The Effects of Deep Muscle Relaxation and Study Skills Training on Test Anxiety and Academic Performance

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Abstract

In an attempt to reduce test anxiety and improve academic performance, the researcher conducted two experiments in which deep muscle relaxation training and eight study skills were taught to participants from East Texas Baptist University over a course of ten weeks per experiment. There were 6 participants in Sample A, and 17 participants in Sample B. Each participant was pre and post-tested using a combination of 3 surveys that assessed levels of test anxiety and study behavior. Time spent studying each week and their self-rated concentration levels were collected each week. The pre/post test comparisons for Sample A showed a decrease in test- and generalized-anxiety for participants. That finding was not statistically significant. With the exception of study habits, the results showed an increase in study behaviors that were not statistically significant. There was an increase in study behaviors and academic performance that was not statistically significant. For this sample there was a decrease in academic performance that was not statistically significant. The results of the larger sample (Sample B) showed a statistically significant decrease in test anxiety. There was also increase in study behaviors, and an increase in academic performance. Neither of those trends were statistically significant.

The Effects of Deep Muscle Relaxation and Study Skills Training on Test Anxiety and Academic Performance

Academic success has been investigated extensively and several factors have emerged as critical in academic success. Several studies suggest that students are affected by test anxiety (Culler & Holahan, 1980; Dendato & Diener, 1986; Musch & Bröder, 1999; Wine, 1971; Wittmaier, 1972; Zeidner, 1998). Many students experience some level of stress while preparing for an exam. Appropriate levels of stress can enhance students' memory, attention, motivation, and can lead to improved test performance (Salend, 2011). However, when anxiety levels exceed appropriate levels, it can be debilitating. A few models have been described to account for test anxiety. Research has consistently shown that test anxiety is a correlate of poor academic performance (Culler & Holahan, 1980). Much research has addressed the causes of and treatments for test anxiety (Culler & Holahan, 1980). Researchers have been interested in developing effective treatments for anxiety. It has been suggested that poor study habits and the debilitating physiological effects of anxiety lead to poor academic performance (Culler & Holahan, 1980). Students of any grade level can have difficulty in school due to a lack of sufficient study skills (Gettinger & Seibert, 2002). Treatments are varied and range from improving study habits to employing breathing techniques. The purpose of this study is to examine the combined effects of study skills training and deep muscle relaxation on test anxiety and academic performance of students with a low grade point average (GPA) seeking assistance at East Texas Baptist University.

Test Anxiety

Test anxiety is "the set of phenomenological, psychological, and behavioral responses that accompany concern about possible negative consequences or failure on an exam or similar evaluative situations" (Chapell, Blanding, Takahashi, Silverstein, Newman, Gubi, & McCann, 2005, p. 268). Sansgiry and Sail (2006) defined test anxiety as the "reaction to stimuli that are associated with an individual's experience of testing or evaluative situations" (p. 1). Kirkland and Hollandsworth (1980) define test anxiety as "a constellation of behaviors that have a debilitating effect on academic performance" (p. 431). Thus, test anxiety may be defined as the nonproductive overt and covert behaviors that accompany test taking and test preparation.

Many studies have shown that test anxiety is related to poor academic performance (Culler & Holahan, 1980; Dendato & Diener, 1986; Musch & Bröder, 1999; Wine, 1971; Wittmaier, 1972). Jerri Wine (1971) suggests that the performance difference between high and low test-anxious persons is due to loss of attentional focus during the task being performed. Low test-anxious persons are generally focused on task-relevant stimuli while performing tasks, while high test-anxious subjects focus on test-irrelevant stimuli. When a task requires full attention, splitting attention among stimuli that are irrelevant could interfere with performance (Wine, 1971). Ralph Culler and Charles Holahan (1980) replicated the finding of previous studies that had shown that test anxiety is associated with a significant decrease in grade point average. The researchers studied high test-anxious and low test-anxious college freshmen who were enrolled in an introductory psychology course. The researchers found significantly lower GPAs associated with higher levels of anxiety. The researchers further found that students with poor academic records tend to have poor study skills, as well as higher levels of test anxiety.

According to Morris and Liebert (1970), the cognitive, or worry, component and the emotional component are two distinctive components of test anxiety. Worry refers to cognitive

concerns about test performance (Morris & Liebert, 1970). Thoughts of, or worrying about, failing an examination and internal self-statements regarding self efficacy are elements of the worry component (Sansgiry & Sail, 2006). Morris and Liebert (1970) note that the worry-emotionality distinction suggests that the physiological responses are indicators of the emotionality. These researchers suggested that there would be a negative correlation between worry and test performance, but emotionality and pulse rate would not be related to test performance. Their results supported the hypothesis, meaning that worry negatively affects test performance, but emotionality (e.g. pulse rate) does not. Even though physiological responses such as pulse rate, blood pressure, and temperature are indicators of anxiety (Morris and Liebert, 1970), the findings of Sansgiry and Sail (2006) suggest that worry (cognitive component) is the critical factor correlated with decreased performance.

Studies have shown that worry is negatively and consistently related to decreased task performance (Wine, 1971). Emotionality refers to the arousal of the autonomic nervous system, such as sweating, increased heart rate, and nausea (Cohen, Ben-Zur, & Rosenfield, 2008). The emotionality component involves bodily reactions to the testing situation (Morris & Liebert, 1970). Wine (1971) found that emotional arousal does not bear a "consistent relationship to academic performance on intellectual cognitive tasks" (p. 100). Similarly, Meichenbaum (1972) suggests that emotionality is less likely to interfere with the test performance of test anxious students. Meichenbaum (1972) indicates that worry is directly related to a decrease in test performance; therefore, treatments should focus on the worry component. Anxiety during tests has been reported to interfere with the ability to retrieve, from memory, test relevant information. Lowering the emotional arousal of high test-anxious subjects should, in theory, reduce task

irrelevant responses. Reducing the task irrelevant responses should also lead to improved performance.

The interference model theory has been suggested to account for the detrimental effects of test anxiety (Musch & Bröder, 1999; Birjandi & Alemi, 2010). According to the interference model, test anxiety produces responses that are irrelevant to the testing situation, interfering with relevant responses (Culler & Holahan, 1980; Shokrpour, Zareii, Zahedi, & Rafatbakhsh, 2011). High test-anxious students are characterized by a low response threshold to anxiety in evaluative situations (Zeidner, 1998). Students tend to view evaluative and testing situations as personally threatening (Zeidner, 1998). This model proposes that distractions from the task at hand lead to test anxiety. According to Birjandi and Alemi (2010), there are two types of distractions: inappropriate cognitions and physical distractions. High test-anxious students may become overly self-focused during a testing situation (Zeidner, 1998). Thinking, for example, that "others are finishing before me; I must not know the material" (Birjandi & Alemi, 2010, p. 47). This extreme self-focus presumably interferes with performance by distracting the student from the evaluative task at hand (Zeidner, 1998). Therefore, a person may know the material covered on the test, but mentally "freezes up" (Musch & Bröder, 1999, p. 102) during the exam and cannot recall the information they need. Physical distractions include increased autonomic activity (e.g. sweaty palms and muscle tension; Birjandi & Alemi, 2010). In sum, research suggests that the performance of a high test-anxious student is impaired by negative self-evaluative statements and task-irrelevant thoughts that interfere with the ability to recall task relevant information (Dendato & Diener, 1986; Smith, Arnkoff, & Wright, 1990).

The learning deficit, or preparation deficit, model proposes that a student's ineffective study habits during test preparation, or poor test taking skills, are critical factors related to

anxiety and to poor performance on tests (Sansgiry & Sail, 2006; Tobias, 1985; Culler & Holahan, 1980; Kirkland & Hollandsworth, 1980; Paulman & Kennelly, 1984; Zeidner, 1998; Birjandi & Alemi, 2010). According to this model there are two deficits that account for poor academic performance in test anxious students: study skills deficits and test taking deficits (Tobias, 1985). The study skills explanation, noted by Tobias (1985), assumes that poor test performance is due to "less thorough initial acquisition, or storage of content because of deficient study skills' (p.136), rather than interference with retrieving previously learned material. In sum, because the student studied ineffectively, subsequent performance deficits are not attributed to cognitive interference during the test, but rather to the retrieval of inadequately learned information (Zeidner, 1998). Another theory suggests that students with poor study habits are well aware of their poor test preparation, and thus, adopt low expectations for success (Zeidner, 1998). Their low expectations for success, in turn, raise anxiety levels, which leads to impaired performance (Zeidner, 1998). Yet another model suggests that students feel that they are adequately prepared for a test, but they are not (Birjandi & Alemi, 2010). These students question their abilities after the test, which makes them anxious for the next test. The test taking deficit explanation provided by Tobias (1985) suggests that reduced performance is caused by a student's deficient test taking skills (Tobias, 1985). This researcher noted that test taking strategies were significantly related to academic achievement. It was also noted that high and low test anxious students differed in their knowledge of test taking strategies. Accordingly, it was found that test performance was not related to a student's anxiety reactions (Tobias, 1985). Nor was it related to the student's self evaluative thoughts during testing (Tobias, 1985). Due to the information provided by the learning deficit model, Musch and Bröder (1999) conclude that test anxiety is not the cause of poor academic performance, but that poor study habits contribute

to poor academic performance. Test anxiety is "merely an emotional reaction that accompanies the awareness of being inadequately prepared for a test" (Musch & Bröder, 1999, p.106). High test anxious students have been found to have less effective study habits than those low test anxious students (Culler & Holahan, 1980; Naveh-Benjamin, McKeachie & Lin, 1987). With this is mind, it is reasonable to assume that practicing more effective study habits might improve one's academic performance.

Study Skills

Test anxious students are often characterized by "behavioral deficits" in academic skills, such as test preparation, utilizing class time, taking organized notes, and integrating subject matter (Zeidner, 1998, p. 48). The amount of time that students spend studying has been a predictor of success in school (Plant, Ericsson, Hill, & Asberg, 2005). According to Credé and Kuncel (2008), study skills refers to a "student's knowledge of appropriate study strategies and methods, and the ability to manage time and other resources to meet the demands of academic tasks" (p. 467). Likewise, study skills are defined as "techniques and strategies that help a person read or listen for specific purposes with the intent to remember" (Richardson, Robnolt, & Rhodes, 2010, p. 111). Study skills include a range of cognitive skills and processes that increase how effective and efficient a student learns (Gettinger & Seibert, 2002). Similarly, a study strategy is the overall approach to selecting the best tactics for studying (Richardson, Robnolt, & Rhodes, 2010; Gettinger & Seibert, 2002). The application and effectiveness of study skills can be improved through the use of study strategies. In sum, study skills are necessary for effective study behavior, which leads to effective academic performance (Jansen & Suhre, 2010).

Over the years, researchers have proposed many study skills. Researchers Gettinger and Seibert (2002) have separated study skills into four groups: repetition based study skills, procedural study skills, cognitive based study skills, and metacognitive study skills. Repetition based study skills are those that involve the repetition, reading, and rehearsal of information. These strategies are useful in learning small pieces of information for short term storage, or information that is to be used frequently. Learning a list of vocabulary words using flash cards and using mnemonics would involve repetition based strategies. These researchers found that students who received training in mental imagery techniques and mnemonic devices outperformed those students who received no training in terms of information recall and text comprehension. The researchers noted, however, that students will not use mental imagery techniques on their own; they must be taught to do so (Gettinger & Seibert, 2002).

Procedural based study skills emphasize the behaviors that allow students to be most productive with the study time that they have (Gettinger & Seibert, 2002). Time management, organization, making schedules, and keeping consistent study routines underlie the basis of effective procedural based skills. Students with poor study skills are unable to structure their study time, adapt their schedules, and establish sufficient time for studying (Gettinger & Seibert, 2002). Research suggests that these skills are problem areas for some students which can lead to an increase in anxiety (Zeidner, 1998; Sweidel, 1996; Gettinger & Seibert, 2002; Britton & Tesser, 1991). For example, test anxious students often exhibit avoidance or escape behaviors such as academic procrastination (Zeidner, 1998). Academic procrastination is a form of avoidance behavior that occurs during test preparation (Zeidner, 1998). Likewise, academic procrastination is the tendency to habitually put off academic tasks, and to also experience problematic levels of anxiety associated with the procrastination (Rothblum, Solomon, &

Murakami, 1986; Zeidner, 1998; Pychyl, Morin, & Salmon, 2000). Some studies have found that time management, as well as poor study skills, is one of the leading correlates of low test scores (Sweidel, 1996). Some components of time management include choosing and prioritizing goals, generating and prioritizing tasks from the goals, listing the goals on a to do list, scheduling the tasks, and then carrying them out. Macan, Shahani, Dipboye, and Phillips (1990) assert that identifying needs and wants, ranking them in order of importance, and then devoting one's time accordingly is the basic recommendation throughout literature. One study employed the use of a self instruction time management manual in which the subjects kept daily time logs (Macan et al., 1990). Teaching appropriate procedural based study skills might entail teaching students to personalize their organizational and study routines to maximize their effectiveness (Gettinger & Seibert, 2002). Students would learn, for example, to complete difficult assignments at times when you are most alert, divide longer assignments into shorter ones, vary the types of study skills used, and be flexible in handling their schedules when conflicts arise (Gettinger & Seibert, 2002). With proper instruction, students can learn to manage their time and study effectively.

