Health Ill-Literacy: America's Silent Disease

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INTRODUCTION

I remember as if it were yesterday. On Christmas of 1990, a seven-year-old girl anxiously awaits for the door that leads to all the presents to open. As the door opens, she races in to see what Santa Claus brought her this year. She jumps for joy as she sees her new pink and purple bicycle without the training wheels, two Barbie dolls, a baby doll with clothes and matching accessories, a radio, Kid Sister, and lots of coloring books. As she admires her gifts she cannot seem to stop thanking a jolly old man that she has never met or seen for that matter. She takes time to play with each individual toy before opening her presents from various friends and family members. After helping her cousins separate the presents from under the tree, she proceeds to open her gifts remembering to save the bows and nametags so she knows whom to thank. Thirty minutes later she arrives at her last gift. Although it is very poorly wrapped, she is still intrigued by the look and feel of the package. As she reads the tag, she notices that the package was sent by the busiest uncle in the world, Dr. Terry. What was the most hideously wrapped gift became the most precious gift that sparked a forever burning flame in an interest in medicine with her new doctor's kit which included a stethoscope, muscle reflector, thermometer, bandages, and a simulated blood pressure device. From that point on, her dream was to become a doctor to help people.

Even though I discovered this new love for science, it did not channel over to school. From elementary school to middle school, I was not interested in science at all, and my grades proved it. At the same time, I would read books, watch movies, and attend programs that dealt with medicine. My mom didn't understand how I could be so enthused about medicine outside the classroom but could not get higher than a C in school. Honestly, I could care less about Newton's three laws of motion, climate and climate change, and how the moon controls high and low tides. It was not that these topics were boring, but my teachers failed to connect the lesson to everyday life. It was through books, movies, and after school programs that I found the importance of these topics to everyday living. It was not until high school that my love for science connected with topics in the classroom.

I could not wait for the first day of high school biology. Somehow I managed to make my way into Advanced Placement Biology. The teacher began class with current events that occurred during the summer. In fact each day she started the class with a current event that related to that day's lesson. From that point science became my favorite subject and my grades showed it. I was like an encyclopedia on topics such as health, diseases and treatment. Each month I was invited to attend a seminar at the National Institute for Health, which only furthered my knowledge and love for health. This passion continued into college as I had already decided that I wanted to major in biology.

Unfortunately, my first few semesters in biology classes were not at all how I imagined. In fact during my freshmen year, I only took one biology class titled Genetics. The other classes were physics, chemistry, and English. I was starting to rethink my major in biology. My mentor advised me that things would get better but first I had to make it through the prerequisite

before declaring my major. She said, "Think of it as a rite of passage. The science geeks want to make sure that you can survive the vigorous curriculum of biology." It makes sense because out of the 120 students that declared biology as their major in 2002, only 45 graduated in 2005. As I was becoming more settled in my studies, I was able to join organizations that focused on raising awareness and money for cures to cancer, AIDS, and various other diseases. No matter what course I was taking, I always tried to make the connections between the material and my love for medicine. However, it was not until my senior year in college that I studied the brains of the medical operation: the health care system.

In fall 2004 I was enrolled in Biomedical Ethics, a class that focused on the rules and codes of conduct that govern the medical field. This was definitely and eye-opening experience. After all the years of studying medicine, I never really thought about how discovery and treatment of different diseases is funded. As with many classes in college, our final grade was based on a research topic of our choice. What started out as a research paper arguing for universal health care ended up on a paper exposing the low health care literacy in America and possible solutions to solving this problem. According to the Center for Disease Control, health literacy is defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions ("Improving Health Literary"). Based on this definition one is likely to assume that low health literacy results from a lack of education. Therefore, the definition provided by the Center for Disease Control does not take into account the number of underlying factors that affect literacy. For example, older adults who may have had perfect reading, writing, and thinking skills at a younger age may experience difficulty as they age with reading and understanding information. Also those who migrate to this country may be very proficient in reading and writing in their native language but lack the skills to be proficient in English. These findings show that health literacy is a silent disease that has short and long term effects on people and society. Unfortunately, health care illiteracy is disproportionately affecting our most vulnerable populations: the poor, the aging, and the immigrants ("Improving Health Literary").

