

Cheating Can Kill

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[This experiment] uses human beings as laboratory animals in a long and inefficient study of how long it takes syphilis to kill someone.

-Harry Reasoner, CBS Evening News, 1972

INTRODUCTION

Remember the one dreaded class in college that was required for admission into a program or for the successful completion of a degree plan? The “flunk-out” class, whose sole purpose in academia is to thin the herd, weeding out the unsuccessful from entry into a competitive profession? Research Designs and Statistics, a combination of experimental design and math, is that class in my graduate program. Six hours of unspeakable torture. Oral tradition, passed down through the years, tells of students repeating this horrendous class over and over, furtively attempting to achieve the elusive required “B.” Survivors tell stories of infamy, of graduate psychology students unable to earn their Master’s degrees due to Research Designs.

Standing at the door, ready to quietly creep into the room and seek sanctuary in the middle, not too far back or too close, so the professor would not notice, my plan of survival was to remain invisible. Prepared for frustration beyond endurance, fortified by my fellow study group members, I cringed when the syllabus was handed out. My goals flashed through my mind in that split second: a diploma; increased salary; and, of course, the most visual, my college’s colors decorating a plain black gown at graduation with my family in attendance. No other choice possible, I had to face scientific methods and pray for deliverance.

Unfortunately, most of my high school and college students can relate only too well to my personal experience. The words “research methods” create apprehension in all levels of students. The prospect of facing a curriculum specifically designed for teaching scientific method, a science fair project, or graduate research stops many students from even attempting the class or project. My recitation of my personal fears as a student provides a minute’s respite from anxiety and a few smiles from my own students. Continuing with my descriptions of teeth gritting, sitting down, and listening to the first lecture given by my research psychologist-professor, unexpectedly, I actually enjoyed the experience. In fact, over the semester, I fell in love with analyzing research articles, designing experiments, and composing survey questions. I even came to relish reading the long assigned research articles and anticipate with longing the discussions of ethics that are overlooked or seemingly ignored by experimenters. Now, as I look out at a sea of disbelief, I explain that the same facial expressions on my current students’ faces were reflected by my cohorts in graduate school. They viewed me as a total anomaly, rather as

one would view a lab rat that had inexplicably grown a second head. Clinical psychology students make rapid diagnoses, believing my behavior validated their diagnosis of succumbing to the stresses of graduate school, family, and a full-time teaching job. Of course they were flabbergasted that “one of their own” not only loved the class, projects, and articles, but also actually excelled on the infamous tests. The terminal prognosis? I was destined to become a research psychologist.

Ultimately, my love of the scientific method and research did not make me leap from teaching to research. Of course I still do dream of entering into research. After all, any teacher is familiar with the daily stresses of teaching – too much paperwork, too little preparation time – and no matter how hard we work to make our subjects as interesting as possible, there is always the one disinterested student who literally feels impelled to vocalize just how intensely he dislikes our subject. Of course I daydream of escaping into a laboratory. The possibility of controlling variables in an experiment is oh so tempting. However, reality returns and I am back in my classroom, challenged to teach scientific method, which I find so very interesting but my students seem neither able to comprehend nor able to relate this to real life experiences. Therein is the goal of my curriculum: to integrate scientific method and ethics, and to have students not only realize the impact that it makes on their lives, but to actually have the class use what has been taught, to create an honor code for their high school.

UNIT BACKGROUND

Most, if not all science teachers love to teach scientific method, the foundation for all areas of the sciences. In fact, scientific method is so important that it is included on the Texas Assessment of Knowledge and Skills (TAKS) science test, but only a few hours in the entire science curriculum is allotted to such an important topic. Health Science Technology Education (HSTE) does have one advantage over other science curriculums: our Texas Essential Knowledge and Skills (TEKS) allots more time for teaching medical legalities and ethics and easily accommodates the integration of the scientific method. We are exceptionally fortunate to have the opportunity to teach scientific research and design, an advanced class devoted specifically to scientific method, but must have enough students to meet number requirements. Therefore, we must educate our students about scientific method, assist them to overcome their fears about research, and make them enthusiastic enough to actually sign up for scientific research and design.

Teaching scientific method in a new way will be profitable for not only our students, but for our teaching as well. Inevitably, when teaching legalities and ethics, my love of teaching is recharged. My enthusiasm bubbles over and becomes contagious. The most reticent student begins to bring into class clippings of newspaper articles dealing with violations of medical ethics or lawsuits. Taking time for discussion, the entire class becomes involved with very spirited debates about the presented article. Topics are diverse, including the protocol for organ transplant recipients, abortion laws, and euthanasia. With guided assistance, students who have up until now shown little to no

interest in ethics begin to discuss more advanced topics such as ethical concerns of drug research or the procurement of stem cells. As a teacher, I observe higher-order thinking skills, debate, and collaboration, as each student tries to convince their classmates that their own opinion is the one and only conceivable viewpoint.