Cognitive based study skills are aimed at guiding students to think about and process information that they are required to learn (Gettinger & Seibert, 2002). It is suggested that the more knowledge that students have about certain content, the more they will think about, understand, and remember it (Gettinger & Seibert, 2002). Efficient studying, according to Gettinger and Seibert (2002), "requires students to activate and assemble background knowledge prior to studying a topic; connect new ideas, information, or concepts to what they already know; and develop new schemata, when necessary, to integrate content to be learned" (p. 356). Therefore, studying is enhanced when new material can be integrated into existing knowledge.

Summarization and question generation are two cognitive based study skills (Gettinger & Seibert, 2002). When using one's own wording, summarization and question generation allow students to make connections among leaned material and integrate new material (Wittrock, 1990). These skills help students to activate prior knowledge, organize information during learning, and develop connections among concepts (Gettinger & Seibert, 2002). Similarly, metacognitive based study skills are related to how students select, monitor, and use the study strategies that they possess (Gettinger & Seibert, 2002). Students who possess adequate metacognitive study skills understand how to study, which skills to use, and how to use their time appropriately.

Much research has attempted to strengthen students' knowledge of study skills in hopes of improving academic performance. In a study conducted by Zeller and Wells (1990), students enrolled in an introductory sociology class participated in a study skills lab which addressed four study skills: test taking analysis, text reading, note taking, and review for tests. The purpose of the study skills lab was to sharpen the study and test taking skills necessary for academic success in college. Test taking analysis was used to determine "a student's errors in answering questions and to identify their need for study skills strategies" (p.47). Each student's appropriate study skill was determined based on their deficiencies. Text reading evaluated reading but also included text study guides to follow. Note taking data was obtained by comparing a student's class notes to the class notes of a teacher's assistant. Based on the comparison, guidelines for what lecture material should and should not be included in lecture notes were given to the student. Review for tests included weekly sessions during which the students could ask questions that they may have had about the material. The researchers suggested that if students participated in the study skills lab, they would perform better on examinations than those

students who did not participate. These findings revealed that students who participated in the lab for four or more hours during a semester did improve their GPA. Though the findings support improvement, study skills labs do not guarantee that a students' need for study help will be met.

Study skills can be thought of as a sequence of steps towards studying (Gettinger & Seibert, 2002). Underlining, summarizing, and note-taking are examples of such skills. Study skills may be taught through specific instruction. Possessing adequate study techniques is very important, but it does not ensure that students will study effectively. Students must also plan and monitor their own studying (Gettinger & Seibert, 2002). Therefore, it is important to also possess adequate study strategies. As mentioned previously, a study strategy is "an individual's approach to a task" (Gettinger & Seibert, 2002, p. 351). This includes how students act and think when planning and evaluating their study behaviors. Study strategies can help students decide which skills to implement while studying (Gettinger & Seibert, 2002). Knowing how to study, making decisions about the use of study skills, and taking responsibility in one's own learning is beneficial for effective study behaviors (Gettinger & Seibert, 2002). Effective study behavior requires self regulation on the students' behalf.

Self regulation is a key factor in effective study behaviors. Students with efficient study skills are likely to achieve higher academic performance (Gettinger & Seibert, 2002). These are the students that take on an active role in studying. They understand task demands and are able to implement flexible strategies in order to succeed academically. They possess adequate study skills and know when, how, and why to use them (Gettinger & Seibert, 2002). "Good studiers are active learners, not passive recipients of facts and details" (Gettinger & Seibert, 2002, p. 353). Conversely, research has shown that students with low academic achievement often

possess ineffective study skills (Gettinger and Seibert, 2002). Students with poor academic abilities tend to assume a "passive role" in learning (Gettinger & Seibert, 2002, p. 352). These students may struggle with learning new information, but do not seek solutions for their struggles. They may have trouble keeping up with assignments, turning their work in on time, and following directions (Gettinger & Seibert, 2002). Students who assume this passive role in learning often use the same study strategies for all learning tasks, even if they are ineffective. For example, these students may rely heavily of rote memorization. They memorize information with the sole purpose of remembering it only for the test. Students with weak study skills also devote little time to studying. What time they do devote to studying is riddled with distractions such as music, friends, or poor concentration (Gettinger & Seibert, 2002).

Sweidel (1996) urged that "students need to learn how to assess their own learning. If they are to become self-directed, life-long learners, they also need instruction and practice in self-assessment" (p. 247). In order to address students' need to learn effective study skills, Sweidel (1996) employed a study using 87 educational psychology students and study strategy portfolios. The study strategy portfolios consisted of two short answer surveys and two journal entries for each test that they took. The surveys helped students commit to study plans. They consisted of questions concerning when, where, how, and what specific strategies they planned to use. In their journal entries, students would reflect on how they studied before the test, satisfaction with their test grade, and what they would do differently for future tests. The researcher's goals were to teach students to outline and commit to a study plan; examine their study strategies; relate their study plan to their test outcome; make changes as needed to maximize performance; and self reflect to assess their performance. This researcher found that helpful practices included a) developing time management skills, b) learning new strategies, c)

examining the difference between strategies intended for long-term and short-term storage, and d) evaluating their plans.

Gettinger and Seibert (2002) note that studying is a skill that requires the training and practice of techniques that will help a learner retain and make use of information. Second, they point out that studying is intentional and deliberate; it requires "volition" (p. 351). Studying requires self regulation of learning which involves "setting goals, selecting appropriate learning strategies, maintaining motivation, and monitoring (e.g. assessing feedback information) and evaluating academic progress" (Ramdass & Zimmerman, 2011, p. 196; Credé & Kuncel, 2008; Kitsantas, 2002). Models of self-regulation say that students create their own meanings, goals and strategies "based on availability of internal and external information" (Van den Hurk, 2006, p. 156). This means that they are directly involved in their own learning processes. Students are often expected and encouraged to use study skills, but teachers often fail to provide the students with such skills. Instead, students are expected to develop skills such as time management, note taking, and test preparation on their own by completing homework outside of class (Zimmerman, 1998). Whether or not universities consider that students just out of high school have to adapt to the different learning and teaching techniques in college has been a topic of issue (Van de Meer, Jansen, & Torenbeek, 2010). McBride (1994) points out that many teachers assume that students know how to study. In many cases, however, this is not true; students may not be aware that they need help with their study habits (Zeller & Wells, 1990). If a student does not possess adequate study skills, it is reasonable to assume that they may have poor grades. As Gettinger and Seibert (2002) note, "studying is the principal means of self-education throughout life" (p. 351); therefore, it is important for students to learn effective study habits.

In sum, two factors have emerged as critical in improving students' academic performance: presence of worry/anxiety and lack of study skills. Systematic desensitization and various other relaxation techniques have been used as interventions to lower test anxiety (Musch & Bröder, 1999). Therapies used to reduce levels of test anxiety have been effective in doing so, but they have failed to improve academic performance (Dendato & Diener, 1986; Musch & Bröder, 1999; Kirkland & Hollandsworth, 1980; Lent & Russell, 1978). It is important to note that a reduction in test anxiety is no guarantee of subsequent improvement in academic performance. Likewise, study skills training alone is not sufficient to improve academic performance or lower anxiety (Paulman & Kennelly, 1984). Thus, in the proposed study relaxation techniques will be combined with study skills training to produce an effective intervention for reducing test anxiety and improving testing performance.

Relaxation Techniques

Deep breathing meditation is defined as "several minutes of quiet time to focus on your breathing as a stress management strategy" (Paul, Elam & Verhulst, 2007). Diaphragmatic breathing is known to counteract the physiological symptoms that are associated with anxiety (Paul, Elam, & Verhulst, 2007). According to Wilkinson, Buboltz, and Young (2002), natural breathing is a promising technique for reducing anxiety and stress. It is important that those learning deep breathing meditation techniques practice on their own outside of therapy or group sessions. For this reason, many therapists provide clients with handouts or scripts with instructions that they can follow and reference on their own. Wilkinson, Buboltz, and Young (2002) mention that one of the easiest techniques for possibly relieving stress is slowing down one's respiration. By slowing respiration down to about ten to twelve breaths per minute, one can bring about calmness, reduced tension, and mental clarity. Another method of relaxation

focuses on inhaling deeply through the nose and exhaling through the mouth. The purpose is to focus on body sensations that are associated with stress and anxiety. Simultaneously, focusing on the calming effects of breath will "inhibit the development of anxiety and tension and reduce the level that is currently being experienced" (p. 9).

Progressive muscle relaxation (PMR) is another muscle relaxation method that has been found to be effective in reducing stress and anxiety (Harris, 2003). During PMR a person focuses on systematically tensing specific muscle groups from head to toe for several seconds and then relaxing (Dolbier & Rush, 2012; McCallie, Blum, & Hood, 2006; Goldberg, 1982; Matsumoto & Smith, 2001; Edelman, 1970). During this time, subjects focus on the contrasting sensations of tension and relaxation (Dolbier & Rush, 2012). By systematically tensing and releasing groups of muscles a person can learn to relax and eliminate muscle contractions, thereby becoming relaxed (McCallie, Blum, & Hood, 2006; Dolbier & Rush, 2012). Some research indicates the use of PMR to decrease heart rate and respiration and is an effective technique in reducing anxiety (Rausch, Grambling, & Auerbach, 2006). Through this relaxation technique one can learn to recognize and relax tense muscles (Scheufele, 2000). PMR is a popular method of relaxation because it is easy to teach participants, it is inexpensive, and it is effective (Dolbier & Rush, 2012). Studies conducted using college students have shown positive results in reducing anxiety and perceived stress levels (Dolbier & Rush, 2012). Just as with deep breathing, subjects are encouraged to practice this technique on their own once they have been through the process a few times (Ali & Hasan, 2010). Therefore, deep muscle relaxation will be applied in the proposed study. The proposed study will examine the effects of study skills training and deep muscle relaxation on test anxiety and academic performance using a single subject design. It is hypothesized that study skills training combined with deep muscle

relaxation will be effective in reducing test anxiety and lead to improved academic performance in students.

Methods

Participants

The participants in Sample A and Sample B were selected using convenience sampling. The current studies used participants from East Texas Baptist University. An announcement was posted on the Tiger Daily, a publication for staff and faculty. Faculty members were also asked to email their students, inviting them to contact the researcher if interested in participating in the research project. Using single subject designs, there were 6 participants in Sample A, and 17 participants in Sample B. Some faculty members offered their students extra credit for attending weekly lessons and returning their study tracking sheets each week.

Measures

For each these studies, participants took a survey that combined 3 different surveys and participated in weekly sessions in which they were taught study skills and deep muscle relaxation over the course of ten weeks per experiment. Psychometric assessment examined anxiety impairment, test anxiety, motivation, study habits, and attitudes toward learning for each participant. Specifically, following instruments were used in the present studies (see Appendix A for the following instruments):

1) Westside Test Anxiety Scale

This is a ten item scale that measures an individual's test anxiety. This scale has been found to be a highly sensitive measure for test anxiety impairment (Driscoll, 2007). This survey took approximately 2 minutes to complete.

2) Beck Anxiety Inventory

This is a 21-item scale that measures the common symptoms related to anxiety. The scale has a test-retest reliability of .75. The internal consistency for this scale is .92 (Beck, Epstein, Brown, & Steer, 1988). This inventory took approximately 5 minutes to complete.

3) Survey of Study Habits and Attitudes

This is a 100-item scale that measures motivation, study habits, and attitudes towards learning (Brown & Holtzman, 1967). This survey took approximately 30 minutes to complete.

4) Study Skills Training

The researcher created eight study skill handouts to accompany the lessons being taught each week. These lessons included time management, note taking, memory improvement, test taking, test preparation, essay and short answer, motivation, and reading.

5) Concentration Skills Rating and Weekly Study Time

This scale was used to measure the level of concentration of the participants while studying (Benefield, 1982). The researcher provided students with handouts on which they kept track of their weekly study time (minutes) and habits, and concentration levels for each academic task for each week.

6) Deep Muscle Relaxation Recording

The researcher made an audio recording of a progressive relaxation script for guiding participants through deep muscle relaxation.

Design

A single subject design assessing changes in anxiety, study habits, and test performance was used. Detailed data was collected on each participant. A paired-samples t-test was conducted to assess changes in anxiety levels, study habits, and academic performance. In Sample A, first and last test scores for each class taken were used to assess pre and post-intervention academic performance. In sample B, post-intervention GPA was compared with pre-intervention GPA. Weekly data consisting of test scores, time (minutes) spent studying, concentration scores, and relaxation scores were also collected.

