

How to Make Leadership and History of Medicine Come Alive Through Drama

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INTRODUCTION

History is made each and every day. Everyone can learn by studying the many facets of history. Through studying the historical mistakes or accomplishments of others, something can always be learned. Studying the accomplishments of physicians and scientific leaders in the medical profession is no exception. The Texas Essential Knowledge and Skills (TEKS) require that health science technology students be instructed on the history of medicine. Students at DeBakey High School for Health Professions study various scientists in the 9th grade introduction to health science technology course (HST). Students research the biographies of various scientists, using a list recommended by the DeBakey High School for Health Professions Health Science Department. Students can learn from studying the lives and leadership abilities of scientists. The underlying theme of the curriculum unit is perseverance, and the goal is for students to realize that they have the abilities to become even greater than the scientists they are studying. Many of the scientists that students will research have gone through many trials and tribulations before he or she rose to greatness. There are many factors that separate the great scientist from most people. Great scientists were willing to work very hard for their cause and did not give up at the first sign of defeat. Many scientists had to do hundreds of trials before even coming close to their inventions or discoveries. The underlying theme of the curriculum unit is for students to learn perseverance, good work values, and a good work ethic from learning about the accomplishments of various scientists. As a scientist turned teacher, my story is only one of many that students will learn by studying the lives of many different scientists. An additional goal is that students learn from some of the career making decisions that some scientists and physicians made on their path to becoming a scientist or physician. Becoming a medical professional takes a lot of time, dedication, and proper career planning.

DeBakey has a very diverse population and is classified as a Title 1 school. The learning styles of our students are also diverse. The different learning styles of most students are visual-spatial, auditory, or kinesthetic and tactile. Some students learn best by a combination of all three. The intent of this curriculum unit is to address the needs of all types of learners.

In the past, a large number of students in the health science department did very poorly on their history of medicine test that consisted mostly of a list of scientists and their accomplishments to the field of medicine. Students would attempt to memorize the list of scientists. Before students studied the history of medicine unit, students studied a unit on leadership. Part of the leadership unit involves students doing a group leadership project. The project required students to do a research paper on a chosen leader, a project board on the leader, and a presentation of their leader to the class. Students would be instructed to come up with an exciting way to portray their leader, and some groups did wonderful skits to teach what they learned about their leader to the class. However, many did the traditional, boring, note card presentations. Other problems with the leadership project were that students would sometimes want to choose people that most professionals would not consider a good leader, and students always wanted to do research on the same well-known leaders that everyone already knew about,

such as Dr. Martin Luther King. He was a great leader, but most students were already aware of his accomplishments. About two years ago, an experiment was done to combine the leadership project with history of medicine and have students choose a scientific leader in the field of medicine because of the fact that a large number of students did poorly on the history of medicine test. The outcome of the experiment was that students' test scores did improve some; however, it was discovered that students always knew the scientists that were portrayed in a skit. Due to the fact that students have a better recollection of the scientists portrayed in skits, it will now be a requirement that all students write and perform a 10-minute play or dramatic scene in order to teach their scientific leader to the class. In order for this task to become a reality, students will learn how to research the life of a scientist and write a 10-minute play or dramatic scene from the life of that scientist. Perhaps the reason many students did not portray their scientists in skits is that they did not know how to do so. As a scientist, an autobiography titled "Scientist Turned Teacher" will be used as an example of how to write a biography and formulate a 10-minute play or dramatic scene from the autobiography. The overall goals of this curriculum unit are to teach the history of medicine through dramatizations of various scientists that are studied in the history of medicine unit. Additional goals are that students learn the core theme of perseverance as they study the life of various scientific leaders and learn the career planning paths that many scientists and physicians took.

UNIT OBJECTIVES

The curriculum unit includes 13 days of activities. The curriculum unit is designed for 90-minute block scheduled classes. Students will have many exciting activities learning about various scientists, the art of leadership, career planning, how to write a short play or dramatic scene, and how to perform a play. Students will be introduced to key terms and will define terms associated with leadership, history of medicine, and career planning. Students will discuss qualities of a great leader and learn about various scientific leaders in the field of medicine. Students will learn how to write a biography of a scientific leader, write a 10-minute play or dramatic scene from the biography, and learn how to perform a play to teach their scientific leader to the class. As required by the Texas Education Agency, the students will:

- define terms associated with leadership and history of medicine.
- survey and research the historical significance of health care; (TEKS 121.2 C 1 e),
- organize, write, and compile ideas into reports and summaries; (TEKS 121.2 C 1 c)
- make contributions relevant to topics in group discussions; (TEKS 121.2 C 1 d)
- identify traits of a leader; (TEKS 121.2 C 5 a)
- demonstrate skills, characteristics, and responsibilities of leaders and group members; (TEKS 121.2 C 5 b)
- plan and prepare effective oral presentations; (TEKS 121.3 C 1 e)
- identify professional characteristics of health care providers; and (TEKS 121.3 C 4 a)
- predict the impact of career decisions (TEKS 121.3 C 5 d).
- (19 TAC Chapter 121, Subchapter A)

RATIONALE

The rational for this curriculum unit is to teach students how to write and perform a 10-minute play or dramatic scene that they will use to present their scientific leader to the class. This project will address the learning styles of all students. As students research their own scientist and watch the 10-minute plays or dramatic scenes of their peers, the core theme of perseverance should resonate through each dramatization. Many of these scientists persevered to overcome many obstacles. The autobiography listed in the index is full of obstacles. One major goal of this

project is a drastic improvement of students' test scores for the history of medicine test on the scientific leaders. Additionally, at the conclusion of this project, students should have a renewed sense of power and conviction that they can accomplish anything. The core theme will be, "If I can believe it, I can achieve it."