Such academic skills provide a strong foundation for the construction of a product-based curriculum dealing with medical and research ethics. Following HSTE TEKS 121.12, 121.13 – 9, 121.14 – 3, as well as Biology TEKS 01 and 02, students will identify scientific methods, use critical thinking and scientific problem solving to make informed decisions, formulate hypothesis, analyze published research, develop and implement investigative designs, collect, organize, and evaluate qualitative and quantitative data, synthesize valid conclusions, and communicate conclusions concisely to an audience of professionals (Texas Essential Knowledge and Skills for Health Science Technology Education, B-I - B-4). In addition, the analysis of research articles encourages students to clarify both personal and professional ethics.

This month-long curriculum written for high school HSTE, Biology or Advanced Health classes, provides for the review of scientific methods and the research of current violations of medical research. In addition, this project will be paired with my Small Learning Community's Business Computer Intergraded Systems (BCIS), so our students are able to earn grades for two classes while completing one project. The computer research required for this project will be conducted in the BCIS class, meeting BCIS TEKS, and the use of SurveyMonkey.com web site to write and administer student questionnaires is also applicable to BCIS curriculum. For this reason, I am using internet resources for my students' research. Results of students' internet searches will lead to the conclusion that medical research ethics are very important with serious, real-life consequences. However, Life Span psychology teaches us that adolescents are not future oriented, but rather live in the present. At this time, the need to make this unit pertinent to their individual lives becomes a priority. Guiding them to look at their own classrooms and discuss a most valid ethical violation, cheating, will achieve this goal. Students will discuss situations in which they are aware cheating has occurred, and will formulate a hypothesis regarding the incidence of cheating in our small learning community at Chavez High School. Utilizing their newly learned knowledge of research methodology, as a class project, my students will compose a survey to obtain quantitative data to determine if their hypothesis is supported or refuted. Following the ethical practices of scientific research, my students will submit to the assistant principal of each learning community, their rationale for the need to administer their survey to randomly selected students. With permission, administration of their survey, computation of results, and extrapolation of data will allow for the determination of need for further research into interventions used to decrease cheating in similar high schools' populations. Synthesis of conclusions from their research will lead to the ultimate goal of this unit, the creation of a Code of Ethics to be presented to the Shared Decision Management (SDM) committee for adoption by Cesar E. Chavez High School.

Curriculum for this unit is specifically written for advanced HSTE students but may be adapted for use in teaching Advanced Health or Biology. I plan on using this unit in HSTE-II, HSTE-III, and Scientific Methods classes and I will utilize a knowledge base of legalities and ethics taught in HSTE-I as a foundation for a more in-depth examination into scientific method and medical ethics. Working with advanced students, a rapid review of medical legalities and ethics is all that is necessary to meet HSTE-II and III TEKS. Topics to be addressed will include the purpose of laws, the distinction of criminal versus civil law, and various torts that commonly affect the practice of health care. Our next step is to determine the difference between personal morality and professional ethics. The use of case studies and discussion will facilitate student participation and assist in clarification of personal morality, professional ethics, and legality. In addition, this review provides a means of introduction to the scientific method unit in this curriculum. Each step of the scientific method will be examined: formulation of the hypothesis, various study designs, analysis of data, and reporting research results for professional review. Several outstanding professional curricula have been developed for teaching scientific method, and seeing no reason to reinvent the wheel, I will use these lesson plans and adapt them to my specific needs. PowerPoint presentations, case studies, and Carnegie Mellon Open Learning Initiative, Causal Reasoning Modules will provide a virtual laboratory for students to actually manipulate variables and observe the causative effects. This will provide a unique hands-on twist to what many students consider a very dry and uninteresting topic.

Having completed our review from previous curricula, we will now embark on a journey back through time to identify the historic development of basic ethical principles in biomedical and behavioral research. Traveling to the 1940's, the exploration of the horrific actions from World War Two that led to the Nuremberg Code of 1947 will be achieved via an Internet search. We will then leap forward in time to review the Helsinki Declaration of 1964 and finally end our time trip by exploring the seventies and the Welfare Codes for Research published by the American Psychological Association 1973 (Medical Research Ethics 13).