Procedure

After acquiring participants for these studies, a time and a day to meet was decided that was convenient to the researcher's schedule. A location for meeting was decided. For sample A, meetings began in the spring semester of 2012. For sample B, meetings began in the fall semester of 2012. Each week, excluding the first, students were taught one of the eight areas of study skills. These included time management, note taking, improving memory, test taking, test preparation, short answer and essay questions, motivation, and reading comprehension (see Appendix). The meetings lasted 30 to 40 minutes each. Participants met at the same assigned location each week on the agreed upon day and time. Information collected from the participants was kept by the researcher in manila filing folders. There was one folder per student to protect confidentiality. Each student kept their informed consent, demographics, post-test surveys, study tracking sheets, their reported test grades, and the post-test survey in their folders. During week 1, participants were informed about the purpose of this study and were informed of the weekly schedule of meetings. Participants were then asked to read and sign a consent form before participating in the study. Permission to obtain the GPA from their previous semester, as well as their consent to complete the survey was included in the informed consent form (see Appendix

A). The surveys were not anonymous, but they were kept confidential and were only shared with the experimenter and project supervisor. Once the participants returned their consent forms, participants were given the survey to complete. Instructions for completion were printed at the top of the survey, but the experimenter also read the instructions aloud. Once participants completed the survey, they returned it immediately to the experimenter. Participants were not taught a study skill lesson or practice deep muscle relaxation during the first week. During week 2, participants met on the assigned day. Participants received a handout containing information about time management. During this meeting, participants were given instructions on how to use their time productively. All participants' questions were answered after the instructional period. During the last 10 to 15 minutes of the session, the researcher guided participants through deep muscle relaxation. The purpose of the deep muscle relaxation was to teach the participants how to calm themselves and release muscle tension when they experienced test anxiety. Each participant was provided a handout with instructions for deep muscle relaxation that they could follow outside of sessions in their own time. Participants were also provided a study tracking/concentration skills rating datasheet on which they recorded their study time and concentration levels during studying each week (see Appendix A). Participants were advised to utilize both the rating form and the deep muscle relaxation. Participants were asked to return the study tracking record sheets to the experimenter at the beginning of the next meeting. At the beginning of week 3, the experimenter collected their study tracking sheets, which were placed in their folders. Participants received a handout concerning note taking. Participants were given strategies and tips for note taking that are effective for proper studying. During the last 10-15 minutes, participants practiced deep muscle relaxation. Before leaving, participants were encouraged to continue practicing deep muscle relaxation outside of the meetings, and were

given a new study tracking sheet. During week 4, study tracking sheets were collected and participants received a handout detailing memory improvement. Participants were taught methods and techniques that were aimed at helping them remember what they study and enhancing their recall of information during test taking. As always, the researcher answered any questions from participants on memory. During the last 10-15 minutes, participants were guided through deep muscle relaxation. At the end, they were given a new study habits sheet, and were encouraged to continue practicing the study methods and deep muscle relaxation techniques that they are learning. During week 5, their study tracking sheets were collected, and they were given a handout about test taking. They were taught methods of enhancing their test taking skills. The researcher answered any questions about test taking strategies. During the last 10-15 minutes participants were guided through deep muscle relaxation. At the end of the meeting, they were given a new study tracking sheet and encouraged to practice both the study skills being taught and deep muscle relaxation outside of the meetings. During week 6, the researcher collected study tracking sheets from the participants and provided them with a handout about test preparation. They were taught strategies and tips for test preparation. Afterwards, any questions that they may have had were answered. During the last 10-15 minutes, the researcher guided them through deep muscle relaxation. At the end of the meeting they were given a new study sheet and were encouraged to practice their study habits and deep muscle relaxation outside of the meetings. During week 7, participants' study habit sheets were collected and were given a handout about writing essay/short answers. Participants were provided with useful information on how to approach and answer essay and short-answer questions. If the participants had any questions concerning what was covered, they were answered after the instructional component. During the last 10-15 minutes, participants were guided through deep muscle relaxation

techniques. During week 8, the researcher collected the study sheet from participants and gave them a handout about motivation. They were taught methods to motivate themselves to study in order to perform their best. Questions that participants had about motivation were answered after the instructional component of the lesson. During the last 10-15 minutes, participants were guided through deep muscle relaxation. During week 9, the researcher collected the study tracking sheets from the students and gave them a handout about reading comprehension. The researcher discussed how to read through textbooks while preparing for a test. The researcher answered participants' questions about test preparation after the instructional lesson. During the last 10-15 minutes, the researcher guided the participants through deep muscle relaxation. At the end of the meeting, participants were given a new study sheet handout and were encouraged to continue practicing what they have learned. During the week 10 meeting, the researcher post tested the participants. Each participant was given the same posttest survey that they completed during the first meeting pretest. After they completed the survey, the researcher debriefed the participants. Improvement in academic success was measured differently for Sample A and B. In Sample A, grades earned on the first test taken in each course, and the grades earned on the last tests taken in each course were reported and averaged for the purpose of assessing academic success. For Sample B, participants' pre-intervention and post-intervention GPA was obtained by the project supervisor for the purpose of assessing academic success.

Weekly Summary of Intervention:

Week

1. Pretest
2. Time management + Deep muscle relaxation (DMR)
3. Note-taking + DMR
4. Memory Improvement +DMR

5. Test-taking Skills + DMR
6. Test-preparation strategies + DMR
7. Short answer/essays + DMR
8. Motivation + DMR
9. Text-reading + DMR
10. Posttest

Results

Sample A

A paired samples t-test (parametric) was conducted on the pre and post-test data from the Westside Test Anxiety scale, the Beck Anxiety Inventory, the Survey of Study Habits and Attitudes, and first and last test scores. The mean pretest score for the Westside Test Anxiety scale was 3.20 and the posttest score was 2.54. Although test anxiety levels decreased in this measure, these findings were not statistically significant. The mean pretest score for the Beck Anxiety Inventory was 16.60 and the posttest mean was 10.20. Although levels of generalized anxiety decreased in this measure, these findings were not statistically significant. For the Survey of Study Habits and Attitudes, the mean pretest score for delay avoidance was 10.20 and the posttest mean was 17.20. Although levels increased in this measure, these findings were not significant. The mean pretest score for work methods was 11.20 and the posttest mean was 20.40. Although work methods increased in this measure, these findings were not significant. The mean pretest score for study habits was 21.40 and the posttest mean was 37.60. Although study habits increased in this measure, these findings were not significant.

In addition, a related-samples nonparametric test was conducted for study habits and found that increase in study habits scores was statistically significant ($p = .042$). The mean pretest score for teacher approval was 22.00 and the posttest mean was 28.40. Although teacher

approval levels increased in this measure, these findings were not significant. The pretest mean score for education acceptance was 17.00 and the posttest mean score was 29.60. Although levels of education acceptance increased in this measure, these findings were not significant. The mean pretest score for study attitudes was 39.00 and the posttest mean score was 52.00. Although there was an increase in study attitude levels in this measure, these findings were not statistically significant. The mean pretest score for study orientation was 60.40 and the mean posttest score was 89.60. Although study orientation levels increased in this measure, these findings were not statistically significant. Though statistically insignificant, there is a trend toward supporting the hypothesis. The mean test scores for first tests taken was 79.43 and the mean for the last test taken was 76.36. These results were not statistically significant.

Study time and concentration scores per week were graphed in Appendix C. Participants' weekly and mean study time is reported in graph 1 and 2. Graph 1shows the weekly reported study time of each participant. As can be seen in graph 2, the participants' average study time increased between week two to five, decreased from week five to 6, increased from week seven to eight, and greatly decreased from week 8 to 9. Concentration levels were reported in graph 3 and 4. Graph 3 shows the weekly reported concentration levels of each participant. Graph 4 shows the weekly average concentration levels of the participants. As can be seen, scores increased from weeks 2-3, 4-5, and 6-8; scores decreased from weeks 3-4, 5-6, and 8-9.

Sample B

A paired samples t-test was conducted on the pre and post-test data from the Westside Test Anxiety scale, the Beck Anxiety Inventory, the Survey of Study Habits and Attitudes, and pre-intervention and post-intervention GPA. The mean pretest score for the Westside Test

Anxiety scale was 3.53 and the posttest score was 2.90. This decrease in test anxiety was statistically significant (p = .025). The mean pretest score for the Beck Anxiety Inventory was 17.83 and the posttest mean was 13.33. Although these scores decreased, these findings were not statistically significant. For the Survey of Study Habits and Attitudes, the mean pretest score for delay avoidance was 17.33 and the posttest mean was 19.58. Although these scores increased, these findings were not significant. The mean pretest score for work methods was 19.67 and the posttest mean was 22.17. Although work methods scores increased, these findings were not significant. The mean pretest score for study habits was 37.00 and the posttest mean was 41.75. Although study habits scores increased, these findings were not statistically significant. The mean pretest score for teacher approval was 28.67 and the posttest mean was 26.92. These findings showed a not statistically significant decrease in teacher approval. The pretest mean score for education acceptance was 26.58 and the posttest mean score was 27.33. Although levels of educational acceptance increased, these findings were not significant. The mean pretest score for study attitudes was 55.25 and the posttest mean score was 54.25. These findings revealed a not statically significant decrease in study attitudes. The mean pretest score for study orientation was 92.25 and the mean posttest score was 95.92. Although study orientation scores increased, these findings were not statistically significant. The mean pre-intervention GPA was 2.78 and the post-intervention GPA was 2.90. Although GPA scores increased, this increase was not statistically significant.

Study time and concentration levels per week were graphed in Appendix D. As can be seen in graph 1, the average study time per week increased between weeks 2 and 3, weeks 4 and 5, weeks 6 and 7, and weeks 8 and 9. The average study time decreased between weeks 3 and 4, weeks 5 and 6, and weeks 7 and 8. Overall, a general decrease in study time can be seen across

the weeks. Graph 2 shows the average weekly concentration levels reported by participants. Levels increase from week 2 to 3, then drop steeply from weeks 3 to 5. Levels continue to decrease very slightly across weeks 5 to 9.

Discussion

Sample A

The pilot study tested the effects of study skills training and deep muscle relaxation on test anxiety and academic performance. It was hypothesized that study skills training and deep muscle relaxation would reduce levels test anxiety and improve academic performance (test grades). A paired samples t-test and nonparametric test was used to analyze the collected data. Overall, the results indicated that there was a trend reduced toward reduced anxiety on both the Westside Test Anxiety scale and the Beck Anxiety Inventory. The pre and posttest means for the Westside Test Anxiety scale showed that there was a decrease in reported levels of generalized anxiety, but the findings were not statistically significant. The mean pre and posttest scores on the Beck Anxiety Inventory showed that there was a decrease in reported levels of general anxiety, but the findings were not statistically significant. Therefore, these decreases may not be attributable to deep muscle relaxation or study skills training.

The mean pre and posttest scores for delay avoidance, work methods, teacher approval, education acceptance, study attitudes, and study orientation showed that there was an increase in study behaviors, but the findings were not statistically significant. A related samples nonparametric test reported that there was a significant increase in study habits ($p = .042$). Although there was an increasing trend in the participants' study habits, this increase was not statistically significant. Therefore, this increase may not be attributed to the study skills training provided during the experiment. After analyzing the averaged first and last test scores, a decrease in average grades was seen. These results showed the opposite of what was hypothesized.

Sample B

The present study tested the effects of study skills training and deep muscle relaxation on test anxiety and academic performance. It was hypothesized that study skills training and deep muscle relaxation would reduce levels test anxiety and improve academic performance (GPA). The results indicated that there was a statistically significant decrease in anxiety comparing the pre and posttest means for the Westside Test Anxiety scale (p = .025). The mean pre and post-test scores for the Beck Anxiety Inventory also showed that there was a decrease in reported levels of general anxiety, but the findings were not statistically significant. The mean pre and post-test scores for delay avoidance, work methods, teacher approval, education acceptance, and study orientation showed that there was an increase in study behaviors, but the findings were not statistically significant. There was a slight, not statistically significant decrease in teacher approval and study attitudes.

In both of samples, there was a trend toward supporting the hypothesis. There were reductions in test anxiety, and overall improvements in study habits and academic performance. Though study skills training and deep muscle relaxation may be effective for improving academic performance and reducing test anxiety, the results of these studies did not consistently, statistically support this.

These studies had several potential benefits. Participants were being taught a variety of study skills that, if employed, could strengthen their study habits, and possibly their test scores. They were taught to use deep muscle relaxation in order or decrease the autonomic responses that are associated with test anxiety. One limitation of these studies was that participants were drawn using convenience sampling. This means that the results are not be generalizeable to

students outside of East Texas Baptist University. As most of the data was self-reported, many participants did not consistently report the data required of them. As such, there were gaps in the data that may have negatively impacted the results. There is also the danger of participants falsifying their data. Some data could not be used because it was incomplete or the participant dropped out of study. Though trends toward supporting the hypothesis can be seen, it is possible that factors other than study skills training and deep muscle relaxation impacted these results.

Appendix A

Informed Consent Document

East Texas Baptist University

Please read this consent form. If you have any questions, ask the experimenter and he or she will answer the question.

The Department of Behavioral Sciences supports the practice of protections for human participants participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdrawn from the study, you will not be subjected to reprimand or any other form of reproach.

In order to determine the effects of study skills training and deep muscle relaxation on test anxiety and GPA, you are being asked to take part in a ten week study, during which you will learn study skills training. You will also be asked to take part in practicing deep muscle relaxation. You are being asked to complete four questionnaires. It should take about 45 minutes to complete this. It is necessary to obtain your GPA from your previous semester. All information will be maintained strictly confidential. No one will be told how any individual performed in this study.

"I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning this project. I understand that I can withdraw from the study at any time without being subjected to reproach."