The unit will be taught by having students read the autobiography listed in the appendix and demonstrate how the dramatic scene was derived from the autobiography. Students will then receive a short lesson on how to write a biography, and basic information on how to write and perform a short play or dramatic scene. After reviewing the aforementioned, each student group will write a 10-minute play or dramatic scene about a scientific leader. The students will be assigned to a diverse group of four to six students, depending on class size. Students will be given class time to do research, prepare, and practice a 10-minute play or dramatic scene. Students will also perform their 10-minute play or dramatic scene that describes the accomplishments of a scientific leader in front of their peers. Students will choose from the scientists that are included in the history of medicine section of this paper. However, if a student group desires to research another scientist not on the list, it will be considered. Students will be given instructions and guidelines to follow concerning the writing of their 10-minute play or dramatic scene as well as rules for performing their play.

Samples of students' work will be listed on the DeBakey High School for Health Profession's Website. The information is listed in the reference section. Students during the 2006/2007 school years wrote a play similar to "A Christmas Carol" by Charles Dickens. Students did an outstanding job informing the class in a very exciting way about the scientist called Charles Drew, a U.S. surgeon who developed the long-term storage properties of blood plasma. Charles Drew was an African American who accomplished many great things in an era when it was very difficult for African Americans to succeed without going through many trial and tribulations. Students learn that if Charles Drew could succeed in his era, then the sky is the limit in the society we live in today.

In addition to studying leadership and history of medicine, students learn career planning in the health professions. Students learn about the qualities that a leaders in the health professions should possess, and the educational path that health professionals take on the way to becoming an allied health professional or a medical doctor. The autobiography shares my path taken to become a clinical laboratory scientist (formally medical technologist) and now a teacher.

UNIT BACKGROUND

Leadership

Key Terms to Know

autocrat	exemplify	inherent	Nobel Prize
democrat	implement	laissez-faire	parliamentarian
evolve	inculcate	motive	tenure

Principles of Leadership

Not all leaders are "born" with the natural ability to lead. Some schools of thought believe that the ability to lead is in inherited by birth, and that those who **inherit** the ability should lead, and the rest of the people without the inherited ability to lead should be followers. The truth is that most people who are not "born" with the ability to lead can **evolve** into good leaders. Many good leaders did not start as good leaders, but through hard work, trials, and the intelligence to learn from their mistakes, they gradually became great leaders. Most leaders were taught to be great leaders by being taught leadership skills as a child, teen, or adult. Leadership skills can be

taught by oral or written means from a parent or a teacher; however, most people learn to be great leaders by observing leaders in their peer group, parents, teachers, school administrators, political leaders in their community, and religious leaders. Some people believe that just because a person has authority, he or she is a good leader. There are people in authority in every organization, such as school, business, government, churches, and social organizations. History has taught us that people in authority used their position to control their constituents and paid little attention to the approval or disapproval position of any order that was given. Today that type of leadership is no longer effective, and teamwork is a more common leadership practice (Kimbrell and Vineyard 235). This concept is especially true in the field of education. Many schools have shared decision-making committees who give input in the operation of the school and school policy.

Historically, leaders were born into a **tenured** leadership positions as kings and queens. Some countries have these customs. People who assumed leadership power by birthright developed different types of leadership styles. Most leaders had a leadership style of either **autocratic**, wherein leaders assume total power and make all decisions, **democratic**, in which members have freedom in decisions and the majority rules, or **laissez-faire**, in which the leader lets the people do as they please, and the followers have total freedom of choice and action. In addition to being born into a leadership position, some people are chosen to be leaders by their supervisor in the form of a promotion. Some leaders are recognized as leaders because of their **unique** accomplishments and have become **Nobel Prize** winners in the fields of physics, chemistry, literature, peace and medicine. Some leaders emerge in situations requiring immediate and decisive action, such as saving a choking victim, taking charge of an emergency situation, such as an accident, fire, or natural disaster, and giving a dynamic speech. Not all leaders are good leaders in every situation; however, many leaders are able to lead well in special areas (Williams 65-67).

Leaders of clubs and organizations have special responsibilities and should also conduct meetings **implementing** the rules of parliamentary procedures so that meetings run smoothly. Leaders of clubs and organizations should be able to explain the purpose and role of the organization, know the constitutions and bylaws, know the members of the organization and their abilities, know exactly what is to be accomplished at each of the club or organizational meetings, and conduct meetings fairly, efficiently, and democratically. Additionally leaders should set an example, always be dressed neatly and in uniform if required, be on time for meetings and be ready to start on time, and, last but not least, note the ideas that arise in conversation and behavior of members to determine trends in thinking. Most organizations have leaders such as president, vice- president, secretary, historian, reporter, treasurer, and sergeant-at-arms or sentinel, and **parliamentarian**. All leaders within an organization have duties and responsibilities assigned to their position. These leaders must keep in mind that their actions represent the entire group, and their behavior must set the tone for the group during all activities. For more information on the duties of each officer and parliamentary law, use the latest revised edition of *Robert's Rules of Order* as a guide for rules for conducting meetings (Williams 66).

According to Kimbrell and Vineyard, leadership skills need to be practiced, and there are many organizations within high schools that promote leadership. These organizations include but are not limited to the following:

- Health Occupations Students of American (HOSA)
- Future Business Leaders of America (FBLA)
- Vocational Industrial Club of America (VICA)
- Future Homemakers of America (FHA)
- Future Farmers of America (FFA)

There are many good qualities that outstanding leaders possess. History has taught us that not all leaders possess good qualities. When leaders do not possess good qualities, their followers will suffer the consequences of the poor leadership skills of the leader.