Completion of this introductory unit will allow my class to become amateur medical research scientists. Using newly acquired knowledge of ethical standards, my students will analyze violations of medical research by reviewing high profile historic research studies and presenting their results to the class for discussion. We will continue our analysis of research ethics by reviewing current alleged violations by the Alliance for Human Research Protection (AHRP). Exploration of specific research studies in history and AHRP's web site allows students to discover that ethics in research are not only a concern of a past, less-enlightened society.

The ethical issues in human subject's research have received increasing attention over the last 50 years. Institutional Review Boards for the Protection of Human Subjects (IRB's) have been established at most institutions that undertake research with humans. These committees are

made up of scientists, clinical faculty, and administrators who review research according to the procedures set out in the Federal Regulations... (Medical Research Ethics 1)

Having reached a critical point in my curriculum, a bridge between current violations and my students' every-day lives needs to be constructed. Directed questions will lead students to discuss ethical violations occurring in our own small learning community. I often overhear students discuss cheating and have personally experienced students complaining about cheating in classes. No doubt students will come to the conclusion that this is a very pertinent violation of ethics. Cheating on tests, copying homework, and plagiarizing research papers are very common occurrences in high schools throughout the nation. Frustrated teachers and students repeatedly discuss this problem. No subject or level seems to be exempt.

Students readily admit to knowledge of cheating. It is a major problem in universities, high schools and middle schools. Unfortunately, many see cheating "as a means to a profitable end" (Educational Testing Services, 1). According to Educational Testing Services (ETS), students do not think of cheating as a "big deal." To be considered for admission to the best schools you must receive the highest grades and test scores. Donald McCabe, Ph.D., states that students feel justified in cheating. He continues by stating that teens observe others cheating and believe that if they do not also cheat, they are at a disadvantage. "The only way many of them feel they can stay in the game, to get into the right school, is to cheat as well" (*Nocheating.org*). Many authors report that most students view cheating as a "victimless crime." This allows rationalization of their actions and enables cheating to become a habit. By students analyzing violations in medical research ethics, they will realize that cheating in these studies most definitely caused serious medical repercussions to patients. It is not a difficult assumption to realize that if the researcher made cheating a habit, then that researcher may well return to previously successful behavior to ensure his study will also be successful. Therefore, cheating can kill.

OVERVIEW OF MEDICAL RESEARCH ETHICS VIOLATIONS

Research studies from the past that in essence created the ethical codes for the protection of human subjects are the Nazi Medical Experiments in Concentration Camps, The Tuskegee Study, and Mind Control by the Central Intelligence Agency (CIA). Each experiment contributed to the creation of more and more explicit requirements for medical research. Also, each is more current than its predecessor, bringing students to present day ethical violations. Finally we will conclude with a brief examination of research into the phenomenon of cheating.

Nazi Medical Experimentation in Concentration Camps

Twenty-three Nazi physicians were brought to a military tribunal on December 9, 1946. "[D]uring World War II, German physicians conducted pseudoscientific medical

experiments utilizing thousands of concentration camp prisoners without their consent. Most died or were permanently crippled as a result” (United States Holocaust Memorial Museum 1).

The medical experiments conducted on prisoners included freezing/hypothermia, sun lamp, internal irrigation, warm bath or warming by body heat, and genetic experiments, especially the experimentation on twins. Each was a torturous procedure that caused physical, social, and psychological harm (Medical Experiments of Nazi Doctors). The subjects were photographed or filmed enduring these horrendous experiments. Subjects included twins, the mentally handicapped, the ill, or physically impaired. “Most of the victims were Jews, Poles, Russians or Roma (Gypsies)” (United States Holocaust Memorial Museum 1).

The most infamous physician of the Third Reich was Dr. Josef Mengele, whose primary interest according to Medical Experiments of Nazi Doctors, was to “refine the master race and second to determine the cause of defects” (Medical Experiments of Nazi Doctors). He was called the “Angel of Death” and “...would inspect all incoming trains for twins, dwarfs or the physically unique” (Medical Experiments of Nazi Doctors).

In the current documentary, *Rene and I*, twins talk about their experiences at the hands of Dr. Mengela. The experimental twin now suffers from Multiple Sclerosis, which may or may not have been triggered by the experimentation that she endured. Her brother fared better, as he was the control twin for all the experiments performed on his sister. This film, although not visually graphic, very much touches your heart and makes all of us feel ashamed that we allowed such atrocities to occur. Another possibility to reinforce the horror of these medical experiments is a field trip to the Holocaust Museum in Houston.

August 20, 1947, the court found sixteen doctors guilty; seven of the doctors received the death penalty, carried out on August 20, 1947. Due to massive amounts of documentation and testimony of witnesses, regulations ensuring compliance of basic human subject rights were deemed necessary. The Nuremberg Code was the result, named after the city that became famous for war atrocity trials. This is the first of many codes that document research ethics of human subjects.