"This is America, where the national language is English!" Why is this statement problematic? Even though according to the 1990 Census English is spoken "by 95% of its residents […] 57% of U.S. residents above the age of four speak English 'well to very well'," the United States of America does not have a declared national language ("Guidance Memorandum"). This means that this country is home to many people whose national origin is not the United States and native language not English, making it difficult for them to read, write and understand the English language. While socially this can isolate many immigrants from the public arena, it also creates language barriers that can result in "limiting their access to critical public health, hospital and other medical and social services to which they are legally entitled and can limit their ability to receive of or understand what services are available to them" ("Guidance Memorandum"). Many physicians' offices have staff and information in English only, therefore, making it hard for non-native English speakers to receive appropriate and adequate health care. Unfortunately, my students and their families face these same problems as they actively seek appropriate health care, but because of the language barrier they receive the bare minimum.

My primary intention for developing this curriculum is to close the literacy gap that exists in understanding health care by showing students how to access readable information and make informed decisions based on their findings. In the beginning of the year, I noticed that several of my students, especially those who were Hispanic, were constantly leaving half way through the day to go to the doctor or the dentist. One day, I asked a few of them why they were always leaving at noon. In summary, their response was that they were the English/Spanish translator between the doctor and their guardian. For a moment, I could not even imagine being twelve or thirteen years old and having to translate medical information to my guardian and then back to the

doctor. What questions would I ask? What advice would I give my parents? How do I even understand or explain what the physician is saying? This curriculum is designed to educate and empower students to become actively involved in the health care system by improving their health literacy.

Ill-literacy in America

Can you read this: ycaretil-lli htlaeh: esaesid tnelis s'aciremA. Probably, but would you have tried if your reading skills were limited, if English was not your first language, or even if you were tired, stressed, or sick? Because of these factors, you would have missed the message: "America's silent disease: Health Ill-Literacy." Unfortunately, millions of Americans struggle to understand messages about their health care. Often times health information can be written at a complex scientific level making it difficult for people to read and understand their prescription, medication instruction, informational brochures, insurance applications and consent forms. In fact a study conducted by researchers at Louisiana State University showed that "reading levels of materials given to patients were 5 to 7 years beyond the patients' ability to read them" (National Institute on Deafness and other Communication Disorders). While this holds true for people of all reading levels it specifically affects those of marginal reading skills which is defined as reading below an 8th grade reading level. In fact, Schillinger pointed out that, "10 to 22 percent of Americans are at the lowest level of literacy, meaning that they are unable to read a medicine bottle or poison warning." He also noted that "on average, the reading level in the United States is somewhere between the eighth and ninth grades, while the average reading level of Medicaid recipients is significantly lower- at the fifth grade." As American citizens, it is our call of duty to make health literacy a public priority (Schillinger).

Myth

All Americans can read and read well given the opportunities available in America. Often times, we overestimate the reading ability of Americans. According to Rudd, "American adults score at an average of prose literacy performance (written words in a sentence or paragraph format) when compared with adults in other industrialized countries." In fact, "the average US adult has limited functional literacy skills (an individual's ability to read, write, and speak in English and compute and solve problems at levels of proficiency necessary to function on the job and in society). Reading is a use-or-lose skill, which means that reading grade level is not always the same as highest grade of school completed. In fact, most adults read 3 to 5 grade levels below their highest grade completed. Furthermore, even conversational skills can misrepresent reading ability because people tend to speak at a few grade levels higher than their reading level (Rudd; "Improving Health Literary").

Fact

Low health literacy parallels with US demographics. When compared to many other countries, America does have a high literacy rate but as a downfall it tends to underestimate the populations who are really effected by low health literacy. The fastest growing populations in this country are those most likely to have limited reading skills: people who are immigrants, sick, poor, or older than 65 years of age. It is these populations that makeup the vulnerable populations. However, people outside these populations can also be affected because everyone's reading level is influenced by circumstances, interest, and time ("Improving Health Literary").

A brochure reads as follows: "Your mammogram showed a lump suggestive of *cancer*. A biopsy will be required to determine whether this is truly *cancer* or an artifact. If it is *cancer*, the biopsy will also indicate whether it is malignant or benign."