What does it really mean to lead? Some would say to lead is to direct, guide, show the way, influence, and **motivate** others. Some definitions of leadership depend on the organization. A businessperson may define leadership as getting the maximum amount of productivity while at the same time retaining a positive attitude among employees. A medical professional or health care supervisor may define leadership as the ability to provide the best patient care by getting all the employees to assume the responsibilities of their assignments. A parliamentarian may define leadership as how to get your way or how to get your ideas implemented using specific rules according to parliamentary law. Leadership happens when a person can accomplish the aforementioned. Good leaders **exemplify** some of the same common qualities. Most leaders have the desire to assume a leadership role and are accepted by their group or peers. Good leaders set goals by recognizing and defining what needs to be done. Good leaders are confident that they are able to accomplish their goals. According to Williams, good leaders are emotionally stable, considerate of others, empathize with other, and avoid getting angry or frustrated. Good leaders are able to communicate their ideas to others successfully by written or oral means and listen attentively to the ideas of others. Good leaders are competent, responsible, dependable, trustworthy, and can carry out their duties efficiently (Williams 65-66). It was stated that leadership is directing the activities of others. Fellowship is teaching how to work with others and follow directions to achieve a common goal. Just as leaders have responsibilities, the followers of organizations also have responsibilities to implement the plans that were decided on by the group or stated by the leader. When given the power, followers also have the responsibility to elect leaders based on their abilities, and not because of their physical appearance or popularity (Williams 68).

Scientific leaders in the field of medicine possess the same qualities as others leaders. Scientific leaders lead the way for the medical profession to practice all the modern advancements in medicine. Without the accomplishments of many of the scientific leaders, our civilization would still be living in the dark ages.

History of Medicine

Key Terms to Know

predator	convents	quackery	asepsis
superstitious	monasteries	stethoscope	anesthesia
exorcise	custodial	microorganisms	recipient
intravenously	dissections	antiseptic	noninvasive
accurate			geriatric

Early Beginning and Medicine in Ancient Times

The human population in ancient times did not have any of the comforts of living that many people in the United States enjoy today. However, in 3rd world countries, this is not the case. In ancient times, humans did not have electricity, running water, restrooms, and had very poor shelter. In addition, these shelters did not have refrigerators, stoves, cooking gadgets, modern eating utensils, bed, sofas, and entertainment devices, such as televisions, games, stereos, and computers. It is hard to imagine living in ancient times. It is even harder to imagine a person spending most of his day hunting for food while at the same time avoiding **predators** that are seeking humans for a meal. Humans were very **superstitious**; they believed that evil spirits caused diseases and other illness. Most medical practices consisted of using herbs and plants for

medicine as well as performing **exorcisms** to rid humans of evils sprits. According to Badasch and Chesebro, examples of early medicine include:

- Digitalis comes from the foxglove plant. Today it is given in pill form, **intravenously**, or by injection. In early times, people chewed the leaves of the foxglove plant to strengthen and slow the heartbeat.
- Quinine comes from the bark of the cinchona tree. It controls fever, relieves muscle spasms, and helps prevent malaria.
- Belladonna and atropine are made from the poisonous nightshade plant. They relieve muscle spasms, especially in gastrointestinal (GI) pain.
- Morphine is made from the opium poppy. It relieves severe pain. It is addicting and it's used only when nothing else will help. (3)

In ancient times, the Egyptians were very **superstitious** and believed that their gods would heal them; however, they did learn to identify certain diseases and learned the method known as splinting fractures. The Egyptians were also the first to keep health records that were considered **accurate** (Badasch and Chesebro 3).

The Greeks in ancient times were the first to study the cause of diseases, and they kept records on what they observed that caused illness, which helped eliminate superstition among the Greeks. Due to religious customs, **dissections** were not allowed on bodies. The Greeks also discovered that some diseases were caused by a lack of sanitation.

The Romans learned from the Greeks and developed a sanitation system by bringing clean water into the cities by aqueducts, which are waterways. The Romans also built public baths with filtering water systems, which was the beginning of public health and sanitation. The Romans were the first to organize medical care by sending medical equipment along with their doctors to attend to the wounded soldiers in their armies. The Roman doctors also kept a room in their home for the ill, which was the beginning of what we know as hospitals. Eventually, public buildings for the ill were established, and the Roman government paid the doctor's salaries. The Roman doctors also wore spice-filled masks that they believed protected them from infections and bad odors. One scientific leader that stands out during this time period is known as Hippocrates. According to Badasch and Chesebro, the following is stated concerning Hippocrates:

Hippocrates (ca. 469-377 B.C.), the father of medicine, based his knowledge of anatomy and physiology on observations of the external body. He kept careful notes of the signs and symptoms of diseases. With these records, he found that disease was not caused by supernatural forces. Hippocrates wrote the standard of ethics called the Oath of Hippocrates. This standard is the basis for today's medical ethics. Physicians still take this oath. (3)

The Dark and Middle Ages (A.D. 400-800) and The Middle Ages (A.D. 800-1400)

During this time period Huns conquered the Roman Empire and advancements in medical science stopped for about a period of 1000 years. The only medicine that was practiced was in **convents** and **monasteries**. The church believed that death was in God's hands, so monks and priests had very little interest in the functioning of the human body. Medical care was **custodial** and consisted of herbal mixtures. This time period was dark, indeed, because millions of people died because of the Bubonic plague and other diseases, which had no cure, such as smallpox, diphtheria, syphilis, tuberculosis, and other diseases caused by **microorganisms**. Scientists have since found a vaccine and medication to treat and control these terrible diseases (Badasch and Chesebro 4).

The Renaissance Period (A.D. 1350-1650)

During the renaissance period, advancements in medicine began again, and many scientific discoveries and scientific development took place. During this time period universities and medical schools that conducted research were built and **dissections** were allowed to take place in order to study the human body. Because of the development of the printing press, scientific discoveries were able to spread faster throughout the scientific community via books and other printed material (Badasch and Chesebro 4).