The Tuskegee Study

Between 1932 and 1972, 399 African American males were subjects in an experiment by The Public Health Service (PHS). The men were led to believe that they would be receiving free health care. Actually, they were chosen because of their syphilis. The socioeconomics and educational level of this group was extremely low. The PHS physicians and nurses informed the men that they were being treated for “bad blood.” They were never informed of their true diagnosis. According to PHS records, ultimately data was to be obtained by autopsy of the subjects. The study preceded the use of

penicillin; however from the start, the men were denied current treatments for their disease. The use of penicillin was common by 1947, but these male subjects were not treated and were deliberately allowed to develop tertiary syphilis. Symptoms of tertiary syphilis include heart disease, blindness, insanity, and central nervous system deterioration. In effect, these human subjects were inhumanely left to deteriorate and die a most painful death. Furthermore, these men had to submit to a spinal tap, both painful and risking possible infection and meningitis. At the end of the study, 28 men died of syphilis, 100 died of related complications, 40 of their wives had contracted syphilis, and 19 of their children were born with congenital syphilis (March). As Borgna Brunner writes, "Their suffering in no way prevented or assisted with finding a cure for syphilis" (Brunner 2). Comparison to Nazi experimentation on Jewish subjects shows marked similarities. One can only question the rationale for this study, and wonder how the medical researchers could so blatantly violate these men's rights.

Peter Buxtun, a former PHS venereal disease interviewer, revealed this experiment to Jean Heller of the Washington Star. Ms. Heller's story was published in the July 25, 1972 edition and the news story rapidly made the Central Broadcasting System (CBS) evening national news. Harry Reasoner is quoted in his evening broadcast, "(this experiment) uses human beings as laboratory animals in a long and inefficient study of how long it takes syphilis to kill someone" (Brunner 2).

MKULTRA: CIA Mind Control

After the end of World War Two and the Korean War, the United States became an optimistic, law-abiding society. Under the presidency of Eisenhower, the fear of communism was high. Jon Elliston tells us that a predominant fear of this time was servicemen having been brainwashed while in prisoner of war camps. Due to this fear, the MKULTRA program was instigated in the 50s and ended in 1963. A Central Intelligence Agency (CIA) auditor wrote:

Precautions must be taken not only to protect operations from exposure to enemy forces but also conceal these activities from the American public in general. The knowledge that the agency is engaging in unethical and illicit activities would have serious repercussions in political and diplomatic circles. (Elliston 2)

The MKULTRA experiments included research on the effects of drugs, specifically lysergic acid diethylamide (LSD). Purportedly used for its ability to cause confusion in political leaders or used as a possible truth serum when questioning spies, the CIA experimented on subjects without their knowledge or consent. Frequently using prisoners or brothels owned and run by the CIA, their behavior was observed through two-way mirrors. In fact "even informed volunteers were administered LSD for 77 days straight" (Elliston 4). One must question the safety of such an experiment.

An example of lack of concern for subject's welfare was the Frank Olson incident. Dr. Olson was an Army specialist and a fatality due to administration of LSD without his knowledge. This violation of ethics occurred on a long weekend work retreat. He became paranoid and depressed, finally jumping from his hotel window after eight days post administration of LSD. The CIA denied any responsibility for his death. Not until the seventies and the release of classified documents, did his family learn of the LSD experiments and the close proximity of LSD administration to the death of a man who had, up to this time, shown no symptoms of mental illness. Mrs. Olson is quoted on national television saying, "We feel our family has been violated by the CIA in two ways. First, Frank Olson was experimented upon illegally and negligently. Second, the true nature of his death was concealed for twenty-two years" (Marks 6).

Documentation from a Senate Committee includes:

From its beginning in the early 1950s until its termination in 1963, the program of surreptitious administration of LSD to unwitting non-volunteer human subjects demonstrates a failure of the CIA's leadership to pay adequate attention to the rights of individuals and to provide effective guidance to CIA employees. Though it was known that the testing was dangerous, the lives of subjects were placed in jeopardy and were ignored... Although it was clear that the laws of the United States were being violated, the testing continued. (Elliston 3)

Effectiveness of Standard versus Embellished HIV Prevention

Again the Washington newspapers were the first to reveal a breaking story in medical ethics violations. This time it is the December 5, 2003 *Washington Times* edition reporting that "the pediatric department for the University of Maryland had admitted to faking data in a National Institute of Health (NIH) research study examining the effectiveness of a school program that counseled students on reducing the incidence of Human Immunodeficiency Virus (HIV)" (Alliance for Human Research Protection 1). Again, low socioeconomic African-Americans were the subjects. Subjects included 861 teens aged from 13 to 18 years of age. Robert Stacy McCain reported that three Maryland researchers invented the content of interviews with teens.

