



## PART V

# Planning for Success

This part is divided into two chapters:

- CHAPTER 12: Student Learning Success
- CHAPTER 13: Lifelong Success

This part discusses the steps students can take to be successful in physical therapist assistant school and when beginning their careers. These two chapters allow the student to examine their own learning, provides knowledge about learning approaches and helps the student create a plan and strategies to achieve their goals. Utilizing the last chapter in the text allows the future Physical Therapist Assistant to begin the program with an understanding of future opportunities, a plan for personal success and a path to developing their career as a PTA. The chapters included are:



# CHAPTER 12



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## Student Learning Success

### OBJECTIVES

After studying this chapter, the reader will be able to:

1. Identify rules for learning.
2. Describe learning styles.
3. Discuss learning resources and strategies.
4. List learning and test taking strategies.
5. Create a lifelong learning plan.

### KEY TERM

SQ3R

### Becoming a Physical Therapist Assistant Student

Physical therapist assistant (PTA) students can come from a variety of life experiences. Some are new to college, some are nontraditional students, some have college degrees or on-the-job experience, but one thing that they all have in common is that they must become focused in a short-lived and fast-paced learning experience. Students are generally enthusiastic and excited to begin learning, but often find that the pace of learning and the amount of material to be learned can be overwhelming. This chapter will explain some strategies for learning and examination that will assist the PTA student during school and eventually in preparing for the National Physical Therapy Examination.

### Learning

There are basic understandings of learning and researchers are constantly studying how we learn in an attempt to assist students in the process. There are several principles that help us understand learning.

1. The brain can adapt. The brain is constantly processing all of the information coming in to make sense of it. A person's thoughts, processing of sensory information, emotions, and imagination all influence how someone perceives what is occurring to, or around, him or her.<sup>1</sup> Students should be aware that their perception is different from the person presenting the information and the others in the room.
2. The brain is social. Innately within each of us is the need to interact with others. To feel like we belong is

hard-wired. So it is important for students to make connections to one another as they learn.<sup>1</sup>

3. The brain looks for patterns.<sup>1</sup> As we learn, the brain is searching for ways to make sense of the information. One way to do this is to look for similarities in what we already know. This allows the learner to connect the information to the pattern that they already know and understand. This is learned at a very early age, when children sort things into like colors or objects.
4. Emotions are important.<sup>1</sup> If a person thinks back to an early childhood memory, it almost always is of an event that evoked great emotion; a birthday party that was exciting, a tragic moment that was frightening, or an angry altercation. Memories that are attached to strong emotion are memories that can be recalled with greater clarity. When students are learning material, if they can create excitement in their learning, they will be much more likely to remember it long term.
5. The brain will work as one unit.<sup>1</sup> Students are often asked to learn bits of information, such as the names of anatomical parts. However, for long-term retention of such information, the brain prefers to think in context of not just the parts, but as the whole. In physical therapy, this occurs frequently. While teaching a patient to move from sit to stand, the physical therapist (PT) may break the process into parts and practice each section. In order to be functional and cement the learning of this movement, the PT must put the action back together and have the patient complete the entire movement as one.
6. What is going on around you matters.<sup>1</sup> Students often believe that their cell phone, music, television, or friends are not distracting them while they are studying. But brain research shows us that the brain really cannot multitask. Distractions will take away the ability to truly concentrate. Even daydreaming in one's own mind is a form of distraction. To truly learn, students must set themselves up for success by limiting their distractions.
7. In order to learn, the student must think about the learning.<sup>1</sup> Processing information requires that the student consider what it is that has been presented and make sense of it. And then more importantly, use the ideas, skills, or experiences to cement the learning. By manipulating the information, the brain can create meaning of the learning and store it in memory.