The Sixteenth and Seventeenth Centuries

Scientific discoveries continued during this time period. **Quackery** existed during this time period and many deaths still occurred, including childbed fever because infection and diseases were still not fully understood. Listed below are some of the outstanding scientists of this time period:

Anton van Leeuwenhoek

Gabriele Fallopius

William Harvey

Bartholommeo Eustachus

Leonardo Da Vinci

(Badasch and Chesebro 4)

The Eighteenth Centuries

In the eighteenth century new ways were developed for teaching medicine. Medical students were allowed to observe patients at their bedside, in addition to attending lectures and lab. Students were also allowed to study the physiology of dissected bodies using patients who died. Some of the outstanding scientists of this time period were:

Rene' Laennec

Benjamin Franklin

Joseph Priestly

Edward Jenner

(Badasch and Chesebro 5)

The Nineteenth and Twentieth Centuries

Many scientific discoveries continued during this time period. Prior to the nineteenth century, some of the scientists of this time period were:

Ignaz Semmelweis

Wilheim Roentgen

Alexander Fleming

Louis Pasteur

Paul Ehrlich

Jonas Salk

Joseph Lister

Gerhard Domagk

Albert Sabin

Ernst von Bergmann

Ivanovski (Russian)

Florence Nightingale

Robert Koch

Sigmund Freud

Clara Barton

(Badasch and Chesebro 5-8)

Additional Scientist of the Nineteenth and Twentieth Centuries

Listed below are additional scientists of the nineteenth and twentieth centuries that students can research for the leadership and history of medicine project. Many of these scientists were great scientific leaders, and made extraordinary advances in the field of medicine. There are many other great scientific leaders that are not included in this list that students can do projects on. Add more to this list each year, because there are so many great scientists making great discoveries every day. A list of these and many other scientists' biographies, containing descriptions of their contribution to medicine along with more information about the history of medicine, can be found at the following two links below and the websites listed in the supplemental resource section:

<http://www.julianrubin.com/schooldirectory/medicalbiography.html>

<http://www.pbs.org/wgbh/aso/databank/medhealth.html>

Adolf Fick	Francis Crick	Louis Pasteur
Alexander Wood	Frederick Banting	Montagnier
Ambrose Pare	George Papanicolaou	Paul Ehrlich
Anthony Plantson	Gregory Pincus	Robert Jarvik
Charles Drew	Ian Donald	Rudolf Virchow
Christiaan Barnard	James Black	Theophile Laennec
Cicely Saunders	James Watson	W. French Anderson
Clarence W. Lillehie	Jean Dominique Larrey	Wilhelm Roentgen
Earl Bakken	Joseph Lister	Willem Einthoven
Edward Jenner	Karl Landsteiner	Willem Kolff
Felix Hoffman	Leonard Bailey	William Morts

The Process of Biography and Essay Writing

A biography is basically a story about facts of a person's life, which can be very short or very long. Biographies examine and decipher the events in a person's life, attempt to find connections, explain the meaning of astonishing actions or mysteries, and make points of view about the significance of the person's accomplishments or life activities. Biographies are usually about famous people or people that invented or accomplished something that benefited our society, such as the scientists included in the paper. By reading certain biographies, one can determine a lot about a particular time and place. Biographies can be about people who are dead or living ("How to Write a Biography").

Many biographies are written in sequential order of events that happen in the life of a person while still focusing on specific topics or accomplishments concerning that person. Biographies are written using primary and secondary sources. Primary sources are items such as letters, diaries, or newspaper accounts. Secondary sources include other biographies written, reference books, or historical facts that provide information about the subject of the biography ("How to Write a Biography").

According to the Homework Center, to write a biography one should:

1. Select a person you are interested in
2. Find out the basic facts of the person's life. Start with the encyclopedia and almanac.
3. Think about what else you would like to know about the person, and what parts of the life you want to write most about. Some questions you might want to think about include:
 - What makes this person special or interesting?
 - What kind of effect did he or she have on the world? other people?
 - What are the adjectives you would most use to describe the person?
 - What examples from their life illustrate those qualities?
 - What events shaped or changed this person's life?
 - Did he or she overcome obstacles? Take risks? Get lucky?
 - Would the world be better or worse if this person hadn't lived? How and why?
4. Do additional research at your library or on the Internet to find information that helps you answer these questions and tell an interesting story. ("How to Write a Biography")

The format for writing a biography is essentially the same format as writing an essay. The biography should include an introduction. Introductions should be written in a way to capture the reader's attention with the first few sentences. If a paper has a boring introduction, the reader

may assume that the rest of the paper is boring. If reading the essay is optional, the reader may decide not to read the essay. The introduction should include a general discussion about the topic(s), and what the main body paragraphs will be about (“How to Write a Five Paragraph Essay”).

Each main body paragraph will focus on a single idea, reason, or example that supports the idea. Each paragraph will have a clear topic sentence and as much discussion or explanation as is necessary to explain the point. Try to use detailed and specific examples to make each of the ideas clear and convincing. When writing a biography, each aspect of the person’s life will be the main body paragraphs. It will most likely be more than three paragraphs, but each aspect that will be written about should be included in the introduction (“How to Write a Five Paragraph Essay”).

The conclusion should always restate the main point; however, make sure to paraphrase, and not just repeat the introductory statement. This is a good time to add some sentences that emphasize the importance of the topic and the significance of the writer’s point of view. Think about what idea or feeling readers should be left with and include it at this point. The conclusion is the reverse of the introduction in that it starts out very specific and becomes a bit more general as it is finished (“How to Write a Five Paragraph Essay”).

Papers should always be written with transitions connecting paragraphs to one another, especially the main body ones. It’s not effective simply to jump from one idea to the next; try to use the end of one paragraph and/or the beginning of the next to show the relationship between the two ideas. A transitional sentence can built in to the topic sentence of the next paragraph; it can be the concluding sentence of the first, or it can even be a little of both. To express the relationship between the two paragraphs, think about words and phrases that compare and contrast (“How to Write a Five Paragraph Essay”).