Evaluation of "safer sex" counseling on African-American teens would validate the hypothesis that children whose families participated in the enhanced "Focus on Kids" program showed significantly lower rates for a variety of risk behaviors, including sex without condoms and use of cigarettes and alcohol. (Alliance for Human Research Protection 2)

Rep. Mark Souder, Indiana Republican and chairman of the House subcommittee on criminal justice, drug policy, and human resources commented, "It is terribly troubling that [a] federally funded research topic as sensitive and important as HIV prevention for

children, some as young as 13, would be intentionally manipulated.” He further continued, “... countless children may have been put at risk by ineffective, perhaps dangerous, prevention message developed from this fabricated research” (Alliance for Human Research Protection 2).

Cheating is a Personal Foul

Headlines in newspapers report that cheating is rampant among college students. An article published by the Chronicle of Higher Education reveals that the latest statistics are definitely disturbing to professors as well as secondary educators. Further studies report that few students approve of cheating, however, twenty percent admitted to having cheated at least three times, and eighty percent are aware of incidents when other students have cheated (McCabe & Trevino).

Various studies of academic cheating agree that cheating by both high school and college students continues to grow. The 29th Who’s Who Among American High School Students Poll released in November, 1988 found that 80% of the best students cheated to be included in the top ten percent of their class, and over 50% of students stated that they did not think cheating was “a big deal” (*Nocheating.org*). Additionally, the Josephson Institute of Ethics 1996 survey reported 64% of students admitted to cheating. The Educational Testing Services research clarified that most students believe that cheating is more common and more accepted by today’s society. Cheating is constantly being reported in politics, business, school, and even the home. “Cheating is used because everybody does it. It’s a part of life, and cheating is easier today due to the internet” (*Nocheating.org*). What student does not know of multiple websites which offer free research papers or crib notes? The site *School Sucks* receives an averaged 80,000 hits per day (*Nocheating.org*).

ETS research offers evidence that cheating behaviors are well-established by high school. Janis Jacobs, associate professor at Pennsylvania State University, has researched pre-school and elementary school students cheating. She reports that at the pre-school level, “children understand cheating is morally wrong. Because moral development consists of their own needs vs. punishment, they are prone to cheat in order to win” (*Nocheating.org*). This study further reports that 5-6 year old children understood that cheating was not allowed, but 56% cheated.

Jacobs’s studies confirm that elementary aged children (6-10 years) also know that cheating is wrong, but tend to cheat due to individual situations. She found that boys cheat more frequently than girls, and in Middle school (ages 11-13) cheating actually becomes a pattern (*Nocheating.org*). The Josephson Institute of Ethics reports that cheating is serious in middle school and will increase in the tenth, eleventh and twelfth grades. “This change is due to the importance that parents and teachers place on grades. 75% of middle school students have admitted to cheating on tests. The bottom line: If a child’s goal is to get a good grade, he is more likely to cheat” (*Nocheating.org*).

According to Michael Josephson, “In the past it was the struggling student who was more likely to cheat, just to get by. Today, while it is becoming almost impossible to flunkout it is the above-average, college-bound students who are cheating” (*Nocheating.org*). Research supports this statement and clarifies that cheating is even more common among college-bound students than any other group. Today’s college applicants need to be not only academically gifted, but also outstanding students, involved in extracurricular activities and community involvement. Finally, Dr. Donald McCabe states that cheating is more frequent in colleges and universities because “It no longer carries the stigma it used to” (*Nocheating.org*). Competition for prestigious graduate programs and jobs encourage students to cheat to make the grade.

What does this mean to our students? As previously discussed above, most students believe that cheating does not affect anyone else. They view it as a victimless crime. Yet these same students will be competing for medical, law, and research positions. Can one but wonder, will they cheat as before? Why would one expect this habit to stop with graduation? As we have discovered, cheating occurs in medical research with very serious outcomes. Further exploration will reveal that even educators cheat to achieve the title of “Excellence” for their schools and districts.

IMPELEMNTATION STRATEGIES

Lesson Plan 1: Legalities and Ethics

Objectives

Health Care Workers must understand legal responsibilities, limitations, and the implications of their actions. The student is expected to identify legal requirements and scope of practice for students in health care delivery (TEKS 7E).