The word "cancer" is highlighted because all the patient sees is "…cancer…cancer…cancer." The point is that many people need health information that is clear and easy to read, and most

people want health information that is clear and easy to read. The consequences of not providing what people need and want could lead to errors with medications, low number of completed treatments, and longer hospital stays. Unfortunately, the dynamics of health literacy is twofold. On one hand, patients view health literacy as being able to follow instructions, manage an illness, and take medications properly, but health care professionals view literacy as being aware, taking action, gaining access, engaging in rights and discussions, and making policy decisions. This miscommunication is having a negative impact in healthcare because it is producing unnecessary costs. A study done in the early 90s discovered that "patients enrolled in Medicare who were identified with low-literacy skills were more than four times as high as costs for patients with high literacy- roughly $13,000 compared to $3,000 per year" (Schillinger).

Talking the Talk

Today's patient must be physically and mentally fit to overcome the obstacles of limited access to health care and high cost bureaucrats to reach the finish line at the physician's office only to face another dilemma of not understanding what the health care provider is communicating. Recent studies provide evidence that health literacy and patient-physician communication is essential to receiving quality health care. This section focuses on findings from different studies proving that a correlation exists between age, education and economic status, and poor health.

Let me start off by providing you with some alarming statistics that I found interesting published by the Center for the Advancement of Health in March of 2003. Their findings proved that "low health literacy is particularly common among older adults and low-income patients. More than 66 percent of U.S. adults age 60 and older have inadequate or marginal literacy skills, and about 45 percent of all functionally illiterate adults live in poverty." Furthermore, "the Institute for Healthcare Advancement estimates that the average annual healthcare costs of people with very low literacy may be four times greater than the general population." Stretching across gender lines, research suggests that "female primary care physicians tend to engage in longer visits and have more 'patient-centered' consultations than their male colleagues do." Even though these numbers are three years old, I am confident in saying that the numbers have only increased since its published date ("Talking the Talk").

However, the Center for the Advancement of Health was not the only organization that published such alarming findings. Pamuk et al., states, "each increase in social position measured either by income or education improves the likelihood of being in good health…low birth rate and infant mortality are more common among the children of less educated women …mothers with more education are more likely to received prenatal care …" Furthermore, the study concluded that "those with low literacy skills report poorer overall health, are more likely to be hospitalized, have poorer understanding of treatment, and have lower adherence to medical regimens." Students admitted that when they do not comprehend what's going on they become passive, stop listening, and lie (Rudd).

The Institute of Medicine conducted a study that focused on getting patients on Medicaid to become empowered and ask questions of their doctor rather than just nodding their heads in as a form of understanding. A major study in Florida is testing whether teaching health literacy classes and using simple-to-understand medical instructions -- including lots of pictures instead of big words and doctor-speak -- can keep Medicaid patients with diabetes and high blood pressure healthier. Dr. David Baker of Chicago's Northwestern University believes that "low literacy is far more than a reading problem and patients who have a hard time comprehending health instructions avoid care" (Neergaard). For two years, half of the participating centers will administer usual care. At the other half, patients will receive standard care and also attend classes about their disease and receive special health materials, in English and Spanish, full of pictures

and very easy words. For example, the diabetic symptom "increased urination," is written as "having to pee a lot." Results proved that utilizing various forms of communication helped patients better understand instructions by the physicians which lead to an active interaction between doctor and patient. This lack of understanding and communication becomes very problematic when patients with low literacy tend to be less successful in managing chronic diseases (Neergaard).

A study at San Francisco General focused on the effects of low health literacy on blood-sugar control in Type II diabetic patients. To no surprise, they discovered that patients with high literacy were capable of managing lower blood-sugar concentrations over a longer period of time whereas patients with low literacy levels would experience higher levels of glucose in their blood. Along with high levels of glucose in their blood, patients with low literacy were also experiencing other complications. Retinopathy, a condition that damages the eye's retina, is a visual complication that patients with low literacy were more likely to experience than patients with high literacy. These disparities are attributed to something as simple as understanding prescription labels, brochures, web pages, or even comprehending the message the doctor is relaying (Schillinger).