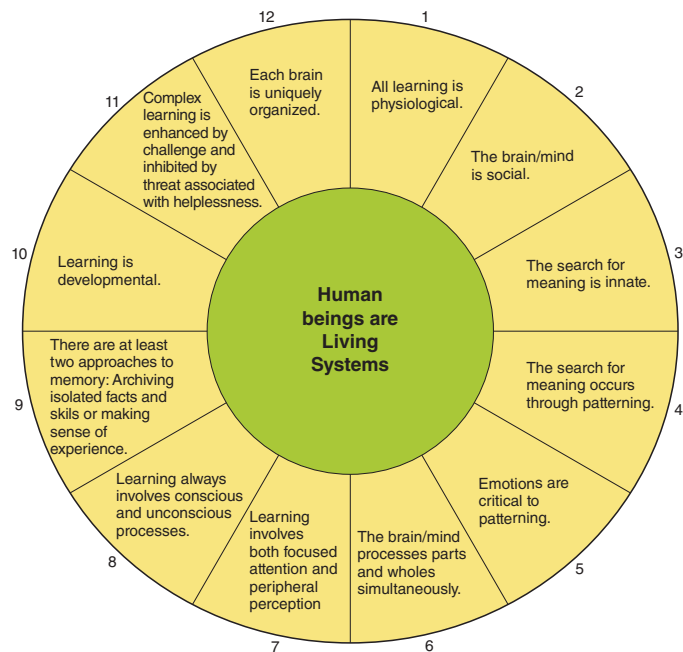
8. The brain can always create new learning connections.<sup>1</sup> The brain is infinite in its ability to learn and it does this by creating new neuronal connections. While learning may be easier for children as the brain is developing, age is not a limitation to learning. Anyone, of any age, who is motivated, can learn something that matters to them.

9. Intelligence is not fixed and learning occurs only through challenge.<sup>1</sup> Some of the most successful people did not find success just because they were intelligent, but rather because they did not give up. Research by Allison Lee Duckworth at the University of Pennsylvania has focused on this exact hypothesis. In her research, she has found that developing “grit” or the ability to stick with a task even though it is difficult is a primary skill needed for success in school and work. When students care about something, they will give more effort, even if it is difficult.<sup>5</sup> Duckworth and her colleagues have also focused their research on self-control. Self-control or the ability to delay gratification in order to achieve a more long-term goal has also been noted as a trait of successful people.<sup>2</sup> Consider the story of the tortoise and the hare as a lesson in the grit, self-control, and perseverance of the tortoise. Success in life and PTA school will be determined by many traits and opportunities, but it appears that development of grit, self-control, and perseverance could serve the student well.

## LEARNING STYLES

Learning styles are defined as particular methods to gain, process, and store information (see **FIGURE 12-1**). Research on personality and brain function (especially related to the differences in left and right hemispheric functions) indicates that each person gains, stores, and communicates information in a preferred way. Each person has a predominant learning style. Some people use a combination of learning styles, but most people have at least one preferred learning style.

There is not a best learning style, but some styles tend to exchange information more effectively than others. Teachers are always striving, especially in the sciences, to identify and adapt their teaching styles to their students' preferred learning styles. As students and clinicians, PTs and PTAs are also making efforts to identify their own learning styles and their patients' learning styles to be able to adapt these to the learning and teaching processes.



**FIGURE 12-1** The Caines' Brain/Mind Principles of natural learning.  
<http://www.cainelearning.com/brain-mind-principles/>; 12 Brain/Mind Learning Principles in Action: Developing Executive Functions of the Human Brain, 2nd Edition, 2008, Corwin, p. 255.

Understanding one's own preferred learning style can make a person an effective learner and problem-solver. However, learning occurs in a variety of ways—visual, auditory, via movement, and so on—and students should not limit the way that they learn to only their preferred style.

### Visual Learning Style

The visual learner prefers seeing the information. The learner prefers symbols, charts, diagrams, pictures (including motion such as in videos), and colors. Sometimes the learner may be easily distracted by images and may not concentrate on the lecture. Highlighting the information; organizing the material as acronyms or mnemonics; and using CD-ROMs, videotapes, or photographs may be helpful.<sup>3</sup>

The visual learner should utilize mind mapping to study, use graphic organizers by replacing words with symbols, turn phrases into images, and reconstruct images in different ways. For the visual learner, the written words will have less significance without visual aids. As study aids, the visual learner can utilize visual aids by:

- Drawing diagrams/pictures, graphs, and symbols
- Creating flashcards to identify concepts

- Practicing imaging techniques (by turning visual images into words or concepts)
- Recollecting mental pictures of his or her notes
- Utilizing the learning objectives to identify the learning task

### Auditory Learning Style

The auditory learner prefers to hear lectures and is eager (if not shy) to discuss any topic. The learner prefers to use a tape recorder instead of taking notes because he or she is too involved in the auditory part of the lectures. The learner works well in groups. For better learning, the information must be stated out loud, all important facts must be verbally reviewed, and sequences must be written out.<sup>3</sup>

As study aids, the auditory learner may read text aloud to him- or herself to enhance understanding or may listen to lecture tapes. The auditory learner should study where auditory distractions are minimal. Working with a partner can assist the auditory learner because the student can explain concepts and problem-solve out loud, which helps to improve understanding and retention of information.