Signature of Participant

Date

Additional Information

Name: _____

Age: _____ Male: _____ Female: _____

Classification: Freshman____ Sophomore____ Junior____ Senior____

GPA from fall 2011_____

Number of Semester hours currently taking: _____

Westside Test Anxiety Scale

Rate how true each of the following is of you, from extremely or always true, to not at all or never true.
Use the following 5 point scale. Circle your answers:

5	4	3	2	1
extremely always true	highly usually true	moderately sometimes true	slightly seldom true	not at all never true

__ 1) The closer I am to a major exam, the harder it is for me to concentrate on the material.
5 4 3 2 1

__ 2) When I study for my exams, I worry that I will not remember the material on the exam.
5 4 3 2 1

__ 3) During important exams, I think that I am doing awful or that I may fail.
5 4 3 2 1

__ 4) I lose focus on important exams, and I cannot remember material that I knew before the exam.
5 4 3 2 1

__ 5) I finally remember the answer to exam questions after the exam is already over.
5 4 3 2 1

__ 6) I worry so much before a major exam that I am too worn out to do my best on the exam.
5 4 3 2 1

__ 7) I feel out of sorts or not really myself when I take important exams.
5 4 3 2 1

__ 8) I find that my mind sometimes wanders when I am taking important exams.
5 4 3 2 1

__ 9) After an exam, I worry about whether I did well enough.
5 4 3 2 1

__ 10) I struggle with written assignments, or avoid doing them, because I feel that whatever I do will not be good enough. I want it to be perfect.
5 4 3 2 1

_____ Sum of the 10 questions

< _____ > Divide the sum by 10. This is your Test Anxiety score.

Name _____ phone _____ email _____

School _____

Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	Not At All	Mildly but it didn't bother me much.	Moderately - it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	0	1	2	3
Feeling hot	0	1	2	3
Wobbliness in legs	0	1	2	3
Unable to relax	0	1	2	3
Fear of worst happening	0	1	2	3
Dizzy or lightheaded	0	1	2	3
Heart pounding/racing	0	1	2	3
Unsteady	0	1	2	3
Terrified or afraid	0	1	2	3
Nervous	0	1	2	3
Feeling of choking	0	1	2	3
Hands trembling	0	1	2	3
Shaky / unsteady	0	1	2	3
Fear of losing control	0	1	2	3
Difficulty in breathing	0	1	2	3
Fear of dying	0	1	2	3
Scared	0	1	2	3
Indigestion	0	1	2	3
Faint / lightheaded	0	1	2	3
Face flushed	0	1	2	3
Hot/cold sweats	0	1	2	3
Column Sum				

Scoring - Sum each column. Then sum the column totals to achieve a grand score. Write that score here _____ .

Interpretation

A grand sum between **0 – 21** indicates very low anxiety. That is usually a good thing. However, it is possible that you might be unrealistic in either your assessment which would be denial or that you have learned to "mask" the symptoms commonly associated with anxiety. Too little "anxiety" could indicate that you are detached from yourself, others, or your environment.

A grand sum between ***22 – 35*** indicates moderate anxiety. Your body is trying to tell you something. Look for patterns as to when and why you experience the symptoms described above. For example, if it occurs prior to public speaking and your job requires a lot of presentations you may want to find ways to calm yourself before speaking or let others do some of the presentations. You may have some conflict issues that need to be resolved. Clearly, it is not "panic" time but you want to find ways to manage the stress you feel.

A grand sum that **exceeds 36** is a potential cause for concern. Again, look for patterns or times when you tend to feel the symptoms you have circled. Persistent and high anxiety is not a sign of personal weakness or failure. It is, however, something that needs to be proactively treated or there could be significant impacts to you mentally and physically. You may want to consult a physician or counselor if the feelings persist.

Form C

GRADES 12-14

SSHA

Survey of Study Habits and Attitudes

Brown—Holtzman

Do not open this booklet until you are told to do so. Wait for the examiner's instructions.

DO NOT MAKE ANY MARKS IN THIS BOOKLET

The Psychological Corporation, 304 East 45th Street, New York, N. Y. 10017

Printed in U.S.A.

65-312TB

DIRECTIONS

The purpose of this survey is to furnish an inventory of study habits and attitudes to serve as a foundation for self-improvement. If taken seriously, this inventory can help you obtain a better understanding of how to study properly. If you will honestly and thoughtfully mark all of the statements on the pages that follow, you will be able to learn many of your study faults. The value of this survey to you will be in direct proportion to the care with which you mark each statement. Since your answers will be treated with the strictest confidence, feel free to answer all questions frankly.

You will mark your answers on a separate answer sheet. Make no marks on this booklet. There are 100 statements in this questionnaire. For each statement a five-point scale is provided for indicating whether you rarely, sometimes, frequently, generally, or almost always do or feel as the statement suggests. You are to rate yourself on each statement by marking the space on your answer sheet that represents your answer choice. Thus, for example, you would mark space R on your answer sheet if you *rarely* follow the procedure described or if you feel that the statement is *rarely* true for you. In marking your answers, be sure that the number of the statement agrees with the number on the answer sheet. Make sure that your marks are heavy and black. Make no stray marks on the answer sheet and erase completely any mark that you wish to change.

To aid you in answering this questionnaire, the terms have been defined on a percentage basis as follows:

R – RARELY means from 0 to 15 per cent of the time.
S – SOMETIMES means from 16 to 35 per cent of the time.
F – FREQUENTLY means from 36 to 65 per cent of the time.
G – GENERALLY means from 66 to 85 per cent of the time.
A – ALMOST ALWAYS means from 86 to 100 per cent of the time.

Remember, you are asked to rate yourself, not in accordance with what you think you *should* do or feel, or as you think *others* might do or feel, but as you yourself are in the habit of doing and feeling. When you cannot answer a statement on the basis of actual experience, mark the statement according to what you would be most likely to do if the situation should arise.

There are no "right" or "wrong" answers to these statements, and there is no time limit for this questionnaire. Work as rapidly as you can without being careless, and do not spend too much time on any one statement. Please do not omit any of the statements.

R—RARELY S—SOMETIMES F—FREQUENTLY G—GENERALLY A—ALMOST ALWAYS

1. When my assigned homework is extra long or unusually difficult, I either quit in disgust or study only the easier parts of the lesson.
2. In preparing reports, themes, term papers, etc., I make certain that I clearly understand what is wanted before I begin work.
3. I feel that teachers lack understanding of the needs and interests of students.
4. My dislike for certain teachers causes me to neglect my school work.
5. When I get behind in my school work for some unavoidable reason, I make up back assignments without prompting from the teacher.
6. Difficulty in expressing myself in writing slows me down on reports, themes, examinations, and other work to be turned in.
7. My teachers succeed in making their subjects interesting and meaningful to me.
8. I feel that I would study harder if I were given more freedom to choose courses that I like.
9. Daydreaming about dates, future plans, etc., distracts my attention from my lessons while I am studying.
10. My teachers criticize my written reports as being hastily written or poorly organized.
11. I feel that teachers allow their personal like or dislike for a student to influence their grading unduly.
12. Even though I don't like a subject, I still work hard to make a good grade.
13. Even though an assignment is dull and boring, I stick to it until it is completed.
14. I give special attention to neatness on themes, reports, and other work to be turned in.
15. I believe that the easiest way to get good grades is to agree with everything your teachers say.
16. I lose interest in my studies after the first few days of a new semester.
17. I keep all the notes for each subject together, carefully arranging them in some logical order.
18. I memorize grammatical rules, definitions of technical terms, formulas, etc., without really understanding them.
19. I think that teachers like to exercise their authority too much.
20. I believe that teachers truly want their students to like them.
21. When I am having difficulty with my school work, I try to talk over the trouble with the teacher.
22. I hesitate to ask a teacher for further explanation of an assignment that is not clear to me.
23. I feel that teachers are too rigid and narrow-minded.
24. I feel that students are not given enough freedom in selecting their own topics for themes and reports.
25. I lay aside returned examinations, reports, and homework assignments without bothering to correct errors noted by the instructor.
26. I get nervous and confused when taking an examination and fail to answer questions to the best of my ability.
27. I think that teachers expect students to do too much studying outside of class.
28. Lack of interest in my school work makes it difficult for me to keep my attention focused on assigned reading.
29. I keep my place of study business-like and cleared of unnecessary or distracting items such as pictures, letters, mementos, etc.
30. I have trouble with the mechanics of English composition.
31. When explaining a lesson or answering questions, my teachers use words that I do not understand.
32. Unless I really like a course, I believe in doing only enough to get a passing grade.
33. Telephone calls, people coming in and out of my room, "bull-sessions" with my friends, etc., interfere with my studying.

GO ON TO THE NEXT PAGE.

R—RARELY S—SOMETIMES F—FREQUENTLY G—GENERALLY A—ALMOST ALWAYS

34. In taking notes, I tend to take down material which later turns out to be unimportant.

35. My teachers fail to give sufficient explanation of the materials they are trying to teach.

36. I feel confused and undecided as to what my educational and vocational goals should be.

37. It takes a long time for me to get warmed up to the task of studying.

38. I do poorly on tests because I find it hard to think clearly and plan my work within a short period of time.

39. I feel that teachers are overbearing and conceited in their relations with students.

40. Some of my courses are so uninteresting that I have to "force" myself to do the assignments.

41. I am unable to concentrate well because of periods of restlessness, moodiness, or "having the blues."

42. I skip over the figures, graphs, and tables in a reading assignment.

43. I believe that teachers secretly enjoy giving their students a "hard time."

44. I believe that having a good time and getting one's full share of fun out of life is more important than studying.

45. I put off writing themes, reports, term papers, etc., until the last minute.

46. After reading several pages of an assignment, I am unable to recall what I have just read.

47. I think that teachers tend to talk too much.

48. I believe that teachers tend to avoid discussing present-day issues and events with their classes.

49. When I sit down to study I find myself too tired, bored, or sleepy to study efficiently.

50. I have difficulty in picking out the important points of a reading assignment—points that later appear on examinations.

51. I feel that teachers try to distribute their attention and assistance equally among all their students.

52. I feel that my grades are a fairly accurate reflection of my ability.

53. I waste too much time talking, reading magazines, listening to the radio, watching TV, going to the movies, etc., for the good of my studies.

54. When in doubt about the proper form for a written report, I refer to an approved model to provide a guide to follow.

55. The illustrations, examples, and explanations given by my teachers are too dry and technical.

56. I feel that it is not worth the time, money, and effort that one must spend to get a college education.

57. My studying is done in a random, unplanned manner—is impelled mostly by the demands of approaching classes.

58. When reading a long textbook assignment, I stop periodically and mentally review the main points that have been presented.

59. I feel that teachers tend to be sarcastic towards their poorer students and to ridicule their mistakes excessively.

60. Some of my classes are so boring that I spend the class period drawing pictures, writing letters, or daydreaming instead of listening to the teacher.

61. "Extracurricular activities"—dating, clubs, athletics, fraternity and sorority activities, etc.—cause me to get behind in my school work.

62. I seem to accomplish very little in relation to the amount of time I spend studying.

63. I feel that teachers make their courses too difficult for the average student.

64. I feel that I am taking courses that are of little practical value to me.

65. I utilize the vacant hours between classes for studying so as to reduce the evening's work.

66. I can concentrate on a reading assignment for only a short while before the words become a meaningless jumble.

67. I think that football coaches contribute more to school life than do the teachers.

GO ON TO THE NEXT PAGE.

R—RARELY S—SOMETIMES F—FREQUENTLY G—GENERALLY A—ALMOST ALWAYS

68. I believe that the sole purpose of education should be to equip students to make a living.

69. Problems outside of school—financial difficulties, being in love, conflict with parents, etc.—cause me to neglect my school work.

70. I copy the diagrams, drawings, tables, and other illustrations that the instructor puts on the blackboard.

71. I feel that teachers think too much about grades and lose sight of the real objectives of education.

72. I strive to develop a sincere interest in every course I take.

73. I complete my homework assignments on time.

74. I lose points on true-false or multiple-choice examinations because I change my original answer only to discover later that I was right the first time.

75. I think that students who ask questions and offer comments in class are only trying to impress the teacher.

76. The prestige of having a college education provides my main motive for going to college.

77. I like to have a radio, record player, or television set turned on while I'm studying.

78. When preparing for an examination, I arrange facts to be learned in some logical order—order of importance, order of presentation in class or textbook, order of time in history, etc.

79. I believe that teachers intentionally schedule tests on the days following important athletic or social activities.

80. I believe that a college's football reputation is just as important as its academic standing.

81. With me, studying is a hit-or-miss proposition depending on the mood I'm in.

82. I am careless of spelling and the mechanics of English composition when answering examination questions.

83. I believe that one way to get good grades is by using flattery on your teachers.

84. I think that it might be best for me to drop out of school and get a job.

85. I study three or more hours per day outside of class.

86. Although I work until the last possible minute, I am unable to finish examinations within the allotted time.

87. I feel that it is almost impossible for the average student to do all of his assigned homework.

88. I feel that the things taught in school do not prepare one to meet adult problems.

89. I keep my assignments up to date by doing my work regularly from day to day.

90. If time is available, I take a few minutes to check over my answers before turning in my examination paper.

91. I feel that the ridiculous assignments made by teachers is the main reason for student cheating.

92. Prolonged reading or study gives me a headache.

93. I prefer to study my lessons alone rather than with others.

94. When tests are returned, I find that my grade has been lowered by careless mistakes.

95. I feel that students cannot be expected to like most teachers.

96. I feel like cutting classes whenever there is something I'd rather do or whenever I need to cram for a test.

97. At the beginning of a study period I organize my work so that I will utilize the time most effectively.

98. During examinations I forget names, dates, formulas, and other details that I really do know.

99. I believe that teachers enter their profession mainly because they enjoy teaching.

100. I believe that grades are based upon a student's ability to memorize facts rather than upon the ability to "think" things through.