The three main parts to a paper are the introduction, body, and conclusion. The introduction contains power statements that captivate the reader and states what will be discussed in the paper. The body is the discussion that can be multiple paragraphs with a paragraph for each main idea. The conclusion is a restatement of what was discussed, but not in the exact words, and can include personal points of view. Conclusions should be powerful statements that linger in the minds of the reader. An unknown professor once stated, “Writing a paper is simple. Talk about what you are going to talk about, talk about it, and talk about it again.”

The format of papers can be written using many different schools of writing. Papers can be written using MLA (Modern Language Association), APA (American Psychological Association, Turabian (5th edition; an adaptation of the *Chicago Manual of Style* [CMS]), and LSA (Linguistic Society of America). Most high schools use the MLA format for writing. All papers in which a reference is used should also be cited properly on a separate reference or work cited page. For specific rules and guidelines consult the specific manual designated for the required writing style (Cheek).

The ABC’s of Playwriting

Drama is a great way to portray information about a person or various subject matters. As an actress, I perform spiritual plays in a group called The Uniques. It is our goal to spread spiritual messages through drama. When dramatizing a person’s life, people experience living in that moment to see what a person was experiencing in his or her life. Many times, people in the audience are experiencing similar situations in their personal lives, can relate to the performance, and even gain ideas about how to solve the same situation in their own lives. Observing a dramatization of a person’s life is a great way to learn and remember information about that

person. Studying the life of a scientist is a great way to remember the accomplishments of that scientist.

According to Sossaman, when formulating any play or dramatic scene, it is important to write about important matters in the spirit of discovery and to write about what is important to the artist. When artists are writing scripts, it takes collaborating with many people before the script is made into a production. Plays are concentrated in time and in the audience's attention, and with the exception of intermission, there should not be any interruptions. It is important to remember when writing a play or dramatic scene that theater is not film, and writers should avoid brief scenes, not include difficult or irrelevant action scenes, and not try to write anything that requires a close-up. Writers should remember that there are technical limitations when putting on a production, so scripts should not be written to include large machinery and equipment that can be very costly and time-consuming to bring to the stage. There should also be limitations on the size of the cast. The more people in a cast, the more difficult it becomes to stage a play. Plays should also be traditional lengths of 90 minutes to two hours in length. As a playwright, one must learn to observe people and learn the craft by seeing many plays and reading many plays as well. When writing a play, create a first draft and get the creative juices flowing; then revise your draft into a play using the basic rules of playwriting that are being discussed in this paper. Writers should keep a personal journal of story ideas or character sketches of people that are encountered daily, and make notes of any incidents or situations that occur daily, writing down images, scenes or locations that may make for a great setting for a play. It is also good to keep accounts of social problems and political ideas in the personal journals (2-17).

A very important aspect of playwriting is the development of characters. Characters are people that are already a part of lives of all playwrights. In every play there are major characters and minor characters, and they must have an objective in every scene. The best characters are the ones that are not simple. Characters should be interesting, exciting, and mysterious, and the writer should avoid stereotypes. Characters should go through some type of significant change, awareness, or struggle. When characters do not change in plays, they are known as static characters. It is also good when characters actively struggle against complications, even if they fail. When characters do not take serious action, they are known as passive. Characters should be round, not flat. Flat characters are all too often seen as stereotypes, and round characters are memorable. Characters should be consistent and not act differently from scene to scene in personality or toward others unless there is a reason for the odd behavior pattern that will be revealed as play progresses. Characters can be either a protagonist or antagonist. The protagonist character was mentioned above as the person who goes through struggles to accomplish his or her objective. Motives are an important part of any play (Sossaman 21-28).

There are many ways of holding an audience's attention according to Sossaman. These include emotion, secrets, tension, suspense, obstacles, complications, action, and, most important, conflict. The conflict should stand for issues greater than the characters, and must be very important to the protagonist. Conflict can be between characters, internal conflict within one character, and conflict with external forces of nature. Before the play ends, the conflict should be resolved (45-48).

The setting of a play is very important. It is more practical when a script requires very few, if any, set changes. A single set is capable of representing multiple rooms, locations, and times. The set, lights, music, and costumes should not be too costly, or the probability of the play being produced is slim due to high cost (Sossaman 53-54).

Sossaman states that stage movement and dialogue between the characters are very important. Every dialogue should have a purpose, and stage movement can help to reinforce dialogue.

Movement of the characters can reveal the characters' emotion, and stage movement can create visual interest that can draw attention to significant props (55-57).

Playwriting should be fun, and the production of a play should captivate the audience. Every play should have a great plot and should keep the audience enchanted at all times. Tom Haskins gives a great statement concerning enchanting the audience:

When we imagine theater to be enchanting, magical and spellbinding, we write plays accordingly. Instead of putting on a show, we realize ways to create what the audience experiences. We empathize with the ways the drama appears to them. We use their points of view to create hooks, to mislead their expectations and surprise them, or to raise the stakes of the uncertain outcome.

LESSON PLANS

Lesson One

Objectives

The student will:

- define terms associated with leadership
- explain how people may become leaders in general and in the scientific community
- explain how a leadership role changes
- describe autocratic, laissez-faire, and democratic types of leaders
- define terms associated with good leadership qualities
- discuss advantages and disadvantages of being a leader

Preparation

Student Resources: Principles of Leadership handout

Instructional Aid: PowerPoint or transparency of handout

Applications

Assign the task of students defining leadership terms the night prior to this lesson. Inform students of term quiz the following class period prior to the lesson.

Quiz on leadership terms

Discuss principles of leadership handout

Assessment Leadership test will serve as an evaluation of this lesson.