Materials needed

Teacher Generated PowerPoint Presentation
Computer
Projector
Medical Case Studies

This unit is a review of HSTE-I legalities and ethics with a more in-depth examination of common torts affecting the practice of health care in America. The lesson begins by asking students what they think the purpose of laws is. We will discuss criminal verses civil law and how they can be used in the health care professions. The torts to be discussed include malpractice, negligence, abuse, invasion of privacy, defamation of character, slander and libel, assault and battery, and false imprisonment. Each tort will comprise one slide on the PowerPoint presentation. As the tort is displayed, students will brainstorm the definition. After all student responses, the textbook’s definition will be added onto the slide and finally, students will give an example of each tort. If time

permits, short case studies may be read by the teacher and students will display their comprehension through interpretation of case studies, applying the appropriate tort to the situation.

Again using power point, the class will define the terms morality and ethics. Students will be divided into groups of five, and will brainstorm the difference between these similar values. The textbook's definition will then be added to the slide and the class will discuss the meaning of each. As a group, students will contribute values that they believe are common to all Health Care Professionals' ethical oaths. Again, time permitting; groups will be given written case studies involving difficult ethical, moral, and legal decisions. The groups will be instructed that they must determine what possible actions could be taken by the health care provider and arrive at a common consensus as to the best possible plan of action. Case studies' topics include euthanasia of an Alzheimer's patient, a thirteen year old female requesting an abortion while her boyfriend wants her to have the baby, a surgeon arriving in the Operating Room at 2:00 in the morning for an emergency craniotomy with alcohol on his breath, or stem cell research and federal funding. The Houston Chronicle often carries current ethical and legal situations that make this an exciting and real world experience. After students have had a chance to discuss and come to a consensus, they will explain their situation to fellow classmates explaining their rationale for their plan of action. Individuals in the group may not totally agree and will be given a chance to offer their opinion due to personal morality. Students will realize that many times professional ethics, legalities, and personal morality are not in agreement. Practicing any health care profession is rarely black and white, but rather shades of gray.

Lesson Plan 2: Scientific Method

Objectives

TEKS 121.11, 6 - 9.

Materials needed

Internet access for all students.

PowerPoint Presentation

Teacher computer, Projector

Student Workbook

The previous activities will lead into the next lesson, scientific method. Students will use one of our computer labs to access Carnegie Mellon University's Causation and Statistical reasoning Online Modules. Specifically, the Causation Module including virtual lab and quizzes is the major focus. A benefit from use of this free service is individualized instruction. Each student is able to progress at his or her own speed, receive immediate feedback from quizzes, and what in my opinion is the best feature, access simulations. A most impressive example is the fender bender simulation. Students can manipulate independent variables by choosing one or more conditions such

as a dry or wet road, working condition of the brakes, and physical condition of the driver. If the independent variables are significantly manipulated, a resulting crash, complete with visual and auditory stimuli, will occur. This provides immediate feedback for the student. With use of the simulations, most students immediately understand the difference between the two variables. Passing the short quiz following the simulation also provides immediate feedback, and offers an explanation if an incorrect answer was chosen. This is a very realistic, cost effective experience for learning scientific method. Throughout the module, students are able to simulate a variety of experiments making learning fun and exciting. Personally, I enjoyed doing the simulations myself and have tested the labs with current students who also reported enjoying the experience. The web address is <<http://www.cmu.edu/oli/>>.

Lesson Plan 3: Researching Past Historical Ethical Violations

Objectives

Please see appropriate BCIS TEKS
TEKS 121012, 6 and 9
TEKS 121.2, 6, 2, and 8

Materials needed

Computer lab with Internet access
Disks to save PowerPoint Presentations

This unit will be team taught with BCIS. However, if not team teaching, a computer lab or Internet access for students is a necessity. The purpose of combining BCIS and HSTE in this project is beneficial for both teachers and students. I do not have to make arrangements for use of a computer lab and have more time to devote to later classroom activities and discussion. Students are performing an internet search and creating a PowerPoint presentation that meets BCIS TEKS and the subject of the research is of interest to HSTE students. Additionally, students benefit by creating one project and receiving grades in two different classes. Any busy student appreciates a reduction in schoolwork while completing class assignments.

Hospital mandates limit my HSTE-II classes to fifteen students or three groups of 5 students each. A teacher may prefer to give specific internet sites to each student for their use or, my preference, have the students perform their own internet search. Each group will be assigned a historical research experiment. A wide variety of research violations are available. I chose very high profile historic experimentation including: Nazi War Experiments, the Tuskegee Experiment, and the MKULTRA experiments. Please refer to the background unit for specific information. Each group will be required to prepare a PowerPoint presentation that explains the nature of the experiment, subjects, purpose of the experiment, data obtained, and human rights violations. In addition, each group will be assigned a specific code of human rights that address the experiment's ethical violations. The Nazi experiments group will discuss the Nuremburg Code, the Tuskegee

Experiment group the Helsinki Declaration, and the MKULTRA group, the APA Welfare Codes. Rubrics for both PowerPoint creation and oral presentation will provide major grades for both BCIS and HSTE classes.