Another study conducted by researchers at San Francisco General revealed that 32 percent of the patients said that their doctor often used words that they did not understand. This evidence also proves that it is not just because people do not understand medical terms because researchers states that "these words are not necessarily medical jargon, but maybe everyday words used in special ways or common words that are simply beyond the experience of the patients" (Schillinger). On a side note the study reported that one fourth of patients expressed that their doctor gave them test results without providing an explanation. Furthermore, how many of those patients felt comfortable and confident to ask their doctors to explain their test results. How can patients be accountable for being actively involved in their health when doctors are not fulfilling their end of the bargain? (Schillinger)

Race or Class?

Many debaters over health disparities often pose the question: Which trumps the other, race or class? According to Smedley, "racial and ethnic minorities tend to receive a lower quality of healthcare than non-minorities, even when access-related factors, such as patients' insurance status and income, are controlled" (1). This comes as a surprise to many because the overall health of the American population is steady improving, especially after reading the story of Robert Tools. In 2001, Robert Tools, a 59 year-old African American, was the first surviving recipient of an implantable artificial heart paving the way for others to undergo this procedure. Not only was Tools given a second chance at life, so will many others. While this successful surgery was a breakthrough for medicine, it blinded many to the health disparities that exist based on race because the patient was black and the doctors were white. A poll taken after this story broke headlines suggests that "a significant majority of Americans believe that blacks like Tools receive the same quality of healthcare as whites" (Smedley 2).

Through the Patient's Eyes

There has come a time in our society where people feel that health is an individually managed business meaning that it is no one's responsibility but yours. In June 2001, physicians of the American Medical Association conducted interviews with courageous individuals to show the physical and mental effects low health literacy possesses. After reading these patients' testimonies, it is obvious that one cannot brand those with low health literacy by a physical characteristic or employment status. Even though the elder, immigrants and those with a low economic status do make up a large portion of the low literacy population, we cannot assume that

there are not others of different groups that struggle with health literacy too. These testimonies are perfect examples of how you cannot judge a book by its cover.

Meet Mr. Dallas, a well respected man in this community, he is a community leader and church deacon. Despite his accomplishments, he only reads at as 3rd grade level. Below is a small excerpt from Mr. Dallas' interview with an AMA physician. It reads as follows:

Mr. Dallas: Take one capsule

Researcher: That's right, one capsule.

Mr. Dallas: One capsule, capsule. I don't know what that says, is that ten?

Researcher: Twice

Mr. Dallas: Twice daily

Researcher: Okay, so how would you take this?

Mr. Dallas: It's not on there how to take it. It says take it twice daily, but it don't say what time to take it. (Schwartsberg)

It is obvious that Mr. Dallas is struggling from what seems to be a simple instruction that appears on pill bottles-- "Take one capsule, twice a day." A person with high literacy would interpret that instruction as take it two times a day one in the morning and one after dinner so that the time is evenly spread throughout the day. But then the question becomes, do I have to take the medication with a meal, or do I have to wait. Do I stop taking the medicine after it is gone or until I feel better? Do I have to take it at that time everyday? What happens if I forget to take it at the time I usually take it? All of these questions arise from a 6-word instruction.

Meet Mrs. Stuart who functions in society as a nurse's aide in a nursing home. She reads at a 7th grade level making it difficult to comprehend dosage instructions. Here is an excerpt from Mrs. Stuart's interview:

Researcher: Your two-year-old has a high fever. Okay. What would you do?

Mrs. Stuart: Well, I would probably go and get some Tylenol.

Researcher: Okay, so which one of these things would you pick out for a 2 year old?

Mrs. Stuart: Probably this one. (Mrs. Stuart has picked out a pediatric suspension from Tylenol)

Researcher: Okay. Let's take that. Now take a look at it, and tell me how you'd give your 2 year old that?

Mrs. Stuart: Probably a teaspoon. (One teaspoon= 8 Adult Extra Strength Tylenol) (Schwartzberg).

