every moment that I can outside of athletics class, and clinical hours.
• The effort I have put into my work, as in going to professors, using outside sources, going to the ATs, have helped me study and understand topics.
• Asking questions outside of class.
• Studying for classes and integrating learning into clinical experiences.
• Studying and working with other students in the program.
• Working as a first aid/athletic trainer during my summers.
• Working hard.
• Seeking help when needed.
• Asking questions when I don't understand.
• I try to keep up with everything.
• Being on time and attending class, being organized, being an active learner. Getting help when necessary to better understand a topic.
• Taking time to study and review materials.
• Asking for help and being determined.
• Learning on my own cause with lecture in classes and teaching myself outside my class has helped out a lot.
• By putting my best foot forward in any situations, being open to learning new things, and being able to convert the teaching styles of professors into the my own learning styles.
• Gone to study tables and class regularly.
• Find the ways in which I learn the best.
• Talking with clinical instructors and asking them questions. Also applying classroom material to real life situations in clinicals.
• Working hard at studying and not giving up when it gets hard.
• Learning and meeting with my academic advisor.
• More time set aside to study. Discussing projects and assignments with classmates.
• Studying, reading textbook, taking notes.
• Improving my time management skills to effectively work on my scheduling issues
• Studying.
• I read the textbook and take notes on class material prior to class.
• I do a lot of reading and note taking outside of class.
• I have been proactive when it comes to my goals and I am very driven to achieve success.
• I have learned the best way for me to study in order to be successful. I have always been a pretty good student and I believe this is because I have learned how to study so that I understand the material well enough to be successful. I also tend to do
homework assignments to the best of my ability rather than just rushing through it without much thought and effort.

- My individual act to want to learn and do good on an exam.
- Doing my work at a timely manner and really focusing on my grades and academics.
- Prioritizing my schoolwork.
- I have continually sought out information on my own that I was not presented with in classes.
- Studying with people in my classes and discussing concepts with them.
- I study a lot for my classes and try to learn and practice my skills during clinicals.
- I have used some of the services that are offered on campus.
- I have set time aside to make sure I study material and I make it an effort to practice my skills.
- Working hard in order to get into my designated program so that I may further educate myself.
- Talking to my professors about everything I may not understand has helped me learn.
- Buckling down in the appropriate classes and working hard in order to not only get the grades but apply the material in a clinical setting.
- I make people show me hands on when I am learning a new skill. I have trouble learning something while I am just watching a demonstration, but if I am actually doing it and my instructor is giving my guidance I learn much more efficiently.
- Studying in between classes when I have breaks even if I don't have a test coming up
- I feel that the fact that I never give up on assignment has contributed most towards my successful learning because I work at the assignment until is done and right. If I would have given up on an assignment, I would not have finished it and I would be doing worst in school.
- Taking a role in active learning.
- Staying organized and making to-do lists.
- Studying often, and time management.
- Getting help when needed.
- Taking time outside of class with my own research and with professors and other students.
- Studying on my own.
- Doing all that it's asked of me.
- Building relationships and working with my peers, as well as working hard by myself and seeking some help when I need it.
- My study methods are very in-depth when it comes to reviewing the entirety of the material we were taught. Extensively teaching a topic to myself sometimes is the most beneficial to me, so that I can then teach it to others who do not fully understand the material. Subsequent teaching my peers is another great review method for me.
Preparing study guides for exams, contacting professors with questions about the information given in class, and discussing with other classmates about the information.

Making sure that I am prepared for each class, taking good notes, and being an active listener in each class.

Never turn in work that I haven't done my best on. I do not like to say that a poor grade was from lack of trying.

Studying a lot, reviewing with my peers.

Putting in many hours of studying outside of class.

Working hard.

Giving up sleep to make sure work is completed on time. Studying and getting help.

Finding good study habits and developing time management skills.

I'm very organized and strive to do well in my classes. I always make sure to turn in my homework on time and ask questions if I don't understand something. I get in groups with my classmates and we go over things together, giving us a better understanding of the subject.

Joining organizations that uphold the value of scholarship (such as my sorority).

Reflection on person goals and ways to achieve them. I have found that I learn best when I truly know why I am learning a certain idea or concept and why it should pertain to me.

I take time to study when my peers may be going out or just relaxing because I know that it will be quieter and easier to concentrate.

Taking as much time as I can to study. Putting in as many Observation hours as I can, hands on learning has always been the best way for me.

A lot of studying and not get distracted.

Setting goals for myself each semester.

Going beyond and beyond my recommended clinical hours. Find a way to get observation hours outside of school.

Study.

Studying, talking with my preceptor.

Studying and applying my knowledge.

Putting school first of social aspects of my life. I stay in and study when I could be hanging with my friends. Also, making sure I have a good study strategy.