Please be sure to inform your students that pictures on the internet are graphic. After consultation with my assistant principal, we are in agreement that students will be allowed to view the Nazi Experimentation pictures at their own discretion. Although very graphic, I believe the cliché, “A picture is worth a thousand words” is true in this situation. Visualizing the horror of these subjects will hopefully ensure that these atrocities are not forgotten or repeated.

Group PowerPoint presentations will be presented to the class, facilitating the understanding of the need for ethical codes as well as giving each student an experience to present before a non-threatening audience. After each presentation, students will discuss what they have learned about three different historic periods and ethical codes. Grading rubrics will include content, presentation, teamwork, and knowledge of subject.

Lesson Plan 4: Ethical Violations in Our Day and Age

Objectives and Materials

Same as above.

Students will learn that ethical violations are not just a thing of the past. Logging on to the Alliance for Human Research Protection (AHRP), <http://www.researchprotection.org/infomail.html>, each group will choose a current medical topic being reviewed for ethical violations. Giving students independence in topic choice allows research to be of personal interest. The groups will prepare a presentation similar to the previous project, and ultimately jig-saw data regarding current ethical violations. Again, the project provides major grades for evaluation.

Lesson Plan 5: Following Scientific Method—Creating a Survey

Objective

TEKS 121.11, 6 - 9

Materials needed

Black board, PowerPoint or transparencies
Computers with Internet access

The introduction of this lesson is to ask what, if any, ethical violations students have observed in our small learning community (SLC). Responses may vary, although cheating on homework or tests is a common complaint. Ask students to discuss incidents, without using names of students or teachers, in which they have observed cheating occurring. After students have finished relating stories, direct the discussion to

what they feel constitutes “cheating” and why they feel it is a violation of ethics. Point out that their “profession” at this time in their life is to be a “student.” Is cheating a violation of their profession? Is there ever a time when cheating is not an ethical violation? Listening to this dialogue is a very eye-opening experience for most teachers, and we may learn that students and teachers have a diverse understanding of the purpose of school and education.

Using directed questioning techniques, students will estimate the amount of cheating they believe is occurring in our SLC and the teacher will record their responses. Ask how we, as a class, could possibly verify their predictions. Point out that this appears very much like the beginning steps of the scientific method. Having observed and made predictions, we must now develop a hypothesis. Place students in groups of five and have them construct possible hypotheses. Recording their statements, have the class choose the best hypothesis and then ask how we can determine if our hypothesis is correct or refuted. Again, allow students in groups to discuss possible research methods that would be applicable. Each group will give their best choice of research method and, as a class, will discuss the pros and cons of each method.

Scientific methods typically suggested by students include systematic observation, case study, experimentation, and surveys. Systemic observation and documentation allows for observation in a natural setting. However, defining exact behaviors to be recorded is difficult to define and may result in observer bias. Additionally, although the observer attempts to remain unobtrusive, subjects’ behavior may be altered due to the observer’s presence. The use of video cameras or two-way mirrors is frequently utilized to counteract this problem however not realistic in a public school setting. A case study with interviews using one student and his teachers is a method that provides details about that particular student’s cheating behavior. This method easily lends itself to the school environment, however does not provide quantitative data and will not allow for the application of data to a large population. Students quickly conclude that observation or case study is not the optimal choice. Frequently the next method examined is the experiment. This method is highly controlled and the best method to discover causation. Manipulation of variables with required control group is a necessity for experimentation but is detrimental to the educational process. Administration cannot condone any disruption to education thereby deleting this method as a possible choice. A cross-sectional survey offering quantitative data with the least amount of classroom disruption and time expenditure is productive in assessing our hypothesis. If this solution is not offered by students, the teacher must utilize leading questions to assist in the arrival of this choice.

Read the following statement: “Does it seem possible or does it seem impossible to you that the Nazi extermination of the Jews never happened?” (Nachmias and Machmias 230).