Mrs. Stuart is proof that just because you work in the health care system does not make you health literate. Schillinger points out that "a person's health literacy skill is his or her ability to read and understand health information and to make decisions based on the information, whether it's following the directions on a bottle of Tylenol or learning on a health web site how to keep one's cholesterol in check" (Schillinger). The results of Mrs. Stuart's inability to read bottle instructions could have led to a trip to the hospital and extra medical expenses. According to Pfizer, "a conservative estimate places excess health care costs due to low literacy at tens of billions of dollars a year" ("What is Health Literacy?"). Unfortunately, Mrs. Stuart is not the only person. The potential for serious medical error embedded in these encounters just described could not be anymore clearer. Research shows that "as much as 50 percent of the population has difficulty understanding medical instructions" (Schillinger).

Don't Be the Problem, Become the Solution

Whether it's a result of age, gender, race, class, or country of origin, low health literacy is plaguing our nation. Instead of arguing over the causes of low health literacy, I charge everyone to play a part in closing the gap of health disparities in the American healthcare system. Low health literacy is an American problem that must be solved from top and from the bottom. Medical organizations, physicians, patients, and you can play an important role in improving health literacy, which will ultimately eliminate the existing health disparities. The Institute of Medicine states "responsibility for improving health literacy must be borne not only by the healthcare system, but also by educators, employers, community organizations, and other groups with social and cultural influence" (Smoots).

The Institute not only talks the talk but walks the walk by starting a roundtable discussion on health literacy with leaders from the academia, government, foundations, and representatives of patient and consumer interest. Their goal is to translate research findings to practicable strategies that can be implemented ("Roundtable on Health Medicine"). The "Five Steps to Safer Health Care" is a program designed by the AHRQ in hopes of publishing low literacy materials that can help patients decrease the chance of medical errors, understand instruction labels, and seek preventive care (Smoots). National Institute of Health is doing their part with a committee called Healthy People 2010. In their efforts to reduce health disparities, they are emphasizing appropriate written materials for audiences with limited literacy by using existing resources written in plain language targeted to this population. Secondly, they plan to improve the reading skills of persons with limited literacy by developing health literacy programs offered through libraries, schools and community groups ("Improving Health Literacy" NIH).

In their effort to improve health literacy, the physicians of the American Medical Association developed a literacy kit for its members and premiered it during the two-day symposium in late June. The purpose of this kit is to help doctors pace their speaking, avoid medical jargon, and techniques to help patients explain information that they just learned. During the AMA symposium, Dr. Wynia states, "Without effective communication, the patient is left out of the loop in their own health care. That's not acceptable from an ethical standpoint, and it also leads to worse health outcomes" ("Health Literacy News").

Patients can play an important role in the literacy movement also. Doctors and staff can misinterpret bringing relatives or friends for help; therefore, Smoots advises patients to as their healthcare provider three main questions: "What is my main problem? What do I need to do? Why is it important for me to do this?" These questions are concise and limit the doctor's information to the patient which keeps the patient from feel overwhelmed.

As a teacher, I have worked to develop a curriculum that focuses on improving health literacy among my students. The following sections are focused on how to implement strategies and lesson into the unit. The strategies are blueprints making them easy to implement based on various teaching styles.

IMPLEMENTAL STRATEGIES

This month-long unit will require students to operate in two mind frames. On one hand, they will play the role of themselves by asking and answering questions like a typical middle school student. On the other hand, they will play the role of health care professionals by keeping in the mind the most cost effective way to relay information to the public. Students will begin the course by giving a medical history survey to at least five family members. From at least five surveys, students will examine the data and manually create a bar graph of the information analyzed. Students will not be asked to share their information with the class but will need to pick one disease to research during class the following week. The purpose of this introductory

assignment is to simply connect the unit to their everyday lives from the beginning. (Accommodations will be made for students who do not have a family or access to medical records of their family's historical illnesses.)

After a class discussion on what students found, they will have the opportunity to pick two diseases and research databases, books, scientific studies, the Internet, etc., to collect a variety of information. Students will analyze the information to answer the following questions: Did I understand what I just read? Was the information useful? Was it too vague or too wordy? Are books better than the internet? Are private based websites better than governmental based websites? Who is the target audience for this information? Who has access to this information? Is the information doing more harm than good? After answering these questions, students will be able to make conclusions as to where people should go to find well-written, understandable medical information. Following this paragraph is a sample analysis of what is expected in the student's written analysis of four different sources. The disease of choice was mononucleosis because it is a disease in which its highest infection rate is among teens.