The auditory learner should:

- Explain concepts out loud
- Record lectures to listen to again
- Utilize repetition to help with retention
- Utilize study groups rather than solitary study

### Kinesthetic Learning Style

The kinesthetic learner prefers to learn by doing, most often using trial and error. The learner prefers laboratory work, field/clinical activities, and manipulating objects or things. The learner prefers to read the instructions as the last resort. He or she prefers not to listen to lectures, take notes, or read the material. The learner prefers “hands-on” experience. Also, the learning process can be reinforced by using gestures or certain movements.<sup>3</sup> The learner should be cautious when learning procedures, as it is difficult to “unlearn” an incorrect technique.

The kinesthetic learner should:

- Use illustrations and note taking during lectures to stay focused
- Talk or study with another kinesthetic learner
- Role-play the case studies (or scenarios)
- Write practice answers

- Utilize a motion when learning, such as counting on fingers to learn a list of symptoms
- Study in shorter blocks of time rather than marathon study sessions

The kinesthetic learner should read all the material (including the introduction and the summary). During tests, the kinesthetic learner should not make hasty decisions when choosing the right answers. For example, answer A may be correct, but “all of the above” might be better.

### Analytic (Linear) Learning Style

The left-hemisphere dominant analytic (linear) learner prefers to read, think about it, reread, organize, think about it again, rewrite, and reorganize. The learner prefers details and has difficulty seeing the “big picture.” The learner uses many reference materials. He or she prefers clearly stated goals, lists, patterns, practice sets, and homework.<sup>3</sup> These students will have more difficulty in clinical situations where they must be aware of not just factual information, but social aspects of patient care.

The analytic learner should:

- Study by writing words and lists over and over
- Rewrite ideas in different ways
- Use organization charts

The analytic (left-hemisphere dominant) learner should not spend too much time studying unnecessary concepts or details. When taking tests, the analytic learner should not get stuck on one question, but should continue to answer all questions.

### Spatial Learning Style

The right-hemisphere dominant spatial learner prefers to learn by recognizing sequencing of symbols, objects, and events. The learner sees the “big picture” first before the details. Learning is typically informal, spontaneous, and creative.<sup>3</sup>

The spatial (right-hemisphere dominant) learner should:<sup>3</sup>

- Study by processing the information from whole to parts
- Use additional study time
- Work with others
- Learn to apply the new material

The spatial (right-hemisphere dominant) learner should first look at the similarities of the information and form a total picture of the material before evaluating the details. Also allowing more time to assimilate the new ideas and writing them down can be very helpful for this learner.



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## Learning Resources

### TEXTBOOKS

Textbooks are intended to be a primary resource for student learning. The advent of electronic versions can make finding information very easy and the organization of notes can be done with the click of a button. Learning how to use a textbook is important and can make the process of learning easier.

One technique that has been utilized for years is the **SQ3R**. This stands for Survey, Question, Read, Recite, and Review. Students should begin by surveying the chapter to be read. Looking at the way the author has outlined the chapter and the objectives that are intended to be met helps the reader to be prepared for the reading process. Secondly, the student should think about questions that can be answered by the reading. This is an important step that many students skip, but makes the difference between reading and understanding. In order to understand and learn something, the student must connect the information to something that he or she already knows. In preparation of this process, students should consider what they already know and what questions they might have about

the subject. Finally, the student is ready to actually read the chapter. Students should consider if their questions are being answered as they read. Looking at the pictures and figures can help bring clarity to the reading. At the end of each passage, the student should recite what he or she has learned from the reading. This helps to organize the information in the student's mind and will lead to memory retention. Additionally, if the student does not understand a passage, he or she should reread the section, discuss it with classmates, and ask questions of the instructor. Taking notes during this activity can assist the student in reviewing the material later. Students should plan to review their notes on a daily basis to make sure that they are remembering the material. A student can quiz him- or herself by covering up the material and using the headings to recite the important concepts in that section of the chapter.<sup>4</sup>

## THE INTERNET

The Internet has changed the way that we live our lives and how we learn. It has been said that you can find anything on the web; however, just because you find it doesn't mean that it is true. Students must learn how to identify credible websites that can be trusted to give accurate information. The first thing to do is to identify who is putting the information on the website. Credible sources can include universities and colleges (.edu), government webpages (.gov), medical organizations (.org), or hospital related sites (.org). The website should have clearly identified authors with expertise or should provide a bibliography for the information provided. Students should be leery of websites that are commercialized, endorse products, or sell products from the website. Students should also look for information that is current by identifying when the webpage was last updated.