Lesson Two

Objectives

The student will:

- view video *Lorenzo's Oil*, the true scientific discovery for ALD that incorporates principles of a great scientific leadership
- take notes of video to write a report later

Preparation

Student Resources: *Lorenzo's Oil* report handout

Materials: *Lorenzo's Oil* video (can be rented at Blockbuster)

Applications

Watch video Lorenzo's *Oil* and take notes to write a report

Assessment *Lorenzo's Oil* report will serve as an evaluation of this lesson.

Student Handout for *Lorenzo's Oil* Report

Write a two-page essay on *Lorenzo's Oil* including answers to the questions below. This will be a major grade. The criteria and grade sheet for the paper is below. Make sure to follow all the guidelines to avoid losing points for not following directions. Include the following questions in your essay, and make sure to list dates of important events in the movie.

1. What was the full name of the boy in the movie?
2. What was the full name of the disease in the movie?
3. Who can get the disease in the movie? (i.e. Sex, age, etc.)
4. How did Lorenzo get the disease?
5. What were the first signs of the disease?
6. What effects did the disease have on Lorenzo's body?
7. What trial treatments did Lorenzo receive?
8. What was the final treatment for this disease?
9. How did Lorenzo's parents help in finding the treatment?
10. What award did Lorenzo's father receive for his great leadership as a parent turned scientist?

Lorenzo's Oil Criteria and Grade Sheet

Name _____ Seat# _____

5 Points deducted for each omitted criteria

<u>Criteria</u>	<u>Points Deducted</u>
1. MLA Heading double spaced with seat #	_____
2. At least two full pages	_____
3. Typed	_____
4. Standard Font (i.e. Times New Roman)	_____
5. One inch margins all around (top & bottom)	_____
6. Double spaced	_____
7. Properly displayed title	_____
8. Important dates included	_____
9. 10 Answers included	_____
10. Quality Essay	_____
Total Points Lost	_____
Late Points Lost	_____
Total Grade	_____

Lesson Three

Objectives

The student will:

- view video *Lorenzo's Oil*, the true scientific discovery for ALD that incorporates principles of a great scientific leadership
- take notes of video and write a report
- review for leadership test

Preparation

Student Resources: *Lorenzo's Oil* report handout

Materials: *Lorenzo's Oil* video (Can be rented at Blockbuster)

Applications

Continue watching video *Lorenzo's Oil* and take notes to write a report

Assessment *Lorenzo's Oil* report will serve as an evaluation of this lesson.

Lesson Four

Objectives

The student will:

- demonstrate knowledge of leadership skills
- view video *Lorenzo's Oil*, the true scientific discovery for ALD that incorporates principles of a great scientific leadership
- review information on how to write an essay

Preparation

Student Resources: The Process of Biography and Essay Writing Handout

Materials: *Lorenzo's Oil* video (Can be rented at Blockbuster)

Applications

Take leadership test

Continue watching video *Lorenzo's Oil* and take notes if necessary

Discuss the Process of Biography and Essay Writing Handout

Write a *Lorenzo's Oil* report(Due in 4 days)

Assessment *Lorenzo's Oil* report will serve as an evaluation of this lesson.

Lesson Five

Objectives

The student will:

- discuss the ABC's of playwriting
- discuss leadership project
- review autobiography and a dramatic scene

Preparation

Student Resources

- ABC's of playwriting handout
- Leadership project handout

Instructional Aid: PowerPoint's or transparencies of handouts

Applications

- Discuss the ABC's of playwriting handout
- Review the autobiography in appendix A
- Review the dramatic scene in appendix B (have students role play)
- Discuss leadership project criteria below
- Review additional biographies aloud, and assign selected students to read short plays or dramatic scenes. Visit DeBakey's website for samples of students' work at:
 - o <http://hs.houstonisd.org/debakeyhs/Departments.html>. Go to health science, and then click on R. Jackson.
- Divide students into small groups of 4-6 students (make groups diverse)

Assessment

Leadership presentation and leadership test will serve as an evaluation of this lesson.

STUDENT HANDOUT
LEADERSHIP PROJECT CRITERIA
BIOGRAPHY OF A SCIENTIST RESEARCH REPORT

- Research the Internet, newspaper, or medical journals for the medical scientist that your group chose from the approved list of scientists. If students want to research a scientist not on the list, the instructor must approve the scientist.
- Include in your biography research report:
 - what made the scientist a good leader in the medical profession
 - what type of leadership style did the scientist follow if any
 - what were some of the influences in the scientist's life and did the scientist's childhood have anything to do with his/her innovations
 - what did the scientist invent or discover
 - how did he get to/come across his/her innovation
 - list reasons what he/she did to help humanity
 - what qualities did he/she have to be a good scientist
 - was the leader a role model for others
 - what if any were some mistakes that the scientist made
 - include a picture of the scientist on the last page of the report
- Research paper must be at least 2 pages, not including the references, title page, and picture of scientist,
- Use MLA format and make use of the following:
 - double spaced paper
 - title page should include names seat numbers of each student in the group
 - put a header on your pages including only your group's name, one space and page number. Example: Group 1, Group 2 etc
 - use 12 point Times New Roman or similar font
 - 1" margins all around; top, bottom, left and right
 - include work cited reference page (make sure to indent 2nd line ½ inch)

PROJECT BOARD

- On a tri-fold project board (group must provide board), include pictures of the scientific leaders and inventions or representations of their discoveries.
- Include a timeline of the scientific leader's life.

SHORT PLAY REPRESENTING THE GROUP'S SCIENTIFIC LEADER

Within your group, prepare a 5-10 minutes play or dramatic scene that will teach the class about your leader. Follow the guidelines on how to write a play. Be creative. Do not perform skits using inappropriate situations or language. Any plays that contain inappropriate situations or language will be halted, and the performance will not continue. If you are unsure if a situation is not appropriate, ask your teacher.