Random Internet Source	Family Oriented Source	Government Based	Teen
Mayoclinic.com	*Familydoctor.org*	*FDA Consumer Magazine*	*Kid's Health*

After reading the information provided by these sources, the source of information that would reach a variety of people would be Teen's Health, which comes to no surprise because the disease is a communicable disease common among teens. This article attracts its audience by beginning with a scenario of a young girl who has the symptoms of the flu and this thinks that she is coming down with the flu again. However, unlike the times when she had the flu before this time she is having trouble lifting her head off the pillow. This scenario reveals that many people confuse symptoms of the flu with the symptoms of mononucleosis but those with mononucleosis experience extreme muscle fatigue. The article continues to inform its audience that this disease is caused by a virus, but even though people may be exposed to the virus, this doesn't mean that those exposed will develop the symptoms of mononucleosis. It is important to note that those who are infected will carry the virus for the rest of their lives. However, the chances of getting sick again are very low (kind of like the chickenpox). Another plus about this article is that the information is broken down into common questions that people want to know about a disease. For example, "What is it?", "How do people get it?", "How do people know if they have it?", "How can people get better?" This is also a time saving method of relaying information because if someone only needs information about symptoms or treatment, they do not have to read the entire article but instead just locate the section that has their question as the heading. Most importantly the information presented uses a vocabulary that can be understood by many people regardless of race, age, economic status, and language ("Mononucleosis" *Kid's Health*).

Student's final project will be twofold. First, students will have to create a brochure or pamphlet that displays information about their disease that is understood by their target audience. In order for the brochure to be complete, it must answer the following questions: What is the disease? How do can I contract the disease? What are its symptoms? How do I know if I have the disease? How do I get better? Is there any other important information? Who or where can I visit for more information? Of course above anything else, their brochure must be creative and display accurate information. As a model, there will be a finished product that I have created for students to see what I am looking for in the finished product.

In order to test if their information reaches a wide audience, the students will have to conduct a well-designed scientific study that they have created in their groups. This portion of the project is very well needed because most of my students have trouble creating experimental designs.

Being an 8th grade teacher, you are supposed to assume that your students can complete this task since they should have learned this objective in every grade level up to that point. However, what I have noticed is that they can tell you the five steps, but they do not know what information goes in each part and how to write a scientific report properly. Also, 14 out of 48 questions on the 8th grade Science TAKS are solely based on developing hypotheses, interpreting data, and making conclusions. The criterion is that they have the five steps of the scientific method (problem, hypothesis, experiment, results, and conclusion) with their design and findings written in the appropriate section. The following paragraph is a more detailed breakdown of what information goes in each section of the scientific method.

The research question is the single most important part of the scientific method. Every part of the project is done to answer this question. The research question is sometimes formed as a statement and is called the problem. The hypothesis is an "educated guess," formed as a statement, which the researcher proposes to be the answer to the research question. An educated guess is based on some prior knowledge. The experimental design includes the materials, which is everything needed for the experiment to work and the procedure, which is the exact steps the researcher uses to carry out the experiment. The data gathered from the experiment belongs in the results section. This section usually includes graphs, charts, pictures, and data tables. Students are not to provide an explanation of the results belong in this section. The conclusion is a summary of the research and the results of the experiment. This is where students answer their research question. They make a statement of whether the data supported the hypothesis or not. Students may have data that supported part of the hypothesis and not another part. They may also have data that did not support their hypothesis at all. In this case, students may explain why the results were different. One of the most important things for a student to do is recognize the people and resources used in developing and conducting the project. Students need to name the people who offered knowledge or helped, and list the web sites, retail stores, magazines, books, computer programs, etc., that were used as sources of information or supplies.

The final project must be at least five pages long, including charts and/or graphs, and all participating individuals must remain anonymous. My goal is to have students who complete the final project travel to Hermann Memorial Hospital facilities and display their project to a few health care professionals.