Students will have difficulty understanding the question, but offer no clarification. Have students respond with either yes or no and record their answers on the board. Ask why they had such difficulty answering the question. Explain that they are in good company, as 1 out of 5 Americans stated that they believed the Holocaust never happened. This data was reported by the Roper polling organization. When the Gallup organization reworded the question to make it more easily understood, this data was refuted. Gallup found that less than 3 percent of Americans believe that the Holocaust never occurred (Nachmias and Nachmias 230). The results of these surveys are vastly different due to the wording of the survey question. Chava Frankfort-Nachmias and David Nachmias encourage the following questions to be considered when constructing a survey:

1. What exactly are our research objectives? What are we trying to determine?
2. Are questions constructed so that they are easily understood?
3. Are questions constructed and organized so as not to cause a bias?
4. Do questions measure what we want to measure?
5. What style of questions would be the best choice for our survey? (230 – 242)

Students will then be directed to log on to <<http://www.SurveyMonkey.com>> to read about the services and how this program will assist them to compose questions that meet the previous requirements. After reading and discussing this information, each group will write 10 questions they think should be included on the survey. The class will determine which questions they want to impute on the survey program. In BCIS, the students will impute their questions and follow the directions on the web site. The program assists students in creating unbiased questions, which are reworded and strategically repeated so as to increase the validity of the survey.

Finally, the class will decide which class members will present rationale for the administration of the survey to the academy assistant principals and the head principal. Administration of the survey is easily achieved without the disruption of classes by having randomly selected students report to a computer lab, log on to our Cheating survey, and complete the survey. A cover letter will be read to subjects explaining the selection process, participation is strictly voluntary, and responses to the survey are completely anonymous. After administration of our survey, SurveyMonkey.com correlates the data for student analysis.

Lesson 6: Cheating, A Victimless Crime?

Objectives

TEKS 121012, 6 and 9

Materials needed

Computer Lab with Internet access

Blackboard or means to record student responses

As a class, we will discuss the results of our cheating survey. Determining that cheating is a problem at Chavez High School, students will discuss their theories as to student rationale for cheating and possible options to discourage this behavior. We will then compare our situation with other American High Schools, and learn if Chavez is typical in incidence and rationale of cheating. Students will be assigned into groups for research purposes, and will seek information about cheating in American High Schools as well as various institutions' interventions to reduce cheating. After performing an internet search, the groups will be given time to organize the vast quantity of information obtained and will present their results to their classmates. The first step in raising awareness of cheating as an ethical violation that does indeed cause harm to others will be the composition of an honor code. Again, we will seek out samples of honor codes written by high schools via the internet. The results of this search will be brought to the next class.

Lesson 7: Composing the First Draft

Objectives

TEKS 7 E, 2 F

Materials needed

Large tablet paper

Easel or tape for hanging paper

Colored markers

Pens, red and green (different colors)

Ask students to call out similarities of the honor codes written by other schools and record each response on a piece of the tablet's pages. When students have finished brainstorming their honor code similarities, display these sheets around the walls of the classroom. Taking each sheet one at a time, have students discuss whether they feel this is important to an Honor Code for our specific school. Points that they feel should be included should be moved together onto one wall. The discarded sheets should be moved to another wall, but left hanging in case students reconsider their importance when writing a prospective honor code.

The first draft of an honor code will be an individual rather than group effort. Giving fifteen minutes, have students individually write a rough draft of an honor code. After the allotted time has expired, divide students into groups, and have them each read their code and together compose a group honor code. Before the end of the period, each group will type their code and give a copy to the teacher.

Lesson 8: Cesar E. Chavez High School Honor Code

Objectives

TEKS 121.1 b-3, 4, 7

Materials needed

Copies of each group's Honor Code for all students
Transparencies of each Honor Code
Transparency Pens
Ballots for Voting
Blackboard
Copies of Group Final Drafts

Have each group read their honor code to the class while they follow along. Then instruct students to remain in their groups to evaluate each code. Have one student act as a secretary while students critique each code, notating positives and negatives. When groups are finished, bring the class back together. Using transparencies of the different codes, discuss each code, marking in green the lines students want in their final code of honor and using red for those to be discarded. Have group secretaries record the transparencies for group use.

Finally, instruct each group to use the class' rough draft to compose the final version of an honor code for our school. Before the end of the period, have each group type their final draft.

Hand out to each student a copy the groups' final drafts and a ballot. Instruct students to read each code and vote for the one code that they want for the class' final honor code. Collect the ballots, and open each one, recording on the board the votes. The winner will be the final group based project for this curriculum, our proposed Cesar E. Chavez Honor Code.

The class will then choose a student to be responsible for arrangements to be placed on the agenda of the next SDM meeting. They must also determine which students should be present at the meeting and who will be the spokesperson presenting to the SDM committee. The final step of organizing rationale for their student representative will be a class activity, as will determination of visuals for SDM committee members' use during the presentation. The student representative will perfect their presentation through practice with the class as an audience. One group of students will be assigned to create brochures in BCIS for distribution to SDM committee members.

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