Planning out my studying times and helping others/studying in groups.

A lot of studying on my own.

Taking extra time to practice hands-on material.

Going to the library and studying for a few hours on my own.

Looking over things I am unsure of.

Participating a lot in clinical work.

Balancing my schedule.

I attend on campus study rooms.
• Being active in this field is very important.
• I always try my best, study, and seek help if I am struggling in any areas. I am very deliberate about my own learning and I do not rely on others, but instead I make it my own responsibility.
• Being motivated to do the best in my classes have helped a lot. I strive to get A's in all my classes, and I'm not satisfied with my grade if it's anything lower than that.
• Diligently working to complete any assignments and attempting to learn the material as much as I can.
• I study the things I do not understand and ask my professors and preceptors questions.
• Studying, reading before lectures, practice skills.
• Working with my peers and doing hands on practice.
• I really try to learn the basics of the material so I have a stronger foundation to build the info on top of.
• My ability to verbalize the information.
• I am very self-driven when I want to learn more about something. I don't need someone to stand in front of me and teach it I can research things pretty well on my own.

“Among the "Seven Principles" included on the headings of this / inventory, which are most important to my learning and why? / (Student-Faculty Contact, Cooperation Among Students, Active Learning, Prompt Feedback, Time On Task, High Expectations, Diverse Talents and Ways of Learning)”

• Active learning, time on task and ways of learning.
• Student-faulity contact because I believe it is crucial to keep close contact with professors so they can help you in whatever area that help is needed or can point you in the right direction to find out or information.
• All are important.
• I always have high expectations of myself, but I think that working with my classmates is very important to my learning because everyone has a different base knowledge and maybe picked up something different from the same class. We can work together to help each other understand things that have difficult concepts.
• Active learning is most important in my opinion because you have to take person initiative to gain knowledge and understanding of a topic if you want to succeed. If you do not put in the effort then you will not grow.
• I feel like active learning and having high expectations are the two most important for my learning. I feel like if you just go to class and aren't active, don't participate, and don't try to apply it to real-world situations, I'm not gaining the most out of my education that I am paying for.
• Active learning.
• High expectations.
I think "Time on Task" is the most important of the seven principles because if you truly care about how you are doing in a class then you will make the time to do the assignments, extra homework, more studying than normal, etc. before the next big final. Time management shows you that if you don't put the time in, or the correct amount of focus then it can lead to a bad grade, or you not understanding the topic.

Contact.

Student faculty contact because it is important to know and get feedback from professors especially in the ATEP, Active learning because hands on and working in groups is the best way to learn, and High expectations because then you are more likely to succeed because you strive and have goals for yourself.

They all play an equal role in my learning and have given integral parts of my education. Student-Faculty contact because I think it’s important to be comfortable with the professor and be able to approach them to ask questions and discuss other things about the class. Active learning because it is a better way of learning. High expectations because it pushes me to do my best and meet those expectations.

Active learning I think is the most important because it is what I found helps me learn the most.

Student-Faculty contact because it help you know how to act in a setting. Also active learning is very important because you need to be able to apply your learning to real life experience.

Active learning, student-faculty contact, prompts feedback. This is how I learn best. Student-faculty contact.

Active learning. I don't learn from just reading it in a book or seeing it once. I need hands on and verbal instruction multiple times.

Active learning and high expectations are most important to me because if you don't have high expectations for yourself, there's no way you can reach your full potential and become the best you can be and active learning is important if you want to fully understand the material presented to you.

Active Learning, Prompt Feedback, and High Expectations. I feel as if I learn the best when I can sit in the classroom and become familiar with the material and go and apply it in the clinical setting. Hands on makes everything click in my mind and getting feedback quickly tells me if I am doing it right or wrong. High Expectations cause me to strive for greatness and to settle for nothing less than my best.

Student-faculty contact can go a long way in improving your grades. Having one on one conversations with them and asking for extra help can only benefit me.

I believe that Active Learning, Time on Task and High Expectations are most important to my learning because I believe that they encompass all of the qualities needed in order to be a good student and be successful.

Cooperation and time on task are most important because studying with other students helps you learn the material faster. Time on task because if you use your time efficiently then you can get more done.
• Student-faculty contact, Time on Task, and High Expectations are most important to my learning because I feel like I need to have that relationship with my professors so I can come into their office and they know my name and already know my strengths and weaknesses and can help me be the best I can be. Time on Task and High expectations speak for themselves. I have high goals for myself and expect to achieve them.

• Cooperation among students. If I am in an environment I like and feel comfortable in then it is much easier for me to go to class and do well.

• All of them are because you can never have enough help with learning.

• Time on Task. I feel like if I fall behind in a class then I won't be able to catch back up. Also, being an AT major I feel like I'm always busy so time management is a very important thing to me.