In the curriculum unit we exposed the health disparities that exist in the health care system because of low literacy. Our intent is to come to the conclusion that these disparities do not have to exist if we improve health literacy and communication skills between patients and physicians. Improving literacy levels, not just in the health arena, will open a wide range of opportunities for diverse populations. Students will understand that increasing literacy, writing, thinking, and social skills will open the door for opportunities in high school and college and help people become functional members in society. Most importantly I want to teach students not to settle for what is given to them and help cause the change they want to see.

I dedicate this unit to my first 8th grade class who have inspired me to write this curriculum. You have taught me more than you will ever know. Remember, “Think above and beyond the year 2010 because that is when your life actually begins!”

A LESSON IN BREAKING DOWN BARRIERS

Lesson One

The goal of the first lesson is to spark an interest in the students immediately. To ensure that I meet my goal, I have incorporated activities that my students love to do and to make sure that all discussions and activities are tailored to my students’ everyday lives. Not only with this lesson, but throughout the unit, students will have ample opportunity to reflect on what they have

learned. Furthermore, I will challenge students to think critically on the different perspectives of our healthcare system and why these differences exist.

Materials

- *John Q* (DVD)
- Literacy Statistics
- Sample Medical and Personal History Form from Immigration Services
- Myth or Reality Worksheet

Objectives

Students will be able to reflect and discuss data presented by a Medical and Personal History form from Immigration Services. Students will be able to discuss the problems that exist with in the health care system after reflecting on the blockbuster hit *John Q*.

Activity One

Students will be given a copy of the Medical and Personal History form from Immigration Services. Before students are asked to complete as much as the form as possible, they will reflect on the appearance and look on the form. As students begin to write, I will prompt them with questions such as "Do you feel intimidated by the form?" "Do you thing the form is too long?" All acceptable responses must be at least one paragraph. Then, students will begin to fill out the form. Once students have finished filling out the form, they will reflect on the activity and prepare to discuss their reactions and feelings about the form.

Reflection Questions: All responses must be a paragraph.

1. How did you feel while you were filling out the form?
2. Where some questions too personal? If so which ones?
3. Why is it important for people to fill out this form before entering this country?
4. Do you think it is right to discriminate people based on their answers?

Students will be given ample time to develop thoughtful answers. There are two reasons why students are asked to be thorough in their answers. First, students who do not like to participate orally will still receive credit through their written work. Secondly, students need to improve their writing skills, as they get ready for high school and college. Furthermore students will be versatile as they are able to express their thoughts orally and through pen and paper.

I will use the reflection questions to spark a discussion. It is important to establish rules for discussing issues in the classroom. As a teacher I will model how discussions are supposed to be conducted, but then become more of a facilitator, a role that students will eventually perform.

Activity Two

In this activity, students will have the opportunity to watch and reflect on the blockbuster hit *John Q.* As students watch the movie, they will answer questions and write discussion questions of their own.

Movie Questions

1. In your own words, describe the Archibald family.
2. Explain what happened to John Q's son.
3. Throughout the movie, there are several instances where low health literacy plays a factor in communication. Pick two and explain what happened.
4. Can you justify John Archibald's actions? Why or why not?

If time permits, students will have the opportunity to at least discuss question number 4.

Evaluation

After each lesson, students will reflect in a personal journal. This reflection will be their exit out of the classroom. Students may share their reflection with the class or another classmate. For homework, I want students to ask a family member, friend, or teacher about a time when they did not understand their healthcare provider (doctor, nurse, insurance company) and the results of the miscommunication. Students must prepare their responses for the next class. (This time frame allows two days for students that are on a block schedule.)

Lesson 2

The purpose of this lesson is to show students how important information should have a target audience and what happens when a barrier is created as a result of complicated information.

Materials

- Disease list (enough diseases so each group has their own disease)
- Designed Brochures (as a model)
- Construction Paper
- Pencils, Markers, Rulers
- Computer with Internet

Objectives

Students will be able to analyze a variety of health information via books, brochures, databases, ads, etc. Students will be able to evaluate the information's effectiveness given their target audience.