SURVEY OF STUDY HABITS AND ATTITUDES

(FOR FORMS C AND H)

W.F. BROWN AND W.H. HOLTZMAN

R – RARELY (0% to 15%)
S – SOMETIMES (16% to 35%)
F – FREQUENTLY (36% to 65%)
G – GENERALLY (66% to 85%)
A – ALMOST ALWAYS (86% to 100%)

NOTE THAT THE ANSWER SPACES FOR THE QUESTIONS GO ACROSS THE PAGE.

START → 1 → 2 → 3 → 4

5 6 7 8

9 10 11 12

13 14 15 16

17 18 19 20

21 22 23 24

Be Sure Your Marks Are Heavy and Black

25 26 27 28

29 30 31 32

33 34 35 36

37 38 39 40

41 42 43 44

45 46 47 48

Erase Completely Any Answer You Wish to Change

49 50 51 52

53 54 55 56

57 58 59 60

61 62 63 64

65 66 67 68

69 70 71 72

Answer Every Question

73 74 75 76

77 78 79 80

81 82 83 84

85 86 87 88

89 90 91 92

93 94 95 96

97 98 99 100

NAME _____ LAST _____ FIRST _____ AGE _____ SEX _____ M OR F _____ DATE _____ FORM _____

SCHOOL _____

CIRCLE GRADE OR YEAR IN SCHOOL:

HIGH SCHOOL: 7 8 9 10 11 12

COLLEGE: FR. SOPH. JR. SR. GRAD.

SO = SA MACHINE +50 + SH MACHINE +50

SA = EA MACHINE +25 + EA HAND

TA MACHINE +25 + TA HAND = SH

WM MACHINE +25 + WM HAND = DA MACHINE +25 + DA HAND

RAW SCORE

PERCENTILE

Printed in U. S. A. 10M-Y28868

74-157AS 9-951039

Name: _____ Week: _____

Study Tracking Sheet

Date	Time		Total Time	Study Activity	Level of Concentration	Comments on Concentration
	Start	Stop	(Minutes)	(Type & Course)		
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
					1 2 3 4 5	
Weekly Total						

Name:

Grade Tracking Sheet										
Course Name	Test 1 Grade	Test 2 Grade	Test 3 Grade	Test 4 Grade	Test 5 Grade	Test 6 Grade	Test 7 Grade	Test 8 Grade	Midterm Grade	Final Grade

Appendix B

Week 2 (Lesson 1): Time Management

"I must govern the clock, not be governed by it." ~Golda Meir

- How do you manage you the time that you have?
- TIME MANAGEMENT QUIZ

Study Time

1. **Study boring things first**. The subjects that you find difficult take more energy than those that you enjoy. Therefore, set aside the subjects that you enjoy most, for later. Get up early if you have to in order to study difficult subjects.
2. **Best time of day.** Many people are more productive during daytime. If this is the case, do difficult subjects during the day. Others are more productive at night. Be aware of your best time of day, and use it to your advantage.
3. **Study area.** Use a regular study area. Your body can become trained to a particular place, day-after-day. You will be able to focus your attention more quickly in that particular place.
   - Don't study in bed! Your body recognizes this as a place to sleep, not study. Study where you will be alert.
   - Libraries are a good place to study. They have low noise levels. Materials are available. Many people can get more done in shorter a time at the library.
4. **Pay attention to your attention.** Your own thoughts can often interrupt your concentration. When that happens, notice the thoughts, and let them go. If thoughts of getting others things done are distracting you, then handling that now and studying later is an option. You might also try making a note, or scheduling a time to do it.
5. **Roommates and study time.** Make agreements with your roommates about study time. Make the rules clear, and follow them.
6. **Phones.** Phones are the ultimate distraction. People can call and interrupt when they don't realize that you are studying. If a simple "I can't talk, I'm studying" doesn't work, use dead silence; it is a conversation killer. Turning your phone off may be the simplest and most effective solution.
7. **Saying "no".** Saying no is a time saver and a valuable life skill. Most people will understand that you can't do what they ask because you are busy educating yourself.
8. **Get ready the night before.** Prepare for the next day before you go to bed.
9. **Avoid noise distractions.** Turning off the TV might promote concentration.

Scheduling, Planning, and Goal Setting

1. **Make a "not-to-do" list.** Include things that are just a waste of your time. By doing this you can weed out worthless activities and add ones that matter. Eliminate activities with a low payoff.

2. **Use a weekly/daily planner**. Write down assignments and other appointments. Tests, due dates, etc.
3. If you are part of, or plan on becoming part of a campus organization, then decide up front how many hours a week you can devote to it.

Procrastination

There are many reasons for procrastinating. How many of these describe you?
• You are overwhelmed by too many things to do, and you know that you can't get them all done.
• You don't think that you have the skills or knowledge to handle the task.
• You are not clear about what is expected.
• The task seems irrelevant; it has no meaning for you.
• You are not interested in the task.
• You are afraid of getting a low grade, or failing.
• You give yourself unreachable goals -- you are a perfectionist.
• You have problems outside of school that you are having trouble dealing with.

Solutions?

1. **Set priorities.** Pick one project and focus on it.
2. **Break the task down.** Start early enough that you can do it in parts. You don't have to do the whole thing at once. (Like finding the research you need to write a term paper. Next, work on drafting the paper.)
3. **Set small specific goals.** (I can find the research today. I can write half of my draft tomorrow, and the second half the next day. In two weeks time, I can have the paper finished and ready to turn in.)
4. **Focus on one step at a time.** Don't think about how much you have to get done, or that there isn't enough time to do it all. Figure out what the next step is and focus on completing it, and the move to the next.
5. **Reward yourself.** After studying for two hours, take a break. Take 20 minutes to facebook or call a friend.
6. **Use a schedule.** Write down in your planner what time/day during the week you can devote to a paper, project, studying for a psychology test, etc.
7. **Optimize your chances for success.** You might tell yourself that you will get your studying or paper finished at home over the weekend. Maybe, try studying throughout the week in the library. Wherever you are more likely to get things done.
8. **Ask for help.** Sometimes asking for help is necessary when you can't do everything yourself. (Me for example.)
9. **JUST GET STARTED!!!** Even when you do not feel motivated or inspired to do a task, just get started. Actually starting something is vital.
10. **Be realistic.** You can only take on so much, so set limits. You can't do everything.

Ellis, D. (1997). *Becoming a master student*. (8th ed.). Boston, MA: Houghton Mifflin Company.
http://www.mayoclinic.com/health/time-management/wl00048
http://www.cob.sjsu.edu/nellen_a/time_management.htm
http://www.vgcc.edu/CounselingServices/Time-management.pdf
http://www.csc.edu/learningcenter/study/procrastination.csc

Week 3: Note-Taking

Reasons for taking notes

1. Triggers memories of lectures/reading.
2. Clues as to what the professor thinks is important/what will be on the next test.
3. Helps you concentrate in class.
4. Useful when preparing for tests.
5. Can contain information that you won't find in the textbook.
6. Making yourself take notes forces you to listen carefully and test your understanding of the material.
7. When you are reviewing, notes provide a gauge to what is important in the text.
8. Personal notes are usually easier to remember than the text.
9. Writing down important points helps you to remember them even before you have studied the material formally.

Preparing for lecture

1. **Assigned readings.** It is highly recommended that you read the assigned readings before it is covered in class.
2. **Materials.** Make sure that you have all of the materials you are going to need. (Notebooks, pens, pencils, book, etc.)
3. **Review.** Review material from the previous lecture.
4. **Ask questions!!** Make a list of questions that you may have from reading or previous notes.

Taking lecture notes

1. **Concentrate.** Concentrate on the lecture/reading material.
2. **Listen.** It is crucial that you listen to the lecture. It is easy to zone out while writing and miss what is being said. Improving listening skills is a good idea.
3. **Take notes selectively.** Don't try taking notes word for word! Professors talk faster than you can write. Be mindful of this.
4. **Pay attention**. Pay attention to what the instructor says. They give hints and clues to what is important to make note of.
   -Repeated material.
   -Emphasized material.
   -Summaries.
5. **Write legibly.** You need to be able to read what you write.
6. **Make your notes brief**. Use phrases or words when you can. Use abbreviations and symbols, but be consistent.
7. **Put most notes in your own words.** However, the following should be noted exactly:
   -Formulas.

-Definitions.
-Specific facts.

8. **Move on.** If you miss a statement, write key words, skip a few spaces, and get the information later.
9. **Date your notes.** Perhaps number the pages.
10. **Compare.** Sometimes is helpful to compare your notes with someone else's.
11. **Record lectures**. By recording lectures, you can go back and listen to it and fill in parts that you may have missed in your notes.

Book notes

1. **Taking notes:**
   A. Read a section of your textbook chapter.
      -Read just enough to keep an understanding of the material.
      -Do not take notes, but rather focus on understanding the material.
      -It is tempting to take notes as you are reading the first time, but this is not an efficient technique: you are likely to take down too much information and simply copy without understanding.
   B. Review the material.
      -Paraphrase this information. Putting the textbook information in your own words forces you to become actively involved with the material.
   C. Write the paraphrased ideas as your notes.
      -Add only enough detail to understand.
   D. Review and compare your notes with the book, and make sure you really understand the material.
2. **Marking/highlighting.** Some people like writing in their books. If this is the case for you, then consider doing the following:
   A. Read the paragraph.
   B. Go back through and find the main ideas.
   C. Then, go back and underline/highlight/mark:
      -Main ideas.
      -Examples.
      -Vocabulary/definitions.
      -Write questions, summaries, and paraphrases in the margins.

Ellis, D. (1997). *Becoming a master student*. (8th ed.). Boston, MA: Houghton Mifflin Company.

http://www.dartmouth.edu/~acskills/success/notes.html

Week 4(Lesson 3): Memory

Memory techniques

1. **Create associations.** When learning something new, try to associate it with information that you already know. It can help you remember the new information.
2. **Relax**. Being nervous during an exam might inhibit your ability to recall information. Therefore, it is good to practice relaxation techniques.
3. **Create pictures.** Creating pictures or small drawings can help you remember concepts.
4. **Recite and repeat.** Repeat a concept until you know it. Trying repeating it out loud. Recite concepts in your own words.
5. **Write it down.** Write a note that will help you remember an idea.
6. **Reduce interference.** Get rid of distractions. TV, phones, music, etc.
7. **Overlearn.** Learn more than intended. Students often stop studying when they think they know the material well enough to pass a test. Don't stop there; go over it until it becomes second nature. Ex: Answering review questions at the end of a chapter.
8. **Distribute learning.** You can get far more done in three two-hour study sessions than you can in one six-hour study session.
9. **Remember something else.** When you can't remember something, remember something that is related to it.
10. **Use it before you lose it.** Read it, write it, speak it, listen to it, apply it- you will lose information if you do not recall it regularly

Using Mnemonic Devices to Remember Information

1. **Rhyme.** A rhyme is a poem or verse that uses words that end with the same sound. Example: Thirty days has September, April, June, and November. All the rest have thirty-one except February which has twenty-eight.
2. **Acronym.** An acronym is a word that can be pronounced that is made by using the first letter of other words. Example: The names of the five Great Lakes in the U.S. form the acronym HOMES (Huron, Ontario, Michigan, Erie, and Superior).
3. **Abbreviation.** An abbreviation is a group of letters made from the first letter of each word to be remembered. Example: FBI is an abbreviation for the Federal Bureau of Investigation.
4. **Acrostic.** An acrostic sentence or phrase is formed by words beginning with the first letter of each word to be remembered. Example: The phrase very active cat might be used to recall the three typed of blood vessels in the human body: veins, arteries, capillaries.
5. **Pegwords.** A pegword is a word that helps you remember something by forming a picture in your mind. Pegwords are used to remember lists of things. Each pegword helps you remember one thing. If you memorize 10 pegwords, then you can use them to remember 10 things. If you memorize 20 pegwords, you can remember 20 things.

Four Ways to Forget

1. **Disuse.** Unused information eventually fades and disappears. Do you remember all of your previous telephone numbers?

2. **Interference.** It is easy to confuse materials that are similar and related. When confused, we are more likely to forget which is which. Learning two similar foreign languages at the same time may present some problems.
3. **Repression**. We have very strong systems of belief. Sometimes what we learn doesn't fit with what we believe. When in conflict, odds are our beliefs will win. Believing that we are no good at remembering names will make it all that much more difficult to learn new names.
4. **Not learning it in the first place.** This is probably the number one culprit in forgetting. Even if we've been exposed to something, unless we solidify the learning we are not likely to remember it.