• Active learning because I am a very hands on learner. Student-Faculty Contact so I know how I am doing and what they expect of me. Cooperation among Students so we all get the opportunity to learn new things and share our experiences. High Expectations so I push myself to be my very best. Time on Task so I learn responsibility and how to get things done ahead of time instead of last minute. Prompt Feedback so I know if I am doing what I am supposed to and if not I can fix the problem right away. Diverse Talents and Ways of Learning so I am open to new ways of doing things and ways of learning so I do not continue to do things the wrong way or the same repetitive way.

• Cooperation among students because our program at CUW is very close knit and everyone has to be on the same page, tolerate and accept one another, be at clinicals together, and be in every class together. We have grown very interesting relationships with one another because we spend so much time together - I am confident when I say that I would not have been this successful so far in CUWs ATEP if it weren't for my classmates.

• Active learning and high expectations.

• Student-Faculty contact and Prompt Feedback because I think it is important to have those resources and also have someone to learn from and challenge yourself.

• Diverse talents and cooperation among students are most important to me. It is important that I can see things from multiple perspectives and learn from a variety of sources.

• High expectation because it pushes me to work harder and do what is necessary to succeed.

• Student-Faculty contact.

• Student-faculty contact, cooperation among students, and active learning are the most important to me.

• Cooperation among students because if your other students can't help and support you then life in Athletic training is pretty hard.

• High Expectations.

• Time on task, student-faculty contact.
High Expectations are important to my learning because I have a Type A personality and hold myself at a high standard academically and athletically. Therefore, I try to meet the expectations of my professors, my family, and myself.

I believe that Student-Faculty Contact is the most important aspect used in learning. IF the professor and student do not have underline respect and understanding for the way one teaches and one learn it will not work.

Active learning.

Cooperation among students- getting along with other members of the programs allows for better learning and group learning.

Cooperation among students- I learn best when working with other students.

Active learning.

Active learning.

Active learning.

Student-faculty contact, active learning, high expectations.

Time on task and ways of learning are most important to me because I know I need to spend more time on studying and I know that I am one who learns from performing, not from reading a book

Student-Faculty contact- Faculty do want you to succeed so having a relationship with them allows the student to not be afraid to ask for help when needed.

High expectation, student-faculty contact.

Student faculty contact, if you have a good relationship it's easier to be able to go to them for help. Time on task, being able to get things done timely and correctly.

Active learning cause I feel that way I learn more.

Student-Faculty Contact: Without a good human base to put knowledge upon, the student will be less connected to the information and take less information to heart.

Cooperation Amount Students: If those going through exactly what you are can't help you, who can? High Expectations: I've always been a type A person. These high expectations push me to be better and do more.

Time on task because it is important to get work done promptly.

Student-faculty conduct.

Student-faculty contact and high expectations.

Active Learning.

Faculty Contact.

High Expectations and Active Learning.

Active Learning- getting into the field during clinicals helps you apply the information you're learning and make connections.

Active Learning.

High expectations, that's what gets me through what I need to do very well.

Prompt feedback so I know what I can improve.
High Expectations because regardless of the assignment or class you will be more prompt to study and work harder if you hold yourself to a high expectation regardless of the material or teaching style.

Active Learning because you can learn, but it does not mean you will retain what you have learned if you are not actively involved or remotely interested in what you are studying.

I think active learning, high expectations and cooperation among students helps my learning the best. It is always easier to learn when you are actively listening to what the teachers and professors have to say. It is also good for learning when the other students care about the material as much as you do.

Active Learning because I learn best by doing things hands on.

I believe that "Cooperation Among Students", "Active Learning", and "High Expectations" are the most important, among seven principles that are ALL important.

Cooperation among students.

High expectations.

Active learning.

Active learning and student-faculty contact. These are extremely important because faculty has a tremendous ability to help and make sure you are getting the information, while active learning is helping you to practice skills and get experience.

Active learning, time on task, ways of learning.

Student-Faculty Contact, Cooperation Among Students, and High Expectations.

Ways of Learning because how well I do in a class really depends on the teaching style of the professor and how I organize my notes and study materials.

Ways of learning. Many people have different ways of learning and teachers need to take that into consideration and incorporate it into their lesson plan.

Time on Task because I like to have time to go over the material outside of class in the clinical setting if I don't understand it in lecture.

I think high expectations and time on task are most important to my learning because in order to be the best you have high expectations for yourself. I feel that time on task is important because in order to be successful in school you have to complete and turn in assignments as most professors will not accept late material.

Prompt faculty contact and high expectations.

Prompt Feedback, as I am more willing to receive and comprehend the information I learn from feedback if it is prompt.

Active learning because by being involved in your career helps you to become a better athletic trainer and gives you an edge.