Lesson Six

Objectives

The student will:

- learn how to research the scientific leader for their project
- research a leader of their choice

Preparation

Student Resources

DeBakey library and other student resources

History of medicine scientist list

Presentation

Librarian will discuss with students how to find information on scientist

Applications

Go to library to research a scientific leader to find the following information.

Assessment

Leadership presentation and leadership test will serve as an evaluation of this lesson.

Lesson Seven

Objective

The student will work on group project

Preparation

Student Resources: DeBakey library and other student resources

Materials

Scissors Markers

Glue tape

Copies of clippings Project Board (provided by students)

Applications

Review for principles of leadership test next class period

Related Activities: Work on project

Assessment: Group presentations will serve as an evaluation of this lesson.

Lesson Eight

Objectives

The student will:

- work on group project
- define history of medicine terms

Preparation

Student Resources: DeBakey library and other student resources

Materials

Scissors	Markers
Glue	tape
Copies of clippings	Project Board (provided by students)

Applications

Work on group project

Define history of medicine terms for homework (inform students of term quiz the next class period).

Assessment: Group presentations and leadership test will serve as an evaluation of this lesson.

Lesson Plan Nine

Objectives

The student will:

- display knowledge history of medicine terms
- review history of medicine time periods
- work on group project

Preparation

Student Resources: Student Handouts on History of Medicine

Instructional Aid: PowerPoint's or transparencies of handouts

Applications

Quiz on history of medicine terms

Review history of medicine notes

Continue working on project

Assessment History of medicine test will serve as an evaluation of this lesson.

Lesson Ten

Objectives

The student will:

- review movie on how medicine has evolved in helping patients
- work on group project

Preparation

Student Resources: Student Handouts on History of Medicine

Instructional Aid: PowerPoint's or transparencies of handouts

Materials:

Any video that will depict the history of medicine. See reference section. There are also many great movies that show history of medicine some include:

- *The Awakening* (TV version)
- *Patch Adams* (TV version)
- *Something the Lord Made* (TV version)

Applications

Watch history of medicine video(s)

Continue working on project

Assessment History of medicine test will serve as an evaluation of this lesson.

Lesson Eleven

Objectives

The student will:

- review movie on how medicine has evolved in helping patients
- work on group project

Preparation

Student Resources: Student Handouts on History of Medicine

Instructional Aid: PowerPoint's or transparencies of handouts

Materials: Any video that will depict the history of medicine (see reference section)

Applications

Continue watching history of medicine video(s)

Continue working on project

Assessment History of medicine test will serve as an evaluation of this lesson.

Lesson Twelve

Objectives

The student will:

- present group projects
- review for history of medicine test

Preparation

Student Resources: DeBakey library and other student resources

Materials: Students displays and props

Applications

Review for history of medicine test

Students will present group project

Assessment

Group presentations and history of medicine test will serve as an evaluation of his lesson, which will be the following class period.

Lesson Thirteen

Objective

The student will display history of medicine knowledge

Preparation

Materials: History of Medicine Test

Assessment: History of medicine test will serve as an evaluation of this lesson.

APPENDIX A

Autobiography of Regina Jackson: Clinical Laboratory Scientist Turned Teacher

Imagine a young lady at the young age of 21 graduating from college with a four year BS Degree in biology. The year was 1981, and she graduated after attending only three years of college. Now, imagine this ambitious young lady looking for a job in a clinical laboratory, only to find out she did not qualify. All of the labs this young lady applied to said she had to be ASCP certified as a medical technologist or medical technician. Finally, the Veterans Affairs Medical Center (VAMC) hired this young lady as a medical technician. A technician position only required two years of college. In addition, technicians get paid much less than a technologist and cannot advance to become a laboratory supervisor. I experienced such a tragedy by not being prepared in pursuing my education, but that was only the beginning.

Early in life, I wanted to be a doctor. The college I went to advised me to obtain a BS Degree in Biology. I wanted to work in the hospital, so that I could be exposed to the various medical specialties. However, while working in the hospital, I learned one important thing about myself. I did not enjoy being around sick people. This is, in fact, a very poor characteristic for a doctor. I decided not to pursue a career as a doctor. Since I was not satisfied with my job as a medical technician, I decided to become a Certified Medical Technologist. During this time, I got married with the hopes of having children someday. My doctor told me that my husband and I would need assistance when we were ready to have children. I applied and was accepted to the University of Texas Health Science Center. Shortly after acceptance, I was diagnosed with a common condition called pregnancy, shocking my doctor, my husband, and myself. I did not attend UT and resigned from the VAMC shortly before my son was born. I opened a registered daycare in my home teaching preschoolers to read. When my son was one year old, I reapplied to UT's Medical Technology School. The day I paid my fees, when I was diagnosed with the same condition again, PREGNANCY! This time I decided to attend school anyway. The program at UT was on the quarter system, so I went to school part-time the first quarter, full-time the second quarter, and part-time my last quarter. The quarter ended on a Friday. I went into ***labor*** the following Monday on ***Labor*** Day, 1985. I was joked about in the delivery ward. I stayed at home with my second son for three months, then went back to complete my clinical rotations. After completing UT's program, I passed the certification test to become a Medical Technologist – ASCP certified.

Attending the program at UT was very difficult since students were not allowed to fail any test. If a student failed a test, students were allowed one retake. If students failed the retake test, the students were asked to leave the program, even if it was the last course of the program; talk about pressure! In addition to being in classes from 8 A.M. – 5 P.M. like a regular job, we had various lab management projects such as cross-training lab personnel, and had to learn word processing, spreadsheets, and how to create a database. It took hard work and determination to attend a structured medical program and still be a wife and mother of young children, but I survived, making very good grades.