Improve your memory with a good night's sleep

Sleep is essential for memory consolidation as well as overall health. Research suggests that six to eight hours of sleep a night is ideal for most people. Perhaps even more important than the amount of sleep is the quality of sleep. For better sleep and memory, try the following:

1. **Establish and maintain a consistent sleep schedule and routine.** Go to bed at the same time each night and wake up at the same time each morning.
2. **Plan to do your most vigorous exercise early in the day.** Exercising in the hours immediately before bedtime causes physiological changes that interfere with sleep.
3. **Avoid coffee and other sources of caffeine** (e.g., chocolate, many soft drinks, some brands of aspirin, and many types of tea) after midmorning, because caffeine is a stimulant that can keep you awake for hours afterward.
4. **Avoid napping during the daytime.** Napping can disrupt your natural sleep cycle and prevent you from feeling tired enough to fall asleep at night.
5. **Don't take sleeping pills unless nothing else works.** If you do take a prescription sleep medicine, work with your doctor to use it effectively but only on a short-term basis.
6. **Don't try to sleep if you're not tired**; otherwise you'll set yourself up for tossing and turning. If you're still awake after about 20 minutes in bed, get up and read awhile to relax.

Ellis, D. (1997). *Becoming a master student*. (8th ed.). Boston, MA: Houghton Mifflin Company.

http://academic.cuesta.edu/acasupp/as/209.HTM

Week 5 (Lesson 4): Test Taking

General Strategies

1. **Arrive on time (or earlier).** Try to be a little early. Use the extra time to relax, and look over your notes if necessary.
2. **Dumping information.** When you get the test, quickly write down things that you think you are going to forget.
3. **Watch for careless errors.** Double check your answers to make sure that you have not made mistakes such as marking a different answer than you meant. Make sure that the answers you marked on the test match the ones you marked on the scantron.
4. **Read the instructions.** Be sure that you fully understand what the instructions are asking you to do.
5. **Educated guesses.** If you don't know the answer, then circle the question and move on. Look for context clues to help you figure out the answer. If all else fails, make a guess.

Multiple Choice

1. **Read all answers.** Read all of the answers before selecting one.
2. **Eliminate unlikely answers.** Especially when you are not sure of what the answer is. If you can narrow it down, perhaps down to two answers, then you can have a 50% shot of getting it correct.
3. **Note key words***.* Two answers may be correct, but one is a better answer for some reason. The reason is often simpler than you think: logical, obvious, or even common sense.
4. **Work quickly.** Try not to rush, but don't linger on a question if you do not know the answer. It wastes time, and worrying about it won't help you finish the rest of the test.
5. **Don't overthink***.* It is easy to get overly involved with test-taking skills and try to make a "trick" question out of a straightforward question. Questions are not designed to trick students.
6. **Mark on the test.** Mark answers on the test, mark questions that you need to go back to, make notes, etc.
7. **Easiest questions first.** It will help calm you down and they are not time consuming.
8. **Look for Clue Words and Numbers.** The following clues apply to many multiple choice questions:
   -If two answers are opposites, one of them is *probably* correct.
   -Answers with the following words are *usually* incorrect: always, never, all, none.
   -Answers with the following words are *usually* correct: seldom, generally, most, tend to, probably, usually.
   -Underline familiar words or phrases from the lecture or textbook.

-Be aware of degrees of correctness. With numbers and dates, one choice is *usually* too small or too early, and one too large or too late; these choices may be eliminated.
-If two choices are very similar, differing only in degree, the one expressed in more general terms is *probably* correct.
-Use the content of other questions as additional clues.

9. **Changing answers.** The first answer that pops into your mind is probably correct. Try not to change answers unless you feel certain that you are correct in doing so.

True/False Questions

1. **Read carefully.** Sometimes one word can make a statement inaccurate.
2. **Key words.** Words like *all, most, sometimes, never,* and *rarely* generally indicate a false statement.
3. **Remember!!** If any part of the statement is false, the answer is false.

Matching

1. **Easy questions first**. By doing this you eliminate answers as you use them. Through this process of elimination, difficult questions may become easier to answer.

Dealing With Thoughts and Feelings

1. **Visualize success**. We live up to our own expectations. When you spend your time thinking that you are going to fail, you increase your chances of failure.
2. **Focus**. Focus on the task at hand…the test.
3. **Consider the worst**. Consider the very worst that could happen. "If I fail this test, I might get kicked out of school. I could lose my financial aid. It will be the end of the world." Consider Dr. Benefield's idea of MUSTerbation thinking.
4. **Breathe and relax.** Calm yourself down before the test. Take 2 to 5 minutes. Take long, deep breaths. Use the relaxation techniques that you have been learning to reduce your anxiety.

www.muskingum.edu/~cal/database/general/testtaking.html

Ellis, D. (1997). *Becoming a master student*. (8th ed.). Boston, MA: Houghton Mifflin Company.

Week 6 (Lesson 5): Test Preparation

Preparing for the exam

Prepare throughout the quarter

• Review lecture notes soon after each class, and again right before the next lecture.
• Review and preview your notes from reading assignments.
• Always keep up with assignments and homework; the toughest way to learn is when you are attempting to play catch up. Playing catch up is especially difficult when your class is taught in an online format.

Organize your time

• When you set your study schedule at the beginning of the quarter, include time for exam review.
• Schedule time for work, meetings, class, sleep and social plans (time management!!)
• Check due dates for upcoming assignments. Scheduling them will give you an estimate for the time available for exam preparation.

Investigate

• Know how much information will be on the exam (last chapter, the last unit, the quarter so far, etc.), and what source materials the exam will cover (text, articles, lecture).
• Find out the format of the exam (essay, true/false, multiple choice).
• Ask if you may use books, notes, or other materials during the exam.

Organize Information

• Use your syllabus as a guide.
• List the prerequisite readings, actual lecture/lab notes, handouts, quizzes, and any other related material for each topic/section.
• Be realistic about the amount of time you will need to spend reviewing these materials.
• Divide the material into manageable segments for study.

Create Summary Sheets

• For each topic in a course, design summary sheets with important ideas, facts, formulas, and supporting details.
• Review the sources of information. You may be surprised how obvious the main topics and ideas become.
• Recite the summary sheets aloud to assist your memory.
• Have someone quiz you on the information from the sheets.

Anticipate Exam Questions

• As you study, ask yourself what questions the instructor might ask.
• Use parts of your study time to answer these questions.
• Check to see if your answers are complete and accurate. This ensures that you have mastered the information.

Think Positively

Your attitude influences how you perform with anything, especially an exam. Being prepared goes a long way in establishing a healthy mental attitude. This should help you reason through areas of the test where you feel less prepared.

Last Minute Preparations

Ok, you have been preparing all quarter, organizing your time, investigating what material will be on the test and then organizing that material, you have created summary sheets with anticipated exam questions and you have been thinking positively all week long. Your test is near, what do you do? Whether you are well prepared for your test of have to cram, there are a few final things you can do to prepare for the exam.

The Night Before the Exam

• Do not re-read entire chapters.
• Complete your exam review right before bedtime. Your mind will go on working after you go to sleep.
• Thoroughly review your summary sheets.

The Day of the Exam

• Eat a nutritious breakfast, and allow some time to relax.
• Briefly review your summary sheets.
• Arrive early and find a good seat. Don't sit near friends - they can interfere with your concentration.
• Pay attention to all instructions, both written and verbal. They may not be what you expect.
• Take a deep breath to help you relax and think positively!

Cramming

Sometimes, for whatever reason you find yourself in a situation where you need to CRAM before a test.

Cramming is NOT something anyone can be consistently successful with- however, sometimes cramming is a necessary part of life. Research shows that people do not learn well or retain information through cramming. If you need to do some last minute cramming for whatever reason, the following system will help you get the most from the little time you have available.

BE SELECTIVE

• Concentrate on essentials facts only. Use your time remembering these essentials facts, not learning new material
• Avoid trying to learn too much new information.

MAKE SUMMARY SHEETS

• Skim your textbook chapters to determine main topics and ideas; identify key words.
• Use this material to write summary sheets in your own word

http://www.muskingum.edu/~cal/database/general/testprep.html

Ellis, D. (1997). *Becoming a master student*. (8th ed.). Boston, MA: Houghton Mifflin Company.

Week 7 (Lesson 6): Essay/Short Answers

Purpose

To make sure:

- You understand concepts that provide the basis for the course.
- You can use those concepts to interpret specific materials.
- You can make connections, see relationships, draw comparisons and contrasts.
- You can justify your own evaluations based on appropriate criteria.
- You can argue your own opinions with convincing evidence.
- You can think critically and analytically about a subject.

Short Answer

- **Anticipate questions.** Try to anticipate questions that will be asked on the test and prepare for them. Usually what your instructor emphasizes in class will be on the test.
- **Plan.** Plan out your answers before you start writing.
- **Go back to unanswered questions.** If you don't know the answer, come back to it after you finish the rest of the test and make an educated guess. Other parts of the test may give you clues to what the answer may be.
- **Done leave blanks.** Try not to leave an answer blank. Show your work/write down your thoughts, even if you don't get the exact answer, partial credit is better than none. (At least write down your ideas before you move on.)
- **Answer all parts.** Read the question carefully and make sure that you answer everything that it asks for. Some short answer questions have multiple parts.
- Get straight to the point
- **Make sure that your answers are:**
  -Organized.
  -Relevant.
  -Clear.
- **Support.** Support your answer with evidence and/or examples from lectures and reading.

Essays

- **Do the reading** as the syllabus dictates; keeping up with the reading while the related concepts are being discussed in class saves you double the effort later.
- **Go to lectures.** Put away your phone and other distracters and pay attention!
- **Take careful notes** that you'll understand later when you are studying.
- **Participate in class sections.** This will help you absorb the material better so you don't have to study as hard.
- **Understand.** Make sure that you understand what the question is asking you. If you're not, ask your instructor.
- **Make notes.** Read through all of the essay questions and jot down key information that comes to mind *before* beginning to write the essay.
- **Outline.** Make an outline before writing your essay. This way your essay will be more organized and fluid.

- **Educate the reader.** Use support and examples. Write the essay as if the reader doesn't know anything about the subject to make sure your answer is thorough. However, get to the point and do not pad your essay with unnecessary words.
- **Be thorough.** Make sure that you write down everything that is asked of you and more. The more details and facts that you write down, the better.
- **Fact vs. opinion.** If the question is asking for facts, don't give your personal opinion on the topic.
- When writing your essay, try to be as neat as possible.
- **Focus on the main ideas.** Don't write long introductions and conclusions, the bulk of your time should be spent on answering the question(s) asked.
  -Focus on one main idea per a paragraph.
- **Proof read.** If you have time left at the end, proofread your work and correct any errors.
- **Time.** Budget your time. If you have an hour to write 3 essays, spend no more than 20 minutes on each essay, and then if you have time left over at the end go back and finish any incomplete essays.

Ellis, D. (1997). *Becoming a master student*. (8th ed.). Boston, MA: Houghton Mifflin Company.

http://www.uwlax.edu/biology/communication/answeringessayquestions.htm

Week 8 (Lesson 7): Motivation

"I am only one, but still I am one. I cannot do everything, but still I can do something. And because I cannot do everything I will not refuse to do the something that I can do."
– Helen Keller

"Man often becomes what he believes himself to be. If I keep on saying to myself that I cannot do a certain thing, it is possible that I may end by really becoming incapable of doing it. On the contrary, if I have the belief that I can do it, I shall surely acquire the capacity to do it even if I may not have it at the beginning."
–Mahatma Gandhi

"If you're going through hell, keep going."
- *Winston Churchill*

Motivating Strategies

- **Set goals.** State the goals that you want to accomplish and how to get there. Write them down and concentrate on each step toward reaching them.
- **Rewards.** Establish rewards for the progress you make towards achieving your goals.
- **Don't give up.** There will be setbacks and when they happen, redirect your energy and focus toward the goals you have set.
- **Seek support!** Tell friends and loved ones about what you are doing and seek their support.
- **Positive imagery.** To help you achieve your goals, imagine yourself and how things will be once you have achieved your goal.
- **Inspiration.** Make yourself reminders and inspirational quotes and put them where you will see them.
- **Positive thinking.** Positive thinking is a powerful motivator. You need to believe in yourself and overcome negative thoughts.
- **Active involvement.** Be actively involved in classes, and be prepared for lectures and exams. Be over prepared!
- **Failure.** Focus on successes, not failures. Perfection is unrealistic, and you will fail at some things. Let your successes motivate you to keep moving forward.
- **Be creative.** Studying gets boring. Try to find new and interesting ways to study.
- **Be flexible and adaptive.** Be able to accommodate changes.
- **Attitude.** Keep a positive attitude about yourself, professors, and everything else. Negativity and anger do not promote motivation.
- **Take a break!** Take advantage of the social activities of campus life.

- You won't always be motivated, there are going to be ups and downs. When you are find yourself down more than up, do something about it.

Demotivators

Motivation may occur as you recognize and change demotivators.