Activity One

In this activity, students will have to pick a disease from an already posted list. Students will have to research information using the Internet. Students will have to locate information about their chosen disease by analyzing four different databases.

Random Internet Source	Family Oriented Source	Government Based	Teen
Mayoclinic.org	*Familydoctor.org*	*FDA Consumer Magazine*	*Teen's Health Magazine*

After a class discussion on what students found, they will have the opportunity to pick two diseases and research databases, books, scientific studies, internet, etc to collect a variety of information. Students will analyze the information to answer the following questions:

Source Analysis Questions

1. Did I understand what I just read?
2. Was the information useful?
3. Was it too vague or too wordy?
4. Are books better than the Internet?
5. Are private based websites better than governmental based websites?
6. Who is the target audience for this information?
7. Who has access to this information?

After answering these questions, students will be able to make conclusions as to where people should go to find well-written, understandable medical information. Following this paragraph is a sample analysis of what is expected in the student's written analysis of four different sources. The

disease of choice was mononucleosis because it is a disease in which its highest infection rate is among teens.

Sample Analysis

After reading the information provided by these sources, the source of information that would reach a variety of people would be *Teen's Health* from the *Kids Health* website, which comes to no surprise because it is a communicable disease common among teens. This article attracts its audience by beginning its information with a scenario of a young girl who has the symptoms of the flu and this thinks that she is coming down with the flu again. However, unlike the times when she had the flu before this time she is having trouble lifting her head off the pillow. This scenario reveals that many people confuse symptoms of the flu with the symptoms of mononucleosis but those with mononucleosis experience extreme muscle fatigue. The article continues to inform its audience that this disease is caused by a virus so even though people may be exposed to the virus doesn't mean that those exposed will develop the symptoms of mononucleosis. It is important to note that those who are infected will carry the virus for the rest of their lives however; the chances of getting sick again are very low (kind of like the chickenpox). Another plus about this article is that the information is broken down into common questions that people want to know about a disease. For example, "What is it?", "How do people get it?", "How do people know if they have it?", "How can people get better?" This is also a time saving method of relaying information because if someone only needs information about symptoms or treatment they do not have to read the entire article; they can instead just locate the section that has their question as the heading. Most importantly the information presented uses a vocabulary that can be understood by many people regardless of race, age, economic status, and language ("Mononucleosis" *Kids Health*).

Evaluation

Students will have the opportunity to present their findings to the rest of the class. As a class, we will try to reach a consensus on which type of website offered the best information for its targeted audience. The reason why I picked the Internet is that it is a form of information that students frequently access. Even students who do not have access to computers at home understand how to navigate through the system. The point is to spark their interest by using the computer and then slowly hook them on to newspapers, magazines, and books. At the end they will be able to contrast all of the sources that relayed information about their disease. Students will reflect in their daily journal about today's lesson.

Lesson 3

Materials

- Construction Paper
- Pencils, Markers, Rulers
- Patient or Family Testimonies

Objectives

Students will be able to discuss the populations that are affected by low health literacy. Students will be able to design their own medical brochure for a targeted audience.

Activity One

In this activity students will share their homework assignment with each other. If students did not have the opportunity to obtain a medical history from a family member or teacher, they will receive a handout that has patient's testimonies in order to participate in the activity. As students share their homework, they will start to see a pattern, showing that is most of their testimonies are

from the populations greatly affected by low health literacy. As we talk about different populations affected by low health literacy, groups will begin to think about a population they want to target with their brochure.

Activity Two

In this activity students will begin to create brochures about diseases they researched during the beginning lessons. As they are creating their brochures, students must keep in mind their targeted audience. For example: if one group's target audience is people whose native language is not English, then they would want to create a brochure that has more pictures than words.

All brochures must answer the following questions through words or graphics:

1. What is the disease?
2. How do can I contract the disease?
3. What are its symptoms?
4. How do I know if I have the disease?
5. How do I get better?
6. Is there any other important information?
7. Who or where can I visit for more information?

Evaluation

Students will reflect on the process of designing a brochure for a targeted audience in their journal. For homework students will begin to design an experiment that tests how well their brochure improved their audience's knowledge about their selected disease.

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