In 1986, I returned to the VAMC to work as a Medical Technologist in the microbiology department. I worked in microbiology and special microbiology. In 1990, I started training

medical technicians and technologists who rotated through our hospital. In 1992, the VAMC started a Medical Technology Program, and I was chosen to teach an immunopathology course. I discovered that I enjoyed teaching. Teaching full-time became appealing to me, and in 1994, I applied and was hired to my current teaching position.

Career Planning Lesson

Students at DeBakey High School for Heath Professions are fortunate to explore many options for obtaining a degree in the health care profession. Before discussing the career-planning unit, students discuss a unit called understanding yourself. It is explained to students that it is important to understand yourself before pursuing a career. Students learn their likes and dislikes, strengths and weakness. Students take inventory surveys to give them clues about their personality, interests, abilities, attitudes, aptitudes, and leadership traits. Students also take aptitude tests that compare their abilities to those of others who are presently in the work force and identify traits and skills that are necessary for success in certain careers. Because many of our students aspire to become a doctor, students are encouraged to obtain a BS Degree in one of the allied health professions such as nursing, occupational and physical therapy, medical technology, etc. This type of degree will be more useful for pursuing a career as a doctor and increase a student's chance of getting into medical school. If students don't get into medical school soon after graduation or decide not to become a doctor, students will still have a career to build on. My autobiography is also referred to when career planning is discussed. References are made concerning the fact that I should have done a self-analysis and volunteered in a hospital setting before pursuing a career as a doctor. If I had discovered that I did not feel comfortable around sick people before pursuing my first degree, perhaps I would have taken a different route in choosing a career. Not making the best career choice was also financially devastating to our family. For most first degrees, students receive financial assistance with grants, scholarships, and parental assistance. Any degree after the first is usually the financial responsibility of the student as it was in my case. According to the grant underwriters, my husband made too much money for me to receive a grant like I received with my first degree. I had to get student loans to attend UT. The loans ended up costing our family \$150 a month, and took almost ten years to repay. An extra \$150 a month in the 80s could really assist any young couple with children. That was a hard financial lesson to learn. Students need to really do research and choose wisely for their first degree. Students also need to explore in advance how much time and effort is required to accomplish their career goals. By using my autobiography of scientist-turned-teacher, it is my goal that students at DeBakey and students across the nation learn from my story and can make better career choices that can put them on a fast tract to accomplishing their career goals. My autobiography will also be used as a model of how to write a biography and learn how to create a dramatic scene by following the example of the dramatic scene derived from my autobiography listed in appendix B.

APPENDIX B

A Dramatic Scene from the Autobiography of Regina Jackson

Why Not?

A Dramatic Scene

by

Regina McClinton Jackson

CAST OF CHARACTERS

QUEEN: A young lady who wants to become a medical technologist, but faces challenges on her quest to do so.

ISAIAH: Isaiah is QUEEN'S husband who is an educator and does not want QUEEN to go through the struggles of becoming a medical technologist at this point in her life.

AT RISE: The scene opens in the living and dining room area of QUEEN and ISAIAH'S home. QUEEN enters the living room. She is wearing a seductive outfit. She has planned a romantic dinner for ISAIAH. She puts the final touches on the table setting and lights the candles. Five seconds later, ISAIAH enters the living room.

QUEEN

ISAIAH! (QUEEN running to ISAIAH to give him a hug.) How was your day, baby?

ISAIAH

(ISAIAH talks as he walks to the sofa, sets his brief case down and sits.)

Same as always. Why are you so nice? What do you want?

QUEEN

Why do I have to want something just because I made a nice dinner for my husband?

ISAIAH

Because I know you, Queen, now what do you want?

QUEEN

Well (pause), I have some good news and some great news. Which do you want first?

ISAIAH

Can I eat first; I'm hungry!

(QUEEN and ISAIAH sit down to eat. There is dead silence for a minute, and then QUEEN speaks.)

QUEEN

UT got my student loan processed, so I paid my fees for Medical Technology School today.

ISAIAH

That's fine, but remember, you promised to find a way to repay *your* loans. It's all on you, even if you need to get a second job after you graduate. Was that the good or great news?

QUEEN

I'll let you decide. (QUEEN pauses for a moment.) I got a call from the doctor today and... and...

ISAIAH

And what?

QUEEN

We're having another baby!

ISAIAH

Baby! Wow! Now that is great news!! But wait...Well that settles that, you sure can't go to UT's medical technology school now.

QUEEN

Why not?

ISAIAH

Get serious! You will not even finish school before it is time for you to have our baby. How are you gonna manage caring for *two* babies and go to school?

QUEEN

I'll manage! You know I can do anything if I set my mind to it. Besides, my mom can help me. She is not working now.

ISAIAH

I don't think so! I hope you can get a refund on your fees and return your loan because you are not going to medical technology school. (pause)

(ISAIAH slams his fork down on his plate, gets up and goes to the sofa).

I lost my appetite!

QUEEN

Why do you have to be so difficult? I never tried to stop you from succeeding when you got your master's and mid management degree.

ISAIAH

That's different!

QUEEN

No, it's not! Why are standing in the way of *our* future?

ISAIAH

I'm not; I'm just being logical, and you're not.

QUEEN

I can do it. If I don't do it now, I will never do it. Please, Isaiah! Let me try.

ISAIAH

I don't want to talk about it! Case closed!

QUEEN

You are just afraid that I'll end up making more money than you.

ISAIAH

You can think what you want to think, Queen.

QUEEN

I'll make a deal with you. Let's see how I manage the first quarter of the school year, and then we can decide if I will continue.

ISAIAH

OK! Just so I will be able to live in peace for the rest of my life, we will try one quarter and we will see how it goes.

QUEEN

You won't be sorry. Now, can we finish eating this great meal I slaved over all day?

(They return to the dinner table and continue to eat. They laugh and have polite conversation as the curtain closes).

THE END

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