- **Perfectionism.** Do not expect to be perfect at everything. It gets exhausting and it can lead to burn out.
- **Comparing yourself to others.** There will always be someone better and worse than you. If someone does better than you, it may lead you to believe that you are inferior and not good enough. Not true. These comparisons can be destructive to motivation. Success is not gauged by the success/failure of others.
- **Lack of structure.** Structuring study time/habits is important. Scheduling study time, for example, can help ensure that there is enough time to study effectively.
- **Fear.** People fear failure. Instead, keep an open mind and don't let excessive fears crush motivation.
- **Fatigue**. Trying to do too much is self-defeating and leads to burn out. Recognize when it is time to work, and when it is time to rest.
- **Relationship problems.** Relationship problems can emotionally impact us, and negatively affect study habits. Keep your relationships healthy.
- **Stress.** It is important to learn to relax when feeling stressed. Deep breathing and exercise are ways in which one can relieve stress.

Ellis, D. (1997). *Becoming a master student*. (8th ed.). Boston, MA: Houghton Mifflin Company.

http://sites.allegheny.edu/deanofstudents/wellness-education/todays-topic/12-strategies-for-motivation-that-work/

Week 9 (Lesson 8): Reading Comprehension

Reading comprehension refers to the ability to understand information presented in written form.

Purpose of reading comprehension strategies:

- Enhancing understanding of the content information presented in a text
- To improve attention and concentration while reading
- To make reading a more active process
- To increase personal involvement in the reading material
- To promote critical thinking and evaluation of reading material
- To enhance recall of text information in memory

Five reasons for lack of reading comprehension:

- Failure to understand a word
- Failure to understand a sentence
- Failure to understand how sentences relate to one another
- Failure to understand how the information fits together in a meaningful way (organization)
- Lack of interest or concentration

Strategies for improving

1. Text book note taking

There are at least four reasons for taking notes on text book material. It reinforces learning of the information. It encourages selection of the main ideas. It creates a shortened version of the text with all the essential information recorded for future exam review. It helps to improve concentration.

Five of the most important tips for textbook note taking:

- **Finish reading before taking notes**. Students should not read the entire chapter, but read through long paragraphs or headed sections of text before recording notes. By reading small sections at a time, you will be able to recognize main ideas without being overwhelmed with too much information.
- **Be very selective about what is recorded**. Remember that the goal of note taking is to produce a shortened version of the text. Be selective so that only the basic concepts are recorded. In order to decide what information should be noted, skim or preview the text first or see what the instructor has emphasized in the lecture.
- **Use your own words.** Because the chances of comprehending and remembering information are greatly improved when you do the work yourself, take the extra time to

paraphrase important material. The time spent trying to understand a passage and record the main idea in your own words is important.

- **Work quickly and efficiently**. Note taking does not have to be painful or time consuming. Read, think, write, and move on. The rewards will come at test time.
- **Use organizational strategies.** Notes should be organized.

2. Creating Interest

Lack of comprehension may be attributed to disinterest in the material being read.

- **Novelty**. Make the reading task more novel by role playing or pretending to be the instructor.
- **Variety**. Supplement the reading assignment with other sources of information about the subject: other books, magazines, journals, newspapers, computer bulletin boards and news groups, movies, television programs, and radio shows.
- **Personalize**. Make the material personal by linking it to beliefs and matters of personal concern.
- **Use the information.** Actively use the information by thinking, writing, and talking about it.
- **Apply the information.** Make connections between the readings and the lecture material. Look for relationships between the readings and other courses or one's job.
- **Work with others.** Work with other students to complete and/or review reading assignments. See the section on Study Groups for Reading in this page for more specific ideas.

3. Improving Concentration

- **Index cards.** Lack of concentration often results in regression, or forgetting what you've read. To reduce the incidence of regression, use 3 x 5 index cards (or a ruler, pencil, finger) to move line by line through the text. Or, use index cards to cover what has been read already and realize the number of times the card must be moved to remember what has been read.
- **Eliminate distractions.** Eliminate external distractions by choosing an appropriate place to read: quiet, average temperature, comfortable but not too comfortable. Avoid TV, radio, and conversations. Eliminate internal distractions by motivating yourself, creating interest in the subject, and engaging in encouraging self-talk.
- **Keep healthy.** A balanced diet and adequate rest are important in maintaining good health and being able to concentrate on reading assignments.
- **Organization and time management.** Avoid being distracted by other assignments by getting organized and managing time efficiently. It is easier to concentrate on reading when you are not worried about other tasks or activities. Reduce day dreaming about things you want to do by setting aside time to actually do them. Clear your mind by compiling a list of things to do after completing a reading assignment.

- **Be task oriented.** Understand the purpose, instructions, and expectations of the reading task before getting started in order to better stay on track.
- **Use rewards.** Be sure to reward productivity. Set goals for completing reading assignments and then treat yourself for meeting those goals.
- **Mix it up.** Reading for short intervals of time helps to remain focused on the task. Read for 20-30 minutes, take a break, and read for another 20-30 minutes. Alternate between different subjects to maintain interest and concentration.
- **Keep active.** Passive readers use only their eyes while reading. They may be less able to concentrate fully on a task than active readers who use more than one sense. Take notes while reading. Try reading aloud to yourself.

4. Improving motivation

Completion of reading assignments sometimes requires that you work to maintain a high level of motivation.

- **Be task oriented**. Understand the purpose, instructions, and expectations of the reading task before getting started in order to maintain motivation.
- **Consider goals.** Relate completion of the assignment to short-term goals, such as fulfillment of course objectives and requirements, and to long-term goals, like graduating from school.
- **Work with others**. Develop a support system for completing difficult or uninteresting reading tasks. Work with other students, taking turns reading, summarizing, and "teaching" the reading material. Enlist the motivational support of family members, friends, coaches, or instructors.
- **Relevance.** Consider how the reading is relevant to the course, to your academic career, or to your life. Why is the information valuable? How will you use it in the future? How does it relate to personal experiences and beliefs?

There are many, many more!! Here is a link where you can find several that were not included.

http://www.muskingum.edu/~cal/database/general/reading.html

Ellis, D. (1997). *Becoming a master student*. (8th ed.). Boston, MA: Houghton Mifflin Company.

Appendix C

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Westside Test Anxiety Scale	3.200	5	.6928	.3098
	postwest	2.5400	5	.79246	.35440
Pair 2	Beck Anxiety Inventory	16.60	5	20.840	9.320
	postbeck	10.20	5	6.017	2.691
Pair 3	Delay avoidence	10.20	5	3.701	1.655
	postDA	17.20	5	14.738	6.591
Pair 4	Work Methods	11.20	5	3.633	1.625
	postWM	20.40	5	11.803	5.278
Pair 5	Study Habits	21.40	5	5.459	2.441
	postSH	37.60	5	26.264	11.746
Pair 6	Teacher Approval	22.00	5	11.068	4.950
	postTA	28.40	5	7.570	3.385
Pair 7	Education Acceptance	17.00	5	7.616	3.406
	postEA	29.60	5	14.993	6.705
Pair 8	Study Attitudes	39.00	5	17.861	7.987
	postSO	89.60	5	38.135	17.055
Pair 9	Study Orientation	60.40	5	19.857	8.880
	postSO	89.60	5	38.135	17.055
Pair 10	average grade of first tests taken	79.4250	4	3.71674	1.85837
	average grade of last tests taken	76.3625	4	6.52628	3.26314

Paired Samples Test

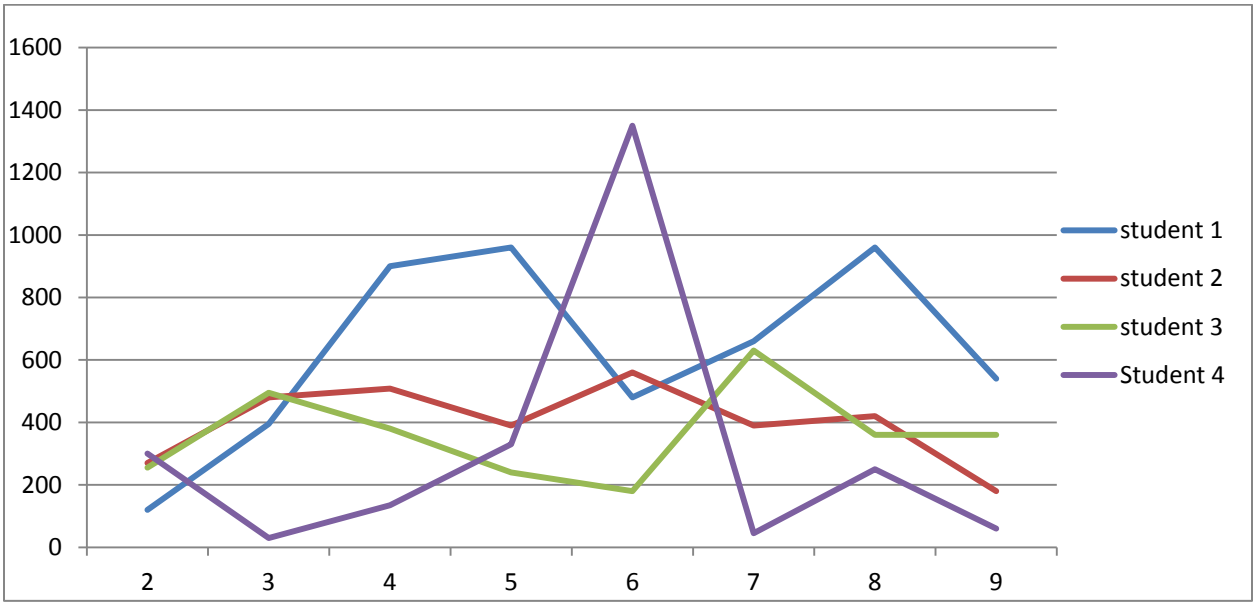
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Westside Test Anxiety Scale - postwest	.66000	.93167	.41665	-.49682	1.81682	1.584	4	.188
Pair 2	Beck Anxiety Inventory - postbeck	6.400	19.087	8.536	-17.299	30.099	.750	4	.495
Pair 3	Delay avoidence - postDA	-7.000	15.780	7.057	-26.593	12.593	-.992	4	.377
Pair 4	Work Methods - postWM	-9.200	10.060	4.499	-21.691	3.291	-2.045	4	.110
Pair 5	Study Habits - postSH	-16.200	24.692	11.043	-46.859	14.459	-1.467	4	.216
Pair 6	Teacher Approval - postTA	-6.400	16.288	7.284	-26.624	13.824	-.879	4	.429
Pair 7	Education Acceptance - postEA	-12.600	21.606	9.662	-39.427	14.227	-1.304	4	.262
Pair 8	Study Attitudes - postSO	-50.600	43.947	19.653	-105.167	3.967	-2.575	4	.062
Pair 9	Study Orientation - postSO	-29.200	42.979	19.221	-82.566	24.166	-1.519	4	.203
Pair 10	average grade of first tests taken - average grade of last tests taken	3.06250	3.25560	1.62780	-2.11789	8.24289	1.881	3	.156

Hypothesis Test Summary

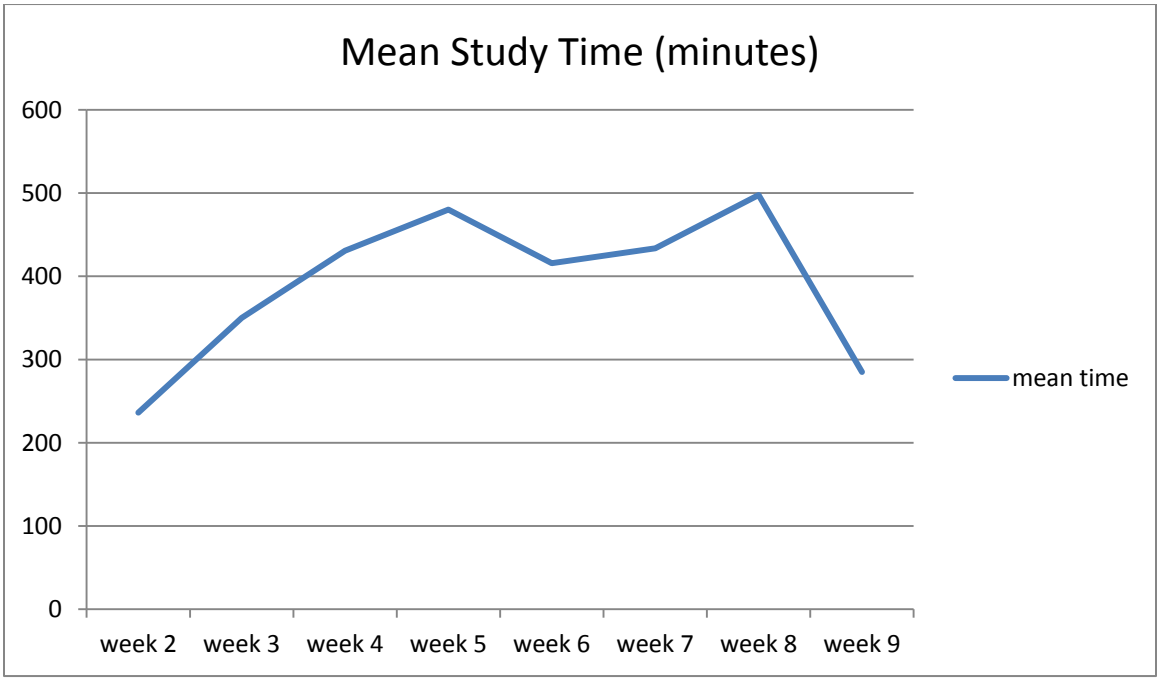
	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Study Habits and postSH equals 0.	Related-Samples Wilcoxon Signed Ranks Test	.042	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