## THE LIBRARY

Every university and college and many cities have libraries. And more importantly, they have librarians. Librarians are excellent resources to help students find materials that are relevant and useful in answering their questions. They can assist with selecting the correct database to perform research in and can make suggestions about relevant words and terminology to use when performing research queries. This can save valuable time by helping to limit the available data to those which are most relevant to the project

the student is working on. Librarians can also assist the student in ordering materials that may not be located in that library or on the Internet.

## STUDENT SERVICES

Every university or college has a student service center that is intended to assist students to be successful. One common offering is tutoring. This sometimes comes in the form of group tutoring, review sessions with a graduate student, or can be individual tutoring. The center usually offers study skill instruction and can assist students in test-taking skills. Students should not overlook those offerings. Students should not wait until they are failing a class to seek assistance either. Learning these skills early in a student's academic career can save the student anxiety and money.

## INSTRUCTOR ASSISTANCE

Go early, go often. Instructors have office hours for students to come and get further assistance in the learning process. Students should go to the instructor with specific questions, not vague statements of not understanding. When students explain to the instructor what they do understand and what does not make sense, the instructor is better able to focus answer on the specific topic. Students who have been reading the assigned material and attending class will be more successful with this learning strategy than those who expect the instructor to explain all of the material again.

## SCHEDULES AND CALENDARS

As a general rule, students underestimate the amount of time that instructors expect students to spend on studying outside of class. Students may be used to instructors handing them the material to learn, they memorize it for the exam, and end of story. Application and problem solving require more than memorization. Manipulating the information in your mind, using it to solve problems, and formulating a rationale for choices are much better strategies. They prepare the student for comprehensive exams, clinical work, and the NPTE.

Students in PTA school often are juggling school, jobs, and families. This requires them to be very organized and to develop efficient use of their time. By utilizing a calendar, students can identify upcoming examinations and

assignments so that they have adequate time to prepare. Additionally, students may need to utilize a calendar that helps them plan out each day more specifically so that they can schedule study time, time for relaxation, time for exercise, and time for work, school, or chores. Busy schedules can be overwhelming when they are not planned out. Decreasing the anxiety by being aware and prepared allows the student to feel calmer and to feel in control of his or her daily life.



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## Strategies for Success in Pta School

Students will find that they are most successful when they consider not just their own learning style, but when they reflect on their learning as a whole. How successful have

their strategies been? How organized is their studying? How committed have they been to learning the information, applying the information, and problem solving? When students identify their motivation, effort, and strategies, they are better able to choose new strategies that will help them improve their learning skills.

### LEARNING STRATEGIES

- Create a preferred learning environment. Students should consider the time of day, the type of lighting, surrounding sounds, temperature, type of seating, and snacks/drinks needed. Students who pay attention to these preferences will create a setting that improves their learning abilities by removing distractions and creating comfort.
- Read with purpose and recognize the value of note taking. Taking notes from reading or lectures helps to organize the information from the student's perspective. This will help the student to understand the information better. Students who do not have good note-taking skills should devise a shorthand to help them become faster at note taking. Utilize the lecture's organization to create an outline for the notes.
- Create mnemonics to help remember lists of information. Creating rhymes or putting information to music can also assist the mind in long-term recall.
- Develop supportive relationships; this is the easiest way to improve learning skills. Students who feel isolated in a classroom are less likely to be successful than those who make connections with other students.<sup>5</sup>
- Recognize the personal learning style's strengths and build on them; at the same time, value other learning styles.
- Do not solve problems alone; learning power can be increased when working with others. In addition, working with people with opposite learning styles can add more to the learning process.
- Relate classwork to clearly defined long-range goals. Students who are motivated and have clear goals will see their learning as a stepping stone to reach their goal of becoming a PTA. The motivated student recognizes that effort is important and that setbacks are part of the process.<sup>6</sup>
- PTA school and clinical practice require a strategy and thought process different from those that students may have encountered before. Because every patient



is different, students will need to appreciate that not every answer is black and white. In reality, students will be expected not only to show competency in skills but the ability to rationalize when it is appropriate to deviate from the norm. And students should learn to use research evidence to justify their reasoning.