Expectations.
• Student-Faculty Contact (to gain understanding on things I didn't understand in class), Cooperation Among Students (My classmates and I often help each other with things we don't understand)
• Prompt feedback.
• Team learning.
• Active learning.
• Active learning and cooperation among students I think are most incorporated in my learning because they support my study methods of teaching and reviewing a topic with myself and then being able to work with other students to explain a subject to them.
• Prompt feedback so that you know whether you are achieving exactly what the professor is looking for. Time on task so that I do not fall behind in assignments and exam preparations.
• Student-Faculty Contact, Active Learning, high expectations, time on task.
• Prompt feedback, because I may not know if I have been doing something incorrectly and the longer that I am left to continue incorrect learning the harder it will be to change.
• Active learning, it's easier for me to understand when I'm the one experiencing and doing things myself and learning from my mistakes etc.
• Cooperation among students because I learn better interacting with others.
• Student faculty contact.
• Active learning, student-faculty contact, diverse talents and ways of learning. Prompt feedback and High Expectations.
• Student-Faculty Contact because my relationships with my professors are important to me, and I can feel comfortable asking for help and recommendations from them.
• Cooperation Among Students because it's good to interact with your classmates and do things together. Active Learning because I tend to learn hands on and being active in my learning helps me understand the topic at a much deeper level. High Expectations is also important because if you set goals for yourself, you're likely to achieve them and stay on task during the school year.
• Time on task: because the more time you spend doing what you need to, the more you will get done and the more you will learn. High expectations: the higher expectations you have, the higher goals you will set, the more you will have to push yourself to attain those goals.
• Active Learning, High Expectations because to be successful the goals have to be high and to be able to learn for me I have to actively learn and do it to understand it.
• Time on Task.
• Active Learning, I learn more by doing (hands on learning) than reading about it in a book. I have to read it, write it, read it again, and then review over and over to remember the information, but if I do it I will remember it.
• Ways of learning. I learn by doing hand on things and usually with sharing ideas with others.
Student faculty contact because they are the ones who are teaching us for our future and this relationship is very important to me.

Cooperation among students. If classmates can learn and build off each other, then everyone will benefit.

Active learning, because I can't just look at something I have to rewrite it and quiz myself over and over.

Active learning; I have to learn how to do it in order to understand it.

Active learning allows for me to understand everything better.

Active learning, cooperation among students, and student-faculty contact are most important to me.

Time on Task, High expectations and Student-faculty contact.

Time on Task.

Active Learning.

Student-faculty contact because having a good relationship with the professors is important for careers and networking to possibly get a job.

Student-Faculty contact, because they are more knowledgeable and have more experience than I do so learning about what they did helps me form my own ideas.

Active learning, this area is all about hands on learning which can only help to better us in the future.

Active learning.

Student-faculty contact, cooperation among students, high expectations.

Active learning is how I learn best.

Active learning, Student-Faculty Contact, and Prompt Feedback. As previously stated, active learning plays into my independent and self-improvement style of learning. Interacting with staff is helpful because they were in my shoes not too long ago, and I will be in their shoes shortly. We can both benefit from each other. Lastly, Feedback is important to help students learn what mistakes they are making as well as what they are doing well.

High Expectations is important. I have high expectations for myself because I plan on attending Med School and I need to get high grades to get in. This has helped focus my learning and kept me focused.

High Expectations because I set high expectations for myself to succeed as much as possible, not only in schoolwork but in general.

Active learning - it is important for a student to show interest and drive when trying to be successful and by active learning they are more likely to develop more skills and understand more concepts. Student-faculty contact - it is important for students and faculty to both give and receive feedback to both can work on improve on learning and teaching more effectively. Diverse talents and ways of learning - it is important to learn or at least be aware of the variety of perspectives, concepts, and skills in order to be successful and a well rounded athletic trainer.

Active learning.
I think that active learning is important. I need to keep up with what is recent in the medical world so that I know how to work with a patient or athlete in the most efficient and helpful way. High expectations also would help motivate me to do the best I can in my classes and clinic hours so that I really know what I am doing once I graduate.

I think that working closely with my instructors and classmates are the more I’m Active learning.

They are all very important but I think I learn best with student-faculty contact, prompt feedback, and high expectations. I get the first hand experience through my contact with the faculty and I can correct things from their feedback. I also feel compelled to please them when they give me high expectations.
REFERENCES
References


Board of Certification. (2014a). *BOC professional practice and discipline guidelines* Board of Certification.


CAATE. (2012). *Standards for the accreditation of professional athletic training programs - standards 64-65*


Higher Education Research Institute. (2011). College students with "hidden" disabilities-the freshman survey fall 2010


Individuals with Disabilities Education Improvement Act (IDEIA) of 2004, (2004).


Merrick, M. (2015). *CAATE open forum at the athletic training educators conference (ATEC)*. Dallas, Texas