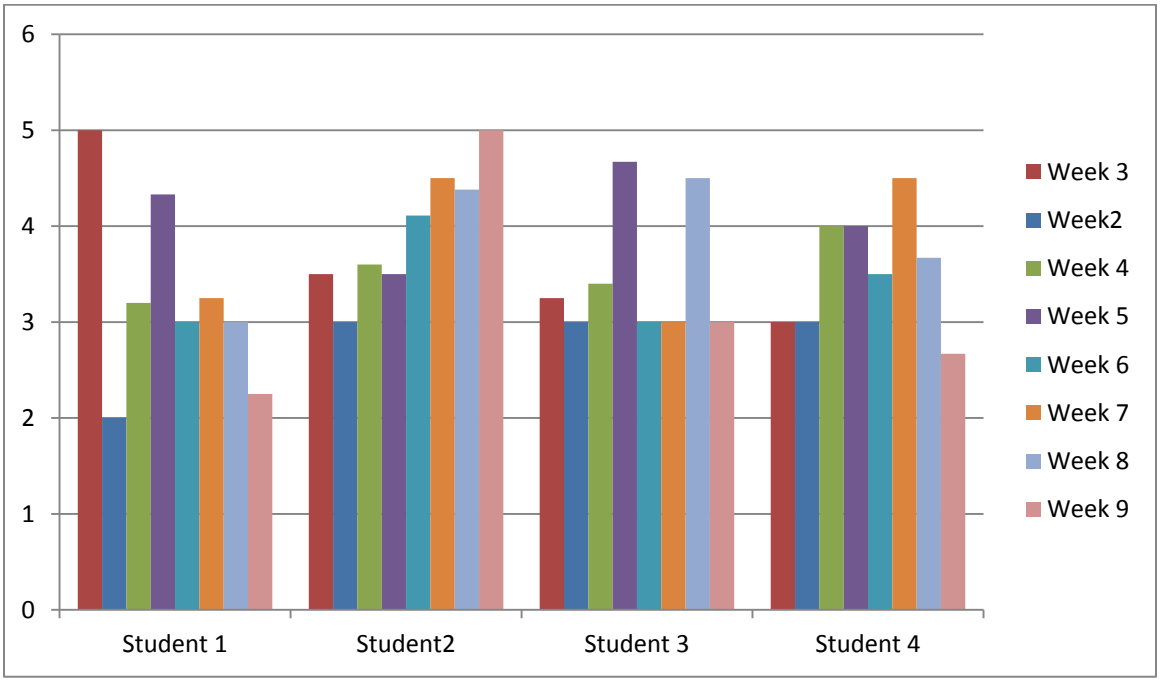
Graph 1: Time (in minutes) Studied each Week



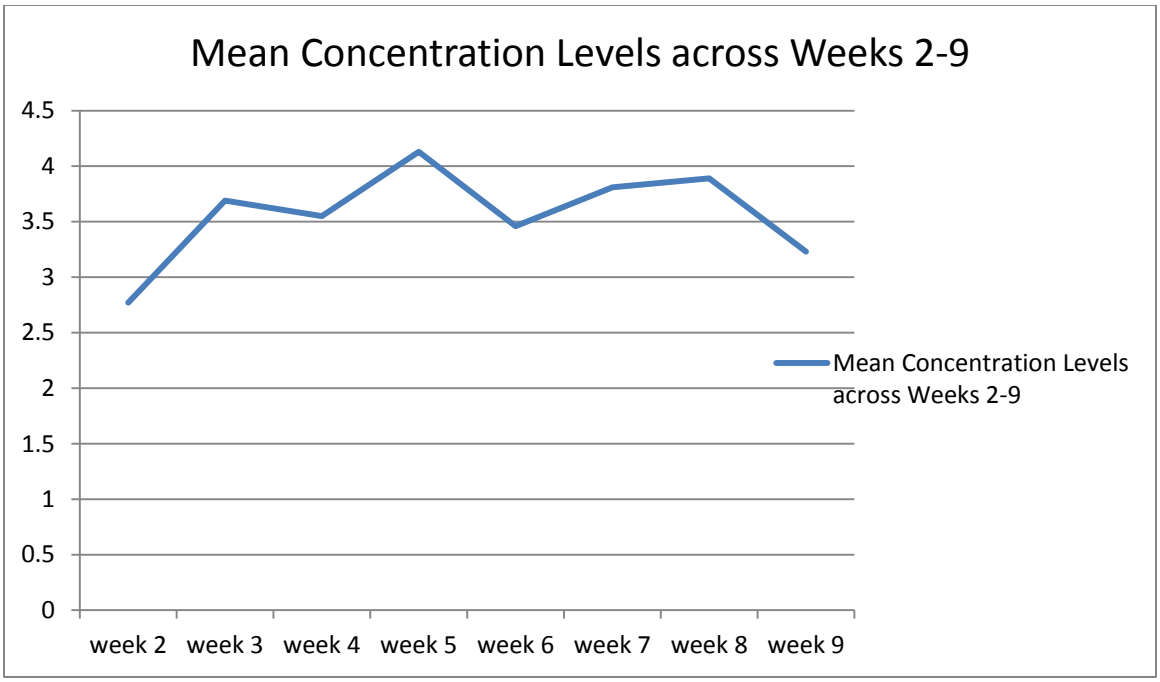
Graph 2: Mean Time Studied across Weeks 2-9



Graph 4: Individual Concentration Scores across Weeks



Graph 3: Mean Concentration Level across Weeks



Appendix D

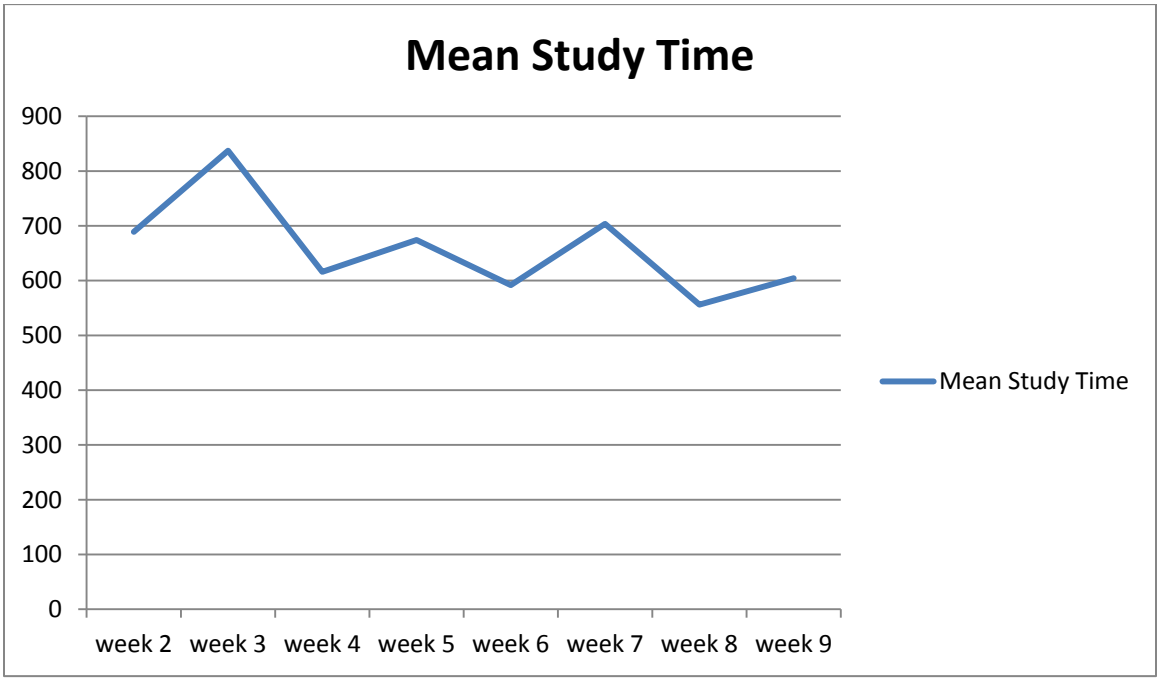
Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Westside Test Anxiety Scale	3.525	12	.6398	.1847
	postwest	2.892	12	.8490	.2451
Pair 2	Beck Anxiety Inventory	17.83	12	12.472	3.600
	postbeck	13.33	12	11.819	3.412
Pair 3	Delay Avoidence	17.33	12	7.584	2.189
	postDA	19.58	12	7.489	2.162
Pair 4	Work Methods	19.67	12	5.581	1.611
	postWM	22.17	12	7.082	2.044
Pair 5	Study Habits	37.00	12	11.824	3.413
	postSH	41.75	12	13.247	3.824
Pair 6	Teacher Approval	28.67	12	11.097	3.204
	postTA	26.92	12	10.131	2.924
Pair 7	Education Acceptance	26.58	12	10.282	2.968
	postEA	27.33	12	7.878	2.274
Pair 8	Study Attitudes	55.25	12	20.667	5.966
	postSA	54.25	12	17.394	5.021
Pair 9	Study Orientation	92.25	12	31.250	9.021
	postSO	95.92	12	28.978	8.365
Pair 10	Reported gpa for spring 2011	2.7771	14	.42276	.11299
	postgpa	2.9029	14	.46614	.12458

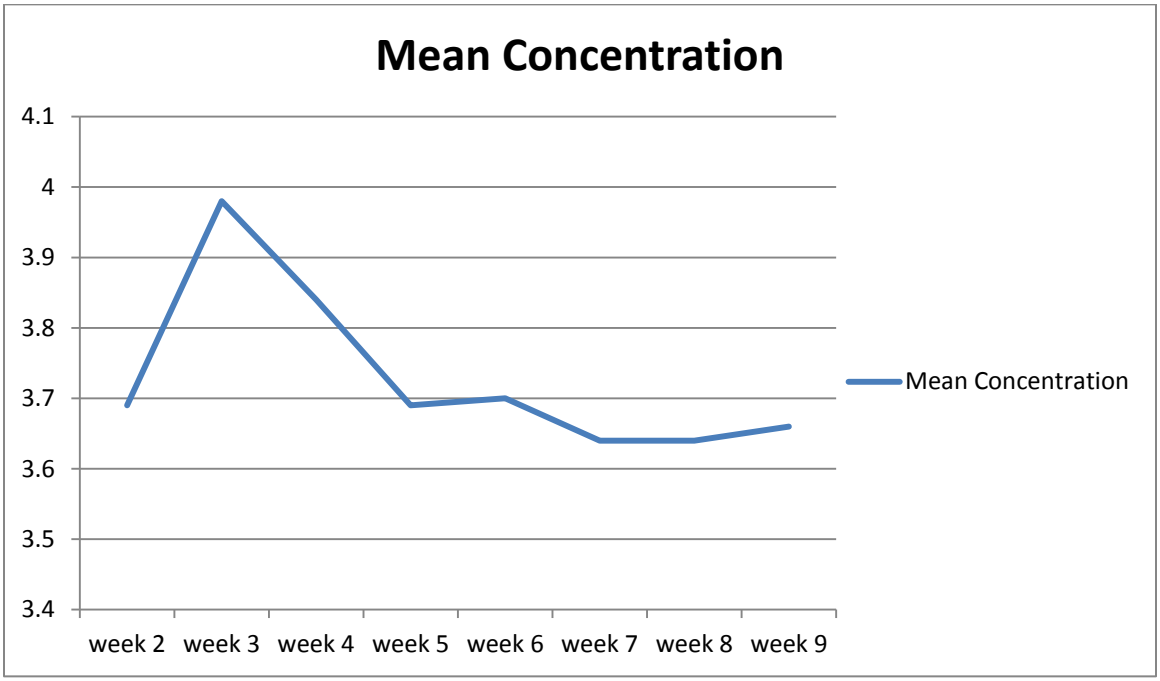
Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Westside Test Anxiety Scale - postwest	.6333	.8424	.2432	.0981	1.1686	2.604	11	.025
Pair 2	Beck Anxiety Inventory - postbeck	4.497	8.472	2.446	-.886	9.880	1.839	11	.093
Pair 3	Delay Avoidence - postDA	-2.250	5.562	1.606	-5.784	1.284	-1.401	11	.189
Pair 4	Work Methods - postWM	-2.500	6.303	1.820	-6.505	1.505	-1.374	11	.197
Pair 5	Study Habits - postSH	-4.750	10.738	3.100	-11.572	2.072	-1.532	11	.154
Pair 6	Teacher Approval - postTA	1.750	7.073	2.042	-2.744	6.244	.857	11	.410
Pair 7	Education Acceptance - postEA	-.750	6.890	1.989	-5.128	3.628	-.377	11	.713
Pair 8	Study Attitudes - postSA	1.000	12.534	3.618	-6.963	8.963	.276	11	.787
Pair 9	Study Orientation - postSO	-3.667	19.869	5.736	-16.291	8.958	-.639	11	.536
Pair 10	Reported gpa for spring 2011 - postgpa	-.12571	.26326	.07036	-.27771	.02628	-1.787	13	.097

Graph 1: Mean Study Time across Weeks 2-9



Graph 2: Mean Concentration Level across Weeks 2-9



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