- Recognize the need for active learning strategies. Memorization of information typically does not lead to long-term recall of the data unless the student creates some personal meaning of the information. In order to learn and truly know the necessary information, students should practice skills and review material repeatedly. Secondly, students should understand the information well enough to be able to explain it to others. Students should be able to provide examples to relate the information to the “bigger picture.” And lastly, students should use the information to solve a problem, make a recommendation, or explain the rationale for a selected choice.
- Utilize review questions that come with the textbook to deepen learning and test understanding. This could be done in a group setting to allow for discussion of the answers or individually to test the student’s preparedness for an exam. This can be a valuable way to identify errors or omissions in understanding and can generate questions that the student can discuss with the instructor.

## TEST-TAKING SKILLS

PTA students who do not learn good test-taking skills are working with an unseen disadvantage. In almost every objective test (such as in physical therapy), these students give up points needlessly because of undisciplined testing behaviors, irrational responses to test items, or a variety of other bad habits. As in other sciences, successful test taking in physical therapy involves applying critical reading and thinking skills to the test to avoid making careless mistakes. These careless mistakes can be any of the following:

- Not reading the directions carefully; students should not be in a great hurry to start the test, but should read the instructions first.
- Not monitoring the test time; students should monitor their progress periodically to make sure that they don’t get caught in a time crunch.

- Changing the original answers due to second-guessing; students should keep their original answers—research shows that the first intuition is more likely to be correct. Students should change their answers only when they strongly feel that the original answer was incorrect.
- Not allowing enough time to go through the test so that at the end no items are left blank or are misread by a computerized grading program.
- Not clearly identifying what the question is asking. Students should underline or highlight important words that help to answer the question or help to provide context to the question.

The three phases of test-taking strategies for PTA students are:

- In the first phase, the student should go through the test and answer only those items that he or she is confident about; the other questions can be skipped momentarily. This strategy builds up confidence and assures that the student will get credit for what he or she knows if running low on time.
- In the second phase, the student should go through the test and focus on items he or she skipped in the first phase. The student should identify and eliminate incorrect answers by eliminating choices that are definitely wrong or unlikely.
- In the third phase, the student should think critically by doing the following:
  - Being cautious of items that contain absolute terms such as always, never, invariably, none, all, every, and must
  - Substituting a qualified term such as frequently or typically, for an absolute term, such as always or most, to see if the statement is more or less valid than the original one
- When taking multiple-choice tests, a good strategy is to read only the “stem” of the question and not the multiple choices, to see if the correct answer can be determined without having to be prompted by the choices. If no answer can be found that way, the student can read each multiple-choice answer separately and consider whether it is a “true” or “false” choice. The answer that sounds most valid or most true should be the final choice. Sometimes, teachers are limited in their supply of decoy answers, and as a result will make up terms to use for that purpose. For a student who

missed classes or has not studied, the decoy is hard to detect; however, if the student has been attending classes regularly and has done a good job of preparing for the test, the student will not choose an answer that sounds totally new.

- When taking a test with true–false items, students generally have a difficult time reading and considering the choices carefully. A slight alteration in the phrasing of the item can make a big difference. The basic ground rule for answering true–false items is that if any part of the statement is not true, the student should select false as the answer. At the same time, true–false items can be overanalyzed to the point that the student goes beyond the scope of the question, looking to find an extreme exception to what the question is testing or the “trick” suspected to be somewhere in the phrasing. The student should read the question carefully, but judge what the question is actually saying.



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## Lifelong Learning

While it may be difficult for a student to think about lifelong learning activities at the beginning of his or her career, it is imperative that the student appreciate that learning does not end at graduation. Because of the

ever-changing nature of health care, conscientious professionals will always be curious and interested in learning new developments in the field. In beginning the process, students should consider all of the different aspects of this textbook that have suggested resources, introduced topics of learning, or piqued their interest. Making a list of topics that you find interesting and locating resources for learning can help you create a lifelong learning plan. As your career develops, physical therapy practice changes and health care evolves, and so too will your lifelong learning plan.

## Discussion Questions

1. With your classmates, discuss learning strategies that have helped you in the past. Explain whether this varies by the type of learning task.
2. Complete an online learning inventory using the sources below. Share your results with your classmates.
  - a. Education.com
  - b. Multiple Intelligences Assessment (<http://www.edutopia.org/multiple-intelligences-assessment>)
  - c. The Vark Questionnaire (<http://vark-learn.com/the-vark-questionnaire/>)
3. Discuss learning services available on your campus.

## Learning Opportunities

1. Utilizing your course syllabi and schedule, create a daily/monthly calendar that includes school, work, and family/social obligations. Identify when completing homework and studying will fit into the schedule.
2. Utilize the SQ3R strategy to read a chapter in a textbook.
3. List activities that will be part of a lifelong learning plan.